PSYCHOLOGY AND PSYCHIATRY.

41. COMPARATIVE OBSERVATIONS ON THE INVOLUNTARY MOVEMENTS OF ADULTS AND CHILDREN. M. A. Tucker (*American Journal of Psychology*, 8, 1897, p. 394).

The author, during his experiments, made the thought of the reagent a "constant" by some simple exercise of the mind. A slight modification of Jastow's automatograph was used, the finger tip resting slightly upon it. A circle being regarded as the field of motion for the hands, it was divided into an upper half, or positive field, and a lower half, or negative field; and the right and left halves were called the right and left fields.

In the first series of experiments the reagent's (adults 18, children 13) attention was directed to some stationary object. It was found that for adults 55.5 per cent. of the movements were into the positive or forward field, while 48.5 per cent. were in the negative field. For children the entire movements in the positive field were only 26.9 per cent., while those in the negative field were 73.1 per cent.

In those whose constant attention (18 adults, 25 children) was not directed to any external object, the movements for adults in the positive field were 53.8 per cent., while those in the negative field were 46.2 per cent. For children the corresponding movements were 27.8 per cent., and 72.2 per cent. respectively. The two forms of experiment thus give about the same results. Combined they show the movements of adults in the positive field 52.5 per cent., and in the negative field 49.5 per cent., while for children in the same respective fields the movements are 27.3 per cent. and 72.7 per cent.

A comparison of movements in the right and left fields (reagents 74, cases 1,054) gives, for adults and children taken separately a result nearly alike. For both together the right hand moves in the left field 64 per cent., versus 36 per cent. to the right; while the left hand moves in the right field 66 per cent., versus 34 per cent. to the left. This means that normally the hand moves inwardly toward the median plane of the body.

As to the relative directness of movements it was seen that adults are much more direct than children. In adults 71 per cent. were fairly direct, and 25 per cent. were irregular. In children 21 per cent. were fairly direct, and 66 per cent. were very irregular. The changes of the original direction in adults were 32 per cent., in children 68 per cent.

Of right-handed persons, 75 movements were to the left, and 100 to the right. Of left-handed persons, 10 movements were to the left, and 15 to the right.

It was also found in adults 87.9 per cent. of the movements imitate the direction of an object followed in motion, while 12.1 do not. In children 81 per cent. imitate, while 19 per cent. do not.

With the eyes shut, while the object is moving, 98.2 per cent. moved in the direction of the object. Some even moved the body. Repetition increased the susceptibility. In all the experiments there does not seem to be any sex or age difference in children.

CHRISTISON.

42. THE FORCE AND RAPIDITY OF REACTION MOVEMENTS. Delabarre (*Psychological Review*, 4, 1897, p. 615).

The author made two series of experiments on fifteen subjects. A complicated and ingenious method was adopted, the subject being seated comfortably in a chair and told to react to a given signal. He