## PIONEER STUDIES

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compass points in order that they may be felt as two; the sense of pain, measured by the amount of pressure on the ball of the hand required to produce a painful sensation; the ability to discriminate weight marked by the least difference noticeable; reaction time, the time elapsing before a stimulus, *e.g.*, a loud sound, calls forth a movement made in response to it by the finger; visual space perception, determined by the ability to bisect a 50 cm. line; time estimation, shown in the ability to reproduce an interval of 10 seconds by taps made on the table; and memory, manifested by the number of letters that can be repeated correctly after one hearing.<sup>3</sup>

As measures of ability, Cattell's tests were chiefly negative in value.<sup>4</sup> Other tests, however, which were directed primarily to the study of children, were somewhat more successful. Gilbert, for example, established by a number of tests, norms of performance for schoolchildren of all ages from 6 to 17. Besides finding an increase in ability with advance in years, he found some of his tests to correlate with the brightness of the children as estimated by their teachers. "The curves for reaction time gave the most positive results, showing that the brighter the child the more quickly he is able to act." <sup>5</sup> These tentative beginnings continued until finally it appeared possible to establish norms whereby a child could be readily classified for pedagogical purposes.<sup>6</sup>

The work of American investigators was criticized by

vol. ii, 1894, p. 94. <sup>°</sup>See Kelley, "Psycho-Physical Tests of Normal and Abnormal Children." *Psychological Review*, vol. x, 1903, p. 371.

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<sup>&</sup>lt;sup>\*</sup> "Mental Tests and Measurements." Mind, vol. xv, pp. 374-377. <sup>4</sup> See Wissler, "Correlation of Mental and Physical Tests." Psychological Review Monograph Supplements. vol. iii, 1901, No. 16. <sup>5</sup> "Researches on the Mental and Physical Development of School Children." Studies from the Yale Psychological Laboratory, vol. ii, 1894, p. 94.