

## FOCUS ON VOCABULARY AND LANGUAGE

Page 327: Without memory, your *storehouse of accumulated learning*, there would be no *savoring of past joys*, no guilt or anger over painful recollections. Myers is using an analogy to help you understand the general concept of **memory**. *Storehouses* are used to keep materials (water, food, etc.) until we need them. Likewise, your memory system retains most of the things you have experienced (*accumulated learning*), and items can be recalled or retrieved as required. Without memory, you would not be able to enjoy (*savor*) previous happy experiences (*past joys*) or feel anguish over painful memories; each moment would be new (*fresh*).

### *The Phenomenon of Memory*

Page 327: . . . *medal winners in a memory Olympics* . . . Here, people with exceptional memories are being likened or compared with top athletes at the Olympic games. S, for example, would clearly receive the top prize (be a *medal winner*) in any competition that tests the ability to remember vast amounts of information (*memory Olympics*). While most of us can repeat (*parrot back*) a short series of numbers (*a string of digits*), S could recall up to 70 if they were presented at three-second intervals in a quiet room.

Page 328: Amazing? Yes, but consider your own *pretty staggering* capacity for remembering . . . Myers is pointing out that, although S may have demonstrated spectacular abilities in remembering all sorts of things (*memory feats*), normal memory in the average person is no less astounding in many ways (*pretty staggering*). Despite our occasional failures, our ordinary memory accomplishments, which we tend to take for granted, are quite remarkable.

### *Studying Memory: Information-Processing Models*

Page 329: Because we cannot possibly focus on all the information bombarding our senses at once, we *shine the flashlight beam of our attention on* certain incoming stimuli—often those that are *novel* or important. One model of memory suggests that we only focus on (*shine the flashlight beam of our attention on*) and process one part or aspect of the total sensory input—particularly the new (*novel*) or important stimuli. We can also locate and bring stored information from **long-term memory (LTM)** back into **working memory** (a newer understanding of **short-term memory, STM**).

### *Encoding: Getting Information In*

Page 331: . . . *boost* . . . One way to improve and increase the power of our memory is to use **rehearsal**. Thus, actively repeating some new information (such as a stranger's name or new terminology) will help strengthen (*boost*) our ability to remember this material. As Myers notes, for effective retention it is important to space out or distribute rehearsals over time (the **spacing effect**) rather than doing repetitions all at once (*massed practice* or cramming).

Page 331: . . . Ebbinghaus formed a list of all possible *nonsense syllables* by *sandwiching* one vowel between two consonants. To avoid using meaningful words with prior associations, Hermann Ebbinghaus invented three-letter words that made no sense and had no meaning (*nonsense syllables*). He did this by putting a vowel (*sandwiching it*) between two consonants. His meaningless (*nonsense*) syllables were consonant (C), vowel (V), consonant (C), or CVCs.

Page 333: Referring to such recall, Gordon Bower and Daniel Morrow (1990) liken our minds to theater directors who, *given a raw script*, imagine a *finished stage production*. This statement suggests that what we remember is not an exact replica of reality. We construct some mental representation or model (a *finished stage production*) from the basic sensory information (the *raw script*) available to us. So, when we recall something, it is our own version (our *mental model*) that comes to mind and not the real thing.

Page 335: Thanks to this *durability* of vivid images, our memory of an experience is often *colored* by its best or worst moment . . . The use of **imagery** or mental pictures is one way to enhance **recall**. We have exceptionally good memory for pictures and ideas that are encoded using visual imagery. As Myers notes, “imagery is at the heart of many *mnemonic devices*” (memory aids, such as *peg-words*). Our recollections are frequently influenced (*colored*) by the best or worst moments of our experiences because of the long-lasting nature (*durability*) of vivid images. For instance, we tend to remember some events as being more pleasant than they actually were, a phenomenon called *rosy retrospection*.

Page 335: For example, the *peg-word system* requires you to memorize a *jingle* . . . A *jingle* is an easily remembered succession of words that ring or resound against each other due to alliteration or rhyme. *Jingles* are often used in radio or TV commercials. The **mnemonic** (memory aid) called the *peg-word system* is based on memorizing a 10-item poem (*jingle*) that can be associated with a new list of 10 items through visual imagery. The new items are hung on, or pegged to, the familiar items.

### **Storage: Retaining Information**

Page 337: How much of this page could you sense and recall with less exposure than a *lightning flash*. In his investigation of sensory storage, George Sperling showed his subjects an array of nine letters for a very brief period (for about the length of a *flash of lightning*). He demonstrated that this was sufficient time for them to briefly view (*glimpse*) all nine letters and that an image remained for less than half a second before fading away. He called this brief (*fleeting*) memory of visual stimuli **iconic memory**.

Page 338: *During your finger's trip from phone book to phone, a telephone number may evaporate*. There is usually a short time lapse between looking up an unfamiliar phone number in the phone book and dialing the number. The number can easily fade from memory (*evaporate*) in the brief period between reading it and using it (*during your finger's trip from phone book to phone*). Without active processing, short-term or working memory has a limited duration (a *limited life*) and capacity.

Page 339: . . . *Sherlock Holmes* . . . Mystery writer Sir Arthur Conan Doyle's most popular character was a very intelligent and logical private detective named *Sherlock Holmes*. Holmes believed, as did many others, that our memory capacity was limited, much as a small empty room or attic can hold only so much furniture before it overflows. Contemporary psychologists now believe that our ability to store long-term memories is basically without any limit.

Page 339 (caption): Among animals, one contender for *champion memorist* would be a mere *birdbrain*—the Clark's nutcracker . . . Clark's nutcracker is a small bird with a small brain (a *birdbrain*) but a phenomenal memory (it is a *champion memorist*) for where it buries its food. It can recall, after a period of more than 6 months, 6000 different locations of hidden food (*caches*).

Page 341: Their target market includes . . . *countless millions* who would love to *turn back the clock on age-related memory decline*. Some researchers focus on the biological basis of memory (*memory-biology explorers*) and have helped establish pharmaceutical companies that are in a race (*competing*) to produce memory-enhancing drugs. The market for these drugs includes a large number of people (*countless millions*) who would like to stop or reverse (*turn back the clock on*) the deterioration in memory that can occur as we get older (*age-related memory decline*). Consequently, the amount of money to be made is potentially very large (*From expanding memory will come bulging profits*).

Page 341: Arousal can *sear* certain events into the brain . . . When arousal level rises because of stress, so too do the levels of certain hormones. These hormones in turn signal the brain that something important has happened and the events that triggered the arousal make an indelible impression on the brain—much as a hot grill burns (*sears*) its shape on the surface of the meat placed on it. Following disturbing and distressing incidents (*traumatic experiences*),

very clear memories (*vivid recollections*) may repeatedly occur spontaneously as if they “were burned” in the mind. James McGaugh notes that it is adaptive for strong emotional experiences to create strong, more reliable memories.

Page 343: They can learn to read *mirror-image writing* or do a *jigsaw puzzle* . . . And they can be *classically conditioned*. People who have lost the ability to remember new information (*amnesia victims*) may nevertheless be capable of learning through association (i.e., *classical conditioning*) or learning to solve problems (e.g., completing a *jigsaw puzzle* or reading *mirror-image writing*) even if they are not aware that the learning has taken place. Myers notes that these findings suggest memory is not a single, unified system. *Amnesia victims* can learn how to do something (**implicit memory**) without any knowledge of this learning (**explicit memory**).

Page 344: . . . *London cabbie* . . . Taxicab drivers are often called *cabbies*. Those who work in London, England (*London cabbies*) face an enormous challenge trying to memorize the complicated layout (*maze*) of city streets; the longer they work there, the larger the rear area of the hippocampus (which specializes in spatial memory) becomes.

### **Retrieval: Getting Information Out**

Page 349: If put in a *buoyant mood* . . . people recall the world through *rose-colored glasses*. Our memories are affected by our emotional states (*moods*). Thus, if we are in a good or happy (*buoyant*) mood, we are more likely to view the total situation in a more optimistic and hopeful way (*through rose-colored glasses*). And, if we are sad and unhappy, our memories are affected, or tainted, by our negative mood (*being depressed sours memories*). Memory of events and people is influenced by the particular mood we are in, whether it is good or bad, and we tend to remember the events accordingly (**mood-congruent memory**).

Page 349: When teens are *down*, their parents seem *inhuman*; as their mood *brightens*, their parents *morph from devils into angels*. Because our memories tend to be *mood-congruent*, we are likely to explain our present emotional state by remembering events and people as being consistent (*congruent*) with how we now feel. In one study, when young adolescents were in a bad mood (*down*), they viewed their parents as cruel and uncaring (*inhuman*). Later, when they were in a much better (*brighter*) mood, their parents were described in much nicer terms. It seemed as though their parents had undergone an amazing change in character (*morphing from devils to angels*), but the change was simply in the teenagers' mood. As Myers notes, “passions [or emotions] exaggerate.”

### **Forgetting**

Page 349: Amid all the *applause for memory* . . . have any voices been heard in praise of forgetting? We tend to focus on the importance of remembering and recalling information (there is much *applause for memory*). However, if we could not forget, we would be like the Russian memory expert (*memory whiz*) S who was overwhelmed by the amount of useless information he had stored (he was *haunted by his junk heap of memories*). Thus, many people, from William James to contemporary cognitive psychologists, acknowledge the importance of forgetting.

Page 353: How frustrating when we know information is “in there,” but we cannot get it out, as when a name *lies poised on the tip of our tongue*, waiting to be retrieved. The expression “it’s on the tip of my tongue” refers to the feeling you get when you are trying to remember something (a name, place, etc.) but can’t, even though you feel you know it and can *almost* say it (*it lies poised on the tip of our tongue*). Given an appropriate retrieval cue (such as the first letter of the name or something it rhymes with, etc.), we can often remember the item.

Page 353: As you collect more and more information, your *mental attic* never fills, but it certainly gets *cluttered*. We may have an unlimited amount of space in our memory system or

*mental attic* (a room at the top of a house), but with a constant flow of new information coming in, the storage can become disorganized (*cluttered*). New information may get in the way of recalling old material (**retroactive interference**), or old material may block or disrupt recall of new information (**proactive interference**).

Page 355: We *sheepishly* accepted responsibility for 89 cookies. Still, we had not come close; there had been 160. The Myers family obviously loves chocolate chip cookies. The story of how all 160 were devoured (*scarfed, wolfed down, eaten, consumed*) within 24 hours (*not a crumb was left*) is quite funny, but it also makes an important point. Embarrassed, guilty, and feeling a little foolish (*sheepish*), they could only account for and remember eating 89 cookies. This illustrates the self-serving nature of memory and how, unknowingly, we change and revise our own histories.

Page 355: Like *relighting a blown-out candle*, these words cued the woman's memory of an incident . . . Just as an extinguished (*blown-out*) candle can be reignited (*relit*) with a match, the presentation of a retrieval cue may help someone recall or retrieve a long forgotten memory. Although Freud proposed that we repress memories of painful experiences in the unconscious mind in order to protect our self-concepts and minimize anxiety, Myers notes that most contemporary memory researchers believe repression rarely, if ever, happens.

### **Memory Construction**

Page 356: We don't just retrieve memories, we *reweave* them . . . Memories are sometimes altered or changed when they are formed (*they are constructed as we encode them*). They can also be modified or adjusted when we retrieve them (*as we withdraw them from our memory bank*). Thus, when we recall something, we may inadvertently revise (*reweave*) it. As Daniel Gilbert notes, "information acquired after an event alters memory of the event."

Page 358: Because memory is *reconstruction* as well as *reproduction*, we can't be sure whether a memory is real by how real it feels. It is difficult to determine if a memory is real simply by noting how real it feels or how confident we are about its accuracy. We not only recall and retrieve real memories (*reproduction*) but we also manufacture false memories (*reconstruction*).

Page 359: It [memory construction] explains why "*hypnotically refreshed*" memories of crimes so easily incorporate errors, some of which originate with the hypnotist's leading questions. Because of the tendency to manufacture events without consciously being aware of doing so (*memory construction*), people are likely to be influenced by suggestions and biased questions while under hypnosis. Their subsequent recollections ("*hypnotically refreshed*" memories) may therefore be a mixture of fact and fiction.

Page 360: If memories can be *sincere*, yet *sincerely wrong*, might children's recollections of sexual abuse be prone to error? Evidence suggests that, under appropriate conditions, children's memories can be reliable and accurate (*sincere*). But, they are also prone to the **misinformation effect** and can be misled by biased questions and suggestions; later, the children are not able to reliably separate real from false (*sincerely wrong*) memories.

### **Improving Memory**

Page 364: *Sprinkled* throughout this chapter and summarized here for easy reference are *concrete* suggestions for improving memory. This chapter on memory has many good ideas for memory improvement scattered or interspersed (*sprinkled*) throughout. Myers has pulled them together in an easy to understand format—the **SQ3R** (Survey, Question, Read, Rehearse, Review) method. These are real and tangible (*concrete*) ways to help you improve your memory. Use them!!!