

CHILD-STUDY · THE BASIS OF EXACT EDUCATION.

THE study of children is now attempted by very different methods, for purposes quite diverse, and with all degrees of scientific exactness. The points of view here taken, and the literature, now numbering many hundred titles, are so new that I can find nowhere any attempt at a general survey of the various lines of work now under way. Most of this vast and growing material has been wrought out by investigators who made little attempt to coordinate their work with what others had done. The doctors, the anthropologists, the psychologists, parents and teachers, have each given little attention to each other's work. We may cross-divide all this work by age into four convenient groups. A—Studies of the human embryo, such as Preyer and others have made. B—Studies of infancy up to the ages of three or four years. Here belongs the work of Preyer, Perez, Compayre, Tracy, Shinn, and many earlier observers. For this work the term Psychogenesis is often used, on the often denied assumption that the fundamental elements of the soul are here being developed. C—Many studies have been published of the early years of school life, especially the first. For this period Mr. Chrisman has suggested the term Paidology. D—Lastly, come the studies of youth or adolescent years, beginning at the age of thirteen or fourteen, and lasting perhaps ten years to full maturity or nubility. Here the term Ephebics might do duty till a better one appears. The vast field here outlined is thus the cycle from adolescence in one generation to adolescence in the next, and is, therefore, co-incident with instituted education to which only such studies as these can ever give

a scientific or philosophic character. I pass over the first periods—the embryo, and the period of early childhood up to the ages of three or four years; and I pass to the first years of school life. Special studies of this period are generally averages of tests made upon large numbers of children. The method is simple: if children are to be measured or questioned, they are taken two or three at a time into the dressing-room of the school where the calipers are applied for the diameter of head or body, the tape for lengths and circumference, scales for weighing, dynamometers for testing strength, and many other more especial devices; teeth, eyes, lungs, nose, throat, hearing, accuracy and rapidity of movement, etc., are tested with every precaution for uniformity and for the avoidance of error. If knowledge is to be tested, considerable tact and cross-questioning by an expert and sympathetic person is often necessary. Nearly all tests, however, can be made, if suitably directed, by almost any good teacher or parent in a few minutes per child without interrupting the work of the school or in any degree whatever offending the child's delicacy of consciousness. The digesting and presentation of these returns, when very voluminous, is sometimes a difficult matter. Just what rubrics should be chosen, how the tables and the curves should be presented, especially the value and treatment of variations from the average, involve often the most complex methods of the statistician. The value of Galton's method of percentile grades, of equations estimating the thickness of shoes and clothing, the interpretation of unexpected results, the value of exceptions, involve technical expertness.