At 8 p. m., of February 15th, the usual and regular reports were made, indicating that all was well throughout the ship, and the crew and officers retired as usual. At 9:40 p. m. two explosions occurred; the first lifted the ship forward; the second produced most of the internal destruction; the protective and main decks were blown up, forward the smokestacks, and thrown aft and over to starboard, as is inferred, by the explosion of magazines. The keel and outer bottom plating of the ship is blown upward and inward, and now reaches, at one point, a height of over thirty feet above its original location, in the main line of the keel; this is considered to be due to the external explosion, and its evidence is taken as conclusive. This effect could only have been produced by the explosion of a mine, 'situated under the ship and on the port side.' The explosion of the magazines is considered to be the consequence of the primary explosion of the mine. No evidence was secured 'fixing the responsibility upon any person or persons.'

Many details of evidence are given which sustain the verdict of the Court; but the drawings themselves are perhaps the best proof that the ship herself, in her present position and condition, affords the best evidence, and most positive, regarding the source of the disaster. The bending upward of keel and bottom plating; the fact that all the lower positions of the ship, the lower and main decks, protective deck and frames, are forced upward and toward the starboard side; the complete breaking away of all the plating and the whole ship's side over a considerable area at the point at which the force of the explosion was felt; the distribution of the débris wholly toward the starboard side, and the non-existence of coal, or other material from the hold, on the port side of the ship; the location of the detached forward part of the vessel at right-angles with the original line of the keel; its separation and its relation to the uplifted keel—these and many other details appear in the evidence, and are shown by drawings made from measurement so fully as to afford, in the opinion of the experts constituting the Court and expert witnesses before it, sufficient proof to justify unqualified and positive statements regarding the nature of the explosion.

The report, happily, completely exonerates the officers and crew of the battleship; though, most unhappily, fails to fix the responsibility where it belongs, or to afford a clue to the authors of the catastrophe. This report, as a scientific discussion and a logical construction of proofs and conclusions, will always have more than historical interest, and it is very probable that the question: Who were the perpetrators of one of the most diabolical crimes of which history gives us an account? may forever remain unanswered.

R. H. THURSTON.

Birds of Village and Field: A Bird Book for Beginners. By FLORENCE A. MERRIAM. Boston and New York, Houghton, Mifflin & Company. The Riverside Press, Cambridge. 1898. Illustrated. 12mo. Pp. xlix+1–406. 28 half-tone plates and 220 cuts in text. Price, $2.00.

The ever-swelling stream of popular bird books is still further augmented by this attractive little volume which is possessed of a sparkle all its own as compared with several of its numerous competitors. The accuracy of the writer's statements and the breezy originality of her bits of bird biography commend her work to every bird lover be he scientifically or otherwise minded. The book is written for the otherwise minded, for the beginner, but as the Latin name, a few words of description and a mouthful of 'geographic distribution' precede each species mentioned, no one may justly complain that the scientific cravings of his nature are not stilled.

The introduction contains much about the economic value of birds to the farmer, and considerable stress is laid upon this matter elsewhere throughout the volume. It also contains a 'Field Color Key to adult spring males mentioned in this book,' and is followed by brief sketches of about one hundred and fifty common everyday species, such as one meets in eastern North America, including the Mississippi Valley. And, by the way, it seems to have been an oversight that no direct mention is made as to what section of the country is covered by the title. Following the sketches which make up the bulk of the volume is an

appendix containing a sample of the migration blank used by the U. S. Department of Agriculture; lists of migrants (with dates of arrival and departure) and winter birds at Washington, D. C., Portland, Conn., and St. Louis, Mo.; an 'Outline for Field Observations,' which is probably the most complete key as to the proper use to make of one's eyes in the field ever formulated; a list of the birds known to nest in Portland, Conn.; a list of books of reference; and a comprehensive index. The pages are profusely illustrated not only with half-tone plates and other figures of birds' heads, bills and feet, but also with figures of insects and plants to show the nature of the birds' food.

The book is remarkably free from errors, though I notice under Red-poll Warbler, at page 317, Illinois birds referred to the Eastern race and no notice at all taken of the Mississippi Valley race. Other criticisms resolve themselves chiefly into differences of opinion. Every book that deals with only part of the birds of a given locality and presents a key of male birds only and these in spring dress, without hint of rarer species that inconveniently pop up before even a beginner's eyes is necessarily a frail guide. It seems as if he ought to be warned of possibilities. He ought also to be warned not to take the 'law' of protective coloration (as cited at page 34, and elsewhere referred to) too seriously. There are numerous exceptions to it not as yet satisfactorily explained.

One feature of the book open to objection is the lack of arrangement of the species in any sort of order except that, as the writer confesses, 'the birds which readers are most likely to know and see are placed first, the rarer ones left until later.' This idea results in splitting up the Sparrows, the Vireos, the Woodpeckers and other groups so that some species are found in one part of the book and others, closely allied, in another, and after all we find such familiar birds as the Yellow Warbler, the Redstart, the Maryland Yellow-throat and the Oven-bird very close to the end, precedence being given to the Passenger Pigeon, the Pileated Woodpecker, the Snowy Owl and others less distinctly rare.

The press-work is excellent; the plates range from good to bad, one of the best being that of the Long-billed Marsh Wren at page 202; and the figures serve a useful purpose. The beginner might complain that the two sizes of cuts given in many cases (there are three different sizes of the cut of the Belted Kingfisher, pp. xix, 158 and 165) tend to confuse his ideas of relative size, but he should remember the illustrated alphabet of his first primer at school where 'cat' and 'horse' cover equal areas.

It would improve the volume if the comparisons and supplemental keys were set off from the species they follow. For instance, the sketch of Bachman's Sparrow at p. 242 apparently occupies several pages that are in no wise part of its biography.

Aside from these somewhat trivial imperfections there is little to criticise, and it is only a matter of regret that the biographies are not twice as long.

J. D., Jr.

SCIENTIFIC JOURNALS.

The *American Journal of Science* for May opens with an article by Mr. T. A. Jaggar, Jr., on 'Some Conditions affecting Geyser Eruptions.' There are other papers on geological and mineralogical topics, as follows: 'Determination of Plagioclase Feldspars in Rock Sections:' by Dr. G. F. Becker. 'Some Lava Flows of the Western Slope of the Sierra Nevada, California:' by Mr. F. L. Ransome. 'Krennerite, from Cripple Creek, Colorado:' by Professor A. H. Chester. 'Some New Jurassic Vertebrates from Wyoming:' by Professor W. C. Knight. 'Estimation of Manganese Separated as the Carbonate:' by Mr. M. Austin. The number also contains two important physical papers: 'Properties of Seasoned Magnets of Self-Hardening Steel:' by Professor B. O. Peirce; and 'Curious Inversion in the Wave Mechanism of the Electromagnetic Theory of Light:' by Professor C. Barus.

Terrestrial Magnetism for March opens with an illustrated article in French, giving a description of the new magnetic observatory at Parc Saint-Maur, near Paris, by M. Moureaux, the director of the observatory. As the old observ-