does not develop in the boys. The finding that the greatest growth for both boys and girls occurs in April and the least in October seems real but it is not well explained. This is in direct opposition to the findings in various weight studies, which show the greatest increase in the second half of the year.

The generalizations of the author as to educational implications are dominated by the belief that strength is almost wholly inherited and little credit is given to developmental or environmental influences. The author seems to have some prejudice against intensively competitive games and athletics in general, which is unsupported by data. The positive aspects of guidance are relatively undeveloped, although opinions and inferences abound in the final chapter which go beyond the meaning of the data, since no methods for developing strength have been tested.

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Fieldbook of natural history. E. Laurence Palmer. New York: McGraw-Hill, 1949. Pp. x + 664. (Illustrated.) $5.00.

"Professor Palmer's *Fieldbook* is an extraordinarily comprehensive guide to natural history. Simply presented, and profusely illustrated, it embraces more than two thousand items—birds, fish, plants, rocks and minerals, the stars, mollusks, reptiles, and mammals. Each item is illustrated with a detailed drawing or photograph for quick and correct identification, and for each there is a descriptive paragraph, followed by data on range and location, life history, ecology, and economic importance. An unusual feature of the book is its inclusion of many domesticated and economically important species not usually found in books of this kind."

This quotation from an advance notice released by the publisher of the *Fieldbook* proves to be an accurate description. Here is encyclopedic information about a wide variety of subjects. It bids fair to become one of the most frequently used books on the desks of teachers, high school and college students, naturalists, game managers, game protectors, gardeners, nature lovers, sportsmen, and citizens generally who want to know something about their surroundings. The book should give a real impetus to efforts toward conservation education.

One doesn't have to be a specialist to use this book. Technical terms have been avoided. But the information is exact and can be referred to in its place in the taxonomic scale.

Most useful will be the drawings. While this book lacks conventional keys (which ordinarily cannot be used except by specialists anyway) there are hundreds of distinctive line drawings so that identification of plants, birds, or insects should be a comparatively simple matter. It is true that some of the outlines do not look just right, but this applies to few, and is by no means strange in view of the comprehensive coverage of the work. If colors could have been used the illustrations would have been somewhat more useful.

This reviewer has often wondered why, in our books on mammals and other species, we should not include the domesticated varieties, including man (although perhaps it is stretching a point to call man domesticated!). The *Fieldbook* does this, with excellent results.

Unfortunately, the author follows the American Ornithologists' Union Check-List in the use of the possessive, as "Gambel's quail" instead of the Gambel quail—as strained a usage as it would be to say "Vancouver's Island" or "Rainier's Mountain." The author cannot be too much blamed, however, since probably the majority of usage in ornithology, at least, follows this cumbersome practice.

In a work covering so large a field in natural history, it is inevitable that omissions should occur. Among these we note the absence of bicolor lespedeza and multiflora rose among plants. Since so many gardeners and game managers all over the country are concerning themselves with these species, with a zeal that smacks of a full-fledged fad in wildlife management, there are sure to be information-seekers who will be disappointed not to find them in this volume. But in general the material has been well selected and one would be captious indeed to press this comment.

The book is typographically attractive and accurate. Furthermore, it is equipped with a complete index which will greatly facilitate its use.

Another virtue of this book is that it is authoritative—experts have checked the facts. This is unlike some other recent works whose authors appear not to have taken the trouble to check their information with specialists.

The *Fieldbook of natural history* represents another major contribution from the splendid Cornell group of scientific leaders among whom the Comstocks, Needham, Bailey, the Wrights, Allen, and Hamilton are included. The volume is a great credit, both to the author and to the publishers. Furthermore, the reviewer cannot forbear to mention the price. Five dollars for this book of 664 pages is not only astonishing, but gratifying. The job is a public service which ought to be appreciated by all and will be by many.

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Theory of oscillations. A. A. Andronow and C. E. Chaikin. (Solomon Lefschetz, ed.) Princeton, N. J.: Princeton Univ. Press, 1949. Pp. ix + 358. (Illustrated.) $6.00.

The original version of this book was published in Russian in 1937, and parts of it were included in Minorsky's *Introduction to non-linear mechanics*, first published in the David Taylor Model Basin Reports during the war. It is concerned with oscillations in autonomous systems, in particular systems representable by equations of the form

$$(1) \qquad \dot{x} = P(x, y), \quad \dot{y} = Q(x, y),$$

including the second order equation $\ddot{x} + x = \mu f(x, \dot{x})$, which is reduced to (1) by putting $\dot{x} = y$. These equations are treated mainly by considering the path of the representative point in the x, y or *phase* plane, using the Poin-