

### FEATS OF MEMORY

Every normal person has a good memory for things that interest him deeply or that concern him intimately; we all remember some happenings, some facts, etc., without any conscious effort and we never forget them.

The memory is largely susceptible to training and to be successful all students must have memories that have been either consciously or unconsciously trained and developed. They concentrate their minds on the things they wish to remember and associate one set of facts with other sets in order that all may be properly classified and pigeon-holed in the brain for ready reference when desired later on.

Some persons have remarkable powers of memory. Often, however, only details of one particular subject are retained exceptionally well. John Wesley, the founder of Methodism, wrote about a man of his acquaintance "who was so thoroughly acquainted with the Bible that if he was questioned as to any Hebrew word in the Old or any Greek word in the New Testament he would tell, after a little pause, not only how often the one or the other occurred in the Bible, but also what it meant in every place." "Such a master of Bible knowledge," Wesley declared, "I never saw before and never expect to see again."

T. B. Macaulay, the eminent English historian and essayist, also had an extraordinary memory; it is said that he could repeat "all Demosthenes by heart and all Milton, as well as a great part of the Bible."

It is related that when a nearly illiterate servant girl, employed in the home of a Scottish preacher, became delirious in fever she repeated long Scriptural passages in Hebrew. It seems that the kitchen where she worked adjoined the minister's study and that he was in the habit of reading the Bible aloud in original Hebrew. Although she had not understood a word or consciously taken note of the reading, her mind had seized whole phrases and sentences and held them until her illness caused a peculiar disturbance of her mental faculties.

Lincoln's biographers tell how he committed to memory whole chapters of the Bible and could repeat any passage verbatim. In earlier days people depended much more on their memory than they do now. Books were fewer and these books were read and re-read until their contents were known by heart. Now we have so many books and papers that such a thing is ordinarily impossible.

### PAPER AIR-CUSHIONS

For centuries the Japanese have been making air-bags for various purposes out of paper. For such bags they use paper made of bamboo fiber, an exceptionally strong paper material. This paper is built up of six

or eight thin tissue-like layers, laid so that the grains of the different sheets will alternate. Flexible shellac cement is used to hold the sheets together and to make the whole fabric airtight. The shellac gives the finished product a dull reddish color which is unattractive and makes the cushions and other air bags even when new appear old. This dull color was largely responsible for the failure of such goods, despite the ridiculously low price at which they were offered, to find a sale in this country when an attempt was made to introduce them some 20 years ago.

A paper air-cushion measuring a foot square or larger when inflated may be deflated and folded up into sufficiently small compass to be carried in the vest pocket. Articles made of this material are surprisingly light and resistant to wear. If properly cared for, it is said, they will last for many years.

Japanese air-cushions, air-beds, etc.; are quite cheap, compared with American-made rubber goods for the same purpose, and they give longer service. That explains why American manufacturers have been unable to sell their rubber cushions in Japanese markets.

### THE MOVIE AS A MAGNIFIER

Microscopes even of the highest magnifying power are very limited in their scope, for the more they enlarge an object the fainter the object becomes. But the movie camera can magnify a thing almost any number of times and still the sharpness of every detail will be preserved. This is done not only by magnifying the actual object itself but by magnifying or prolonging its movements.

French and German experts have recently worked out methods by which movie pictures can be made at the tremendous speed of 500 to 2000 a second, in place of the usual eight or so. This is done by aid of the electric flash. A bullet can be photographed in flight, and when it is thrown on the screen it will be seen to move as slowly as if it were a snail. The compressed gas of the powder charge can be seen leaving the barrel of the gun, and even the waves of air set up by the bullet can be detected.

The wink of a human eye can by the same process be extended so that it will occupy a minute. A man taking a flying jump can be shown as if poised in the air, and every part of his movements can be studied with the greatest deliberation. The action of the hands of a pianist or violinist can thus be recorded and then thrown on the screen magnified—in point of time—by 10, 100, 1000 or any number as required.

The buzzing of a humming-bird's wings, which is as swift as that of an electric fan, can be shown on the screen as a leisurely and graceful undulation. Every movement and process that hitherto has baffled analysis because it was too swift for the eye to study can now be stretched out so that each and every part of it can be studied with perfect leisure. The possibilities of the movie for purposes of education are limitless and they are only just beginning to be realized.