The German University Mr. Geo. E. Dawson How to dispose of pupils failing in examination Miss Julia E. Kane A class of teachers in English Literature Miss Sarah P. White Are examinations, oral or written, tests of scholarship? Mr. N. B. Hannon Remarks on Reading Mr. Jus. O. Sampson Drawing......Miss M. J. Bassett Good order Miss Lydia A. Patterson How much assistance should be given in recitation ?.... Miss L. Sayward Class drill in history Miss Maggio E. Muir Discussion of the above question Messrs. Smith and Brooks The blackboard...... Mr. Geo. F. Dawson Lesson in drawing..... Prof. Holmes Class drill in grammar......Mr. N. B. Hannon History of Russia......Miss Maggie E. Muir Drill in drawing......Miss Kate Croley Drill in geography of Turkey and Russia......Andrew M. Brooks

To show the manner in which the exercises of the Institute were conducted throughout the year, we give below the programme of the meeting held Nov. 25th :

Opening exercises by Prof. F. R. Feitshans......to 9.10 Reading minutes by the Secretary, Miss S. P. White......to 9.15 Class drill in English grammar, Mr. A. J. Smith.....to 9.40 Points of a recitation in reading, paper by Mr. F. R. Feitshans.to 9.50 Points of a recitation in reading, remarks by Jas. O. Sampson..to 10.00 Queries-Tact, Miss M. E. Muir; Ventilation, Miss M. Adams; Visiting in schools, Mrs. M. E. Feitshans; Cleanliness and neatness, Miss Kato Enos Discussion of the above topics, conducted by the Superintendent. to 10.35 Recess Queries continued—Pupils left in passing grade, Miss Julia E. Kano; Class in English literature in Insti-tute, Miss Sarah P. White; Tests of scholarship, Mr. N. B. Hannon. Discussion of the above topics, conducted by the Superintendent.to 11.10 Writing lesson by James O. Sampson.....to 11.30 Lecture on the German University, George E. Dawson.....to 12.00

MENTAL ARITHMETIC. II.

J. A. MCLELLAN, M.A., LL.D.

AIM AND SCOPE.

"A man," says Locke, "cannot have too much Arithmetic." If the great philosopher is right, it may be said with equal truth that a boy cannot have too much Mental Arithmetic. The highest results of the study of the science, whether we consider the value of the discipline it gives or the utility of the knowledge it imparts, can be secured only by systematic mental training. The long and

the methodical teaching of Mental Arithmetic had no place in our schools. Given a slate, a pencil and a rule, and the pupil was supposed to be seized of the elements necessary to the development of all the intellectual energy and the attainment of all the practical knowledge with which Arithmetic could possibly be concerned. It cannot therefore be a matter of surprise that under the tyranny of methods which made no appeal to the intelligence, the subject became utterly repulsive to the great majority of students; and even the small minority lost half its value as an instrument of education. But what are the aim and scope of intellectual Arithmetics?

1. Is its design simply to render the student expert in mechanical operations, which, by long practice, may at last be performed without resort to written methods? Is it merely the application of special rules, concise, but of limited application, by which the result in certain Arithmetical computations may be quickly reached? Quickness and accuracy in calculation are of course arrived at in the study of the science; but certainly its primary object is not to ronder the student and the business man independent of written work. In actual calculations the careful business man, however thoroughly he may have been drilled in Mental Arithmetic, will always betake himself to his faithful pen and pencil. Yet there can be no doubt that it gives facility in computation; it develops a power of rapidly determining the elements of a problem; of seizing on the relations between the known and the unknown; and of instantly marshalling the arguments which alone are necessary to the logical conclusion. And thus the student who has been trained in rational methods will be found to have solved his problem and obtained the desired results, while the slave of rule and routine, lost in a maze of bewildering conditions, is yet vainly ransacking his storehouse for rules and formulæ for a possible clue to his deliverance.

2. But its primary aim is to discipline the mental powers, and at the same time to put the pupil in intelligent possession of all the principles required in ordinary written arithmetic.

Its value in discipline can hardly be over-estimated. It forms the hubit of patient investigation, and rapid and clear conception : it aids materially in strengthening the memory and cultivating the faculties of abstraction and generalization; it develops to a high degree the power of continuity of thought; it familiarizes the mind with the forms of strict logical inference-every correct solution rigorously observing the laws of the syllogism, and exhibiting an argument whose validity Aristotle himself could not question. It imparts habits of accuracy in the use of language, caution in the admission of premises, acutoness in the detection of fallacies, and ingenuity in analysis and comparison. The necessity of fixing the attention on all the elements of a problem, the rapid transition from one operation to another, and from one argument to another, the series of quick and accurate calculations which have to be carried on-"contribute materially to produce that readiness of recollection, and that presence of mind so important in practical life."

3. Mental arithmetic is not intended to usurp the place of written arithmetic; on the contrary, it should be an introduction and a constant auxiliary to written work. The principles involved in mental solutions are universally true, and therefore of universal application. In fact, mental training affords the only rational preparation for a thorough mastery of the practical methods of written arithmetic. It constantly appeals to the pupil's intelligence; it proceeds methodically and by easy steps from the known to the unknown; and by the frequent repetition of carefully graded examples, it puts the pupil in possession of the more important principles of arithmetical science. He is made familiar with barren reign of rule and formula was mainly due to the fact that almost every type of question he is likely to meet with in written