

CHAPTER 1

What Is Anthropology?

Anthropology is the scientific study of the origin, the behaviour, and the physical, social, and cultural development of humans. Anthropologists seek to understand what makes us human by studying human ancestors through archaeological excavation and by observing living cultures throughout the world. In this chapter, you will learn about different fields of anthropology and the major schools of thought, important theories, perspectives, and research within anthropology, as well as the work of influential anthropologists. You'll also learn methods for conducting anthropological research and learn how to formulate your own research questions and record information.

Chapter Expectations

By the end of this chapter, you will:

- summarize and compare major theories, perspectives, and research methods in anthropology
- identify the significant contributions of influential anthropologists
- outline the key ideas of the major anthropological schools of thought, and explain how they can be used to analyze features of cultural systems
- explain significant issues in different areas of anthropology
- explain the main research methods for conducting anthropological research

Key Terms

bipedalism	fossil	participant observation
culturally constructed	hominin	radiometric dating
culture	hypothesis	reflexivity
ethnocentric	informant	subculture
ethnography	kinship	subjective
ethnology	objective	

Landmark Case Studies

Richard Lee: The Dobe Ju/'hoansi



Primateology

Dian Fossey (1932–1985)
Biruté Galdikas (1946–)
Jane Goodall (1934–)
Sue Savage-Rumbaugh (1946–)

Paleoanthropology

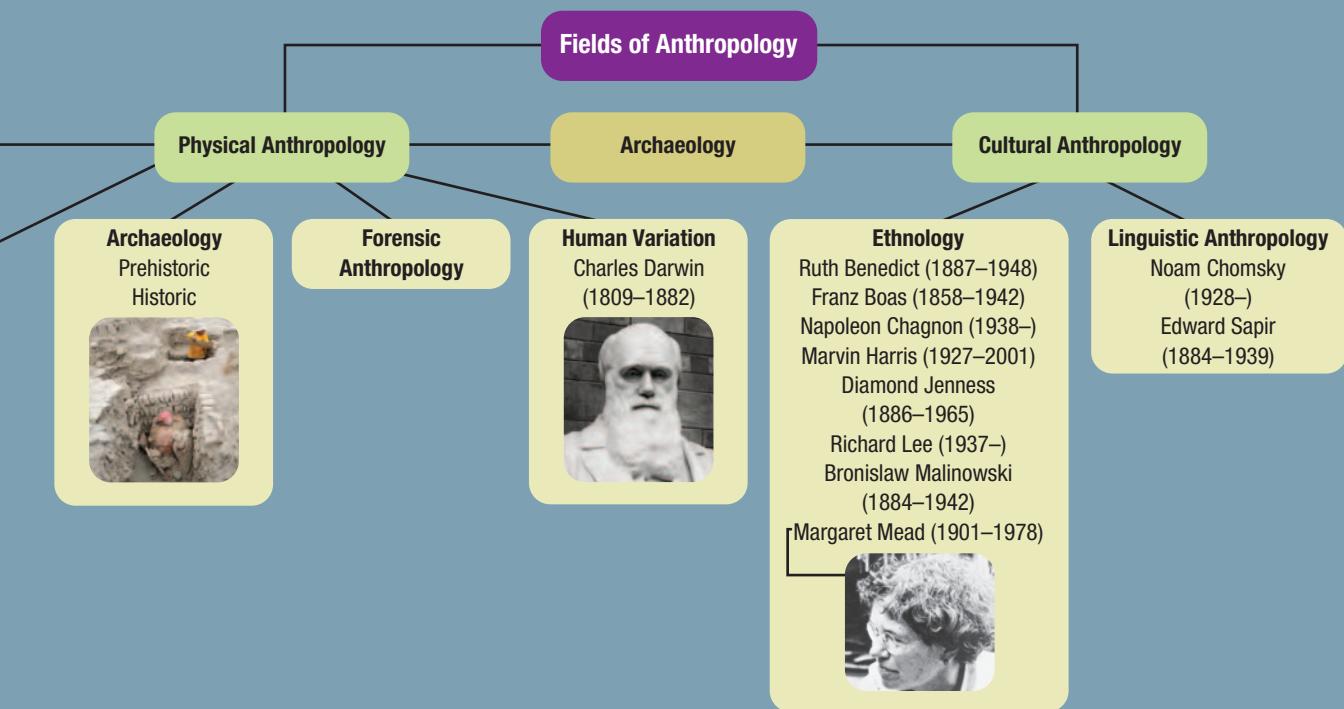
Raymond Dart (1893–1988)
Donald Johanson (1943–)
Louis Leakey (1903–1972)
Mary Leakey (1913–1996)



Richard Leakey (1944–)



FIGURE 1-1 Paleontologist Marco Avanzini measuring fossilized footprints created 385 000–325 000 years ago by an ancestor of modern humans. Why do you think anthropologists are interested in finding out about the origin and development of humans?



Spotlight on Anthropology

Yanomamö and the Anthropologists

Before You Read

You have just read a brief introduction to anthropology. Scan these two pages and predict what this chapter is about. Record two questions that you expect will be answered as you read.

When American anthropologist Napoleon Chagnon (1938–) (see Figure 1-2) went to Venezuela in 1969 to study the Yanomamö (sometimes called the Yanomami), isolated hunter-gatherers who live in the Amazon rainforest, he had little idea of the controversy his research would generate among anthropologists. Chagnon spent years living with the Yanomamö, participating in their culture, providing them with goods such as axes and machetes, and vaccinating them against deadly diseases. His book *Yanomamö: The Fierce People* described the Yanomamö as an extremely violent society, where aggression and conflict between men was valued. Chagnon suggested that aggression in males was both culturally and biologically determined. The males who were most aggressive had more wives and children than those who were less aggressive. Chagnon reasoned that cultural success (in this case, being aggressive and violent) led to increased genetic success (meaning that more of the children born would be disposed toward violence). Chagnon's book went on to become a best-selling anthropology text and is often studied in universities.

Fast forward to 2000 and the publication of *Darkness in El Dorado: How Scientists and Journalists Devastated the Amazon*. Author and journalist Patrick Tierney condemns Chagnon's work, criticizing his methods and accusing him of manipulating data to reach the conclusions he wanted. Tierney, who also spent time with the Yanomamö, claimed that Chagnon had incited the violence and conflict he observed by providing (or bribing) the Yanomamö with goods and creating competition between them and neighbouring tribes. Tierney has also suggested that the vaccines did more harm than good since some of the Yanomamö became ill after they were inoculated.

Did Chagnon's participation in Yanomamö society alter the behaviour of the people he interacted with? It's important to remember that Tierney studied the Yanomamö decades after Chagnon. The differences



↑ FIGURE 1-2 Napoleon Chagnon (left) was criticized for his dealings with the Yanomamö people. To what extent is the criticism of Chagnon's work justified?

between the Yanomamö culture that Tierney observed and the one Chagnon described might not be caused only by the actions of anthropologists, but by the massive social changes caused by missionary work, forestry, gold mining, and changes to their environment.

The controversy raises questions for anthropologists, such as: How does a researcher's presence influence a society? Anthropologists agree that they must always carefully consider their impact on the people they study and try to protect the safety, dignity, and privacy of their subjects. The ongoing disagreement among anthropologists whether Chagnon's research practices were ethical, that is, whether his research adhered to accepted principles and conduct, demonstrates that what anthropologists consider to be ethical has changed over time.

QUESTIONS

1. Why was Chagnon's research criticized? Is the criticism of Chagnon's work justified? Why or why not?
2. To what extent can anthropologists conduct research ethically in another culture? Explain.

Research and Inquiry Skills

People become social scientists to understand people and cultures and to gain insight into human behaviour. To do this, a social scientist must do a great deal of research. Social scientists review case studies and other published material and do their own primary research in the field.

Creating a Central Research Question

The first step is coming up with a central research question on a topic that interests you. A research question must be testable and as unbiased as possible. We all have biases. They can come from our culture, our point of view, and our interests. Social scientists have established research methods and practices to try to reduce these biases. Here are some examples of research questions:

1. *Why are men violent?*

This question assumes that men are violent. It would be very difficult to test since “violence” is not defined.

2. *Are men violent in all cultures?*

This question is better since it does not assume that all men are violent. But it is better to define violence and culture more specifically.

3. *Do men in industrial countries commit more deadly violence than men in hunter-gatherer societies?*

Phrasing the question this way provides a basis for further research. You have ways of investigating this example by counting and comparing the number of murders in different communities.

After creating a central research question, the next step is conducting a literature review to discover the research that already exists on your topic. This will allow you to refine your question and further develop a **hypothesis**.

hypothesis:

a tentative assumption made from known facts as the basis for investigation

Activities

1. In small groups, brainstorm an issue or problem in your school or community that could be investigated.
2. Once you have your list, create at least three research questions that are testable and unbiased.
3. How would you go about researching the problem? What kinds of information would you need to gather?

Recording Data and Analyzing Information

When you are doing research, you will need to collect data (small factual pieces of information) and information to test your hypothesis. Data becomes information when it is interpreted by someone. Record how you collected your data and where you found your information. Summarize the information and think about how it answers your research question.

Assessing and Recording Sources

It is very important to record where you got your information and to cite your sources correctly. In the social sciences, we generally use APA style. For more information about APA style, see Chapter 3.

Summarizing Information

Summarizing your information is critical to helping you understand what you’ve found and avoid plagiarism. Here are a few examples to help you:

Point-form notes

Start with a title and include subtitles to organize the information. Summarize the information in your own words. Write down where you found your information, so you will remember to properly cite it.

Mind mapping

A central idea can branch off into subtopics. This technique is helpful to see connections.

Diagrams and flow charts

These can show a process or record how information is related. For visual learners, diagrams and charts may be preferred over point-form notes.

Evaluating Your Information

When researching, it’s helpful to note how the information will help you answer your research question. Doing so helps you to keep focused and avoid irrelevant research. After you finish collecting your data, you will need to analyze and synthesize it. It’s also important to evaluate your sources. Note who the author is, his or her qualifications, and where it is published.

Activities

1. As you read through Chapter 1, create a mind map that organizes the main theories and ideas of all the anthropologists mentioned in the chapter.
2. Create a graphic organizer to help you understand the different schools of thought in anthropology.

Section 1.1

Cultural Anthropology and Understanding Human Culture and Behaviour

As anthropologists gather more and more information about culture throughout the world, we can see what characteristics are universally human, how cultures adapt to new challenges in innovative ways, and how culture is learned and passed on to new generations. In this section, you will learn about the different fields of cultural anthropology, different theories and schools of thought, and the tools cultural anthropologists use to conduct their research.

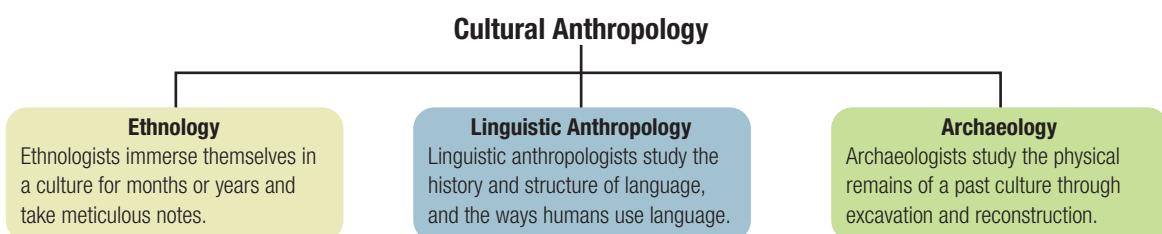
Cultural Anthropology

culture:

the total system of ideas, values, behaviours, and attitudes of a society commonly shared by most members of a society

What do you think of when you hear the word **culture**? Maybe you think about the ballet, the theatre, or a concert. Culture is not just the artistic activities a society considers valuable, like playing an instrument. Culture is made up of what people do, what people make, and what people believe. Culture includes all behaviour of people in their everyday lives, from daily rituals (for example, washing dishes) to beliefs about abstract concepts (for example, time), and is learned and transmitted from one generation to the next. It can be the food people eat, the clothes they wear, the shelter they live in, how they move from place to place, how they defend themselves, what they learn, and the languages they speak.

Cultural anthropologists are anthropologists who study both past and present cultures. They ask questions such as: Why is there social and political inequality? How does language affect and express culture? What can we learn about a culture from what the people leave behind? Researchers attempt to answer these questions by immersing themselves in a culture for months or years while conducting interviews and taking detailed notes as they study the history and structure of languages and the physical remains of past cultures. The mind map below (see Figure 1-3) explains the different fields of cultural anthropology.



↑ FIGURE 1-3 The different fields of cultural anthropology



↑ FIGURE 1-4 Look carefully at the photos above. What aspects of culture can you see? In what ways are people's beliefs, behaviours, and attitudes evident?

THE LANGUAGE OF SOCIAL SCIENCES

Introducing Social Sciences

As you are introduced to social sciences in Unit 1, you may see certain terms used to describe different theories and practices of anthropology, psychology, and sociology, such as *schools of thought*, *branches*, *fields*, and *disciplines*. These terms are closely related and used often. A school of thought is a common view or approach taken by a group of like-minded people on a specific topic. A branch is a division of a subject, an area of specialized skill or knowledge. A field is a topic,

subject, or area of academic interest. A discipline is a branch of learning or a field of study. Each of these terms is used to describe different elements of the social sciences and is important to understanding social science.

QUESTIONS

1. Write the following terms in your notebook: *school of thought*, *branch*, *field*, and *discipline*. As you go through Unit 1, find an example for each one.

REFLECT AND RESPOND

1. Examine an item belonging to someone in your class. Make some predictions about the beliefs and values of his or her culture based on this item.
2. Look at the images on this page. Choose two images, and develop a research question that a cultural anthropologist might ask for each one.

Research Tools of Cultural Anthropologists

Before You Read

Why do you think police rely on informants or tips from the public when they are investigating a crime? Are all of these sources reliable? Why or why not?

informant:

a reliable and knowledgeable person who provides specific information to an anthropologist studying his or her community

Connecting Anthropology to Sociology

In the past, anthropologists were concerned mainly with documenting non-Western cultures while sociologists analyzed social problems within Western cultures. Today, many Canadian universities have joint anthropology–sociology departments where researchers can work together on understanding culture and social problems in Canada and in other countries. The difference between the disciplines is often in the research methods used.

Finding Informants

When anthropologists conduct their research within a community, it is impossible for them to talk to everyone from every group. They rely on **informants**, people in the community who are willing to share information about their culture and their community. Informants should be reliable and knowledgeable about what the anthropologist is studying. For example, if you were studying hockey in rural Ontario, you would want to find informants who had specific knowledge of the game, players, fans, or community volunteers. It can be very difficult to find an informant. Anthropologists have to be aware that informants will react to their presence as researchers and may be distrustful of them or unwilling to share critical information. There has to be a certain level of trust between an informant and an anthropologist. The relationship between an anthropologist and an informant is a partnership and without the help of an informant, an anthropologist cannot conduct his or her research. It is essential to choose reliable informants and to verify their information through other methods.

Interviews

Interviews are important tools used by anthropologists (and other social scientists) to understand the culture they are studying and obtain valuable information. There are different kinds of interviews, each with its own advantages and disadvantages. Before interviewing, it is important for the anthropologist to inform the subjects about the purpose of the research, how the information will be used, and the confidentiality they can expect. This is called informed consent, and it is critical to obtaining information ethically.

Unstructured Interviews

Unstructured interviews are between an anthropologist and an informant. Unstructured interviews allow the researcher to test out his or her initial ideas and can lead to a greater understanding of the topic. The researcher should have some knowledge going into the interview, but unstructured interviews provide an excellent way for new directions to emerge and are often a first step to more structured interviews and surveys. It is important that there is no deception between the interviewer and the interviewee. The interviewee knows why the anthropologist is interviewing him or her and the outline of the project. For example, in your research on hockey you meet with the local coach every morning so he can tell you about his experiences. Over several months, you take detailed notes and let him direct the content of the interviews. This is a useful method when you are at a field site for several months or years and have a lot of time (Bernard, 2006). However, no questions can be pre-established and the researcher has little control over a respondent's answers.

Semi-structured Interviews

Semi-structured interviews are often used by anthropologists who stay in a community for only a few weeks and need to use their time efficiently. These types of interviews allow the researcher to prepare some questions in advance

and end up with reliable qualitative data. The researcher goes in with an outline of what types of information are wanted, but not a strict list of questions. The interview is semi-structured because it is flexible, allowing both the interviewer and the subject to follow leads that may come up in the course of the interview and for the subject to express personal views. However, it can be easy to stray away from the topic you need information on. For your hockey research, you might want to interview the mayor, but she can't meet with you every morning. The semi-structured interview is a good method if you have only one chance to interview her.

Structured Interviews

Structured interviews are interviews that use a set list of questions that do not change. This method should be used when the researcher is very clear on the topic and there is other information that is easily available. These interviews can be conducted efficiently by non-experts, trained to follow only the instructions on the interview questionnaire. This method does not require the development of a relationship between interviewer and interviewee, and it can produce consistent data that can easily be compared between respondents. However, since the questions are set in advance, they cannot be adapted to changing situations and few are open-ended questions, so the researcher might obtain limited answers.

Counting People, Photographs, and Mapping

At the beginning of their research, anthropologists often count all the people they are studying and map their physical locations. They take photographs and draw diagrams, such as the ones shown in Figures 1-5 and 1-6, of how humans use physical space and the relationships between people in the society. Anthropologists collect this type of information on the activities of the people in the society to help them understand the society they are studying. For example, by counting the hours of work over a month of one community of hunter-gatherers in Southern Africa, the Ju/'hoansi, anthropologist Richard Lee discovered that most of the people spent an average of 20 hours a week gathering food. Women brought in 55 percent of the total calories, in addition to doing other kinds of work, including making clothing, processing food, and child care. Lee found out that the Ju/'hoansi worked no more than 40 hours a week in all tasks, which helped him to draw conclusions about the equality of labour within their society. This kind of information can be compared to information gathered through interviews or informants, which can help anthropologists verify what people are telling them.

REFLECT AND RESPOND

1. Create a chart comparing the advantages and disadvantages of different research methods used by cultural anthropologists.
2. Select which type of interview you would do if you were going to conduct research today in the Ju/'hoan village and explain your reasons.

More to Know...

You will learn more about Richard Lee and the Ju/'hoansi on pages 26–27.

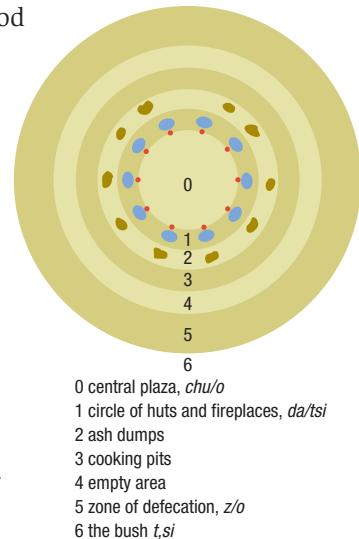


FIGURE 1-5 A plan of a Ju/'hoan village. What kind of information about people's culture and daily lives is available in this diagram? How is the information different from the information provided by the photograph?



FIGURE 1-6 Anthropologist Richard Lee interviewing Ju/'hoansi hunter about cooking debris. How does Figure 1-5 help you make sense of this photo?

Ethnology

Before You Read

Have you ever misunderstood someone trying to communicate with you? What were the circumstances and what was the result? What did you learn from the experience?

ethnology:

the study of the origins and cultures of different races and peoples

kinship:

the relationship between two or more people that is based on common ancestry, marriage, or adoption

participant observation:

the careful watching of a group, in some cases living with its members and participating in their culture

ethnography:

the written account of a culture

Skills Focus

Field notes are accounts of experiences, dialogues, and observations made by researcher while in the field. Choose a location in the school (or other busy place) and spend an hour observing and taking field notes about what you experience.



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FIGURE 1-7 Living with a culture while studying its members is a common method of research in anthropology. Can you think of some of the challenges and problems of using participant observation as a research method? What are some of the benefits?

How Do Ethnologists Study Culture?

Participant observation is the main method of study that ethnologists use to gather information about cultures. Bronislaw Malinowski pioneered this method in his 1915 study of the Trobriand Islanders in the South Pacific. He immersed himself in their culture, learning their language and participating in their society. He stated that the anthropologist's goal should be "to grasp the native's point of view, his relation to life, to realize *his* vision of *his* world" (Malinowski, 1961).

To live in another culture, anthropologists might have to learn a new language and adapt to new foods, new hygiene standards, different social conventions, and sometimes different climates. Because they must face these very personal challenges, most cultural anthropologists feel that fieldwork provides them with a very deep and intimate kind of knowledge (Ember and Ember, 1999).

It's important for anthropologists to understand the world view of the culture they are studying, which can be very difficult. To do this, anthropologists must first confront and reflect upon all of their own cultural assumptions. One of the ways anthropologists can understand the world view of a culture is by learning about the myths, stories, and songs that make up its oral history. One of Canada's pioneer anthropologists, Diamond Jenness (1886–1969), studied the oral history of the nomadic Innuinait (Copper Inuit) in the Canadian Arctic between 1913 and 1916. He became fluent in Inuktitut and recorded hundreds of drum dance songs, poems, legends, and stories on wax phonographic cylinders. He also carefully documented the people's daily life through meticulous field notes (Natural Resources Canada, 2010).

Early anthropologists such as Diamond Jenness felt it was important to document the way of life of what he called “disappearing cultures.” His book, *The People of the Twilight* (1928), is still regarded as one of the best sources of information on the life of the Innuinait. Today, anthropologists still use oral history, working together with people all over the world to preserve both culture and the environment.

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What are some challenges that cultural anthropologists face? What characteristics does an effective anthropologist require?

Open for Debate

Anthropologist Diamond Jenness collected thousands of artifacts, from fish hooks to parkas, many of which were given to the Museum of Civilization in Ottawa. In some cases, museums also keep the human remains of Aboriginal people for study. Aboriginal groups object to and are deeply offended by the collection and display of these types of artifacts and have fought to have these items returned. How do you think anthropologists, Aboriginal groups, and museums should deal with these issues?

YOUTH PERSPECTIVES

What is Canadian Culture?

Understanding the world view of another culture can be very difficult. In order to do so, an anthropologist must understand his or her own culture and how it shapes how he or she sees the world. Canadian culture has always been difficult to define; individuals have different opinions about Canada based on where they live, their background, and their experiences with other culture. Read the following statements from high school students about Canadian culture. Which opinions do you agree with? Which do you disagree with and why?

I find that Canadians say “sorry” a lot! Whenever someone steps on my foot, I’m the one to say sorry.

– Ellie

I would describe the Canadian culture as an open minded culture. People accept differences and respect each other, not making fun of other cultures.

– Sarah

I lived in China until my family moved to Canada when I was 11. Canadian culture is definitely more about freedom of expression and choices.

– Mary



↑ FIGURE 1-8 Hockey is often mentioned as an important aspect of Canadian culture. To what extent does hockey define Canadian culture?

I think we Canadians attempt to seek out and incorporate the cultures of the people that make our country. For better or for worse.

– Tony

When I returned to Canada from Chad (after living there for two and a half years) I noticed how much more uptight Western culture is than Chadian. For example, in Chad it is acceptable to visit any person whom you know at least relatively well without invitation or calling to inform of your visit. They will still feed you, give you water, and make you feel welcome. In Canada, going to your own family member’s house without letting them know is unacceptable, let alone doing that with someone who is only an acquaintance.

– Amina

As an international student, I noticed many differences such as hugs and kisses for your friends that were not considered common back in my country, Indonesia. This trip to Canada also made me understand the reason why a Canadian teacher, back at my school in Indonesia, would often end his questions with the phrase “eh.”

– Han Hwe

Canadians take a lot of things for granted. I was in Jamaica in December and, depending on where you are, having running water is great and leaving the lights on costs a fortune.

– Mekonen

Canadians will eat ice cream in the winter. In minus 40°C weather!

– Sierra

QUESTIONS

1. How would you define Canadian culture?
2. How does Canadian culture compare to another culture you are familiar with?
3. Can you identify cultural behaviour, attitudes, and values in these examples?

The Problems of Participant Observation

subjective:

type of conclusions shaped by a person's cultural and personal perspective, feelings, and beliefs

objective:

type of conclusions based on facts and data and uninfluenced by personal perspectives, prejudices, or emotions

reflexivity:

the practice of reflecting on your own world view, biases, and impact on the culture you are studying

As you read on page 22, participant observation can be a source of in-depth cultural understanding. It is also highly **subjective**, which means that a researcher's point of view and cultural background can shape his or her conclusions. To make their conclusions more reliable, researchers should use **objective** data (for example, counting populations, mapping, and semi-structured interviews), along with the notes from their participant observations. It is also important for researchers to use **reflexivity**, the practice of reflecting on their own world view, biases, and impact on the culture they are studying. Researchers should share their work with their subjects and ask them if their interpretations are accurate (Ember and Ember, 1999).

Sex, Lies, and Anthropology: Margaret Mead and Derek Freeman

Margaret Mead is one of anthropology's most influential and controversial figures. Best known for her study of Samoan adolescent girls, Mead was interested in examining whether stresses during adolescence were caused by adolescence itself or by society. Mead studied Samoan adolescent girls

using participant observation, living among a small group and conducting interviews over nine months between 1925 and 1926. Mead observed that, in contrast to American adolescent girls, adolescence was a stress-free time for Samoan girls. Mead believed that this easy transition to adulthood was due to the sexual freedom Samoan girls experienced and concluded that sex roles were determined by culture, not biology. This conclusion fit with the anthropological and societal ideas of the 1920s. Women were re-evaluating their roles in North American society, and her findings were popular among women and men who wanted social change. Margaret Mead was a popular speaker and went on to publicize her work and the study of anthropology.

Derek Freeman, who began working in Western Samoa in the 1960s and studying its culture, criticized Mead's work in a book published in 1983. He concluded, based on his own research and interviews, that Samoa actually had very restrictive sexual practices. He felt that Mead had been tricked by her informants, teenage girls who were highly embarrassed by the intensely personal questions of a foreigner, citing specific rituals that indicated the importance of female virginity.



↑ FIGURE 1-9 Margaret Mead and two Samoan girls, 1926. How did Mead's controversial work in Samoa demonstrate the problems of participant observation?

❓ What challenges does participant observation have for the researcher and for those who are being observed?

Anthropologist Paul Shankman published a book in 2009, re-examining Mead's and Freeman's original data and found that Samoans in comparison to other cultures are neither permissive nor restrictive in their sexual practices. However, Shankman concluded that both anthropologists were correct. Mead was working in American Samoa in the 1920s at a time when premarital sex in the United States was uncommon. By the 1960s, when Freeman was doing his fieldwork in Western Samoa, American attitudes around premarital sex had changed greatly. The researchers were coming from different contexts and had different experiences in Samoa. Mead and Freeman were both from different generations, which shaped their outlook, but they were also studying Samoa at very different times. Samoa had changed greatly in the time between Mead's and Freeman's work due to colonization, World War II, and commercialization. More Samoans had also become Christians, which influenced their beliefs about sex during that time.

Anthropology from a Distance: *The Chrysanthemum and the Sword* (1946)

During World War II, anthropologist Ruth Benedict researched Japan for the U.S. government in order to help Americans understand and defeat the Japanese army. Unable to live in Japan during the war, Benedict used all the cultural material available to her, including literature, newspapers, and films, to complete her research. She also interviewed Japanese immigrants and Japanese-Americans. She was able to make recommendations to the U.S. government to reach terms of surrender. After the war, Benedict's book was translated and published in Japan. Some scholars supported her work, but others criticized her approach. Her methods of studying a culture from a distance have been criticized, but her book, *The Chrysanthemum and the Sword*, remains a classic and best-selling work of cultural anthropology.

Look at the photographs on this page. Can you make conclusions about the cultural attitudes, beliefs, and values of the people in these photos from these images? What might be some challenges of studying a culture only through photos? How could you overcome those challenges?

REFLECT AND RESPOND

1. Why was Mead a controversial figure?
2. How did Margaret Mead and Derek Freeman come to different conclusions using participant observation?
3. Why was Ruth Benedict's research criticized?
4. What are some of the ethical issues of studying the culture of an enemy nation during wartime?



↑ **FIGURE 1-10** Japanese teens demonstrating street fashion. Can you draw any conclusions about Japanese culture from this photo?



↑ **FIGURE 1-11** Does this photo accurately represent North American culture? If this photo was the only evidence you had of North American culture what conclusions might you draw?

Landmark Case Study

Richard Lee and the Dobe Ju/'hoansi

Richard Lee, one of Canada's most distinguished ethnographers, has lived and worked with the Dobe Ju/'hoansi (pronounced *zhut-wasi*), a group of San people of Southern Africa for almost 40 years, starting back in the 1960s. (In the past, this group has also been referred to as the !Kung.) In that time the Dobe Ju/'hoansi have changed from a relatively isolated hunter-gatherer society, who foraged for food, to an integrated herding and farming society.

Lee decided to conduct his research among the Dobe Ju/'hoansi because of studies he read about evolution and human behaviour, as well as his personal interest in hunting and gathering societies. He was hoping to gain some insight into human behaviour and how our hunting and gathering ancestors may have behaved. During his first research trip, Lee studied the food gathering or subsistence patterns of these hunter-gatherers of the Kalahari through participant observation, taking detailed notes of his interactions with the Dobe Ju/'hoansi. In addition, Lee collected a great deal of objective data, such as population information, to help him complete his research.

In the excerpt below, Lee (1993) explains the practice of "insulting the meat." To celebrate Christmas, he slaughtered and cooked a large ox to share with the community. Instead of appearing grateful for the gift, as is customary in Canada, the Ju/'hoan belittled the ox, saying it was only skin and bones, and was barely enough to feed anyone.

Eating Christmas in the Kalahari

We danced and ate that ox two days and two nights; we cooked and distributed fourteen potfuls of meat and no one went home hungry and no fights broke out. But the "joke" stayed in my mind. I had a growing feeling that something important had happened in my relationship with the Bushmen and that the clue lay in the meaning of the joke. Several days later, when most of the people had dispersed back to the bush camps, I raised the question with Hakekgose, a Tswana man who had grown up among the !Kung, married a !Kung girl, and who probably knew their culture better than any other non-Bushman.

"With us whites," I began, "Christmas is supposed to be the day of friendship and brotherly love. What I can't figure out is why the Bushmen went to such lengths to criticize and belittle the ox I had bought for the feast. The animal was perfectly good and their jokes and wisecracks practically ruined the holiday for me."

"So it really did bother you," said Hakekgose. "Well, that's the way they always talk. When I take my rifle and go hunting with them, if I miss, they laugh at me for the rest of the day. But even if I hit and bring one down, it's no better. To them, the kill is always too small or too old or too thin; and as we sit down on the kill site to cook and eat the liver, they keep grumbling, even with their mouths full of meat. They say things like, 'Oh this is awful! What a worthless animal! Whatever made me think that this Tswana rascal could hunt!'"

"Is this the way outsiders are treated?" I asked. "No, it is their custom; they talk that way to each other too. Go and ask them."

/Gaugo had been one of the most enthusiastic in making me feel bad about the merit of the Christmas ox. I sought him out first.

"Why did you tell me the black ox was worthless, when you could see that it was loaded with fat and meat?"

"It is our way," he said smiling. "Say there is a Ju/'hoan who has been hunting. He must not come home and announce like a braggart, 'I have killed a big one in the bush!' He must first sit down in silence until I or someone else comes up to the fire and asks, 'What did you see today?' He replies quietly, 'Ah, I'm no good for hunting. I saw nothing at all [pause] just a little tiny one.' Then I smile to myself," /Gaugo continued, "because I know he has killed something big."

"In the morning we make up a party of four or five people to cut up and carry the meat back to the camp. When we arrive at the kill we examine it and cry out, 'You mean to say you have dragged us all the way out here in order to make us cart home your pile of bones? Oh, if I had known it was this thin I wouldn't have come.' Another one pipes up,



↑ FIGURE 1-12 Lee among the Dobe Ju/'hoansi. What did Lee learn about the Dobe Ju/'hoansi from the practice of insulting the meat?

'People, to think I gave up a nice day in the shade for this. At home we may be hungry, but at least we have nice cool water to drink.' If the horns are big, someone says, 'Did you think that somehow you were going to boil down the horns for soup?'

"To all this you must respond in kind. 'I agree,' you say, 'this one is not worth the effort; let's just cook the liver for strength and leave the rest for the hyenas. It is not too late to hunt today, and even a duiker or a steenbok would be better than this mess.'

"Then you set to work nevertheless, butcher the animal, carry the meat back to the camp, and everyone eats," /Gaugo concluded.

Things were beginning to make sense. Next, I went to Tomazho. He corroborated /Gaugo's story of the obligatory insults over a kill and added a few details of his own.

"But," I asked, "why insult a man after he has gone to all that trouble to track and kill an animal and when he is going to share the meat with you so that your family will have something to eat?"

*"Arrogance," was his cryptic answer.
"Arrogance?"*

"Yes, when a young man kills much meat he comes to think of himself as a chief or big man, and he thinks of the rest of us as his servants or inferiors. We can't accept this. We refuse one who boasts, for someday his pride will make him kill somebody. So we always speak of his meat as worthless. This way we cool his heart and make him gentle."

"But why didn't you tell me this before?" I asked Tomazho with some heat.

"Because you never asked me," said Tomazho, echoing the refrain that has come to haunt every field ethnographer. (p. 187–188)

The Dobe Ju/'hoansi have changed a great deal in the years since Lee's first research study. Increased globalization, commercialization, and resource pressure have changed their way of life and made it difficult for them to maintain their language and culture. To assist them, Lee and other researchers established the Kalahari People's Fund in 1973. The fund has helped the Ju/'hoansi to establish appropriate education in their own language, retain control of land and water rights, and preserve their oral history and language through digitization and Internet access. The initial focus on participant observation has shifted to a collaborative research and development approach, which maintains the dignity, rights, and culture of the Ju/'hoansi.

QUESTIONS

1. How does the behaviour of the Ju/'hoansi in this story show us their cultural values?
2. Why is it important for a cultural anthropologist to take detailed notes during an interview?
3. What did you learn about the process of participant observation from this excerpt?
4. What assumptions were made about communication in this case? Have you ever made assumptions about something you heard but may not have understood?

Schools of Thought in Cultural Anthropology

Before You Read

Have you ever eaten seal? If you lived in the Arctic, do you think you would have a different response to this question? Why or why not?

ethnocentric:
believing that one's own culture is superior to all others

Cultural anthropologists develop theories to make sense of the evidence they have gathered. Sometimes they start with a theory and look for evidence, but most anthropologists start with an interest in a topic and, as they research, they find that they are part of a schools of thought. Anthropologists do not always agree about the meanings of culture, but the debate stimulates new research and new theories, resulting in new ways of understanding ourselves.

Cultural Relativism

Franz Boas, a pioneer of modern anthropology in the early twentieth century, promoted the idea of cultural relativism, stating that an anthropologist cannot compare two cultures because each culture has its own internal rules that must be accepted. Everyone sees other cultures through the lens of their own culture. For example, if you were born and raised in the United States, you might view Canada differently than if you were born and raised in Canada. Boaz urged anthropologists to understand cultures on their own terms and avoid snap judgments about other practices. Cultural relativism was a response to cultural evolutionism (the theory that all cultures evolve from “savage” to “barbarian” to “civilized”), which assumed an **ethnocentric** view that nineteenth-century European culture was superior to all others.

Functional Theory

In anthropology, functional theory is the idea that every belief, action, or relationship in a culture functions to meet the needs of individuals. This theory stresses the importance of interdependence among all things within a social system to ensure its long-term survival. Meeting the needs of individuals makes the culture as a whole successful. Like Boas, Bronislaw Malinowski rejected cultural evolutionism, but unlike Boas, he felt that societies could be objectively measured and compared.

Malinowski saw functional theory at work in the Trobriand Islands during World War I. Every year, there was a ceremonial exchange of a necklace and an arm band between two men on each island in the South Pacific. The jewellery was not valuable, but the exchange was a highly anticipated event (New World Encyclopedia, 2008). Malinowski discovered that the jewellery travelled the entire circle of the islands in two different directions, linking distant individuals in what he called the “Kula Ring.” This exchange of jewellery was not an economic trade, but it reinforced the status of the Kula traders and allowed them to trade food and everyday objects, and maintain peaceful relationships. What seemed to be a highly ceremonial exchange had very real economic, social, and political functions, serving the needs of the individuals and the whole society (Schwimmer, 2007).

Cultural Materialism

Cultural materialism was pioneered by Marvin Harris in the 1960s. Influenced by economists such as Karl Marx and Thomas Malthus, the theory states that materials or conditions within the environment (for example, climate, food supply, geography) influence how a culture develops, creating the ideas and ideology of a culture (see Figure 1-13). Cultural materialists believe that society develops on a trial-and-error basis. If something is not of value to a society's ability to produce or reproduce, then it will disappear from society altogether. Therefore, institutions, such as the law, government, and religion, must be beneficial to society or they will no longer exist. One criticism of cultural materialism is that it is too simplistic and ignores spiritual considerations or that humans are thinking beings.

The Infrastructure

A society's material resources – technology, population, available land, etc.



The Structure

A society's familial, political, economic, and social systems

FIGURE 1-13 According to Harris, culture develops in three stages.

The Superstructure

A society's ideas, values, symbols, and religion

Harris applied the theory to the Hindu belief in the sacred cow. Among Hindus in India, the cow is a sacred animal that cannot be eaten. Harris found that cows are used in India for important agricultural work, pulling plows and hauling heavy loads. This important function influences decisions about the best way to use a cow and contributes to the belief that cows are sacred and should not be eaten.

Maxine Margolis's research in North America in 1984 supports the theory that material conditions change before ideas change. She studied women's roles in postwar America and found that, even though the cultural ideal in the 1950s was for women to stay home, material changes (for example, inflation) sent women into the workforce. Women's material activities (in this case, going to work) drove the ideological changes of the feminist movement of the 1960s, not the other way around (Margolis, 1984).

?

Identify some examples of cultural relativism and cultural materialism. How does each theory help you understand your own culture?



FIGURE 1-14 The stay at home wife and mother was the cultural ideal for women in the 1950s.



FIGURE 1-15 An equal rights protest in the United States. How would Margolis explain the differences between Figure 1-13 and Figure 1-14?

Connecting Anthropology to Psychology

Much in the way feminist anthropologists examine gender relationships in different cultures, feminine psychologists examine female identity and issues faced by women. The field also highlights gender bias in traditional psychological theories and counters this bias with alternative theories.

Feminist Anthropology

By the 1970s, feminist anthropologists were re-examining anthropology to ensure that female voices were heard and included in research. They also compared cultures to see how many were dominated by men, how many were dominated by women, and how many were egalitarian. Ernestine Friedl, an American feminist anthropologist, concluded that in forager societies, the amount of freedom women had was strongly tied to their contributions to the food supply. Men and women are relatively equal in societies where women gather more of the food, but in societies where men have more control over the food resources (for example, in societies where hunting is the major food-gathering activity), men are more dominant and women have less control over their lives and choices (Friedl, 1978). Figure 1-16 demonstrates the division of labour by gender in the world.

WORLDWIDE PATTERNS IN THE DIVISION OF LABOUR BY GENDER					
Type of Activity	Males Almost Always	Males Usually	Either Gender or Both	Females Usually	Females Almost Always
Primary subsistence activities	Hunt and trap animals	Fish Herd large animals Collect wild honey Clear land and prepare soil for planting	Collect shellfish Care for small animals Plant crops Tend crops Harvest crops Milk animals	Gather wild plants	
Secondary subsistence and household activities		Butcher animals	Preserve meat and fish	Care for children Cook Prepare food and drinks Launder Fetch water Collect fuel	Care for infants
Other	Lumber Mine and quarry Make boats musical instruments bone, horn, and shell objects Engage in combat	Build houses Make nets and rope Exercise political leadership	Prepare skins Make leather products baskets mats clothing pottery	Spin yarn	

↑ FIGURE 1-16 Worldwide patterns in the division of labour by gender. What does this chart tell you about gender roles?

culturally constructed:
created or shaped by a culture

Today, feminist anthropologists continue to look at how cultures determine gender roles, try to debunk gender myths, and show how our ideas about gender are **culturally constructed**, that is, created by the culture, not biology. They also look at how gender, race, class, ethnicity, and sexual orientation are constructed in various societies and the effect of those ideas on marginalized people (Lavenda and Schultz, 2010).

Postmodernism

Postmodernism is a theory that influences a number of disciplines, including anthropology. It is the belief that it is impossible to have any “true” knowledge about the world. Postmodernism rejects the idea of objective truth. What we “know” about the world is our own construction, created by society. Postmodernists try to deconstruct, or break down, what a society believes to be true. Postmodernists believe that anthropologists can’t study their subjects in a detached or objective way, like a chemist studying a chemical reaction, because of the personal relationships that develop between anthropologist and informants during participant observation. Postmodernists practise reflexivity, which you learned about on page 24.

Since the 1980s, postmodern anthropologists have more and more been doing research in their own cultural settings. Some of the recent research has focused on understanding the immigrant experience in urban Canada (for example, defining of Italian cultural spaces in Toronto).

Another example of postmodernist anthropology is the research done by Canadian anthropologist and director Sam Dunn on the **subculture** of heavy metal music and heavy metal fans (sometimes called *headbangers* or *metalheads*). In his two films, *Metal: A Headbanger’s Journey* (2006) and *Global Metal* (2008), he explains how his passion for heavy metal music led him to conduct his research at home and around the world. Dunn’s work is an example of multisited fieldwork (fieldwork conducted in more than one location), studying a culture that crosses national and ethnic boundaries. Dunn is an insider in the headbanger culture and shows reflexivity in his documentary, frequently discussing how his own bias as a metal fan is affecting his research.

REFLECT AND RESPOND

1. Women in Canada make up half of the population, yet they make up less than 20 percent of the elected government. How would a feminist and a functionalist differ in their explanations of this statistic?
2. What is the essential difference between the approach of cultural materialists and postmodernists?
3. Study the chart of division of labour in world cultures by gender (see Figure 1-16). How would a cultural materialist interpret the information differently from a feminist anthropologist?
4. If you were an anthropologist studying ethnicity, class, or gender in your community, how would you conduct your research?

VOICES

Mass media communications technologies also enable people to participate in communities of others with whom they share neither geographical proximity nor a common history but an access to signs, symbols, images, narratives, and other resources with which they can convey mutual solidarity...

Rosemary E. Coombe

subculture:

a small group within a larger group who shares a common system of values, beliefs, attitudes, behaviours, and lifestyle distinct from those of the larger group



↑ **FIGURE 1-17** Heavy metal fans, part of a worldwide community who absorb the music and transform it into a new form of cultural expression (Dunn, 2008). Do you think it is possible for a researcher who is a member of the culture he or she is studying to conduct reliable research?

Linguistic Anthropology

Before You Read

How does the slang of your peers differ from that of your parents? What does this tell you about the culture and values of each generation?



FIGURE 1-18 Road sign in Squamish and English in British Columbia.
How do you think road signs like this one would help the cultural revival or survival of the Squamish people?

Linguistic anthropologists study human languages and how language affects and expresses culture. There are three areas of linguistic anthropology: historical linguistics, structural linguistics, and sociolinguistics. Some of the research in each of the three areas will be examined below.

Historical Linguistics

Historical linguistic anthropologists compare the similarities and differences of language structures so they can understand how languages are related and how people migrated in the past. This is an important field for cultures with no written language. One of Canada's early anthropologists, Edward Sapir, studied the Aboriginal peoples of Canada and recorded their languages, often with the last living speaker. Through analysis and historical reconstruction, he was able to trace the languages of Canada's Aboriginal populations and set the foundation for the understanding of the five major culture areas of Canada. Much of Sapir's work in this field has been used by Canada's Aboriginal groups to create written forms of their languages as part of their cultural revival and survival.

Using Linguistics

Widely dispersed throughout Europe, the Middle East, and North America, there are an estimated 4 million to 14 million Roma in the world. It is impossible to estimate the total population with accuracy, since many governments do not record Roma in their census figures and many Roma conceal their ethnic origin. Historically, the Romani people were highly mobile and nomadic, moving from place to place, as they were expelled from cities and countries. To study the history of the Romani people, scholars have looked to linguistics to track their migration. Recent studies have traced their origins to India. It was from India that the Roma migrated from India to Europe in the eleventh century (Matras, 2002).

Structural Linguistics

Noam Chomsky is known as the father of modern structural linguistics, or the study of how sounds are put together to make meaning. He is best known for developing the theory of universal grammar: that all human children are born with internal, universal rules for grammar and that they apply these rules as they learn their mother tongue.

According to Chomsky, the reason that children so easily master language is that they have innate knowledge of certain principles that guide them. In other words, Chomsky's theory is that learning language is made possible by a predisposition that our brains have for the structures of language. However, evolutionary biologists disagree, saying that language is not an instinct encoded in the brain, but is a learned skill. For Chomsky's theory to be true, all the languages must share some structural characteristics. In fact, linguists have shown that the 5000 plus languages of the world do share rules and principles.

We often judge people on whether or not they use proper grammar, but if two people are speaking the same dialect (a regional speech pattern) and understand each other, then they are using linguistically good grammar. Take the following example:

Merle: I ain't got no shoes.

Pearl: I ain't got none either.

The two speakers understand each other perfectly, even though the sentences don't meet our expectations of standard English. In fact, the dialect they are speaking has its own internal grammar rules, which the speakers understand intuitively (Peoples and Bailey, 2003).

? Why would a linguistic anthropologist want to research texting in the twenty-first century? What are some possible research questions a linguistic anthropologist might ask teens today?



↑ FIGURE 1-19 Does this baby already know grammar?

Sociolinguistics

Sociolinguistics is the study of how people use language within their culture to express status and context. For example, you would probably use language differently when talking to a teacher in a classroom than with your friends on the weekend.

A study by Roger Brown and Marguerite Ford from 1964 showed that how people address each other can show the relationship between them. Peers tend to address each other by their first names, while people who use a title and last name to address each other often have a business relationship. If one person uses a title and last name while the other uses a first name, there is a difference in status (for example, students and teachers). In some cases, generally among boys and men, people address each other by their last names with no title, particularly in a sports context. Some anthropologists suggest that this is a middle ground, indicating respect but not intimacy.

Sociolinguists study not only spoken language, but also body language in different cultural contexts. For example, in many First Nations cultures, it is rude for students to look a teacher in the eye. In Japan, showing your teeth is a sign of social dominance and is considered very rude. North Americans who tend to smile openly are often seen as aggressive or bullying in Japan. Many large corporations employ linguistic anthropologists to train their employees to work effectively in other cultures so that they are not misunderstood.

REFLECT AND RESPOND

1. What kinds of questions do linguistic anthropologists ask in their research? Give an example for each area of linguistic anthropology.
2. What are some challenges of studying linguistic anthropology?
3. How does language reflect status or culture in Canadian society? List examples.
4. Have you noticed miscommunication between speakers of different languages or from different cultures? Give some examples.

Archaeology

Archaeology is the cultural anthropology of the past. Archaeologists excavate physical remains of past cultures to understand and reconstruct them. Some archaeologists study cultures with no written record (prehistory) or study sites that have a recorded history to supplement their understanding of the culture. Often written histories are incomplete or contain only some aspects of society. Archaeologists work with historians and physical and cultural anthropologists to make sense of the past.

IN THE FIELD

Archaeological Services Inc.

Have you ever wondered about what kind of jobs archaeologists and anthropologists have? We usually hear about them working in universities and colleges, but not all archaeologists and anthropologists work in academic institutions. Archaeological Services Inc. (ASI) is a Canadian-owned archaeological consulting firm that works with the public and private sectors. The ASI team excavates archaeological sites and assesses their heritage value, reviews heritage planning studies, and documents archaeological features of development sites.

Ontario's cultural history dates back about 11 000 years. Archaeological sites can be found throughout the province. Some sites we know about, like the First Parliament site in downtown Toronto. Others are found accidentally, sometimes when buildings are being built or torn down.

In one project, ASI excavated along the shoreline of the Niagara River in Fort Erie. Fort Erie was upgrading the town's infrastructure and redeveloping land. The municipality brought in ASI to minimize impact of their work on the archaeological sites throughout the town. ASI drilled through roads and sidewalks to study the soil and found evidence of a large settlement that existed 4000 years before Europeans arrived in North America. The archaeologists from ASI also found the Snake Hill Cemetery, a previously unknown American military cemetery from 1814. They were able to identify and exhume 28 bodies, which were then repatriated to the United States.

The staff at ASI have backgrounds in anthropology, archaeology, and geography. They interpret data using state-of-the-art techniques, including 3-D imaging to bring to life an Iroquoian village, and chemical analysis of animal and human bone samples to determine dietary trends.

QUESTIONS

1. What skills do you think are important for working at Archaeological Services Inc.?
2. What are some positives of working in this field?



↑ FIGURE 1-20 Archaeologists from Archaeological Services Inc. working at the Snake Hill Cemetery

Prehistoric Archaeology

For civilizations with no written record, archaeology is the only way to find out how people lived hundreds or thousands of years ago.

One study looked at the spread of tobacco in the Americas. Archaeologists sifted through piles of dirt in many sites across North America for tiny tobacco seeds. They traced the spread of tobacco from Central America up the Mississippi River to Canada to about 800 CE. Tobacco did not spread to the Arctic and West Coast until the nineteenth and twentieth centuries (Collishaw, 2009). By understanding the movement of tobacco, archaeologists can understand ancient trade routes, contact between peoples, and agricultural and cultural practices of the Aboriginal peoples of North America before European contact.

Archaeology and History

Archaeology can also supplement an existing historic record by telling us about the daily life of people who may not be included in the written history. Archaeology is the recovery, documentation, and analysis of objects that remain to shed light on human prehistory, behaviour, and cultural evolution.



FIGURE 1-21 One of the best known archaeological sites in Canada is L'Anse aux Meadows. Dated to 1000 CE, it is the remains of the first European settlement in North America.

In an unusual archaeological study, William Rathje of the University of Arizona looked at modern garbage to find out if people really do what they say they do. Starting in 1973, Rathje's team examined people's garbage and excavated landfills. Their conclusions are surprising. Although people have been concerned about the amount of plastic in landfills, plastic bags, disposable diapers, and styrofoam comprise only about 3 percent of the volume, while paper products make up 40 percent. During meat shortages, consumption went up, rather than down. They also found that people consumed products considered to be negative, like alcohol and junk food, in much greater quantities than they said they did. Rathje concluded that what people say they do and what they actually do are different, that these differences are predictable, and that often people will do the exact opposite of what they say.

IN FOCUS**Kwaday Dän Ts'inchi**

In 1999, three teachers were hunting bighorn sheep in Tatshenshini-Alsek Park, British Columbia, when they came across what turned out to be the mummified remains of an ancient man, preserved in a glacier. Archaeologists and the Champagne and Aishihik First Nations (CAFN) went to the site and excavated the remains for further study. First Nations people in Canada have specific beliefs about the handling of ancient human remains, and the handling of this find demonstrates how archaeologists, the British Columbia government, and First Nations worked together to ensure that cultural concerns were respected while recognizing the significant scientific information that could be discovered (Government of British Columbia, 2000). Historically, archaeologists did not always respect First Nations beliefs and values or involve them in their discoveries. Sometimes this resulted in protests and legal battles and led to repatriation policies, where artifacts and remains once part of museum collections were returned.

The CAFN elders named the ancient man *Kwaday Dän Ts'inchi*, which means "long-ago person found." Archaeologists were allowed to study the human remains for one year. No photos could be taken, and the body was kept in a locked freezer.

**FIGURE 1-22**

The glacier in Tatshenshini-Alsek Park, British Columbia where Kwaday Dän Ts'inchi was found.

After one year, his remains were cremated and scattered across the glacier where he was found. Several artifacts had been found with Kwaday Dän Ts'inchi, including a woven cedar hat, a walking stick, a spear thrower, an iron-blade knife, and a robe made of gopher and squirrel skins. One artifact, a leather bag, was left unopened because it was likely a sacred medicine bag (Grambo, 2006).

In 2008, researchers gathered to discuss their results. Kwaday Dän Ts'inchi was a hunter who lived about 200 to 300 years ago. From the contents of his stomach, researchers believe he was travelling. Through mitochondrial DNA testing, researchers revealed that Kwaday Dän Ts'inchi was related to 17 living people from coastal and interior First Nation groups, 15 of which are from the wolf clan. These DNA findings support the oral history of the local First Nations, confirming both the important ties between the coastal and inland peoples and the traditional clan associations. Lawrence Joe, the heritage director of the CAFN stated, "We want to be able to use the science to confirm our cultural knowledge, our beliefs, and our family relationships" (CBC, 2008). By working together with First Nations cultures, archaeologists and anthropologists have been able to learn from the past and apply that knowledge to the present.

QUESTIONS

1. How can archaeology contribute to the understanding of Canada's First Nations peoples, both past and present?
2. Why is it important for archaeologists to work with groups such as the Champagne and Aishihik First Nations?

REFLECT AND RESPOND

1. What techniques do archaeologists use to learn about past or current cultures?
2. What personal qualities and skills do you think an archaeologist should have?
3. What are some ethical questions archaeologists face in their work?

Human Evolution and Defining Humans

Section 1.2

Where do we come from? How did we evolve? What makes humans unique?

Physical anthropologists seek to answer these questions, constructing theories of humanity's origin, migration, and behaviour in the distant past to understand our present behaviour and characteristics more clearly. In this section, you will learn about the different fields of anthropology, how humans have evolved, and the differences and similarities of human populations.

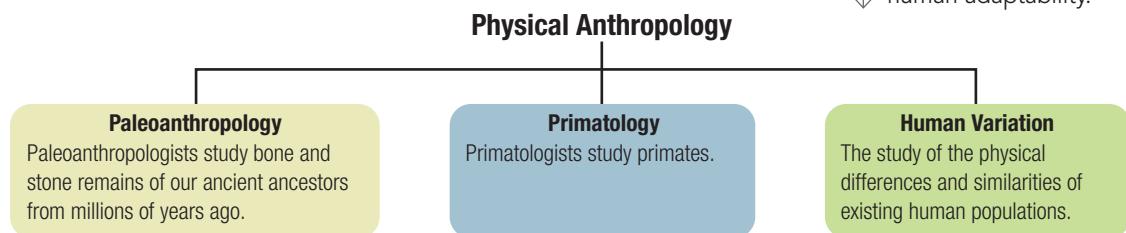
Before You Read

What stories have you learned about where we come from? What questions do you have about them?

Physical Anthropology

Physical anthropologists want to know where humans as a species come from, how our bodies evolved to their present form, and what makes humans unique. The mind map below (Figure 1-23) explains how researchers attempt to answer these questions.

FIGURE 1-23 The different fields of physical anthropology. Subtopics include the development of evolutionary theory, the biological basis for human variation, the evolutionary influences, and human adaptability.



Look carefully at the following photos (Figures 1-24 and 1-25). What kind of evidence is each anthropologist examining? What kind of questions might they be asking about the evidence? What conclusions do you think they can come to from the evidence shown?



↑ FIGURE 1-24 Donald Johanson and "Lucy"



↑ FIGURE 1-25 Jane Goodall observing chimpanzees

Paleoanthropology

Before You Read

Have you ever seen a fossil? What do you think we can learn from these fossils?

hominin:

a human or human ancestor

fossil:

preserved remains of biological matter

What Can Anthropologists Learn from Ancient Bones?

In 1974, paleoanthropologist Donald Johanson found a skeleton in Ethiopia that was 40 percent complete. Johanson nicknamed the skeleton “Lucy,” because the Beatles’ song “Lucy in the Sky with Diamonds” was playing on the radio when his team made the discovery. Lucy is part of the new species *Australopithecus afarensis*, a member of the human family, or hominin, that walked the earth 3.2 million years ago. Lucy has provided anthropologists with a huge wealth of knowledge. Figure 1-26 demonstrates what anthropologists learned about Lucy from her skeletal remains.

In 2006, a discovery of another *Australopithecus afarensis* was found in Ethiopia’s Afar triangle. This fossil of a three-year-old female was named Selam, and is the most complete fossil of a juvenile *Australopithecus* found to date. The find included most of the skull, both shoulders, part of the vertebral column, parts of both knees and legs, parts of the right arm, and several ribs. Selam will help researchers understand how humans came to move on two feet. Her lower body was adapted for walking upright, but her shoulder blades suggest the possibility that she was also able to climb and swing through trees. Selam also has the earliest confirmation of a hyoid bone (a bone found in the larynx that supports the muscles in the throat and tongue), important to the research into the origins of human speech.

What are some of the things anthropologists can learn from ancient bones? How can Lucy and Selam help paleoanthropologists understand our past?



Teeth: Lucy’s third molars or wisdom teeth had already erupted and showed signs of wear, indicating that she was an adult when she died. The hole where her canine tooth had been is much smaller than other specimens, one of many clues indicating that she was female.

Skull fragment: From the curve of the five skull fragments, anthropologists can tell that Lucy’s brain was about 380 cm^3 , the same as the brain of a modern chimpanzee and significantly smaller than that of a modern human. (Edgar, 2007)

Where Do Humans Come From?

Charles Darwin (1809–1882), was a naturalist, scientist, and author who established the concept of natural selection to explain how animals and plants evolved. In 1831, he spent four years on the HMS *Beagle* where he made observations on the wildlife and fossils he collected, mostly from the Galapagos Islands. Darwin proposed that species were forced to evolve or they would become extinct. Those that were able to adapt lived and passed down the characteristics that allowed them to survive to their offspring. It took Darwin 20 years to develop and publish his theory. He published *On the Origin of Species* in 1859, outlining the theory of natural selection, and *The Descent of Man* in 1871, applying his theory to humans. During his lifetime, the public began to accept evolution fact.

Darwin suggested that humans first evolved in Africa. Many of his contemporaries disagreed and pointed to Asia as the place where humans first evolved. In 1924, the anatomist Raymond Dart was given a skull found by workers at a quarry at Taung, South Africa. He determined the skull to be more human than ape and that its owner walked upright but had a small brain. He named it *Australopithecus africanus* (“southern ape from Africa”) and declared it to be an early form of human. He was the first person to provide evidence of the African origin of humanity (Lewin, 1998).

Louis and Mary Leakey found further proof of an African origin in 1959 when they found an australopithecine skull in Olduvai Gorge, Kenya. Using **radiometric dating** for the first time, they determined the skull to be 1.75 million years old. Mary Leakey nicknamed the fossil “Dear Boy.” Soon after, the Leakeys found many more fossils of other hominins, including *Homo habilis*. Together with their son, Richard, who also discovered an almost complete *Homo erectus* skeleton at Lake Turkana, they proved humanity’s African origin, helped to start the school of primatology, and generated much interest and publicity for the field of human origins.

radiometric dating:
a process that is used to determine the age of an object, based on measuring the amount of radioactive material it has



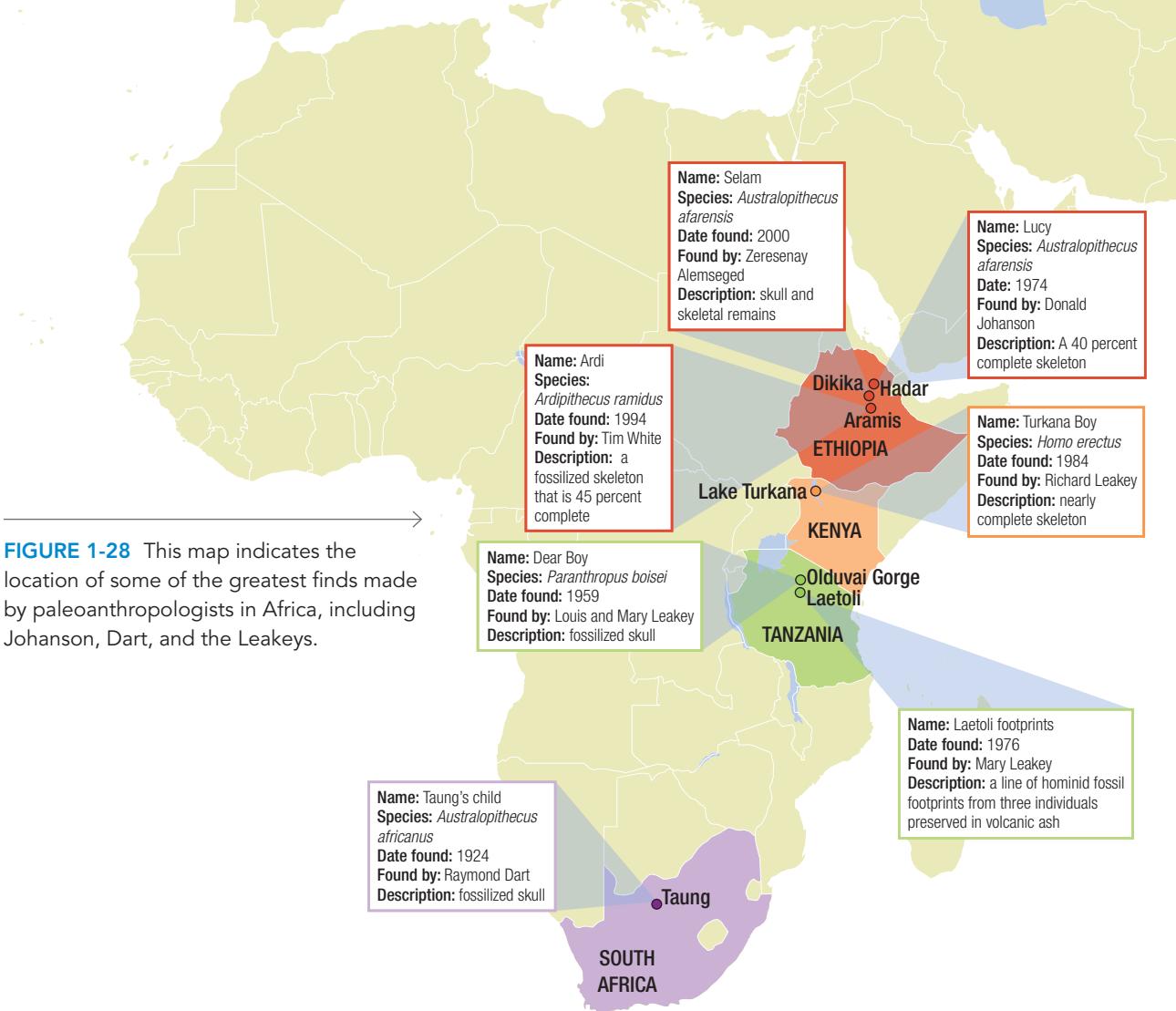
FIGURE 1-27 Louis and Mary Leakey carefully excavating a site in Africa

Open for Debate

Some people do not recognize the theory of evolution since it does not align with their religious views. Some believe in intelligent design, the belief that nature is too complex to have developed through natural selection, so it must have had some form of intelligent being directing its development (Laidlaw, 2007).



Why is finding fossil evidence important in paleoanthropology? What do you think are some of the challenges that paleoanthropologists face? What might be some of the rewards?



bipedalism:
the trait of habitually walking on two legs

VOICES

The fundamental distinction between us and our closest relatives is not our language, not our culture, not our technology; it is that we stand upright, with our lower limbs for support and locomotion and our upper limbs free from those functions.

Richard E. Leakey,
paleontologist

When Did Humans Walk Upright?

One of the major differences between humans and other primates is that humans walk habitually on two legs. This adaptation is called **bipedalism**. When anthropologists find a fossil, they look for traits that mark bipedalism, such as an S-shaped spine; a wide, flat pelvis; a slanting thigh bone; a double-arched foot; and a big toe in line with the heel. When they find these traits, they can say that the fossil belonged to a hominin, one of our ancient relatives.

One of the most important finds in paleoanthropology is Mary Leakey's discovery of the Laetoli footprints. Preserved in a layer of volcanic ash, there are three sets of footprints of early hominins. These footprints are clearly bipedal, having a strong heel strike, distinct arch, and big toe in line with the heel. These footprints indicate that bipedalism began at least 3.6 million years ago, well before the development of a larger brain in hominins.

What are some of the things that make humans different from other primates? How do anthropologists determine whether a fossil is a hominin?

IN FOCUS**Ardipithecus Ramidus**

The 2009 discovery of the ancient hominin *Ardipithecus ramidus* has pushed bipedalism back to at least 4.4 million years ago, even further back than the Laetoli footprints. "Ardi" has added more information to the debate about when human ancestors stopped living in the trees. She was bipedal but, unlike the australopithecines, had opposable big toes that allowed her to move in the trees. From her hands, paleoanthropologists can tell that she was not a knuckle walker, as our closest living relatives, the chimpanzees and gorillas, are today. The discovery of Ardi forces anthropologists to reconsider previous theories of human evolution and pushes the common ancestor between humans and apes back to seven million years ago.

QUESTIONS

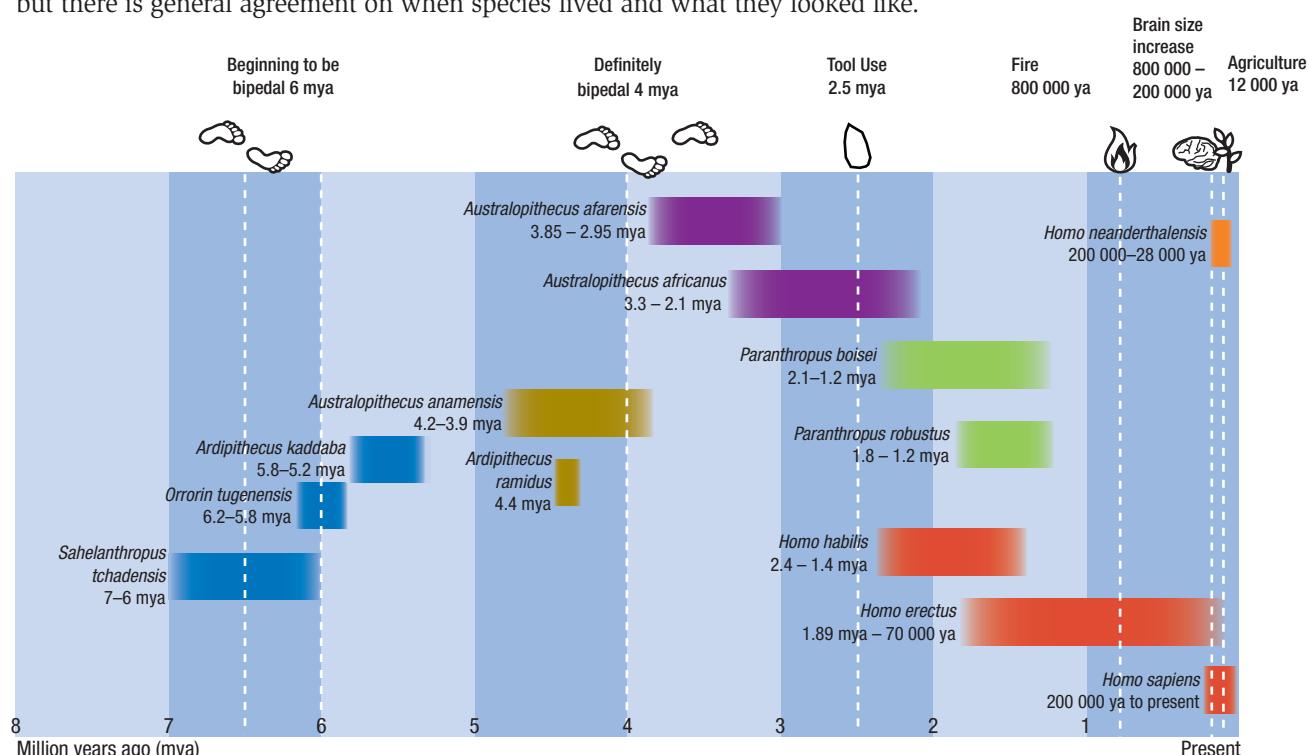
1. Why is the discovery of *Ardipithecus ramidus* important to anthropologists?
2. What do Ardi's physical features tell us about her?



↑ **FIGURE 1-29** *Ardipithecus ramidus*. The bones were so fragile that it took scientists 15 years to carefully excavate and analyze them.

Human Evolution—A Timeline

Anthropologists frequently debate how we are related to our hominin ancestors, but there is general agreement on when species lived and what they looked like.



↑ **FIGURE 1-30** This timeline demonstrates when our hominin ancestors lived

IN FOCUS

Who Were the Neanderthals?

Since the discovery of the first Neanderthal skull in the Neander Valley in Germany in 1856, anthropologists have been debating just who the Neanderthals were and what their place is in the story of human evolution. Were they less intelligent beings who lost out to *Homo sapiens*, or were they intelligent, well-adapted precursors to modern humans? Are they our direct ancestors, or did they become extinct? Some suggest that they could have been hunted by other premodern humans, while others suggest that they may have interbred with modern humans. A DNA study in the spring of 2010 found that humans and Neanderthals did indeed interbreed and that all populations except Africans have some Neanderthal genes. As more research is done, our picture of Neanderthals continues to change.

One of the most interesting finds in paleoanthropology is the discovery of a Neanderthal burial site at Shanidar Cave in Iraq. A large amount of pollen was found around a man's body from 60 000 years ago, suggesting a deliberate burial with the placing of flowers as a funeral rite. Previously, flowers in burial had been associated only with Cro-Magnons, an early group of *Homo sapiens* who lived 40 000 years ago. Pollen analysis indicates what kind of

flowers they were, but we don't know for sure if the flowers on the grave were placed deliberately or if the pollen ended up there accidentally.



↑ FIGURE 1-31 A Neanderthal female reconstruction based on both fossil anatomy and DNA analysis

What anthropologists know for sure is that:

- Neanderthals were living all over Europe, the Middle East, and parts of Asia from 150 000 to 30 000 years ago, at the end of the last ice age.
- Their bodies were well adapted to the icy environment; they were shorter, heavier, and more muscular than modern humans and used their bodies in a more rigorous way.
- Their brains are larger than modern humans, measuring about 1450 cm^3 , about 100 cm^3 larger than modern humans.
- Their skulls are shaped differently than those of modern humans, with a protruding nose, heavy brow ridges, large teeth, and a little chin.
- They made and used complex stone and bone tools, and they lived in caves. (Lewin, 1998).



"Feel like going out clubbing later?"

↑ FIGURE 1-32 The term Neanderthal is used to describe someone or something as outdated, unintelligent, or uncivilized. New finds in paleoanthropology continue to change our understanding of who these hominins really were.

QUESTIONS

1. How are Neanderthals different from modern humans? How are they the same?
2. How do the findings made by scientists about the Neanderthals relate to various theories of human evolution?

What Can Anthropologists Learn from Ancient Stones?

Stone tools help paleoanthropologists accurately date a site and discover more about the hominins who used them. The oldest stone tools are large cobbles or *choppers*, which are about 2.5 million years old. Anthropologists use a number of methods to find out how these tools were used and what they were used for.



Oldowan stone tool
2.5–2 million years old



Acheulian stone tool
1.5–200 000 years old



Mousterian stone tool
200 000–35 000 years old



FIGURE 1-33 Compare the three types of stone tools shown here. What differences do you notice? What conclusions can you draw about the hominins who made and used these tools?

Some paleoanthropologists are specialists in making stone tools as our ancestors might have done millions of years ago. Experiments have shown that with the oldest stone tools, the most effective part is the small flake leftover from making the large core. These specialists have discovered that the flakes are razor sharp and can be used to butcher an animal or whittle wood into sharp sticks. The chopper can also be used to cut branches or cut tough animal joints (Ember and Ember, 1999).

While experimentation can tell anthropologists what a tool *could* be used for, microscopic analysis of a tool can indicate what it was actually used for. The polish on a tool can indicate whether it was used to cut meat, wood, or plants. Another way to learn about tool use is by looking at ancient animal bones. Microscopic analysis of cut marks on animal bones can indicate whether a hominin tool was used to make the marks or whether they were caused by an animal or through erosion. It is clear that hominins at least 2.5 million years ago were cutting meat from animal bones.

REFLECT AND RESPOND

1. What are the significant contributions of the following anthropologists to the understanding of human origins:
 - a) The Leakey family
 - b) Raymond Dart
 - c) Donald Johanson
2. What can anthropologists learn from ancient stone tools? Name three things.
3. What is bipedalism, and why is it important when studying human origins?
4. What do you think would be challenging about becoming a paleoanthropologist? What might be some of the rewards?
5. Think about a product or technology that you use everyday. How do you think an anthropologist in the future might interpret it? What do you think it might say about your culture?

Forensic Anthropology

Forensic anthropologists help legal agencies to identify human remains after mass disasters, wars, homicides, suicides, or accidental deaths. With the popularity of shows such as *CSI* and *Bones*, more and more adolescents are thinking about a career in forensic anthropology. On television, forensic anthropologists work closely with law enforcement agencies to solve murders. Not only do they process crime scenes, but they carry out raids and interrogate and arrest suspects. These television anthropologists have access to state-of-the-art technology and are able to obtain evidence quickly, with a high degree of accuracy.

In reality, forensic anthropology is not usually as exciting or dramatic as it is portrayed on television. Forensic anthropologists are usually paleoanthropologists or archaeologists who have spent years studying human bones and fossils. Police and others will ask them to examine bones to help them solve a case. In Canada, forensic anthropology is often a part-time job. To keep impartial about the evidence they collect, forensic anthropologists are not usually involved in detective work, and it can take weeks and sometimes months to process evidence.

Most opportunities for Canadian forensic anthropologists involve investigating former war zones and genocides. Forensic anthropologists working for Physicians for Human Rights went to Rwanda after the 1994 genocide to help exhume and identify bodies thought to have been part of a single massacre. To their horror, they discovered that more than half of the bodies were infants and children and that they had been killed by a blow to the head with a machete (Thomas, 2003). While it can be rewarding to bring war criminals to justice, or to identify and return bodies to family members so that they can grieve, it can be very traumatic as well. Dean Bamber, an Edmonton anthropology graduate student who went to help with the excavations, says he will never forget seeing the bodies of young mothers with newborn infants tucked in pouches on their backs. “The worst of all was a little kid I found, maybe four years old, who was wearing a T-shirt from Queen’s University,” he says. “That was too much” (Sheremata, 1996).



↑ **FIGURE 1-34** Dr. Temperance Brennan, the main character of the television show *Bones*, is inspired by real-life forensic anthropologist and novelist Kathy Reichs.

Forensic anthropologists who go to war-torn countries also need a good understanding of cultural anthropology. They need to be aware of the cultural norms surrounding death. For example, bodies in Canada are usually buried face up in a coffin, but in Muslim countries it is usual to cover the bodies with a sheet and lie them on their side in the direction of Mecca, the holiest site in Islam. Knowing what normal practice in a culture is can help people to determine whether or not a death is suspicious. Cultural anthropology skills are also useful to those who interview family members about the deceased and help them to be sensitive to the cultural and religious practices of the area. Knowing whether bodies should be cremated or buried, whether religious ceremonies should be conducted, and which family members or government officials should be present are critical in restoring peace to grieving families (Thomas, 2003).



↑ **FIGURE 1-35** A forensic anthropologist examining human remains. What are the rewards and challenges of a career in forensic anthropology? How does forensic anthropology use anthropology concepts?

In Argentina, forensic investigations have been ongoing since 1984, trying to locate the thousands of people murdered by the ruthless military regime that operated from 1976 to 1983. During the regime, people would disappear suddenly and never return. Families had no idea where their missing loved ones were. A young Argentinean woman, Ivana Wolff, now training to be a forensic anthropologist states her motivation simply: “I help to identify the dead to get them back to their families. I work from the worst thing that can happen—people that are already dead—to bring joy to the living” (Myers, 2010).



↑ **FIGURE 1-36** What differences do you notice between these three human skulls?

Regardless of where forensic anthropologists work or whether they are investigating a single murder or a mass grave, the following 11 questions from the Canadian Society of Forensic Sciences (2007) are ones that they all use to uncover the identity of the deceased:

1. Is it bone?
2. Is it animal or human bone?
3. How many individuals are represented?
4. How long has the person been dead?
5. What is the sex of the individual?
6. What was his or her age at death?
7. What is her or his ancestry (ethnic origin)?
8. How tall is he or she?
9. Is there evidence of trauma that may assist in determining the exact cause of death (for example, homicide, suicide, accidental, natural, unknown)?
10. Are there any distinguishing features, such as evidence of medical devices, bone anomalies, bone disease, old fractures, fingerprints, or amputations?
11. What is the identity of the deceased?

QUESTIONS

1. How is forensic anthropology similar to other types of anthropology? How is it different?
2. How do the findings of forensic anthropology support or enhance the work of physical and cultural anthropologists?

Primateology

Before You Read

Make a Venn diagram to compare humans and animals. How are they similar and different? Add to this organizer as you read about primatology.

Humans and other primates share many characteristic features, such as grasping hands, forward-facing eyes, and a relatively larger brain. Primatologists study the anatomy and behaviours of living primates. They are not always anthropologists. They may be trained in biology or zoology, but their research is always relevant to anthropology, because they are investigating what makes us similar to and different from other primates. If we know more about our primate cousins, we can learn more about ourselves.

How Do Primatologists Study Primates?

Primatologists observe primates both in their natural habitats and in the laboratory. Pioneering work in observing primates in the field was done by Jane Goodall, Dian Fossey, and Biruté Galdikas. All were encouraged by paleoanthropologist Louis Leakey in the 1960s and 1970s. He reasoned that “if we found behaviour patterns similar or the same in our closest living relatives, the great apes, and humans today, then maybe those behaviours were present in the ape-like, human-like ancestor some seven million years ago. And therefore, perhaps we had brought those characteristics with us from that ancient, ancient past” (Goodall, 2007). Goodall went to Tanzania to observe chimpanzees, Fossey to Rwanda to observe gorillas, and Galdikas to Borneo to observe orangutans. They all lived in damp, solitary, and difficult conditions and had to wait patiently for months before they could get close enough to the animals to understand their social behaviour. Each primatologist had to learn to imitate the animals’ calls and gestures and eat their food before the primates trusted her as one of their own.

→
FIGURE 1-37 Dian Fossey interacting with a gorilla named Puck



In some cases, this research took years. Galdikas spent over 40 years studying orangutans, arriving in Borneo in 1971 to document the ecology and behaviour of the wild orangutans. She lived in a hut, without telephones, electricity, or regular mail service as she worked. She had been told that her research couldn't be done, but four years later, Galdikas published her first of many articles about the orangutan. She has also conducted the longest continuous study of any wild animal in the world and is a world-renowned expert.

Other primatologists work in laboratory settings, observing and testing primates in motion, studying their communication patterns or teaching them to use human language. In laboratory settings, primatologists can understand specific behaviour or anatomical traits in more detail than in the wild.

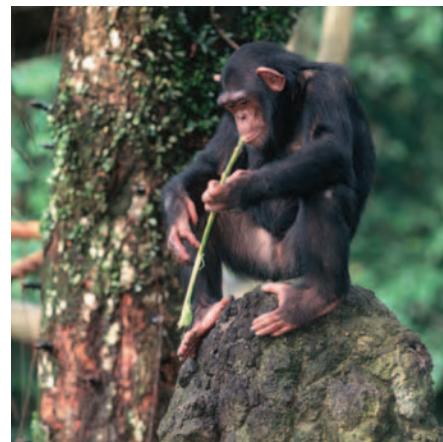
How Are Humans Similar to Other Primates?

All three primatologists kept meticulous journals of primate social behaviour, getting to know the animals as individuals and giving them names. They all observed complex social behaviours and relationships very similar to humans and much more similar than anyone had previously thought. Goodall noted that chimpanzees can be cannibalistic and violent, waging war on other troops. She also witnessed chimps making and using tools by stripping the leaves off branches and sticking a branch into a termite mound to pull out the tasty insects, debunking the common theory that humans were the only primates who made tools.

Research over the last 40 years in primatology has shown us what makes humans similar to and different from other primates in social and physiological ways. Researching primates in their natural habitats has allowed primatologists to draw the following conclusions about the complex social behaviour among our primate relatives:

- The bond between mothers and infants is important for survival in all primate species. Infants must learn much of what it takes to survive.
- Primates have the longest infant dependency period of all mammals. This is usually measured as the time until an individual can successfully reproduce.
- All primate societies have dominance hierarchies and aggression among the males for access to food and females.
- All primates groom one another. They spend a lot of time picking fleas and lice out of one another's fur. Grooming helps primates reduce stress, and it is also related to dominance hierarchies. The higher the primate in the hierarchy, the more likely he is to be groomed than to groom others.
- All primates communicate through facial expressions, touch, vocalizations, and body language. They play and laugh, show grief, become angry, and become violent.
- All primates have rotating forearms, grasping hands and feet, forward-facing eyes, and relatively larger brains.

Why is it important for primatologists to study primates? Why should scientists follow ethical guidelines when conducting experiments on primates?



↑ FIGURE 1-38 This chimpanzee is termite fishing. Why do you think it was important to find out that chimpanzees make their own tools?

How Are Humans Different from Other Primates?

Skills Focus

Create a central research question about humans and primates that a primatologist could investigate. Evaluate the bias of your question and consider what factors might contribute to your bias.

Anthropologists used to believe that the main difference between humans and other primates was our capacity to make and use tools. Goodall's findings and those of other primatologists have changed those ideas. Anthropologists agree that the differences between humans and other primates are small. The list below explains that there are some things that are strictly human.

- Humans are the only primates adapted to bipedalism.
- Humans have the longest infant dependency period of any primate. On average, we reproduce at about 20 years old, whereas chimpanzees reproduce at 10 years old.
- Humans are the only primates with a symbolic, spoken language and the physical ability of speech.
- Humans are the only primates who live in groups and mate in pairs. Some primates, such as chimpanzees, mate and live in groups, and others, such as orangutans, mate and live in pairs. Humans are the only primates who do both at the same time.
- Humans also develop ideas and beliefs about the world that guide their actions. Humans also have the ability to think and reflect on their own behaviour. They develop complex systems of morality and spirituality that influence and motivate behaviour.

Can Nonhuman Primates Use Language?



↑ **FIGURE 1-39** Kanzi and Savage-Rumbaugh with a language board. Is there value in teaching primates to communicate with humans? Is this an ethical process?

One of the more remarkable laboratory studies is primatologist Sue Savage-Rumbaugh's long-term study of bonobo communication. She has taught the 30-year-old Kanzi 348 graphic symbols, which he uses to communicate with her and other bonobos in his compound. He and the other bonobos can state simple sentences, respond to requests, and have conversations with their human caretakers. "Once," Savage-Rumbaugh says, "on an outing in a forest, Kanzi touched the symbols for 'marshmallow' and 'fire.' Given matches and marshmallows, Kanzi snapped twigs for a fire, lit them with the matches, and toasted the marshmallows on a stick." Kanzi can also make stone tools, draw symbols, and create music (Raffaele, 2006).

While the capacity for language of great apes is still much more limited than that of humans, the laboratory studies done by Savage-Rumbaugh and many others are proving that great apes have the capacity to learn many things previously considered to be only human (Rumbaugh, 2010).

REFLECT AND RESPOND

1. What are some of the challenges and rewards of studying primates in the wild?
2. How are humans similar to and different from other primates?
3. To what extent is the study of primates useful in understanding past hominin cultures?
4. Should primates be given basic civil rights?

Human Variation

Look around and you will notice that human beings are all different. Anthropologists study human variation, or the genetic differences between people and populations, to understand the differences between people. Anthropologists studying human variation try to find out how and why human beings are different and try to understand these differences from an evolutionary perspective.

Before You Read

Why do you think humans are different from one another?

Why Are Humans Different from One Another?

Like every other living thing on earth, humans have evolved over time in order to survive in different conditions. Evolution is the process of species' change, survival, or extinction. In *On the Origin of the Species* (1859), Charles Darwin outlined how every living thing evolves through natural selection.

Natural selection involves three principles:

1. variation (Every species has a lot of variety within it.)
2. heritability (Individuals pass on traits to their offspring.)
3. environmental fitness (Individuals who are better adapted to their environment will produce more offspring and pass on their traits to the next generation.)

Variation is essential to the survival of any species. If there is a change in the available food supply, and all the individuals of a species are able to eat only the old kind of food, the species will become extinct. If some individuals are able to eat the new kind of food, they will reproduce and pass on their traits to their offspring, ensuring the survival of the species as a whole.

Do Human Subgroups Exist?

The idea of race has historically meant more than just physical traits. The concept of race is socially constructed, meaning that it is something defined by our society. The American Anthropological Association (AAA) states that race does not exist as a scientific category. More genetic variation exists within races than between them. An individual's behaviour and personality are largely conditioned by his or her culture. The idea of race has been used in the past to justify social, economic, and political inequalities and excuse hatred, cruelty, and violence. Some examples include the Nazi persecution of Jewish people, apartheid in South Africa, and the Ku Klux Klan in North America. Racial beliefs are considered by the AAA as myths and folk beliefs and have no biological legitimacy (AAA, 1998).



↑ **FIGURE 1-40** Has anyone ever made an assumption about you based on external characteristics, such as height, skin colour, hair colour, or body type?

Can We Study Human Variation in a Legitimate Way?

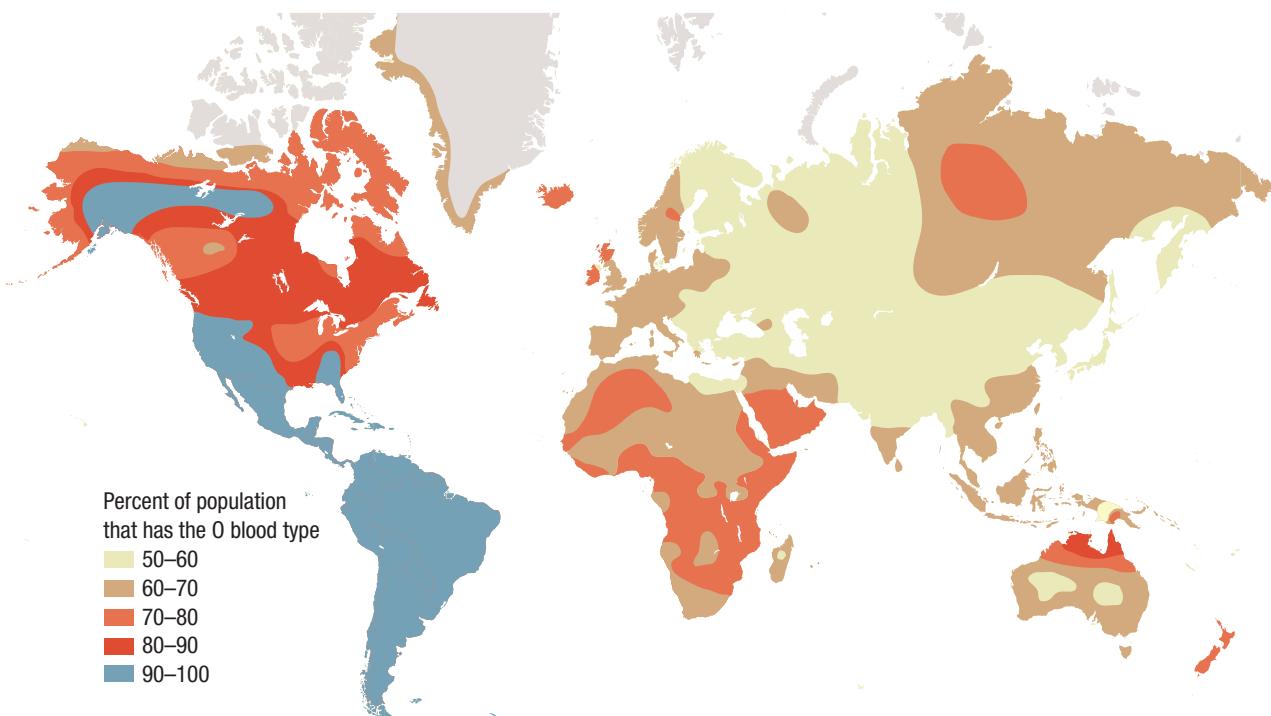
More to Know...

See Chapter 7 for further discussion of racism in Canadian society.

Anthropologists look at human variety and try to understand a specific trait, such as skin colour or blood type, in terms of evolutionary advantage. Blood type is an example of a trait that is easy to measure objectively. Anthropologists have found that certain blood types are connected to certain parts of the world, but blood type does not correspond to external characteristics. Anthropologists have concluded that race is a cultural myth, not a biological reality (O'Neill, 2010). In natural selection, traits develop to help individuals survive and reproduce in a particular environment, but many traits are the result of a population's isolation or migration. Many "racial" traits, such as eye colour, probably have no evolutionary advantage at all.

?

Name some myths, stereotypes, or folk beliefs about race in Canadian society. Can you give specific examples? Think of an example from history where ideas about race were destructive.



↑ FIGURE 1-41 This map indicates the distribution of type O blood in human populations. What conclusions can you draw by looking at this map?

Are There Legitimate Explanations for Variations in Skin Colour?

Anthropologists have done a number of studies on various physical traits to see if they have an evolutionary advantage. They are looking at whether the trait provides an individual with a greater chance of survival in his or her environment and a greater chance of passing on those traits to offspring. Today, humans have ways to deal with the disadvantages of light skin in tropical places (for example, sunscreen, clothing, air conditioning) and the disadvantages of dark skin in areas with less sunlight (for example, a diet rich in vitamin D, vitamin D supplements).

POINT/COUNTERPOINT

Skin Variations

As humans migrated out of Africa, populations became more varied in skin colour. Was this variation the result of specific environmental advantage or of isolation? Did skin colour give an evolutionary advantage in the past? Are there evolutionary advantages for different skin colours today? Anthropologists examine both sides of the issue below.

Do Different Skin Colours Have Specific Evolutionary Advantages?

Yes	No
<ul style="list-style-type: none">All mammal populations in warmer climates have more melanin (dark pigment).Darker skin provides protection from ultraviolet rays, which can cause skin cancer.Lighter skin absorbs more vitamin D, which allows the body to absorb calcium, a nutrient necessary for bone growth.Humans with lighter skin were more likely to survive in climates farther from the equator, with less available sunlight (Ember and Ember, 1999).	<ul style="list-style-type: none">There are many fair-skinned Amazonian Indians and Southeast Asians living at the same latitudes as dark-skinned Africans.Because skin cancer usually affects people after they have had children, skin cancer likely had little effect on the evolution of skin colour (Jablonski, 2007).Many dark-skinned people have lived longer in Tasmania, at latitudes very far from the equator, than light-skinned populations have lived in Scandinavia (Diamond, 1994).

QUESTIONS

- Using the information above, come up with a hypothesis about the evolutionary advantages of different skin colours.
- What questions do you have after considering this evidence?

REFLECT AND RESPOND

- Explain why variation is important for a species to survive.
- Why does the American Anthropological Association state that race does not exist?
- What are some legitimate explanations for human variation?
- To what extent do you think skin colour gives an evolutionary advantage? Explain.

Knowledge and Understanding/Thinking

1. Look at the following statements, and determine which kind of anthropologist might have made it.
 - a) Anthropologists try to understand how ideas form in a society by looking at the specific environmental resources available.
 - b) No culture is superior to another; all cultures have internal rules and are logical within their environmental, historical, social, and cultural contexts.
 - c) Anthropology can help us to understand how gendered groups are oppressed, and anthropologists should help activists create change in their own societies.
 - d) Each element in a culture functions to serve the people in it. The anthropologists' goal is to discover the practical function of a cultural trait.
 - e) Anthropologists must consider the impact of their own interactions in their research. It may be impossible to be objective, so research in one's own culture is just as valid as research in a different culture.
2. Anthropology is a discipline with many different approaches. There is a debate within the discipline whether anthropology should be more objective or more subjective. Sort the following based on whether they are more objective or more subjective and provide explanations for your decisions:

a) primatology	g) ethnology
b) paleoanthropology	h) cultural relativism
c) forensic anthropology	i) functional theory
d) human variation	j) cultural materialism
e) archaeology	k) feminist theory
f) linguistic anthropology	l) postmodern theory
3. What makes us human? How would a physical anthropologist answer this question? How would a cultural anthropologist answer it?
4. Anthropology research stirs up debate both within the discipline and in society in general. Describe two controversial issues, one in cultural anthropology and one in physical anthropology. For each issue, outline two perspectives and come up with questions that need to be asked in order to understand the controversy.

Thinking/Communication

5. Which area of research in physical anthropology do you find most interesting: paleoanthropology, forensic anthropology, primatology, or human variation? Explain why. What skills would you need to develop to pursue a career in that field?

6. Think of something in your school culture you would like to investigate. Develop a question to investigate people's attitudes, values, beliefs, and behaviours. What types of research methods would be most effective? How would you make sure that your research is ethical and reflexive?
7. Which area of research in cultural anthropology do you find most interesting: ethnology, linguistics, or archaeology? Explain why. What skills would you need to develop to pursue a career in that field?
8. What kind of material culture might future archaeologists find in your school, and what would it tell them about your culture? Choose three artifacts in your classroom, and explain what these would tell future archaeologists about your ideas, values, attitudes, and behaviours.

Communication/Application

9. Make a collage that depicts Canadian culture. Organize it to show ideas, values, attitudes, and behaviours. Demonstrate culture that is commonly shared, and show how it is passed on from one generation to the next. Include captions and explanations for your choices.
10. In this chapter, we examined multisited fieldwork, where anthropologists follow a particular culture with no ethnic or national boundaries.
 - a) What other cultures could be examined using multisited fieldwork?
 - b) What kind of research question would you ask to direct your research?
 - c) What kind of research methods would you use?
 - d) How would you know that your data is reliable?
 - e) Would it be better to study a culture that you are a member of or to study a culture as an outsider? Explain.
11. Write and perform a skit or create a Facebook profile that demonstrates an understanding of a key researcher's work in anthropology. Include the following:
 - a) What did the person research, and which school of anthropology is he or she in?
 - b) What were the researcher's key findings or theories?
 - c) How are the researcher's findings relevant to you today? Include a modern example that illustrates how his or her findings might help you understand human behaviours today.If performing a skit, try to make the skit memorable, using rhyme, humour, costumes, or puppets to get your message across. If you choose to create a Facebook profile, think about how to present your information in an interesting way. Don't forget to include images!
12. Look at the Web sites of universities and colleges in Ontario that offer anthropology courses. Make a poster comparing three different programs. Look at the different fields and schools of thought at each school and give an example of research being done there.