giraffes were genetically predisposed to have shorter necks. Only those with the long necks survived to reproduce, giving us the giraffes we see today. The survival of the giraffes with long necks is a product of natural selection. Evolutionary theory implies that the way we are, at least partially, is the way that is best suited to survival in our environment (Buss, 2012; Johnson, 2015).

Darwin’s theory continues to influence psychologists today because it is strongly supported by observation. We can make such observations every day. Right now, for example, in your kitchen sink, various bacteria are locked in competition for scarce resources in the form of those tempting food particles from your last meal. When you use an antibacterial cleaner, you are playing a role in natural selection, because you are effectively killing off the bacteria that cannot survive the cleaning agents. However, you are also letting the bacteria that are genetically adapted to survive that cleaner to take over the sink. The same principle applies to taking an antibiotic medication at the first sign of a sore throat or an earache. By killing off the bacteria that may be causing the illness, you are creating an environment where their competitors (so-called antibiotic-resistant bacteria) may flourish. These observations powerfully demonstrate Darwinian selection in action.

If structuralism won the battle to be the birthplace of psychology, functionalism won the war. To this day, psychologists continue to talk about the adaptive nature of human characteristics. Indeed, from these beginnings, psychologists have branched out to study more aspects of human behavior than Wundt or James might have imagined. We now examine various contemporary approaches to the science of psychology.

1. Which of the following statements is correct?
   A. There are many controversies in the field of psychology.
   B. Psychologists on the whole agree among themselves on most aspects of the field.
   C. Psychologists do not engage in critical thinking.
   D. There are few controversies in the field of psychology.

2. Of the following, the characteristic that is not at the heart of the scientific approach is
   A. skepticism.
   B. critical thinking.
   C. prejudging.
   D. curiosity.

3. Charles Darwin’s work is relevant to psychology because
   A. Darwin’s research demonstrated that there are few differences between humans and animals.
   B. Darwin’s principle of natural selection suggests that human behavior is partially a result of efforts to survive.
   C. Darwin stated that humans descended from apes, a principle that allows psychologists to understand human behavior.
   D. Darwin created functionalism.

APPLY IT! 4. Two psychologists, Clayton and Sam, are interested in studying emotional expressions. Clayton wants to determine whether emotional expression is healthy and if it has an influence on well-being. Sam is interested in describing the types of emotions people express and building a catalog of all the emotions and emotional expressions that exist. In this example, Clayton is most like ________, and Sam is most like ________.
   A. Wilhelm Wundt; William James
   B. William James; Wilhelm Wundt
   C. Wilhelm Wundt; Sigmund Freud
   D. Sigmund Freud; Wilhelm Wundt

2 Contemporary Approaches to Psychology

In this section we survey seven different approaches—biological, behavioral, psychodynamic, humanistic, cognitive, evolutionary, and sociocultural—that represent the intellectual backdrop of psychological science.

The Biological Approach

Some psychologists examine behavior and mental processes through the biological approach, which is a focus on the body, especially the brain and nervous system. For
example, researchers might investigate the way your heart races when you are afraid or how your hands sweat when you tell a lie. Although a number of physiological systems may be involved in thoughts and feelings, perhaps the largest contribution to physiological psychology has come through the emergence of neuroscience (Botvinick & Braver, 2015; Qiu, Mori, & Miller, 2015).

**Neuroscience** is the scientific study of the structure, function, development, genetics, and biochemistry of the nervous system. Neuroscience emphasizes that the brain and nervous system are central to understanding behavior, thought, and emotion (Van Horn, 2014; Zhao & others, 2014). Neuroscientists believe that thoughts and emotions have a physical basis in the brain. Electrical impulses zoom throughout the brain’s cells, releasing chemical substances that enable us to think, feel, and behave. Our remarkable human capabilities would not be possible without the brain and nervous system, which constitute the most complex, intricate, and elegant system imaginable. Although biological approaches might sometimes seem to reduce complex human experience to simple physical structures, developments in neuroscience have allowed psychologists to understand the brain as an amazingly complex organ, perhaps just as complex as the psychological processes linked to its functioning (Casey, 2015).

### The Behavioral Approach

The **behavioral approach** emphasizes the scientific study of observable behavioral responses and their environmental determinants. It focuses on an organism’s visible behaviors, not thoughts or feelings. The psychologists who adopt this approach are called **behaviorists**. Under the intellectual leadership of John B. Watson (1878–1958) and B. F. Skinner (1904–1990), behaviorism dominated psychological research during the first half of the twentieth century.

Skinner (1938) emphasized that psychology should be about what people do—their actions and behaviors—and should not concern itself with things that cannot be seen, such as thoughts, feelings, and goals. He believed that rewards and punishments determine our behavior. For example, a child might behave in a well-mannered fashion because her parents have rewarded this behavior. We do the things we do, say behaviorists, because of the environmental conditions we have experienced and continue to experience.

Contemporary behaviorists still emphasize the importance of observing behavior to understand an individual, and they use rigorous methods advocated by Watson and Skinner (Gáriépy & others, 2014). They also continue to stress the importance of environmental determinants of behavior (Martin & Pear, 2014). However, not every behaviorist today accepts the earlier behaviorists’ rejection of thought processes, which are often called **cognition** (Bandura, 2011a, 2011b).

### The Psychodynamic Approach

The **psychodynamic approach** emphasizes unconscious thought, the conflict between biological drives (such as the drive for sex) and society’s demands, and early childhood family experiences. Practitioners of this approach believe that sexual and aggressive impulses buried deep within the unconscious mind influence the way people think, feel, and behave.
Sigmund Freud, the founding father of the psychodynamic approach, theorized that early relationships with parents shape an individual’s personality. Freud’s theory (1917) was the basis for the therapeutic technique he called psychoanalysis, which involves an analyst’s unlocking a person’s unconscious conflicts by talking with the individual about his or her childhood memories, dreams, thoughts, and feelings. Certainly, Freud’s views have been controversial, but they remain a part of contemporary psychology. Today’s psychodynamic theories tend to place less emphasis on sexual drives and more on cultural or social experiences as determinants of behavior (Borden & Clark, 2012).

The Humanistic Approach

The humanistic approach emphasizes a person’s positive qualities, the capacity for positive growth, and the freedom to choose one’s destiny. Humanistic psychologists stress that people have the ability to control their lives and are not simply controlled by the environment (Maslow, 1971; Rogers, 1961). They theorize that rather than being driven by unconscious impulses (as the psychodynamic approach dictates) or by external rewards (as the behavioral approach emphasizes), people can choose to live by higher human values such as altruism (an unselfish concern for another person’s well-being) and free will. Many aspects of this optimistic approach appear in research on motivation, emotion, and personality psychology (Keltner & others, 2014; Sheldon, Cheng, & Hilpert, 2011; Sheldon & Schaller, 2011).

The Cognitive Approach

According to cognitive psychologists, your brain houses a “mind” whose mental processes allow you to remember, make decisions, plan, set goals, and be creative (Sternberg, 2014a, 2014b). The cognitive approach, then, emphasizes the mental processes involved in knowing: how we direct our attention, perceive, remember, think, and solve problems. For example, cognitive psychologists want to know how we solve math problems, why we remember some things for only a short time but others for a lifetime, and how we can use our imaginations to plan for the future (Kuo & others, 2014; Stigler & Thompson, 2014).

Cognitive psychologists view the mind as an active and aware problem-solving system. This view contrasts with the behavioral outlook, which portrays behavior as controlled by external environmental forces. From the cognitive perspective, an individual’s mental processes are in control of behavior through memories, perceptions, images, and thinking.

The Evolutionary Approach

Although arguably all of psychology emerges out of evolutionary theory, some psychologists emphasize an evolutionary approach that uses evolutionary ideas such as adaptation, reproduction, and natural selection as the basis for explaining specific human behaviors. David Buss (2012) argues that just as evolution molds our physical features, such as body shape, it also influences our decision making, level of aggressiveness, fears, and mating patterns. Thus, evolutionary psychologists say, the way we are is traceable to problems early humans faced in adapting to their environments (Cosmides, 2011).
Evolutionary psychologists believe that their approach provides an umbrella that unifies the diverse fields of psychology (Bjorklund, 2012). Not all psychologists agree with this conclusion, however. For example, some critics stress that the evolutionary approach provides an inaccurate explanation of why men and women have different social roles, and it does not adequately account for cultural diversity and experiences (Eagly & Wood, 2013). Yet keep in mind that even psychologists who disagree with the application of the evolutionary approach to psychological characteristics still agree with the general principles of evolutionary theory.

The Sociocultural Approach

The sociocultural approach examines the influences of social and cultural environments on behavior. Socioculturalists argue that understanding a person’s behavior requires knowing about the cultural context in which the behavior occurs (Matsumoto & Juang, 2013). (Culture refers to the shared knowledge, practices, and attitudes of groups of people and can include language, customs, and beliefs about what behavior is appropriate and inappropriate.) The sociocultural approach often includes cross-cultural research, meaning research that compares individuals in various cultures to see how they differ on important psychological attributes. Cross-cultural research is important for testing the assumption that findings for one culture also generalize to other cultural contexts, and as such it allows psychologists to test for the possibility that some characteristics are universal (Hofmann & Hinton, 2014).

The sociocultural approach focuses not only on comparisons of behavior across countries but also on the behavior of individuals from different ethnic and cultural groups within a country (Banks, 2014). In light of rising cultural diversity in the United States in recent years, there has been increasing interest in the behavior of African Americans, Latinos, and Asian Americans, especially in terms of the factors that have restricted or enhanced their ability to adapt and cope with living in a predominantly non-Latino White society (Duncan, Magnuson, & Votruba-Drzal, 2015; Renzetti & Kennedy-Bergen, 2015). The influence of culture on behavior has led to important findings about psychological processes and especially about the role of culture in the psychological experience of our own sense of self (Wan & others, 2011).

Summing up the Seven Contemporary Approaches

These seven approaches to studying psychology provide different views of behavior, and therefore each may contribute uniquely valuable insights. Think about the simple experience of seeing a cute puppy. Looking at that puppy involves physical processes in the eyes, nervous system, and brain—the focus of the biological approach to psychology. The moment you spot that puppy, though, you might smile without thinking and reach down to pet the little guy. That reaction might be a learned response based on your past learning with your own dog (behavioral perspective), or unconscious memories of a childhood dog (psychodynamic perspective), or conscious memories that you especially like this breed of dogs (cognitive perspective), or even evolutionary processes that promoted cuteness to help offspring survive (evolutionary approach). You might find yourself striking up a conversation with the puppy’s owner, based on your shared love of dogs (humanistic perspective). Further, sociocultural factors might play a role in your decision about whether to ask the owner if holding the puppy would be okay, whether to share those warm feelings about the puppy with others, and even whether (as in some cultures) to view that puppy as food.

These broad approaches are reflected in the variety of specialties within which psychologists work (Figure 2). Many of these specialties are represented by chapters in
Experience Psychology. As you read, keep in mind that psychology is a science in which psychologists work together collaboratively to examine a wide range of research questions. Indeed, many times scholars from different specialties within psychology join forces to understand some aspect of human behavior. It is the purpose of the Intersection feature to review research that represents a collaboration among scientists from different specialties to answer the same question.

1. The approach to psychology that is most interested in early childhood relationships is
   A. evolutionary psychology.
   B. cognitive psychology.
   C. psychodynamic psychology.
   D. behavioral psychology.

2. The approach to psychology that views psychological distress as a result of persistent negative thoughts is
   A. the humanistic approach.
   B. the behavioral approach.
   C. the sociocultural approach.
   D. the cognitive approach.

3. The approach to psychology that focuses on self-fulfillment, altruism, and personal growth is
   A. the cognitive approach.
   B. the behavioral approach.
   C. the psychodynamic approach.
   D. the humanistic approach.

**APPLY IT!** 4. In 2007 a father posted a video clip of his young sons on YouTube. Widely known as "Charlie Bit My Finger," the clip, which quickly went viral, shows a British baby laughing hysterically as he bites his crying brother's finger. The clip is still one of the most popular videos on YouTube. If you haven't seen it, take a look: www.youtube.com/watch?v=_OBtgsZB5S5M. What explains the clip's enduring appeal? Each of the contemporary approaches we have reviewed might offer an explanation. Which of the following is most like what a psychodynamic thinker might say?

A. Human beings have been rewarded for watching children bite each other.
B. Adorable children are universally loved.
C. Human beings have an unconscious desire to harm their siblings, which is disguised by the humor of the clip.
D. This clip demonstrates that cuteness is an important adaptation. Cute kids are more likely to survive and reproduce.

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**3 Psychology’s Scientific Method**

Science is not defined by what it investigates but by how it investigates. Whether you study photosynthesis, butterflies, Saturn's moons, or happiness, the way you study your question of interest determines whether your approach is scientific. The scientific method is how psychologists gain knowledge about mind and behavior. A key theme in the scientific method is that knowledge comes from empirical research.

It is the use of the scientific method that makes psychology a science (Ray, 2012). Indeed, most of the studies psychologists publish in research journals follow the scientific method, which may be summarized in these five steps (Figure 3):

1. Observing some phenomenon
2. Formulating hypotheses and predictions
3. Testing through empirical research
4. Drawing conclusions
5. Evaluating conclusions

**1. OBSERVING SOME PHENOMENON** The first step in conducting a scientific inquiry involves observing some phenomenon in the world. The critical-thinking, curious psychologist sees something and wants to know why or how it is the way it is. Inspiration for scientific inquiry can come from contemporary social problems, current events, personal experiences, and more. The phenomena that scientists study are called variables, a word related to the verb to vary. A variable is anything that can change.

For example, one variable that interests psychologists is happiness. Some people seem to be happier than others. What might account for these differences? As