Transformations of Memory in Everyday Life (1982)
Marigold Linton

In 1972, Marigold Linton undertook a singular memory experiment. Like Hermann von Ebbinghaus, who had founded the classic psychology of memory about a century earlier, she was her own subject. Every day she recorded at least tow events from her life; every month she tested her ability to remember, order, and date a sample of the events she had previously recorded. Linton has presented the basic results of the study elsewhere; here she reflects on some of its implications. How can we understand the effects of "emotionality" and "importance" on memory? What are the long-run consequences of repetition? What kinds of events will be remembered best?

The answers are often surprising. Particularly intriguing is Linton's very un-Ebbinghausian forgetting curve; it is linear with a slope of 5 percent a year. How can we reconcile such a pattern of forgetting with the existence of memories more than twenty years old? Linton's own explanation, based on the diminishing effectiveness of the original cues, that a different forgetting function might be observed with different forms of cueing. Perhaps she is right; perhaps, on the other hand, most of our oldest memories are the product of repeated rehearsal and reconstruction. So far, these are the only systematic data we have.

Some years ago, my curiosity about how memory functions in a naturalistic setting led me to an investigation of my own memory. During the course of this six-year study I developed event items based on my own experiences, and later attempted to reconstruct the probable dates of the event's occurrences. (Dating may seem a rather restricted, perhaps even uninteresting behaviour, but its quantifiability continues to appeal to me). Performing a prolonged study on personal life events has, I believe, provided me with a unique perspective on memory functioning; perhaps some of these insights, as well as a description of the unforeseen difficulties in constructing this research may be informative to others.

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The stimuli for this long-term study were brief descriptions of events from my life written each day throughout the study's six-year duration. At first it seemed there might be a simple set of heuristics for describing events, but rather shortly I abandoned the search for simple regularities.

So wide a range of content and presentation styles may be employed to specify events that the elements necessary or sufficient to describe "an event" have continued to elude me. To avoid unnecessary narrowness in my event pool I accepted all brief unique descriptions. (No description exceed 180 letters, and when it was written every item was discernible from all other events then accessible to memory). These criteria were dictated by my major dependent variables: dating accuracy (only unique items can be uniquely dated) and response speed (reading times must be brief/uniform enough not to differentially contribute to memory-search response times). Each newly written item was rated for salience on a number of dimensions. I return to emotionality ratings in a later section.

Memory tests proceeded as follows: Once a month items were drawn semi-randomly from the accumulated event pool. After reading a pair of randomly paired event descriptions, I estimated their chronological order and attempted to reconstruct each item's date. Next I briefly classified my memory search (for example, I might "count backwards" through a series of similar events, as school quarters, Psychonomic Society meetings, and the like) and reevaluated each item's salience. After six years the experiment had reached imposing dimensions. I had written more than 5,500 items (a minimum of two times each day) and tested (or retested) 11,000 items (about 150 items each month). Item generation required only a few minutes each day but the monthly test was extremely laborious, lasting 6-12 hours. The time required for individual memory searches varied widely from month to month as well as from item to item in the course of a single day.

The study of autobiographical memory is complicated by the modifications and changes that any newly encoded information undergoes as the result of interactions with information already in memory and through reinterpretations of existing data forced by the acquisition of subsequent knowledge. I'm speaking therefore, not only of the role that semantic memory plays in interpreting new information, but also of the progressive changes in interpretation and evaluation that occur as the target information reacts with relevant information, either existing or acquired later, in the knowledge base.

In our personal history, as in political or cultural histories, the importance of a singular event may be interpreted in a variety of ways, from differing historical perspectives, and may be reinterpreted repeatedly as its role in different contexts emerges. And in personal, as in many other histories, first or early events in sequences receive royal treatment, with better encoding and associated recall.

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When I designed my study I had intended to include in my event pool each day's most salient experiences. As the preceding discussion suggests, it was relatively simple to characterise the "first event" in some ongoing life sequence. A large number of cues suffice: "I got to New York for the first time," "I meet Clark Kerr for the first time." In fact, "X for the first time" has unparalleled effectiveness as a cue. (My event writing strategy permitted any particular item to sometimes include and sometimes omit this unique specification.) As any series of similar or related events in my life became long, the length of the descriptions required to uniquely characterise particular events also increased.

Indeed, many events could not be adequately characterised in the space permitted. Thus my file—whose contents are shaped by the requirements of brevity and uniqueness—is silent on whole sets of activities that comprise the warp and woof of my existence. One could scarcely know that I teach, or spend many hours each day in academic activities. A perusal of the file hints only faintly at my passion for racquet sports, my enjoyment of good food, or my pleasure in interacting with loved ones. I simply cannot adequately characterise the year's two-hundredth hour in the classroom, my three-hundredth racquet match, or the one-hundredth dinner with friends. But some items do enter: I teach a new class or perform a novel demonstration; I find a new racquet partner, or we find half a boysenberry pie on the court surface; a new restaurant opens or a special friend makes a rare visit to town. These minor variations permit a few such items to gleam amongst their blurred and coalesced brethren.

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Throughout the study I provided emotionality and importance ratings (among others) for each event item, both when the event was written and each time its recall was tested. Although analyses of these data are not complete, the correlations between initial salience ratings and the recall measures will almost certainly remain small and unimpressive. (The relationship between current salience ratings and recall is stronger but this correlation cannot easily be interpreted.) What are some of the reasons that initial emotionality ratings are not useful in predicting event recall? A number of variabiles complicate efforts to deal with emotionality over time. Second, superficially similar events do not receive similar ratings over time. Third, the emotionality of ongoing pieces of life, or of memories is inherently difficult to judge.

Emotionality of events may also be affected by *changes* in the cognitive surround. The first of these effects may be referred to as contrast.

Level of expectation may be raised by a single highly emotional event or by a number of moderately important or emotional events. After the "enrichment" of the emotional environment, any particular event may look less emotional or important than it did before the change.

But other changes remotely or closely associated with the target item may affect the rated emotionality or importance of the target. Just as historians must interpret and rewrite history as time passes, so we all rewrite our own personal histories. Few of us are wise enough to predict at the time of their occurrence how significant events will prove to be. A person inconspicuously enters our life. He later becomes a friend, a lover, or an antagonist. Others appear with grand flourish and then simply vanish.

Thus, our salience judgements are erroneous for many events. We are offered a job. If we accept a new job that involves permanent changes in our life; for example, if it is accompanied by a move, and increased responsibility and status, the events surrounding the job offer are likely to be perceived as important and emotional. If exactly the same job is turned down, salience ratings are likely to decrease over time. In general, events that initially are perceived as important and highly emotional may be perceived as less emotional or important later as the result of changes in the real world. Events may similarly increase in importance or emotionality as our perspectives on them are modified. If they come to be less important than anticipated we may simply delete them from memory. If they become more important, we link them to the later crucial events—we rewrite this chapter of our lives.