

turbances in the minds of the youngsters." No suggestion whatever is made as to what the supervisor should do if he discovers homosexual practices, and the reader is left with the implication that a person should not be disturbed concerning a practice which may cause great distress in later life.

As has been suggested above, there are many errors of fact when the writing touches directly the field of psychology. The statement that "two-year-olds are able to distinguish black from white but do not distinguish between colors" indicates a clear lack of information of researches in child psychology. Similarly, the statement in more than one place in the book that abstract thinking does not begin to develop before the age of 12 is clearly out of line with the evidence. Indeed, Beverly misquotes the Stanford revision of the Binet scale in supporting his statement. It is true that on the tests definitions of abstract words are called for at age 12, but the doctor did not look back to see that on Form M there is also such a test at age 10 and on Form L at age 11. Of course, there is all sorts of evidence to show that abstract thinking begins to develop very much earlier than these ages. On the subject of intelligence and intelligence tests there are also many errors. An outstanding example is the statement that the 1908 Binet-Simon tests "consisted of six tests for each year from three to eighteen." This instrument consisted of 5 tests for each year from 3 to 10, a 12-year test, a 15-year test, and a very imperfectly standardized adult test. Still again, very few psychologists working in the field of school subjects will be happy at the statement that "spelling, reading, and writing difficulties are usually innate." There is evidence that this is not the case. Neither does the best evidence agree that "because of their rapid growth adolescents fatigue easily and have poor motor coordination."

Indeed, there are so many inaccurate or misleading statements that it would seem distinctly unwise to recommend this book, despite its many good features, as one which could be used in any class in psychology.

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**Human factors in air transport design.** Ross A. McFarland. New York: McGraw-Hill, 1946. Pp. xix + 670. (Illustrated.) \$6.00.

The main thesis of this book, according to the author, is to demonstrate the importance and need for studying human factors which should be considered in the design and operation of air transports. With remarkable attention to detail and with the aid of numerous tables, graphs, charts, diagrams, and pictures, Dr. McFarland has presented a large portion of the work which has already been done in this field. The presentation is not confined to a discussion of the medical, physiological, and psychological studies which have been made, but also includes detailed discussions of design and engineering features relevant to the human factors involved.

The subject matter has been divided into 10 parts, each with its own chapter, as follows: (1) "High-Altitude Operation and Pressurized Cabins," (2) "The Control of Ventilation, Temperature, and Humidity," (3) "The Control of Insects and Air-borne Diseases," (4) "Carbon Monoxide and Other Noxious Gases," (5) "The Control of Noise in the Cabins of Aircraft," (6) "The Control of Vibration in Air Transport

Planes," (7) "Acceleration, Motion, and Flight Performance," (8) "The Cockpit and Control Cabin of Air Transports," (9) "Passenger Accommodations," and (10) "The Prevention of Aircraft Accidents."

This is a book written by an expert in one field (aviation psychology and physiology) for the use of experts in related fields (aeronautical engineering and airline operation). It has an extremely broad scope, and it would be difficult to name many relevant problems which are not included. Yet, because he was writing for engineers, the author evidently felt obliged to present the material in as concrete and specific form as possible. As a result, many research findings assume a more definitive and authoritative form than would be granted them, perhaps, by other biological scientists. Dr. McFarland is careful to point out where inadequacies of this sort exist. Even where generalizations are not wise, the data have been presented in minute detail—a form of presentation which overemphasizes the significance of the findings.

In spite of this practice there is no doubt concerning the value of the book for anyone, including the biological scientist, who is working in this new field. For aeronautical designers and airline operators it should become required reading. As the author points out, "until aircraft can be flown completely automatically, the human element should be considered as an integral component. A truly functional design will be achieved only after it is thoroughly realized that the crewman (and passenger) is as much a part of the plane as any structural or mechanical feature." Too often the problems arising from human factors in design and operation have been settled by "a majority vote of those sitting in judgment" without recourse to experimentation or even systematic observation. Dr. McFarland has offered ample evidence that when research by competent investigators replaces solutions based on opinion, the reward in terms of human safety, efficiency, and comfort is great.

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**Indians before Columbus: twenty thousand years of North American history revealed by archaeology.** Paul S. Martin, George I. Quimby, and Donald Collier. Chicago: Univ. Chicago Press, 1947. Pp. xxiii + 582. (Illustrated.) \$6.00.

Modern archaeology in the United States may be said to have begun about 1912 with Nelson's percentage stratigraphy in the Galisteo Basin, New Mexico. Since that date the authors of *Indians before Columbus* are the first to tackle the job of systematizing the net gains of North American research archaeology over this 35-year period.

At the outset let the reviewer go on record as being in favor of this book. It totals up as a good one. It has no competitors, and in this circumstance it has all the advantages and hazards of being a "first." The book is a sound stocktaking of what professional archaeology has to offer as basic data for America north of Mexico. On the whole, the material presented is as up to date as it was possible to make it.

*Indians before Columbus* is written, say the authors, for the interested layman and the beginning student and is not intended for a general professional reference. In spite of this, it is a useful book for every archaeologist to own. The three short introductory chapters, which are eminently successful,