

to write down as much of it as they could remember, audible repetition not being permitted. It was found that the letters were not associated with words, and the author believes that there was no association except in time and space. It is not stated whether the children were instructed to read the letters in lines or columns or whether any record was made of the actual procedure in this particular. The method of marking papers is based, however, on the arrangement of the letters in lines and columns. Three credits are allowed for each letter in its right place; two credits for each letter one remove to the right or left, above or below; and one credit for each letter two removes to the right or left, above or below. Letters displaced diagonally or moved more than two spaces are not counted.

Preliminary experiments showed that an interval of twenty-five seconds between showing the card and beginning to write was of no consequence and that the conclusions would not be affected by the difference between girls and boys. The final tests were made on 39 girls between the ages of 8 and 15 years, chosen without reference to their proficiency in school work. On June 5, 1902, ten cards were given; on June 12, at the same hour, ten more were given, and on July 3, fifteen more. No practice between tests is mentioned, but the power of reproduction increased wonderfully from one test to another and this is interpreted as an improvement in 'pure memory.' In the cases of several individuals there was a gain of over 50 per cent. in proficiency from the first to the second test (one week later). The cards of a single test, however, were not compared with one another.

The general ability of these 39 school girls is indicated by the results of examinations in reading, arithmetic, dictation and composition. The position of each girl in her class — based on the year's work and the teacher's estimate — is also given. A very uniform connection is shown between success in the memory test and success in school work. The same connection is shown by further tests on other girls of one class, all about 13 years old, selected from the higher and lower divisions of the class.

The tests also show that memory of the type under discussion improves with age, within the limits chosen, but principally in so far as increased age implies a general increase in proficiency.

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*The Psychology of Day Dreams.* THEODATE L. SMITH. Amer. J. of Psychol., 1904, XV., 465-488.

The author's data for the article were taken from papers secured

from 1,475 persons, varying in age from six to ninety years. Out of the whole number addressed only five stated positively that they never had day dreams. The universal characteristics are the withdrawal of the attention from the external senses and a greater or less degree of mental automatism.

The contribution contains many points of interest. The characteristics most frequently mentioned are psychic deafness and blindness and muscular relaxation; but day dreaming may occur as an accompaniment of physical activity. The conditions were generally fatigue, monotony, or rhythmic sounds. Day dreaming seems to be a means of mental relaxation. The attention, usually of the passive type, is concentrated on the mental content, which of course differs with the age of the subject. As to the rightness or the wrongness of day dreaming only a small per cent. of children above the fifth grade and adults said it was right, without qualification. Some children said — "Can't help it, and what you can't help isn't wrong." Older subjects recognized its tendency to usurp the place of other activities and to dissipate energy, even though restful in itself. Three types of imagery are apparent: the volitional, the spontaneous and the insistent. The enjoyment of day dreaming, except in morbid cases, is universal. In morbid cases, instead of muscular relaxation, sometimes there is partial paralysis and rigidity of muscles. The painful reverie was reported chiefly by adults, only thirteen cases occurring among children, out of 980 pupils. The tendency to become habitual and excessive appeared in those having strong visual imaginations.

In summarizing the author maintains that every normal mind exhibits certain automatisms in its reproductive activities. Day dreaming appears to be normal and almost universal; its content is mainly environmental, and in childhood it is made up chiefly of memory images, — actual experiences or stories, reproduced. With adolescence there is a greater variety and complexity of content, with an insistence toward future possibilities. In adult life it is often associated with high intellectual endowments and creative power. It may become excessive and pass over into pathological states. Sex differences were found prominent and could generally be determined by the characteristic masculine or feminine type of the paper.

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