Rehearsal buffer

Autor:
Data de publicació: 18-08-2017

Up to now, we have been outlining what may be termed the philosophical basis for this book. In this section, we shall turn to something more concrete, and lay out a relatively simple, overall theory of how memory operates. In subsequent chapters, each component of the theory is examined in some detail.
The theory we shall discuss has been advanced in one form or another by a number of psychologists (for example Waugh & Norman. 1965; Glanzer, 1972) and was described in its most complete form by Richard Atkinson and Richard Shiffrin (Atkinson & Shiffrin, 1968, 1971). Atkinson and Shiffrin formulated the theory as a mathematical model; this meant that the theory's assumptions took the form of mathematical equations and that it made specific, quantitative predictions about the outcomes of various experiments. For our purposes, however, the mathematics may be bypassed and the theory discussed qualitatively.
Figure 1.3 represents a schematic (and somewhat oversimplified) view of the memory and information-processing system according to this theory. The boxes represent “stores” or repositories of information; the arrows represent the flow « of information from place to place. To see how the system works, imagine that

Loss of information Loss of information
within about 1 second within about 15 seconds
FIGURE 1.3 A schematic view of ihc two-store memory system.

you look up a telephone number, such as 325-5606. Let us trace the course of this information as it makes its way through the system.
The information first enters the system through one of your sense organs. In this case, the number is presented to you visually, so it enters through your eyes. The first store into which the information is placed is called sensory store. Sensory store can hold a large amount of information; in fact, it holds virtually all the information impinging on a particular sense organ. If you have looked up the number in the telephone directory, therefore, not only 325-5606 but all the other information on the page of the directory enters sensory store. However, information in sensory store decays away very quickly—in most cases, within a second or so. Therefore, unless information in sensory store is quickly transferred somewhere else, it will be lost.
Some of the information in the sensory store is indeed transferred into the next store, which is called short-term store. Short-term store (which may.be introspectively equated with consciousness) has several major characteristics. First of all, it is of a limited capacity; it is large enough to hold one telephone number, but probably not large enough to hold two. Second, information in short-term store is, in general, lost within about 15 seconds: we have all had the experience of looking up a telephone number and walking across the room lo dial it, only to discover that the number has been lost by the time we reached

the telephone. However, information in short-term store may be placed into a special section of short-term store called a rehearsal buffer. Information in the rehearsal buffer does not decay away but may be maintained indefinitely via the process of rehearsal. Rehearsal means just what you think it means—that information is repeated over and over. So if you entered the number 325-5606 into your rehearsal buffer, you can maintain it by repeating to yourself "325-5606, 325-5606 . . for as long as you wish.

Which information gets entered into the rehearsal buffer? The theory' assumes that people have the ability to enter whichever information they wish

into the rehearsal buffer, allowing other information to decay away from short-term store. The choice of which information is to be entered and which is to be lost is presumably made in such a way that the person can carry out whatever task he is trying to do. So, for example, when you look up a person's number in the telephone directory, you may also find the person's address. If you wanted to call the person up, you would enter the number into your rehearsal buffer and allow the address to decay away. If, however, you intended to write the person a letter, it would be more prudent to enter the address into the rehearsal buffer and allow the number to decay away.

The final component of our system is long-term store. Long-term store is the virtually unlimited-capacity store of that information which we have more or less permanently available to us. For example, our own names, the multiplication table, our ability to speak a language, the days of the week, and so on are all stored in long-term store. How does all this information get into long-term store? It is assumed that while information resides in short-term store it can be copied or transferred into long-term store. The longer some particular informa-

tion resides in short-term store, the more ot that information can be transferred into long-term store. If you sit around repeating "325-5606" over and over to yourself, you are maintaining it in short-term store. Additionally, during this time, information about the number may be transferred to long-term store. In everyday language, you can memorize the number.

Suppose now you are called on to retrieve some information that has previously been presented to you—for example, suppose you have to dial the number you have looked up. You first check to see whether that information is in short-term store. If it is in short-term store, that's fine: you simply retrieve the information and use it. If the information is not in short-term store, you don't despair yet, for the information may have resided in short-term store long enough for it to be completely transferred to long-term store. Therefore, if the information is not in short-term store, you next search long-term store, and if the information is there it can be retrieved and used. (Retrieval and utilization of information from long-term store essentially consists of transferring information from long-term store to short-term store. This is represented by the arrow pointing left in Figure 1.3.) It is possible of course, that some but not all of the information has been transferred to long-term store. Thus, you may remember the exchange, 325, but not the rest. You may remember 325-560-, and remember that the last digit was even. You may have transferred the information corresponding to the digits themselves but not the information about their order, in which case you may retrieve the number 325-6506 and dial a wrong number.

This, then, is a very brief sketch of how the memory system is assumed to operate. The type of memory system we have described is often referred to as a two-store system in reference to its two major information stores, short-term

store and long-term store. For each of the stores, we shall be concerned with four major questions:

1. How is information represented in the store?
2. How is information lost (forgotten) from the store?
3. How is information retrieved from the store?

4. How is information transferred from store to store; what types of recoding take place during transfer of information: and what, if any, information is lost when the information is recoded?

En general, la memòria a curt termini es perd en uns 15 segons: tots hem tingut
L'experiència de buscar un número de telèfon i caminar per l'habitació
Marqueu-lo, només per descobrir que el nombre s'ha perdut en el moment que arribem
el telèfon. No obstant això, la informació en memòria a curt termini es pot col · locar en una
Secció especial de memòria de curt termini anomenada tampó d'assaig. Informació a la
El tampó d'assaig no es desfà, però es pot mantenir indefinidament a través de la
Procés d'assaig. L'assaig significa el que creieu que significa: això
La informació es repeteix una i altra vegada. Així que si heu introduït el número 325-5606
A la memòria intermèdia d'assaig, podeu mantenir-la repetint-se a vosaltres mateixos
"325-5606, 325-5606. . Durant el temps que desitgi.