COMMUNICATIONS AND DISCUSSIONS.

INSPECTOR WINCH'S EXPERIMENTS ON TRANSFER.

"And have you further remarked, that those who have a natural talent for calculation are generally quick at every other kind of knowledge; and even the dull, if they have an arithmetical training, gain in quickness, if not in any other way."—*Republic,* Bk. VII.

Plato may imply only correlation in the first section, but certainly maintains transfer in the latter. Formal discipline has been invoked from Plato's time to the present as a defense of the courses in mathematics. Whether or not the "queen of the sciences" needs such a defense may be considered apart from the question of its validity. Inspector Winch's experiment in the December number of this Journal should be of considerable value in initiating further researches along the same line as a preliminary study to the more important one of the "transfer" of accuracy in reasoning from the arithmetical to other situations.

Several observations suggest themselves:

(a) It would seem that interest as well as association might partly account for the degree of correlation found to exist between accuracy in computation and reasoning.

(b) It is probably not unfair to assume that practice curves in both computation and reasoning would not differ materially from the learning curves of Bryan and Harter, Book et al. While these curves have a general similarity in form, physiological and other conditions (those of units, etc.) never yield a smooth curve. The extreme shortness of the time given to the experiment, together with the minor irregularities of the curve, would scarcely show any measurable increase in efficiency, particularly as it may be assumed that the children are very near to the saturation point where the plateau effect appears.

(c) The material of the experiments may be improved greatly, particularly the rule sums. The Courtis Tests, where the reasoning elements have been differentiated as completely as possible from

those purely mechanical, and the computation elements reduced to simplest form, would be admirable material for such an experiment.

(d) The weighting of steps in problem work seems somewhat unsatisfactory. The following suggestion is only tentative. Problems do not increase in difficulty directly as the number of steps increases. It might be assumed as a more probable hypothesis that the increase is directly as the square of the number of steps.

Inspector Winch's paper is most valuable to the teacher of arithmetic. The last paragraph cannot be too highly commended. No amount of theoretical dogmatizing adds to or detracts from the almost universal lay belief in transfer.

The work of Thorndike, Stone, Courtis, Winch and others is the most hopeful sign of the times in determining not only the value of the individual teacher's work, but the place of mathematics in the curriculum.

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THE NEW YORK STATE TEACHERS' ASSOCIATION.

The thirty-fifth annual meeting of the New York State Teachers' Association was held in Rochester, December 27 to 30 The attendance was large, the interest keen, the papers of a high order, and the entertainment and courtesy extended by the Rochester teachers was most cordial and liberal. There were valuable papers and discussions in every section as well as excellent exhibits, but it will be possible to mention only some of the special features of the program.

The subject of music received considerable attention. The Regents' Committee held a meeting, and the music section in its sessions showed the backward condition of the subject and emphasized the fact that as a nation we do not know music and therefore do not enjoy it as we should. The place to remedy this is in the public schools, but it can only be done when teachers are capable of teaching this subject as skillfully as they do the other subjects of the course. It was maintained that music has for the child as high a value in a disciplinary way as any other subject, and its cultural value is superior.

The Normal and Training Schools section discussed the training