

far, dreaming has been assumed to be a pathological function, although of minor importance in most cases, or else has been assumed to be a mere by-product of mental life, in itself of no value. It has long seemed to me, however, that the development and retention of function, generation after generation, indicates a strong probability that the function is not pathological, but has some important value for practical life. The difficulty has been in discovering the practical value of dreams.

As soon as we reject the old alpha-postulate of learning, however, and assume either the beta-postulate or the gamma-postulate, the function of the dream becomes apparent. The dream is a process of eliminating, or "forgetting," details of mental performance which it is useful to take out of the habit-systems, either because of their irrelevancy, or perhaps because of their interference with orderly mental life. The importance of forgetting as compared with remembering, or, in a more comprehensive way, of elimination of habit tendencies, as compared with their fixation and retention, has long been recognized. The greater part of daily experience must be forgotten, and removed from the danger of associative recall, if the remaining small parts of the experiences are to be effectively utilized. The greater part of our daily activities of all sorts, also, must be prevented from becoming response habits. Ideational retention, that is, the tendency to reproduce in thought the contents of preceding perception and thoughts, is of especial importance. If one should retain, subject to complete recall, all the experiences of a single day, his mental efficiency would be sadly reduced thereby. One aspect of this incompetence is nicely portrayed by James in his account of "total redintegration," characteristic of many women and some men.

Many experiences, we may well assume (if we reject the alpha-postulate), leave no tendencies to recall, or towards partial recall which would interfere with other processes. Others, however, because of the operation of favorable fixation factors, tend to persist, and require some help in their elimination.

The known peculiarities of dreams fit in very well with this hypothesis, and with general suspicions regarding important fixation-factors. Dreams are most characteristically about trivial and unimportant matters—just the sort of things which need to be eliminated. In other cases, they are reproductions of emotionally stressed factors of working life, which especially need elimination. In many of these cases, it is obvious that an unsuccessful effort is being made to eliminate, and this effort may be repeated in many successive dreams. It is to be expected, too, that not only will repetition fail to eliminate in some cases, but that even the repetitive process will itself partially

fail, and the dream be composed of factors associated with the factors which ought to be eliminated, rather than of those factors themselves. The importance of the problem of *improving* dreams, of making dreams more effective and of the *production* of dreams to assist in eliminating disturbing factors of daily life is at once seen. Much research needs to be done here. As I have earlier pointed out, dreams consist mainly of, or center about, experiences in which a futuristic factor has been a feature. That is to say, anticipatory ideas, centered often in hopes, fears, expectations and desires, are the chief causal factors in dreams. This agrees with the supposition, made on other grounds, that an important fixation factor in habit formation is expectation, or anticipatory ideas of the result to be obtained.

In considering the dream situation, one might perhaps incline to the adoption of the gamma-hypothesis instead of the beta-hypothesis, were it not for the consideration that even here it is not, as yet, necessary to make the assumption that repetition has, in itself, an eliminative effect. All we need to assume, for the present, is that conditions are favorable, during sleep, for the operation of eliminative factors, whatever these may be. If, later, we have to assume that repetition itself is the factor, that is a matter to be faced then. For the present, we may follow the principle of parsimony, and make the simpler assumption; namely, the beta-postulate.

The same consideration appears in the problem of the ancient confessional as utilized in the "psycho-analytic" method. The expression of troublesome thoughts need not be assumed to be cathartic in itself; the conditions of the confessional may introduce eliminative factors which are not operative in other phases of the patient's repetitions. Many other factors need to be investigated in these cases, including the relation of speech formulation in processes which have previously been internal (cerebro-cerebellar, according to my own hypotheses).

In conclusion, it may be pointed out that the successful eventuation of methods of therapy deduced from the beta-postulate do not prove the final truth of the postulate. But its value is certainly demonstrated by the practical benefits derived from these deductions.

KNIGHT DUNLAP

JOHNS HOPKINS UNIVERSITY

HENRI BOSMANS

WITH the death of Henri Bosmans, of the Jesuit College of Saint-Michel, at Brussels, there passed away one of the most active men of the present century in the field of the history of mathematics. Bosmans died on February 3 of the present year, at the

advanced age of seventy-six and in the fifty-seventh year of his religious life as a Jesuit. His first historical paper published in 1900 related to Snell's measurement of the earth's meridian; his last contribution which has reached us is a Preface to Gillain's *Arithmétique Egyptienne*, dated October, 1927. Between 1900 and 1928, Bosmans issued a steady flow of papers relating mainly to fifteenth, sixteenth and seventeenth century mathematicians, most of whose works are not generally accessible. He remained active to the last, notwithstanding his partial blindness in later years. A noteworthy incident was his borrowing from the Louvain Library one of the very few copies still extant of Simon Stevin's book, *Le Thiende*, on decimal fractions, and thereby saving it from destruction, for while the book was in his possession the Louvain Library was burned. Bosmans was of a kindly disposition. Some years ago, when the present writer happened to state in a letter that he was working on the evolution of the theory of limits, and ought to have access to Gregory St. Vincent's geometry, Bosmans had passages in that work photographed which he sent with his compliments. His keenness of mind as well as his sympathetic and appreciative nature are seen in his numerous book reviews.

FLORIAN CAJORI

UNIVERSITY OF CALIFORNIA

SCIENTIFIC EVENTS

INTERNATIONAL SOCIETY FOR THE EXPLORATION OF THE ARCTIC REGIONS BY MEANS OF THE AIRSHIP (AEROARCTIC)

MORE than three years ago the society under consideration was organized in Germany. It attracted a number of people of different countries interested in the investigation of the Arctic regions, and, so far as Europe and Asia are concerned, it has a good representation in nearly all the countries of the Old World. The society was well represented at its first international meeting, which was held in Berlin from November 9 to 13, 1926. The second meeting will be held in June of this year at Leningrad, U. S. S. R. Beginning in 1928 the society will publish a quarterly journal, *Arctis*, under the editorship of Dr. Fr. Nansen, president. Among the collaborators of the journal in the United States are Dr. L. A. Bauer, director of the Department of Terrestrial Magnetism of the Carnegie Institution of Washington, V. Stefansson, and the writer. Besides Dr. Nansen, the membership list of the society contains a number of people well-known in connection with the exploration of Arctic regions in their respective countries as well as internationally.

The epic heroic period of Arctic travels might be considered finished with the last memorable Peary expedition, but Arctic regions are still very little known and much less explored and investigated. The new international society attacks the problem from different points of view. Being ready to send Arctic expeditions in an airship and already preparing them, the society puts the greatest weight on the conquering of Arctic regions by means of a regular siege, which will be possible only if all the countries bordering the Arctic will cooperate in carrying on systematic work within their national borders. The program of the society can not be accomplished by any one country alone, but is an international enterprise which has to be worked out in national frames.

The United States and Canada, the countries of the New World having Arctic possessions, have not been represented previously in this international organization. However, the Canadian branch is now being organized, and the American branch for the United States has come into life during this year. The officers of the American branch are: *President*, Dr. L. A. Bauer; *vice-president*, Dr. J. A. Fleming, of the Carnegie Institution of Washington; *secretary*, I. P. Tolmachoff, of the Carnegie Museum of Pittsburgh. Any information concerning the new organization can be obtained from the secretary.

Dr. Fr. Nansen in May of this year is expected in this country to attend the meeting of the American Peace Society at Cleveland, Ohio, and it may be also possible for him to give some lectures on the activity of the International Society for the Exploration of the Arctic regions, its achievements and the program of the future work.

I. TOLMACHOFF

CARNEGIE MUSEUM,
PITTSBURGH, PA.

THE REORGANIZATION OF THE POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL

THE appointment of Dr. Edward Hicks Hume, former president of the Colleges of Yale-in-China and for many years identified with national and international hospital and medical educational work, director of the New York Post-Graduate Medical School and Hospital, recently recorded in *SCIENCE*, marks a change in the policies of the institution. It follows a survey made of the personnel and resources of the institution, which Dr. Hume has been working on since May, 1927, which proposes certain administrative and teaching rearrangements, and makes recommendations regarding a new building program and better integration with the nation-wide plans for graduate medical teaching. Under the new régime, responsibility will