

367. ROBACK, A. A., and GROETZINGER, M., The Applied Psychology of Names. *J. of Applied Psychol.*, 4, 1920, 348-360.

The question asked is, "Is there any general rule that can be applied as to the way the combination of names should appear in advertisements, on letter-heads or in any form of publicity?" The data indicate (1) that a combination of names possesses a greater immediate memory value if the more familiar component of the combination appears last, and the less familiar first; (2) other things equal, the unfamiliar element shows a greater memory gain than the familiar component. This suggests that eventually the unfamiliar will become a more effective stimulus than the latter.

E. MULHALL ACHILLES

368. MUDGE, E. L., The Common Synaesthesia of Music. *J. of Applied Psychol.*, 4, 1920, 342-345.

E. MULHALL ACHILLES

8. SPECIAL MENTAL CONDITIONS

369. DE SANCTIS, S., I metodi onirologici. *Riv. di Psicol.*, 16, 1920, 1-30.

The author discusses the methods for the study of dreams. He insists that the scientific method for their study is the same as that employed in general and differential psychology,—namely, introspection. Introspection may be of two sorts: auto-introspection or the testimony of the subject, or hetero-introspection which is induced. Both procedures must be controlled by external observation and experiment. Auto-introspection is the method employed by Freud and the author discusses a number of factors, such as the improvement in remembering dreams with practice. The author discusses the results of recording his own dreams. The hetero-introspective method seems to be important for bringing to light the affective aspects of the dreams. There follows a long laudatory summary of the work and methods of Freud. Among the experimental findings de Sanctis finds that it takes an appreciable time for the dream conscious to become fixed; that there does not seem to be any "immediate memory" for dreams. The work of the day before does not seem to influence dreams while, up to a certain point, it does influence sleep.

ELRINGTON (Washington)

370. RIGNANO, E., Una nuova teoria sul sonno e sui sogni. *Riv. di Psicol.*, 16, 1920, 31-41.

A new theory of sleep is advanced. The non-affective character of dreams is pointed out. The nervous elements involved in the intellectual processes during the day have intermittent periods of rest,—they are not active all of the time. Hence their activity can persist during sleep. The nervous elements underlying the affective processes (including attention and will) never rest during the day and, therefore, there is need for complete suspension of activity during sleep, in order that its energy may be restored. Dreams are described as being entirely devoid of feeling characters. They are apparently emotional but analysis discloses that only the somatic elements of the emotion are present. The rapidity with which dreams are forgotten and the incoherence and illogical character of them are also discussed.

ELRINGTON (Washington)

371. THOMAS, C. D., Newspaper Tests. *J. Soc. Psychological Res.*, 1921, 20, 89-107.

A discussion of a series of items termed Newspaper Tests covering a period from October 10, 1919, to February 4, 1921, giving a numerical analysis of 53 of the tests.

BROOKE (Pennsylvania)

372. BAGBY, E., The Psychological Effects of Oxygen Deprivation. *J. of Comp. Psychol.*, 1921, 1, 97-113.

Under an authorization of the War Department to the Medical Research Board, in 1917, Lieutenant Bagby and his colleague, Lieutenant Isaacs, acting as assistants to Major Knight Dunlap, investigated the mental and behavior phenomena induced in aviators by the deprivation of oxygen in re-breathed air. The Henderson Re-Breathing Apparatus was employed. Twelve preliminary, control types of experiment were done, and consisted of tests of visual acuity, auditory acuity, reaction-time to changes of pressure, steadiness in aiming, rapidity of tapping, knee-jerk irritability, immediate and delayed memory of from five to nine consonants, memory of associated digits and color-names, visual memory of positions of colored lights, serial attention reactions, Dunlap's addition test of attention, and tactile discrimination and sorting of cards having different shaped openings. In these preliminary experiments the investigators were influenced by certain limitations,

such as the necessity of making rapid classifications of aviators involving not more than thirty minutes per man, the advisability of not using graphic records of results because of the length of time necessary for grading and statistical treatment and because in graphic records no means is afforded for the registering of compensatory reactions, the necessity of preventing fatigue by having short and easy tasks, the necessity of obtaining pulse and blood-pressure readings from the observer at two-minute intervals during the examination, requiring that the observer's left hand be free for the circulation tests and also that his mouth be free for gripping the mouth-piece of the re-breathing machine, leaving only one hand and both feet free for reactions, and the lack of pioneer work on which these investigators could rely. The preliminary experiments brought to light such results as the following: (1) The gradual depletion of oxygen produces tremor, muscular incoordination, and over-discharge, which effects grow progressively greater as re-breathing proceeds. (2) Low oxygen tension results in the diminution of the ability to carry on several discrete acts which involve a rapid shifting of attention, presumably because the distractibility of the observer is lowered instead of raised, with the consequent effect that simple, mechanical operations, done singly, are better executed than under normal air conditions, viz., simple sensory and motor acts. However, in the final stages of asphyxiation, concentration on any task is nigh impossible. (3) The muscular condition of the left hand, under normal conditions, was firm, but under conditions of oxygen deprivation became first relaxed, then tense, and finally twitchy. (4) Asphyxiation, in its earlier and later stages, seems to remove certain inhibitions or repressions in the observer, for he shows resentment to all stimuli and perhaps actually swears and tries to break the apparatus or becomes silly and winks and smiles at the experimenter and gives way to uncontrollable laughter. (5) After a preliminary effect of asphyxiation, the observer can pull himself together somewhat and can improve the quality of his reaction, and then he wants to rest and becomes oftentimes quite inert; this increased efficiency can be regarded as a true illustration of a "spurt."

The standard test which was devised and performed was planned to offset the "spurt" effects, to register at once decreased motor control, and to demonstrate the increasing restriction of attention, although not attempting to indicate the aviator's constitutional resistance to low oxygen tension. This standard test was very

complex in procedure as well as in the apparatus used, involving the presence of both physiologist and psychologist, both of whom were required to "be on the job," to properly control the experiment, to get down accurate and quick records, and to prevent serious results from asphyxiation and exhaustion. As in the preliminaries, the re-breathing apparatus and the apparatus for pulse and blood pressure were employed; in addition, elaborate and complicated sets of apparatus were worked by both the psychologist and the observed re-agent. The re-agent had three sets of tasks to attend to and to perform, tasks which the reviewer presumes were similar to the tasks the aviator must perform in all altitudes: to touch with stylus a certain button whenever a certain light appeared, to adjust by switch the amount of current in an ammeter to correspond to an indicated reading, and to adjust the speed of a motor to a prescribed speed by means of a rheostat arrangement worked by pedal by the re-agent's foot. An automatic distributor flashed the lights in sequence. The psychologist by his own rheostats and ammeters and switches varied the ammetric readings, and changed the speed of the motor, to stimulate the prescribed reactions in the re-agent. The psychologist also kept records, by an elaborate but ingenious set of symbols, of the reactions of the re-agent and jotted down data concerning the efficiency and the progress of inefficiency of his subject. After the data had been obtained a set of objective rules were followed as to the scoring, and tentative ratings, ranging from *A* through *C*, were applied to the results and the aviator received his rating. A standard period of 25 minutes, with 7 per cent. oxygen, representing the standards for the highest types of aviators, was employed and deviations in quality of reactions and the approach to collapse during this standard time and with 7 per cent. oxygen were used as bases for the rating.

The author tells us that the results of the preliminary experiments were verified on a score of psychological observers and that as many as 7,000 aviators have been submitted to the standard re-breathing test.

CROSLAND (Oregon)

373. FROEBERG, S., Effect of Smoking on Mental and Motor Efficiency. *J. of Exper. Psychol.*, 1920, 3, 334-345.

The difficulty in experiments of this sort is to avoid suggestion. To accomplish this an ingenious device was resorted to whereby

the alkaloid decomposition products, which are supposed to be the active agents of tobacco smoke, were filtered out, leaving the aroma of the smoke unchanged. In the unfiltered smoking apparatus absorbent cotton was used to equalize the "pull." There was little difference in taste between the filtered and the unfiltered smoke, but the filtered smoke was slightly less visible than the unfiltered. This enabled one subject to detect the difference, and necessitated the rejection of his records. Cigars were used, and the smoking period was approximately thirty minutes. Three motor tests and five association tests were used. The results from six subjects were included. There was a marked decrease in steadiness and coordination, but little difference in speed of movement. The association tests showed slight increases or decreases after smoking, but in only one case was the change as much as three P.E. Smoking, therefore, seems to have no definite effect upon the association processes of the normal adult.

BELL (New York University)

9. NERVOUS AND MENTAL DISORDERS

374. PORTEUS, S. D., A New Definition of Feeble-Minded. *Training Sch. Bull.*, 18, 1921, 7-10.

"A feeble-minded person is one who by reason of mental defects, other than sensory, can not attain self-management and self-support to the degree of social sufficiency," is the definition proposed.

E. MULHALL ACHILLES

375. MOTT, F., The Influence of Song on Mind and Body. *J. of Ment. Sci.*, 1921, 67, 162-172.

It was observed during the Great War that musical memory usually returns earlier than other forms of memory in cases of shell-shock amnesia. Stammerers and stutterers can frequently sing without an appearance of their defect. Words associated with music are more stably organized in the mind owing to the musical origin of language. Two psychological laws of association, contiguity and similarity, probably account for this fact.

Herbert Spencer concluded, like Diderot, that the cadences used in emotional speech afford the foundation from which music has been developed. Darwin concluded that musical notes and rhythm were first acquired by the male and female progenitors of mankind for the sake of charming the opposite sex.