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Personal Memory, Generic Memory, and Skill: A Re-  
Analysis of the Episodic-Semantic Distinction

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The purpose of this paper is to propose that human memory must be analyzed into three basic types: personal memory, generic memory, and skills. This analysis will only deal with productive memory systems and so will not cover recognition memory. After the classification is presented, it will be used as a framework to examine the initial work of Ebbinghaus (1885) and the episodic-semantic distinction proposed by Tulving (1972).

In order to make the distinction between the three types of memory clear, consider the following example: An undergraduate goes to the psychology building for a psychology experiment. He finds his way to the correct room, hesitates a minute, knocks on the door, and goes inside. He sees the experimenter and a memory drum in a small bare room. After some preliminary instructions, he is given a number of trials on a long paired-associate list. One of the items on the list is the pair DAX--FRIGID. After the experiment is over he breathes a sigh of relief and leaves the experimental room. This one event can be used to illustrate the three types of memory:

Personal memory. If, the next day, the undergraduate were asked, "Do you remember the psychology experiment you were in yesterday?" he might say something like: "Sure, I remember walking down to the room from the elevator. I remember feeling nervous as I stood there in front of the door. I remember opening the door and seeing the experimenter standing behind the table. I remember being surprised she was a woman. She had a white laboratory coat on, etc." If he were asked, "Was anything going through your mind while you were telling me all this?" the undergraduate might say something like "Yes, I was seeing in my mind's eye much of what I told you. I could see the door, the expression on the experimenter's face when I opened the door, etc." It is this type of memory that will be called personal memory in this paper.

Generic memory. If, some months later, the undergraduate were asked, "Do you remember that you were in a verbal-learning experiment several months ago?" he might say, "Yes." If asked, "Was anything going through your mind while you were giving me this answer?" he might say, "No, I just knew that I had been in the experiment. There were four experiments required for the course--two were filling out social psychology questionnaires, one was a perception experiment, and the other one was the verbal-learning experiment." This is an example of the type of memory that will be called generic memory.

Skill. If, some days later, the undergraduate were asked, "When I give you a nonsense syllable you tell me what word followed. DAX?", he will probably say "FRIGID." If asked, "Was anything going through your mind when you gave the answer?" he might say, "No, I had practiced the list so many times I just knew what the response was." This is an example of rote memory, one type of skill.

This example was intended to provide an intuitive understanding of the distinction between the

three types of memory. The next section attempts to give a general description of each type. This approach to human memory is an attempt to give a psychological version of the relevant philosophical works on memory in the last 70 years (Bergson, 1911; Russell, 1921; Furlong, 1951; von Leyden, 1961; Malcolm, 1963; Locke, 1971).

Personal memory. A personal memory is a recollection of a particular episode in the past of an individual. Personal memory is (always?) experienced in terms of some type of mental imagery--predominantly visual. It usually also includes non-imaginal information. The image is experienced as the representation of a particular time and location. The personal memory episode is accompanied by a propositional attitude that 'this occurred in the past' and is accompanied by a belief that the remembered episode was personally experienced by the individual. A personal memory is also frequently accompanied by a belief that it is a veridical record of the past episode. Personal memory statements frequently fit the linguistic frame: "I remember X." Thus, in the above example: "I remember the expression on the experimenter's face."

Generic memory. A generic memory is the recall of some item of general knowledge. Generic memory is not experienced as having occurred at a particular time and location and is not accompanied by a belief that the information was personally experienced by the individual. Generic memory statements frequently fit the linguistic frame: "I remember that X." Thus, in the earlier example: "I remember that I was in a verbal learning experiment." Semantic memory is the subclass of generic memory which involves the memory for abstract propositional information--for example: 'good is the opposite of bad' or 'the speed of light is a constant.' The operation of semantic memory does not typically carry along with it an experience of mental imagery. Thus when asked, "What is the opposite of good?" the correct answer is given without report of any mental imagery. Perceptual memory is the subclass of generic memory which involves the memory for perceptual information--for example: a map of the United States or the Statue of Liberty. The operation of generic perceptual memory does typically involve mental imagery. Thus, if asked, "Is Oklahoma to the south of Kansas?" or "Which hand of the Statue of Liberty holds the torch?", most individuals will report a "generic" mental image. These generic images are not typically experienced as involving a particular time and location. The similarities and differences between a generic perceptual memory and a personal memory can be examined by the following exercise. Recall the center of your university campus (i.e., form a mental map); now recall your most recent walk across that campus. The first is a generic perceptual memory; the second is a personal memory.

Skill. A skill is the ability to perform a given sequence of motor or cognitive actions. A practiced skill is typically not accompanied by mental imagery. There are a number of subtypes of skill that need to be distinguished. Motor skills refer to the ability to carry out a sequence of mo-

tor actions. This type of memory underlies the ability to ride a bike or hit a tennis ball. Rote skills refer to the ability to repeat a sequence of linguistic objects. This type of memory underlies the ability to repeat the alphabet or give one's social security number. Cognitive skills refer to the ability to carry out some sequence of cognitive operations. This type of memory underlies the ability to take the square root of a number or to make the verb agree in number with the subject in a spoken sentence. Many statements involving skills fit the linguistic frame: "I remember how to do X." Thus, "I remember how to ride a bike, how to say the alphabet, how to take a square root." In the next section of the paper the framework developed above is used.

Ebbinghaus. Ebbinghaus' 1885 monograph showed that it was possible to carry out experiments on human memory. However, in addition to this powerful achievement his work also served to limit the experimental investigation of memory to a particular subclass of memory--that of skill. In the initial pages of the 1885 monograph Ebbinghaus contrasts personal memory with skills. He apparently chose to focus on skill memory for methodological reasons (i.e., no need to use introspective data). In fact, within the area of rote skills, he chose the savings method over the recall procedure because he felt there might still be an important phenomenal component to recall tasks, whereas with the savings method he would just be comparing (behavioral) performance measures. This initial methodological decision by Ebbinghaus had an enormous impact on psychology--for 85 years in psychology the study of memory was the study of rote skills.

Tulving. In the late 1960's a few psychologists were able to break out of the Ebbinghaus focus on skills and began to carry out experiments on semantic memory (e.g., Collins & Quillian, 1969). In a seminal paper Tulving (1972) pointed out the fundamental difference in this type of experiment and formulated the distinction between semantic memory and episodic memory. The definition of semantic memory outlined above essentially follows Tulving's usage. However, Tulving's restriction of this type of memory to linguistic knowledge seemed too narrow, so I adopted the term generic memory for the larger class and the term semantic memory for the propositional subclass (see Hintzman, 1978, and Schonfield & Stones, 1979, for similar arguments).

The construct of episodic memory, as used by Tulving, is harder to deal with. When it is defined in abstract terms, it seems close to personal memory as outlined above. Thus, Tulving states that episodic memory "stores information about temporally dated episodes or events and temporal-spatial relations among these events" (p. 385) and proposes that statements from episodic memory refer to "a personal experience that is remembered in its temporal-spatial relation to other such experiences" (p. 387). However, the examples given by Tulving suggest that things are not that simple. Thus, one of the 4 examples of episodic memory was the statement, "Last year, while on my summer vacation, I met a retired sea captain who knew more jokes than any other person I have ever met" (p. 386). Taken at face value this appears to be an example of generic memory as the term has been used in this paper. A clear example of a personal memory would have been a statement such as, "I remember sitting on the stool at the bar, drinking a hot toddy while he told the traveling sailor joke, etc." One of the other examples suggests a more fundamental difficulty. "I know the word that was paired with DAX in this list was FRIGID" (p. 387). In terms of the classification suggested above this is either an

example of generic memory ("I remember that DAX was the word paired with FRIGID") or an example of a rote skill (given DAX the subject says "FRIGID"). The latter interpretation is supported by Tulving's statement that the typical memory experiment in psychology is an episodic memory task (p. 390). Thus, the term episodic memory as used by Tulving apparently includes personal memory, plus semantic memories about autobiographical information, plus skills. In sum, the analysis presented here suggests that the distinction between semantic and episodic memory be replaced by the more analytic distinction between personal memory, generic memory, and skill.

Research on personal memory. The classification of memory into three basic types has powerful implications for empirical research. It is clear that the important topic of personal memory has been little studied by experimental psychologists (probably because of the residual restrictions left by Behaviorism). At Illinois we are currently trying to ask some of the relevant questions: What are the basic parameters of personal memory? (Brewer, in preparation) Are personal memories veridical? reconstructed? (Brewer, in preparation) How are generic memories derived from personal memories? (Brewer & Dupree, in preparation) What are the phenomenal properties associated with the different types of memory? (Brewer & Pani, in progress).

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