of the army, navy, and marine-hospital service, and having a totally insufficient State representation.

In conclusion, Dr. Walcott urged the proper organization of some central health authority, whether in the form of a bureau of health or a board of health; provided, only, that some part of the great resources of the nation might be turned to the protection of that greatest of all property, human life. The address was referred, with the thanks of the association, to the Committee on Publication, from the section on State medicine.

Too Many Medical Students.

The president of the American Medical Association, Dr. A. Y. P. Garnett of Washington, took for the subject of his presidential address 'The Mission of the American Medical Association.' Its paternal relation to the entire profession of the United States imposes upon it duties and responsibilities of the gravest character. He said: "Taking a retrospective view through nearly half a century of existence, we have no reason to be discouraged. But, while we feel gratified by contemplation of the fruits of our labor in the past, it is obviously important that we should not be flattered into a belief that we have accomplished our mission, and permit ourselves to lapse into supine indifference with regard to a pre-eminently important object which remains to be worked out through the instrumentality of this association. I refer, gentlemen, to radical and thorough reform in the present system of medical education in the United States." He submitted the following propositions: —

"*Proposition First.* That a standing committee, to be called the Committee on Legislation, shall be appointed for each State and Territory, and the District of Columbia, to consist of five members of the medical profession in good standing, three of whom shall have no official connection with any medical school or college, whose duty it shall be to carry out, as far as possible, the following instructions:

"*a.* Each one of said committee, or a majority thereof, shall attend the sessions of their respective Legislature from time to time, as their duties may require, for the purpose of using all honorable means looking to the reduction of medical schools in the United States, and the consequent diminution of the annual number of graduates; that, as a practical measure to this end, they urge the passage of a law requiring that in the future granting of charters for creating medical schools there shall be a clause in every such charter requiring that all schools or colleges thus created shall demand a full term of four years' study before granting a diploma thereof, and that no student shall be admitted to matriculate who has not passed satisfactory examination, oral and written, in the ordinary branches of academic study; and, further, that any college failing to show a greater number than fifty matriculates annually for three consecutive years shall forfeit its charter and be abolished.

"*b.* That they use all diligent efforts to secure an ordinance creating in each State and Territory where no such board at present exists, and in the District of Columbia, a board of medical examiners, which shall have no connection with any medical school, and which shall be required to examine all applicants for license to practise medicine in the States, Territories, and the District; and that any person who may be detected practising any branch of the healing art without a license granted by the said board shall be subject to such penalties as the law may provide.

"That this committee may be authorized by statute to select and nominate to the governors of the States, Territories, and the District of Columbia, seven competent learned members of the medical profession, to constitute such a board of examiners, who shall have exclusive power to issue licenses to practise the art and science of medicine and surgery.

"*c.* That the chairman of the said committee of five be required to submit at each annual meeting of the association a report embracing a full statement of what has been accomplished by each.

"*Proposition Second.* That the faculties of the several medical schools within the limits of the United States be once more urgently requested to call a convention at some central point for the purpose of consultation and adopting some general and uniform system of medical education, more comprehensive and rigid in its requirements, and more in accord with the spirit of the age and advanced progress of medical science, suggesting four years' term of study, the requirements of a preliminary education including some knowledge of the classics; that any college or school which shall refuse to enter into such arrangement as may be decided upon by the said convention shall be excluded from all connection with the American Medical Association, and its alumni shall not be recognized as members of the regular profession."

OLEOMARGARINE IN MASSACHUSETTS. — The Legislature of Massachusetts has passed a law prohibiting the sale of oleomargarine in that State. The State Board of Health advised the Legislature against the passage of the bill, holding that oleomargarine was not injurious to health.

THE TYPHOID BACILLUS. — Another epidemic of typhoid-fever has been traced to infected drinking-water, the typhoid bacillus having been discovered in the water. The outbreak occurred in a boarding-school at Quimper, France, one-sixth of all the inmates being attacked, and one in eleven dying.

THE NUMBER OF MEDICAL STUDENTS. — The *British Medical Journal* gives the following as the number of medical students in the following universities in the winter session just elapsed: in Vienna, 2,287; Munich, 1,369; Berlin, 1,316; Würzburg, 956; Leipzig, 794; Prague, 566; Graz, 501; Griefswald, 471; Breslau, 382; Freiburg, 350.

MENTAL SCIENCE.

Reflex Speech.

ACTS performed at first with great effort, by constant repetition become so thoroughly ingrained in the nervous system that they are performed without the slightest effort, or even may be performed in spite of a more or less strong effort to resist them. When this occurs, an originally voluntary act is said to have lapsed into the automatic or reflex stage; the act has become mechanical; and pressing the proper key will produce the appropriate re-action. In a recent issue of the *Journal of Mental Science*, Dr. G. M. Robertson calls attention to the fact that there exists a large number of colloquial phrases that have become automatic. Speech, though at first learned with great difficulty, becomes the most natural channel for expressive movements. We are daily asked, "How are you?" and as frequently reply, "Very well, thank you." And the best proof of how very automatic and unreflective this answer is, is given by the innumerable cases in which this is said even when we are not well. This is present in a perfectly healthy mind, but it remains obscured. When we are excited or confused, or, better still, absent-minded, the phenomenon becomes more prominent. Ask an absent-minded friend, "How are the family to-day?" or "How is your brother Tom?" and he tells you, "They are well, thanks;" and immediately adds, "What *have* I been saying? Why, my father is laid up with gout," or "Tom has broken his arm."

All reflexes are controlled in health, but appear in exaggerated forms in disease. This speech-reflex becomes very marked in dementia, where there is a gradual breakdown of the mental structure, and, as is the universal law, the highest, least stable products are the first to decay. The power of intelligent speech is lost or enormously reduced, but the more deeply acquired habit of automatic responses is retained. One such demented patient showed practically no intelligence: he never even asked for food or drink. He underwent a severe surgical operation without saying a word, but his reflex speech was preserved. Here are samples of it: "How are you?" — "Oh, just about the ordinar', thank ye." — "How are you feeling to-day?" — "Oh, pretty weel, thank ye." — "How's all with you?" — "I'm doin' pretty weel." — "You're not so well to-day?" — "I don't think I am." — "How's the wife this morning?" — "Oh, she's very weel, I'm thinkin'." — "Will you take your hands away?" — "Yes, I'll do that." Intelligent though these answers seem, they were not so; for he was all the while suffering from a serious illness, he knew nothing about his wife, and, though he promised to keep his hands away, he did not do so.

Another patient named Ross, though chattering all day, had really no intelligent speech. Within a minute he would say such incoherent nonsense as, "If you would just come be! Oh, dear, dear! Oh! that is the whole clash. That's what! Oh, dear, dear me!" and so

on. The only phrase with meaning here was "dear me!" — a reflex phrase. But in such simple talk as the following, Ross could take a part: "Well, Ross?" — "Weel, sir." — "How are you?" — "Very well, sir." — "It's a fine day, Ross." — "It is that." — "Ross?" — "I hear, sir." — "You're not well to-day?" — "Oh! I don't know." — "Good-by, Ross!" — "Good-by, sir!" The attendant could not get a sensible word out of him, and was much surprised to hear how well the patient could talk to Dr. Robertson, neglecting to notice that the latter was careful to ask for reflex phrases.

In some cases the answers will not be appropriate to the query. "It's a rainy day," will be answered by, "No, I'll no do it;" "What day is this?" by "Oh! but that is not right;" and so on. From his study, Dr. Robertson concludes (1) that actions seemingly intelligent may be mainly automatic, or reflex; (2) that in speech we have present all the causes leading to a reflex action; (3) that in health such speech-reflexes are exhibited, but under special circumstances they come into prominence; (4) that in some forms of mental disease this reflex is exaggerated; and (5) that the path of reflex speech is well organized, and strongly resists destruction.

RE-ACTION TIME FOR TEMPERATURE AND TACTILE SENSATIONS. — M. v. Vintschgau and E. Steinach (*Pflüger's Archiv*, xliii. 2324) have made a very extended series of experiments upon the time necessary to perceive the contact of an object on the skin, as well as the time necessary to feel a cold and a warm object. They have improved the method of making such tests, and the times they report agree well with those of former workers. They summarize the results of their work thus: finely sensitive portions of the skin, such as the cheek, have a greater re-action time than portions of less sensitiveness; differences of 2° to 4° C. in the temperature of the stimulating object do not influence the time of re-action; repeated cold applications diminish sensibility for cold, and lengthen the re-action times for cold; increase of bodily temperature does not increase the sensibility for warmth, nor decrease the re-action time; the time necessary to perceive warmth as well as cold on the hand is longer than on the face; an impression of warmth or cold is more quickly perceived if applied to the right side of the face than to the left; it takes longer to perceive a sensation of temperature than one of simple pressure, and longer to perceive warmth than cold; indisposition lengthens the re-action time for pressure.

AN INSTRUCTIVE CASE OF WORD-DEAFNESS. — Dr. Bianchi has recently described (*Revue Philosophique*, March, 1888) a case of this peculiar trouble that beautifully illustrates the relative independence of the several sensory factors of language. Our language consists primarily of a receptive power of hearing and understanding words, and an expressive power of articulation. To this is added, at a later period, the receptive power of seeing and understanding printed characters, and the expressive power of writing. Disease may deprive one of the use of any one of these four factors, leaving the others almost intact; while the probability of the loss of the one bringing with it the loss of the other depends on how independently each has been cultivated, and on individual differences. A person who writes little, and has to translate spoken into written language, will probably lose the power of writing with the power of speaking; but one who is accustomed to have his thoughts flow off the tip of his pen may retain this power when he becomes aphasic. Dr. Bianchi's case is that of an intelligent young merchant who was stricken with paralysis, and, after recovering from his attack, was found unable to understand words. His intelligence seemed unimpaired. He appreciated that he was spoken to, and appealed to a bystander to answer for him. He could appreciate and make himself understood by gestures. He could hear a watch ticking at quite a distance, and was in no way deaf. He never spoke. If his name, 'Arthur,' was shouted to him with the gesture that he was to repeat it, he did so in parrot-fashion, but evidently without appreciating that it was his name. By thus teaching him syllable by syllable, he learned to say, "*Buona sera!*" ("Good-evening!") and said it on all occasions, whether appropriate or not. He was similarly taught such words as 'bread,' 'water,' and so on. He could write, but apparently only under dictation. If you placed a pen in his hand, he would write words without meaning; but if asked the question, "From what country are you?" he would write, "From what country." At first he was totally unable to understand what was written, but he was gradually taught to do so, though he could not read the words he had been taught to speak.

THE 'VISUAL AREA.' — One of the main points of discussion between Ferrier and his opponents is with reference to the location of the sight-centres in the cortex of the brain. Ferrier places it in the angular gyrus, while others maintain that it is localized exclusively in the occipital lobe. Dr. Schäfer has repeated these experiments on dogs and monkeys (*Brain*, 1888), and found the centre to be entirely in the occipital lobe. Moreover, the centre of each hemisphere is connected with half of the retina of each eye. He explains Ferrier's results by an injury to the fibres running beneath the angular gyrus to the occipital lobes. These results bring pathological and experimental evidence into agreement. Dr. Schäfer did not find, as Ferrier claims, that injury to the temporal lobes caused deafness, but was able to support by a single case Ferrier's localization of the sensations of touch in the *gyrus fornicatus*.

BOOK-REVIEWS.

An Elementary Geography of the British Isles. By ARCHIBALD GEIKIE. London and New York, Macmillan. 24°. 30 cents.

THE present little volume is the first of a series of geographies which the author is about to publish, in accordance with the principles laid down in his admirable book 'The Teaching of Geography.' The text-book contains carefully selected facts which will not overburden the memory of the child. Each place, each town, and each hill is mentioned in connection with some historical fact or physical phenomenon. This will prove a help as well for the teacher as for the child. The author emphasizes rightly that a text-book can be no more than a guide to the teacher and to the learner, and he assumes that the former will use the facts and hints presented in this book according to the principles set forth in his discourse on the 'Teaching of Geography.' Thus the present volume is an exemplification of the former; and we imagine a teacher who will use both together will find the study of geography one in which the pupils take the greatest interest, and from which they derive great benefit regarding their powers of observation, and love of nature. We may mention here incidentally the interesting scheme of the Scottish Geographical Society, undertaken in part at the instance of Geikie. Schools are invited to examinations in geography, and the examination-papers are drawn up so admirably that they will have a great influence in remodelling the methods used in Scottish schools. We recommend a perusal of the results and methods of the examination, which are published in the May number of the *Scottish Geographical Magazine*, to teachers of geography. We take exception only to one point in Geikie's method. It is the introduction of far-reaching anthropogeographic theories in elementary teaching. It seems to us that these theories have not sufficient meaning and foundation, without a knowledge of certain psychological and historical facts, to be of much use to a child.

Society in Rome under the Cæsars. By WILLIAM RALPH INGE. New York, Scribner. 16°. $1.25.

THE present volume is a concise and useful review of the manners and customs of the Romans at the time of their greatest power, and will be read with great interest by all who have no leisure to study the works of Friedländer and others, from which Inge's book is a compilation. The author has arranged his material well, and presents it in a very readable form. Religion, philosophy, and morality occupy the first place. Then follows a short chapter on the social influence of imperialism in the first century. Literature and art, as well as the social organization and the daily life of the various classes, are fully described. The book does not claim to give any new results. The essay obtained the Hare Prize at Cambridge in 1886. It may be recommended to all who take an interest in the history of civilization, treating, as it does, in an adequate form, one of the most remarkable chapters of the history of mankind.