

But Ormrod (1990) speculated that it might be just a matter of students asking fact-based, low-level questions because they have learned to expect such questions on class examinations. Perhaps requiring learners to demonstrate inferential thinking in class and on assessments will prompt them to generate more inferential self-questions at encoding.

It may seem, in this discussion of working memory, that some aspects of permanent memory have already been touched upon, and indeed they have. It is virtually impossible to divorce the processes of working memory from those of long-term memory completely, because they are intimately related. Encoding, for example, by virtue of its role in transforming information as it passes from working to long-term memory, could be as easily discussed under the framework of the latter as the former. Encoding will continue to play an important role as we now consider what happens to information when it reaches long-term memory.

### *Long-Term Memory*

Do you remember what you had for dinner last night? Or what you did on your birthday last year? Perhaps you recall a visit to another country where the most memorable events were your donkey ride down a steep embankment, the shopkeeper who offered you ouzo at nine o'clock in the morning, and the hotel manager who kept repeating, "So sorry. No reservation." Now consider how these memories differ from your knowledge that Albany, not New York City, is the capital of New York and that reading a weather map will tell you whether to expect rain in the next few days. Although these are all examples of information you retain in long-term memory, they differ in whether they represent specific experiences unique to you or general knowledge of the world that is shared by others.

Tulving (1972) was the first to make the distinction between episodic and semantic memory. He conceived of these as two information processing systems, each selectively receiving information, retaining certain aspects of that information, and retrieving the information as required. Episodic memory is memory for specific events, as when you remember the circumstances surrounding how you learned to read a weather map. Semantic memory, on the other hand, refers to all the general information stored in memory that can be recalled independently of how it was learned. For example, perhaps you cannot remember how you learned to read a weather map, because the circumstances surrounding the event were not particularly memorable. But you do remember the skill.

Although the two systems are related, it is semantic memory that most concerns educators. Generally, what is supposed to be learned in school, or indeed in any instructional situation, is semantic in nature. Before 1972, Tulving argued, most memory research concerned episodic learning. Since