

HOW WE REMEMBER AND HOW FORGET

(By Prof. Gerald Leighton.)
There is no more marvelous faculty in the mental equipment of man and the higher animals than that of memory, or the power of storing up in the mind the results of external impressions.

Many animals possess this power of storing up the results of their impressions in the brain, so that by means of recollection they may use their former experience for their future welfare.

Thus, by means of the faculty of memory, many birds make their periodic migrations from one district to another, and it must be by the exercise of a similar gift that bees and ants are enabled to find their way back to their hives. Sir William Hamilton defines memory as "the power of retaining knowledge in the mind, but out of consciousness," a definition not accepted by all authorities. In general use we include several faculties under this word memory; for example, recollection.

Hamilton, however, well argues that recollection is a different thing. Memory regards as this simple retention of knowledge in the mind without any consciousness on the part of the individual of its being there until the knowledge. Thus the act of bringing up that knowledge from the memory into consciousness takes place, and that act is termed recollection. When we have carried this knowledge into the mind unconsciously by memory, and then brought out this knowledge consciously by recollection, we also have to recognize what we recollect as being identical with the impression we stored up, or it would be useless as a means of guidance in life. So that, speaking in the broad sense, we regard memory as a faculty made up of three acts—namely: preserving certain impressions, reproducing those impressions and recognizing the two as the same.

The basis of memory is the power of a nerve cell in the brain to perform a function in such a way as renders that cell more liable to perform the same function in the same way again. To take an example which may help make this clear. The first time a nerve cell does its work (whatever that may be), a lasting result is produced in that cell. It has a cell which speaks. But that impression is able to wear off unless the action of the cell is repeated, and the cell then becomes the impression of the cell. Suppose the function of the cell be to receive the impression of a certain smell.

That produces a certain state of the cell which gives it a memory of that smell. But if it have no further experience of that particular smell the impression will wear off. The cell will forget and fail to recognize a similar impression which comes to it at some distant date. On the other hand, if the impression of that smell be repeated daily for some time it becomes a fixed one and will be recognized.

Any student of chemistry has experienced this; indeed, it is an every

day experience. The oftener we do a thing or think a thought, the easier it is to do that act of form that idea; in other words, habit becomes second nature. A child has at first considerable difficulty in learning to walk, simply because its nerve cells have no memory of any such previous action to fall back upon.

As time goes on the nerve impulses travel the same route so often that the complicated act of walking becomes automatic because of the cell memory.

This still implies that the memory impressions through the eyes and the touch pass to the proper movement apparatus which makes the person walk, but so accustomed to the process do the nerve cells become that no mental effort at all is required even to walk up stairs or over a narrow bridge.

But apart from the nerve process evolved we find that memory plays strange tricks with all of us. One of the tricks of memory is that we remember a number of petty and insignificant details of no use to us whatever; at the same time we find difficulty in recalling things of which we are in constant need.

The most important thing, therefore, in laying the foundation of a memory of a sight, sound or idea, is to pay close attention to it, so that the impression received may be a strong one, and not confused with a number of others at the same time.

If we are seeking information for the sake of satisfying a craving of our own rather than from a sense of present duty (such as for examination purposes) we are much more likely to find we remember it. So a person reading the columns of this daily paper will remember without effort anything which relates to a neighborhood in which he has lived (or loved) or in which he has any sympathetic interests. Other paragraphs will be read and forgotten, but at the end of the day's work this impression can be recalled with absolute accuracy and without effort.

The general truth is that we have no recollection without intention, and so we pass a thousand people in half a mile and can recollect only those one to whom our attention was attracted. Finally let it be noted that, like any other faculty, that of memory can be developed by suitable practice, and at the same time the faculty can be weakened by overwork.

To illustrate the nature of the processes involved in brain functions, such as memory, we may take the example of an act like reading aloud, which is of a different nature, but shows the nervous mechanism necessary to form the paths of sensations. In reading aloud an impression is produced on the retina of the eye of the words on a page. This impression stimulates the optic nerve, and the impulse is sent to the hinder part of the brain, to the center for sight.

If the attention is arrested by the excitement set up, the result is a sensation. As a further result of this sensation an idea is produced in another part of the brain. Then comes the voluntary or volitional part of the process, which consists in sending an impulse along a nerve from the brain to the muscles of speech.

There is thus a connection between the sensory and motor parts of the brain. Now, by continuous practice, that is, by repeated experience of this process, the cells concerned get so used to it that reading aloud may become independent of both sensation and the will.

So that the astonishing result sometimes seen of a person reading aloud and thinking of something else altogether. He turns over a leaf, and suddenly recollects that the subject of the reading is forgotten. The impulses have traveled that road so often that the cells have the memory of the process fixed upon them indelibly, and it can be done automatically.

Junk Dealer Buys Courthouse.

New York Sun.

The Somerset county court house, one of the most striking specimens of old Dutch architecture in New Jersey, was sold by auction recently to Hyman Kline, a junk dealer, for \$125. It was built in 1779, soon after the British burned the first county court house at Millstone. An effort was made to preserve the old building, but it failed. The building will be razed, and on its site will be erected a white marble court house at a cost of \$300,000. The high stone steps, the columns supporting the lofty portico and many other of the striking features of the old courthouse will be preserved in the architecture of the new building.

WHITE AND YELLOW MIXED

Bride Descendant of Chinaman and Daughter of a Portuguese Sailor

Pen of novelist has rarely woven so interesting a romance as that involved in the marriage in Davenport, Ia., a few days ago, of Miss Anna Elizabeth Whiting to Albert F. Afong of Honolulu. While his bride is thoroughly American, Afong is the son of a full-blooded Chinese. Still more unusual, however, is the fact that he has no less than thirteen sisters, three of whom have married into the American navy, as he may have said to have done, and a fourth into the army. One of these is the wife of Rear Admiral Whiting, so that by this latest union she will become the aunt as well as the sister of young Afong.

Of the others, one is the wife of Lieutenant Riggs of the navy; one of James W. Brewster, who served on the cruiser Harvard in the Spanish-American war, and a third of Lieutenant Andrew J. Dougherty of the army. Albert was the last member of the family remaining unmarried. His courtship, like that of his sisters, began under the coconut trees of the Pacific island, and the family looks to him for the perpetuation of a name already known in every capital of the world, and especially in the best circles of the Pacific coast. For twenty years naval officers have told of the delightful hospitality afforded them in the Afong home while their ships lay at anchor in Honolulu bay.

Tourists have come back from Hawaii telling of the gorgeous semi-Oriental mansion of Wing Ah Fong—the name has since been Americanized—and Mrs. Concepcion Ah Fong, who is a mixture of Spanish and Portuguese. Every one who has been in the islands talks of the charming manners, the bright hued gowns, the languorous tropical ballads and the fund of good nature of the highly attractive progeny of Wing Ah Fong, millionaire of the South seas.

Along about 1858 a young Chinese bearing this name came with a shipload of his fellow countrymen to Honolulu. He was unusually intelligent and genial and, with a little capital, soon built up a prosperous business in Chinese crockery, silks and bric-a-brac. In a short time he was the leading merchant in Honolulu. He spent money freely and was well liked by whites and blacks in the quaint old town. As he grew in wealth he made love to Concepcion, the daughter of a poor Portuguese sailor who had floated into Hawaii. She was what is known as a Kanaka, and there was a strain of English blood in her, and after their marriage, in 1869, it was this strain in her which produced the energy and executive ability by which she helped him to gain money.

Ah Fong invested in sugar cane plantations and in those times, when such properties yielded almost incredibly large profits, he became very wealthy. In ten years he was worth more than \$300,000 and was adding \$35,000 to this annually. He was careful and prudent while his business associates drowsed and took no heed for the morrow, and he was ceaselessly watching for chances to buy more plantations at cheap prices from the improvident Hawaiians.

Meanwhile the Ah Fong family circle widened. There were six children in the home in 1870, a boy and five girls. Eight more girls were born there during the next fifteen years. Wing Ah Fong was an ideal father. He was delighted to see how each child resembled the mother in facial expression. He hired servants before, enlarged his house every few years and thought nothing too good for his babies.

He used to send his children to get his wife and all her numerous girls into a great lumbering open carriage like a Concord coach that he had had built according to his own ideas, and with himself as driver on the front seat, to go rolling slowly over the roads about Honolulu for hours at a time. It used to be a memorable sight to see bowing along any of the lava made roads in Honolulu Papa Ah Fong, with his long queue dangling down his back, driving a vehicle containing his entire family circle, all singing, laughing and having a good time by themselves.

True Chinese that he is, Wing Ah Fong never gave up his idea that the Chinese way of living and doing things were a little superior to any others. He let his wife conduct the house and dress and educate the girls as she saw fit, but he took charge of the boy, Albert, and for a long time, while the sisters were garbed and trained after the American fashion, he had his head shaved, wore a queue and affected flowing silken garments like those of his father.

Indeed, he and his sisters have never been ashamed of their origin, and with their accomplishments, they need not be. All the girls have the tropical love for music and several are excellent singers. Personally, seven of them are noticeably pretty, with black eyes and hair. One, Mrs. Arthur Johnstone, wife of a prominent Honolulu merchant, is a semi-blonde, and the combination of her blue eyes and dark lashes and hair and her pink and white complexion make her the accepted beauty of the family. Several of the sisters have their father's tall stature, but the rest are of petite figure. Three have almost dished eyes and nearly every one of them has the mother's olive complexion and soft, easy mode of speech.

Wing Ah Fong was reputed to be worth \$10,000,000 in 1890. Two years later he left Honolulu and went to China. He has never returned, and the reason for his strange act has always been a mystery to the outside world.

He spent months in getting his enormous business in shape and then sailed away. When months passed and he was still absent rumors began to spread and there was a story that he had narrowly escaped severe punishment for having deserted a wife in China. Mrs. Ah Fong and her daughters kept closely to their home for a long time and never spoke of the subject to outsiders. After this period, however, the hospitality of the house was resumed and it never waned until the last daughters were married.

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Bernhardt as Trust Buster.

(Washington Star.)
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