

development show such correspondence, (2) the psychic life of the child centers from the first about the higher senses, especially sight, not the lower.

The Pedagogical Conclusions, Part IV., are all interesting, most of them are well-grounded, some of them are novelties or at variance with current practise and doctrine. But Dr. Shinn does not prescribe with undue confidence; pedagogy is still too much a matter of individual opinion, of more or less, of the true or false, practical or impractical, according to circumstances, to warrant laying down iron-clad rules for the management of infants. She does, however, offer a few general principles and a few special suggestions: (1) Nature herself will, in the main, attend to sense education. (2) Nothing in the infant's environment educates it as does the human presence. . . . The baby who is left lying on the bed alone a great deal, does not develop as brightly, and learn to use his senses happily as soon, as the baby that is cooed over and played with. (3) The secret of happy and wholesome development in the early years seems to be mainly in giving the largest possibility of free action. (4) When the child reaches the stage of instruction "tasks must be set, and efforts must be made." (5) The superficial recapitulation theory that a child is "only a little animal," and in no need of human education, often leads to harmful neglect of the early years. (6) The child can and probably should be taught before the end of the second year the names of all the simple plane figures, the alphabet, the Arabic figures, and to discriminate and name the principal colors.

It may safely be said that the 682 octavo pages of the two volumes before us, together with the volume on "The Biography of a Baby," published in 1900, and a number of magazine articles, entitle Dr. Shinn to the distinction of having made the largest, and, in certain respects, the most important contribution to our knowledge of the mental life of babies; and, somewhat incidentally, she has given us data and interpretations of no slight value in the treatment of the problems of functional and analytic psychology. It is

clear that Dr. Shinn has not exhausted her store of data. Students of infancy and childhood will welcome forthcoming volumes, if such there be, in the assurance that they will contain valuable material presented in a readable form.

To be sure, no one will take up volumes which trace the physical and mental development of infants and expect light, summer afternoon reading. As literature, books on child psychology rank a little higher, but not much, than laboratory guides in chemistry; and for the present they are not likely to be interesting except to persons who have babies near at hand whom they wish to study and to the specialists in psychology.

Finally, the writer may be permitted a few general observations in the way of suggestions for future editions: (1) The work should take account of the recent studies in this field, (2) the number of repetitious passages might be considerably reduced, (3) many of the footnotes should be incorporated in the text, (4) a full table of contents for each volume would add to the value of the work.

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Nautical Charts. By G. R. PUTNAM, Mem. Am. Soc. C. E. Pp. viii + 162 (including 35 pages of illustrations). New York, John Wiley and Sons. 1908.

The author of this book has had long experience in the coast and geodetic survey. During the years 1900-1906 he was the director of coast surveys, Philippine Islands, in general charge of extensive surveys made for the production of nautical charts. He is now in charge of the drawing and engraving division at the Coast and Geodetic Survey Office, Washington.

The book is written in non-technical language to as great an extent as is feasible. The general reader will find it clear and concise.

A carefully selected two-page list of the more important books or papers bearing on nautical charts and related subjects is given.

A chapter (30 pages) entitled, Charts and Maps, gives a short historical statement of the

development of the chart from the earliest known map to the present time, indicates the purpose and character of the one million nautical charts now published each year, and shows the present state of advancement of surveys for charting purposes. A double page reproduction of the earliest extant chart showing America is to be found in this chapter.

The collection of information for charts is treated in 34 pages. An excellent statement, fully illustrated by photographs and drawings, is made of the methods of surveying employed. The essential difficulty of making certain, even in a closely surveyed region, that no isolated pinnacle rock reaches up so near to the surface as to be a danger to navigation, is clearly indicated by text and illustration. An example is given of the recent discovery, in Blue Hill Bay, Maine, by the use of a wire drag, a special device for that purpose, of a pinnacle rock only six feet in diameter at its top. The rock has but seven feet of water upon it, although it is surrounded by depths of 78 feet, from which it rises nearly perpendicularly. The caution necessary in sifting evidence in regard to reported dangers to navigation and in making examinations for such reported dangers is illustrated by numerous concrete examples. It is important that chart users should have some knowledge of these matters in order that they may know what reliance they should place upon charts, upon the one hand, and what reliance to place upon hasty criticisms of charts, upon the other hand.

In the chapter of 19 pages, entitled, Preparation of Information for Charts, descriptions are given of the mercator projection, the polyconic projection and the gnomonic projection, and the special advantages of each are stated. The necessary limitations of each are also indicated. These are the three projections which one must understand to use charts intelligently.

Thirteen pages on the Publication of Charts are devoted mainly to a short enumeration of the various processes involved in passing from the drawings to the printed charts, such as engraving on copper, copperplate printing, printing from stone, photolithography, etch-

ing, etc., and of the advantages and disadvantages of each process or combination of processes now in use.

The imperative need for frequent correction of charts is treated in 15 pages. The average loaded draft of the twenty largest steamships was 24 feet in 1872 and 32 feet in 1903. Channels and harbors are dredged and otherwise improved and changed. Great natural changes take place. An island of sand has moved northwesterly for two miles directly across the mouth of the Columbia River in Oregon during the years 1851-1905 and has closed up the former channel. An average of 400 new rocks and shoals, dangerous to navigation and not previously shown on charts, are reported each year, according to British reports. Of the 367 reported in 1906 only 11 were discovered by vessels striking them.

In the last three chapters of the book (48 pages) there is brought together in convenient form for reference much information of value to the navigator who has the charts before him and desires to understand and use them. He will there find the charts explained; will find clear general directions given for plotting upon the charts, for locating a vessel from the results of astronomic observations, as well as by dead reckoning, by compass bearings, by sextant angles, and by sounding; and will find certain precautions which are advisable in the use of charts stated with the reasons for them. The book closes with six pages in regard to the various publications in book and chart form which are necessary or convenient for use in connection with nautical charts.

For any one having to do with charts, this book contains much useful information, set forth in the form of a handbook rather than of a technical treatise. For mariners, yachtsmen, surveyors and shippers it is of special interest. The expert in the lines treated will find it valuable in furnishing a good general view of the subject by an expert. The book is up to date, is written in an interesting manner, and yet is especially to be commended for laying emphasis upon matters which are really important to the users of charts, rather than the matters which are merely interesting.

J. F. H.