

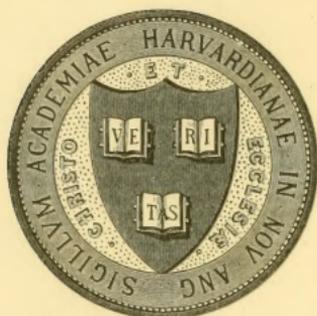
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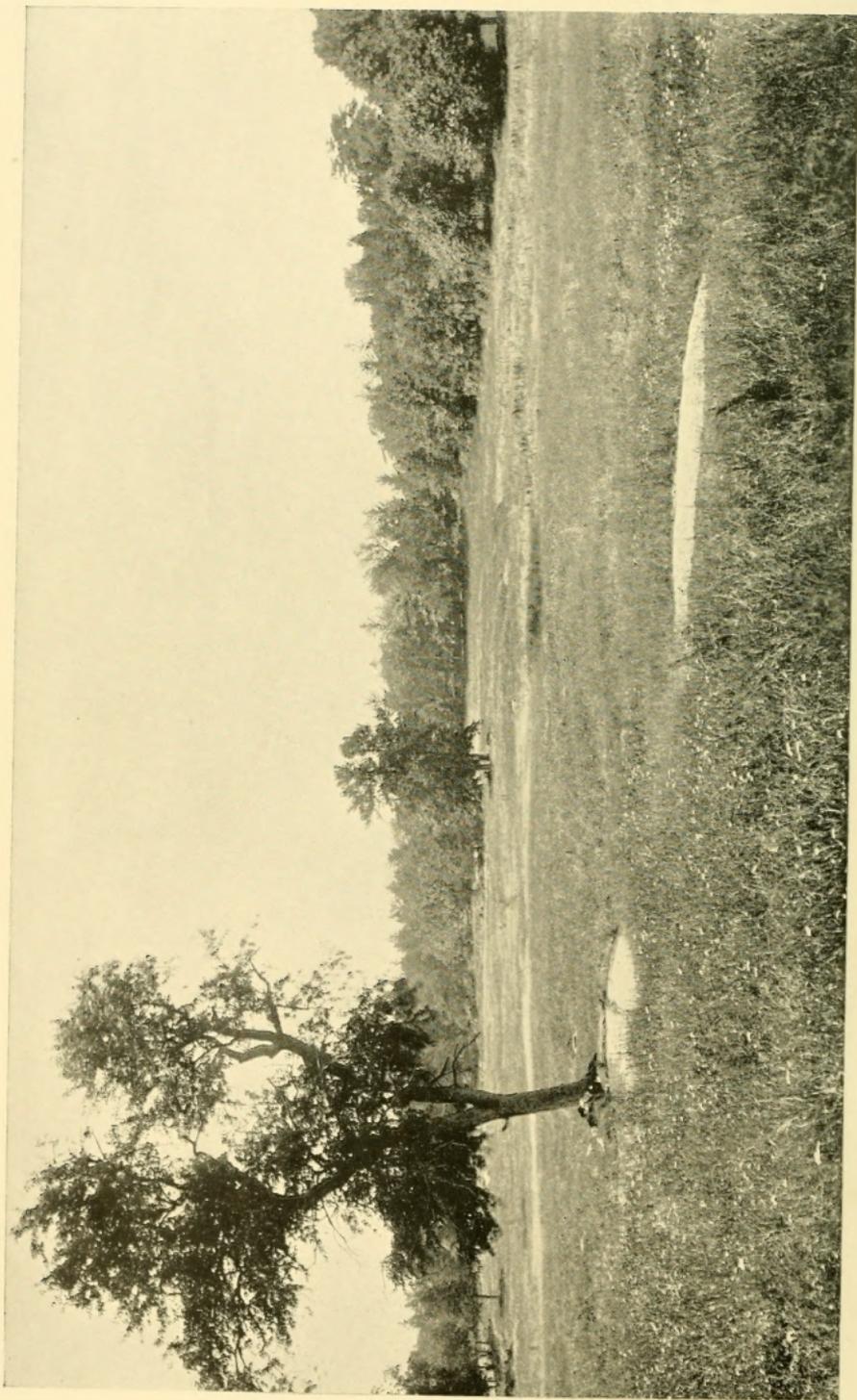
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May 14, 1898





WESTERN SIDE OF THE BUFFALO RANGE,
AS SEEN FROM THE ROCKING STONE.

SECOND ANNUAL REPORT
OF THE
NEW YORK
ZOOLOGICAL SOCIETY

CHARTERED IN 1895

OBJECTS OF THE SOCIETY
A PUBLIC ZOOLOGICAL PARK
THE PRESERVATION OF OUR NATIVE ANIMALS
THE PROMOTION OF ZOOLOGY



NEW YORK
OFFICE OF THE SOCIETY, 69 WALL STREET
San
MARCH 15, 1898

L. S. FOSTER,
PRINTER,
NEW YORK.

MAY 14 1898

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| HAYNES, WILLIAM DEFOREST | 16 East 36th Street |
| HAZARD, MISS MARY P. | Peace Dale, R. I. |
| HECKSCHER, JOHN GERARD | 31 West 75th Street |
| HEINS, GEORGE L. | 5 Beekman Street |
| HELMUTH, DR. WILLIAM TOD | 501 Fifth Avenue |
| HENDRICKS, CLIFFORD B. | 512 Fifth Avenue |
| HILL, GEORGE H. B. | Metropolitan Club |
| HILL, JAMES K. | Windsor Hotel |
| HILYARD, GEORGE D. | 144 East 49th Street |
| HINTON, DR. JOHN H. | 41 West 32 Street |
| HOFFMAN, VERY REV. E. A. | 1 Chelsea Square |
| HOLBROOK, MISS LILIAN | 128 West 73rd Street |
| HOLT, HENRY | 711 Madison Avenue |
| HOPKINS, MRS. DUNLAP | 10 West 30th Street |
| HORNADAY, WILLIAM T. | 69 Wall Street |
| HOSKIER, H. C. | 26 Exchange Place |
| HOYT, ALFRED M. | 1 Broadway |
| HOYT, JESSE | 257 West 73d Street |
| *HOUGHTON, REV. DR. G. H. | Deceased |
| HUMBERT, ARTHUR C. | 8 West 53rd Street |
| HUNTINGTON, GEORGE | 437 West 59th Street |
| HUSTED, H. B. | 276 Gates Avenue, Brooklyn |
| HYDE, B. T. BABBITT | 20 West 53rd Street |
| HYDE, CLARENCE M. | 206 Madison Avenue |
| ISELIN, JR., ADRIAN | 9 East 26th Street |
| ISHAM, CHARLES H. | 123 East 37th Street |
| JACKSON, FREDERIC WENDELL | Westchester, N. Y. City |
| JACKSON, THEODORE F. | 10 West 37th Street |
| JACOBI, DR. A. | 110 West 34th Street |
| JACQUELIN, JOHN H. | 34 East 38th Street |
| JAMES, ARTHUR CURTISS | 92 Park Avenue |
| JAMES, DR. WALTER B. | 31 West 54th Street |
| JARVIS, JR., NATHANIEL | 62 East 55th Street |

* Deceased.

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| JENNINGS, OLIVER G | 54 William Street |
| JENNINGS, WALTER | 11 East 41st Street |
| JOLINE, ADRIAN HOFFMAN | 1 West 72nd Street |
| JONES, LEWIS Q | 37 Fifth Avenue |
| KANE, JOHN INNES | 49 West 23rd Street |
| KANE, S. NICHOLSON | 23 West 47th Street |
| KEMP, ARTHUR T | 720 Fifth Avenue |
| KENNEDY, JOHN S | 6 West 57th Street |
| KERSTING, RUDOLF | 104 Fulton Street |
| KING, WILLIAM F | 17 East 63rd Street |
| KIP, COL. LAWRENCE | 452 Fifth Avenue |
| KLOPSCH, LOUIS | 100 East 17th Street |
| KNAPP, DR. HERMAN | 26 West 40th Street |
| KNAPP, JOHN M | 66 Broadway |
| KNAUTH, PERCIVAL | 302 West 76th Street |
| KNIGHT, CHARLES R | American Museum of Natural History |
| KNIGHT, HENRY E | 109 Spring Street |
| KNOEDLER, ROLAND F | 122 West 13th Street |
| KOCH, HENRY C. F | 224 Lenox Avenue |
| KUHNE, PERCIVAL | 22 West 56th Street |
| KUNHARDT, HENRY R | 124 West 74th Street |
| KUTTROFF, ADOLF | 17 East 69th Street |
| LA FARGE, C. GRANT | 5 Beekman Street |
| LAGAI, DR. GEORGE | 17 Park Place |
| LAMBERT, ALEXANDER | 2 East 37th Street |
| LANDON, FRANCIS G | 27 William Street |
| LAWRENCE, CYRUS J | 81 Park Avenue |
| LAWRENCE, NEWBOLD T | 51 Liberty Street |
| LAWRENCE, W. V | 969 Fifth Avenue |
| LEAVY, DR. EDWARD N | 166 East 61st Street |
| LEFFERTS, MARSHALL C | 34 East 65th Street |
| LE GENDRE, WILLIAM C | 59 Wall Street |
| LESHER, A. L | 9 East 75th Street |
| LEWIS, DR. E. A | 120 Pierrepont St., Brooklyn |
| LICKMAN, ALBERT E | 2683 Third Avenue |
| LITCHFIELD, EDWARD H | 59 Wall Street |
| LIVINGSTON, GOODHUE | 287 Fourth Avenue |
| LIVINGSTON, ROBERT R | 9 East 9th Street |
| LIVINGSTON, WILLIAM S | 670 Lexington Avenue |
| LOBENSTINE, WILLIAM CHRISTIAN | 245 Central Park West |
| LOGAN, WALTER S | 206 W. 72nd Street |
| LOW, A. A | Pierrepont Place, Brooklyn |
| LUSK, PROF. GRAHAM | New Haven, Conn. |
| LUTTGEN, WALTER | 23 Nassau Street |
| LYDIG, DAVID | 49 East 29th Street |
| LYDIG, PHILIP M | Knickerbocker Club |
| LYMAN, FRANK | 40 Remsen Street, Brooklyn |
| MALAN, JOHN | 4 West 84th Street |
| MALPIN, CHARLES W | 11 East 90th Street |

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| MCALPIN, COL. E. A | 146 Avenue D |
| MCALPIN, GEORGE I. | 9 East 90th Street |
| MCCALL, JOHN A | 54 West 72d Street |
| MCCLURE, S. S | 141 East 25th Street |
| MCGEE, JAMES | 26 Broadway |
| MCGOWAN, DR. JOHN P. | 20 East 29th Street |
| MCKIM, REV. HASLETT | 33 West 20th Street |
| MCLEAN, JAMES | 16 West 55th Street |
| MAGEE, JOHN | Corning, N. Y. |
| MALI, CHARLES W. | 93 Willow Street, Brooklyn |
| *MANICE, DE FOREST | |
| MARLOR, HENRY S | Care of Hatch & Foote, 3 Nassau Street |
| MARSHALL, LOUIS | 33 East 72nd Street |
| MARTIN, F. E | 28 Pine Street |
| MARX, GEORGE B | 340 East 118th Street |
| MAXWELL, ROBERT | 64 Worth Street |
| MEAD, WALTER H | 222 West 23rd Street |
| MILLER, CHARLES R | 41 Park Row |
| MILLER, HON. WARNER | Times Building |
| MILLS, ABRAHAM G | 157 West 86th Street |
| MONTANT, ALPHONSE | 326 West 22nd Street |
| MOORE, FRANCIS C | 1 West 72nd Street |
| MOORE, JOHN G | 11 East 65th Street |
| MORGAN, JR., J. P | 8 East 36th Street |
| MORRIS, DAVE H | Westchester, N. Y. City |
| MORRIS, FORDHAM | 16 Exchange Place |
| MORRIS, LEWIS R | 35 West 36th Street |
| MOTT, JR., JORDAN L | 17 East 47th Street |
| MUNN, HENRY NORCROSS | Orange, N. J. |
| MURGATROYD, JOHN | 458 Pacific Street, Brooklyn |
| NASH, J. WARREN | Windsor Hotel |
| NICOLI, DE LANCEY | 123 East 38th Street |
| NICHOLS, GEORGE L | 66 East 56th Street |
| NILES, ROBERT L | 66 Broadway |
| NILES, HON. W. W | 11 Wall Street |
| NORTH, JR., DR. JAMES H | 23 East 64th Street |
| NOTMAN, JOHN | 54 Wall Street |
| NUNAN, D | 37 Park Row |
| OSBORN, MRS. HENRY F | 850 Madison Avenue |
| OUTERBRIDGE, DR. PAUL | 35 West 53rd Street |
| OVERBAUGH, DEWITT C | Kingsbridge, N. Y. |
| OWEN, MRS. THOMAS JEFFERSON | 23 West 34th Street |
| PAGE, J. SEAVER | 101 Fulton Street |
| PALMEDO, U | 28 Exchange Place |
| PALMER, S. S | 52 Wall Street |
| PANCOAST, RICHARD | 28 Platt Street |
| PARKER, ANDREW D | 220 Broadway |
| PARSONS, MRS. EDWIN | 90th Street and Riverside |

* Deceased.

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|--------------------------|------------------------------------|
| PATTERSON, J. M. | Highbridge Road, Fordham |
| PECK, THEODORE G. | Haverstraw, N. Y. |
| PELL, ALFRED | Highland Falls, N. Y. |
| PELTON, FRANKLIN D. | Calumet Club |
| PENFOLD, WILLIAM HALL | 10 East 40th Street |
| PENNIMAN, GEORGE H. | 536 Fifth Avenue |
| PETERS, CHARLES G. | 13 East 76th Street |
| PETERS, W. R. | 23 West 73rd Street |
| PHIFER, ROBERT F. | 46 West 17th Street |
| PIEL, GOTTFRIED | 68 Sheffield Avenue, Brooklyn |
| PIERREPONT, JOHN JAY | Pierrepont Place, Brooklyn |
| PIERSON, J. FREDERICK | 20 West 52nd Street |
| PINCHOT, GIFFORD | 2 Gramercy Park |
| PINCHOT, J. W. | 2 Gramercy Park |
| PLYMPTON, GILBERT M. | 30 West 52nd Street |
| POND, A. EDWARD | 124 Fifth Avenue |
| PORTER, H. H. | 120 Broadway |
| POST, ABRAM S. | 173 Madison Avenue |
| POST, EDWARD C. | 250 West End Avenue |
| POST, JR., GEORGE B. | Mills Building |
| POSTLEY, CLARENCE A. | 817 Fifth Avenue |
| PRATT, DALLAS B. | 24 West 48th Street |
| PRYER, CHARLES | New Rochelle, N. Y. |
| PYLE, JAMES TOLMAN | 673 Fifth Avenue |
| PYNE, M. TAYLOR | 52 Wall Street |
| RAND, GEORGE C. | Lawrence, L. I. |
| RANDOLPH, L. V. F. | 39 William Street |
| RANDOLPH, WILLIAM M. | 31 Nassau Street |
| RAUCH, WILLIAM | Union Club |
| REDMOND, HENRY S. | 114 East 19th Street |
| RHOADES, JOHN HARSEN | 559 Madison Avenue |
| RHODES, BRADFORD | Mamaroneck, N. Y. |
| RICHARD, AUGUSTE | 12 East 69th Street |
| RICHARDS, CHARLES F. | 77 Chambers Street |
| RIKER, SAMUEL | 27 East 69th Street |
| ROBBINS, S. HOWLAND | 20 East 27th Street |
| ROBISON, WILLIAM | 18 Wall Street |
| ROBINSON, NELSON | 23 East 55th Street |
| ROCKEFELLER, WILLIAM | 26 Broadway |
| ROGERS, HENRY PENDLETON | 35 West 49th Street |
| ROLLE, AUGUST J. | 1185 Lexington Avenue |
| ROOT, ELIHU | 32 Liberty Street |
| ROSENWALD, ISAAC | 141 Water Street |
| ROWLEY, JR., JOHN | American Museum of Natural History |
| RUPPERT, JACOB | 1116 Fifth Avenue |
| SACKETT, CLARENCE | 196 Madison Avenue |
| SAGE, DEAN | Albany, N. Y. |
| SAINTE GAUDENS, AUGUSTUS | 3 Rue de Ragneu, Paris |

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| SAUTER, FREDERICK | 13 Sutton Place |
| SCHEFER, CARL | 40 West 37th Street |
| SCHIEFFELIN, WILLIAM J. | 170 William Street |
| SCHIRMER, RUDOLPH E. | 241 East 17th Street |
| SCHULTZE, JOHN S. | 59 Wall Street |
| SCHUMACHER, C. | 31 East 81st Street |
| SCHUYLER, MISS LOUISA LEE | 135 East 21st Street |
| SELIGMAN, ALFRED L. | Mills Building |
| SEWELL, CORNELIUS V. V. | 68 West 45th Street |
| SEYMOUR, JULIUS H. | 35 Wall Street |
| SEYMOUR, WILLIAM W. | 35 Wall Street |
| SHAW, WALTER W. | Care of Metropolitan Trust Co., 39 Wall Street |
| SHELDON, GEORGE R. | 89 Park Avenue |
| SHERMAN, GARDINER | 235 West 72nd Street |
| SHIELDS, GEORGE O. | 19 West 24th Street |
| SHONNARD, FREDERICK | Yonkers, N. Y. |
| SHURTLIFF, R. M. | 44 West 22nd Street |
| SIMPSON, JR., JOHN BOULTON | 5 East 14th Street |
| SKIDMORE, WILLIAM L. | 49 West 52nd Street |
| SMITH, DR. EDWARD A. | 105 East 18th Street |
| SMITH, FRANK SULLIVAN | 54 William Street |
| SMITH, GEORGE WARREN | Metropolitan Club |
| SMITH, PHILIP S. | 46 Johnson Park, Buffalo, N. Y. |
| SMITH, WILLIAM ALEXANDER | 412 Madison Avenue |
| SMITHERS, CHARLES | 507 Madison Avenue |
| SMYTH, PHILIP A. | 57 East 127th Street |
| SOPER, A. W. | 150 West 59th Street |
| SPENCER, SAMUEL | 80 Broadway |
| SQUIBB, DR. E. H. | 36 Doughty Street, Brooklyn |
| STAHL, JR., JACOB | 1273 Franklin Avenue |
| STARIN, JOHN H. | Pier 13, North River |
| STEBBINS, JAMES H. | 80 Madison Avenue |
| STECHERT, GUSTAV E. | 1369 Dean Street, Brooklyn |
| STERN, ISAAC | 858 Fifth Avenue |
| STEWART, E. L. R. | 267 Fifth Avenue |
| STEWART, LISPENARD | 31 Nassau Street |
| STEWART, WILLIAM R. | 31 Nassau Street |
| STIMPSON, DR. DANIEL M. | 11 West 17th Street |
| STOKES, J. G. PHELPS | 229 Madison Avenue |
| STONE, MASON A. | 20 East 66th Street |
| STONEBRIDGE, CHARLES H. | 2656 Third Avenue |
| STORCK, GEORGE H. | 30 West 9th Street |
| STRATFORD, PROF. WILLIAM | 263 West 52nd Street |
| STUART, INGLIS | 69 Wall Street |
| STURGES, FREDERICK R. | 36 Park Avenue |
| STURGES, HENRY C. | 56 East 34th Street |
| STUYVESANT, RUTHERFURD | 18 Exchange Place |
| SULLIVAN, MRS. JAMES | 36 Park Avenue |

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| SWAYNE, FRANCIS B | 326 West 90th Street |
| SWAYNE, GEN. WAGER | 120 Broadway |
| TAYLOR, MISS ALEXANDRINA | Plaza Hotel |
| TAYLOR, DWIGHT W | 500 Madison Avenue |
| TAYLOR, HENRY A. C | 52 Wall Street |
| TEFFT, WILLIAM E | 22 East 64th Street |
| TERRY, REV. RODERICK | 169 Madison Avenue |
| THACHER, MRS. GEORGE W | Park Avenue Hotel |
| THOMAS, SAMUEL | 17 West 57th Street |
| THOMPSON, ERNEST SETON | 144 Fifth Avenue |
| THOMPSON, ROBERT MEANS | 5 East 53rd Street |
| THOMPSON, PROF. W. GILMAN | 34 East 31st Street |
| THORNE, W. V. S | Metropolitan Club |
| TIFFANY, LOUIS C | 7 East 72nd Street |
| TILT, ALBERT | 5 East 67th Street |
| TOD, J. KENNEDY | 45 Wall Street |
| TOEL, WILLIAM | 20 East 57th Street |
| TOOTHE, WILLIAM | Madison, N. J. |
| TOWNSEND, HOWARD | 29 West 39th Street |
| TOWNSHEND, JOHN | 302 West 73rd Street |
| TOWS, COE DOWNING | Buckingham Hotel |
| TRASK, SPENCER | 27 Pine Street |
| TURNURE, LAWRENCE | 417 Fifth Avenue |
| UPP, THOMAS M | 57 West 137th Street |
| VALENTINE, DR. WILLIAM A | 45 West 35th Street |
| VAN BRUNT, C. H | 10 East 46th Street |
| VAN CORTLANDT, AUGUSTUS | Tuxedo Park, N. Y. |
| VANDERPOEL, MRS. JOHN A | 224 Madison Avenue |
| VAN PELT, GILBERT S | 123 East 69th Street |
| VAN VALKENBURG, WILLIAM | 222 West 21st Street |
| VAN WINKLE, EDGAR B | 115 East 70th Street |
| VORCE, A. D | 353 Fifth Avenue |
| WADSWORTH, CLARENCE S | Middletown, Conn. |
| WAGSTAFF, C. DU BOIS | Babylon, L. I. |
| WANNINGER, CHARLES | 1143 Park Avenue |
| WARDWELL, WILLIAM T | 21 West 58th Street |
| WARING, JR., COL. GEORGE E | 121 Madison Avenue |
| WATERBURY, JOHN I | 20 Wall Street |
| WATSON, CHARLES F | S. E. corner Madison Avenue and 54th Street |
| WEBB, DR. W. SEWARD | Shelbourne, Vt. |
| WHITE, STANFORD | 160 Fifth Avenue |
| WHITNEY, CASPAR | 21 West 31st Street |
| WILLIAMS, G. G | 34 West 58th Street |
| WILLIS, CHARLES T | 309 West 82nd Street |
| WILMERDING, GUSTAV L | 135 Madison Avenue |
| WINTHROP, EGERTON L | 23 East 33rd Street |
| WINTHROP, R. D | Knickerbocker Club |
| WITHERBEE, FRANK S | 40 Wall Street |

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| WOLFF, EMIL | 115 West 70th Street |
| WOOD, J. WALTER | South Orange, N. J. |
| WOOD, JR., J. WALTER | Short Hills, N. J. |
| WOOD, WILLIAM C | 45 East 10th Street |
| WOOD, WILLIAM H. S | 8 East 63rd Street |
| WOODWARD, F. F | Hotel San Remo |
| WOOSTER, NOYES C | 38 West 35th Street |
| WORTHINGTON, CHARLES C | 86 Liberty Street |
| WORTMAN, DR. J. L | American Museum of Natural History |
| WRIGHT, J. DUNBAR | 346 Lexington Avenue |
| WRIGHT, J. HOWARD | 346 Lexington Avenue |
| WRIGHT, MRS. MABEL OSGOOD | 118 West 11th Street |
| YOUMANS, EPHRIAM M | 202 Broadway |
| ZABRISKIE, ANDREW C | 716 Fifth Avenue |

Corresponding Member:

| | |
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| STONE, A. J | Missoula, Montana |
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Summary of Membership,

To MARCH 15, 1898.

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| Total number of Founders | 13 |
| “ “ Associate Founders | 6 |
| “ “ Patrons | 21 |
| “ “ Life Members | 69 |
| “ “ Annual Members | 491 |
| | 600 |
| Deceased Members | 10 |

CONDITIONS OF MEMBERSHIP:—Any two members of the Society may recommend candidates for membership, and all members are requested to add to the working strength of the organization by enlisting the interest of their relatives and friends. There is no initiation fee. The annual dues for Annual Members are \$10.00. The Life Member's fee is \$200; Patron's fee, \$1,000; Associate Founder's fee, \$2,500; Founder's, \$5,000; Benefactor's, \$25,000.

Application blanks will be supplied by the Secretary upon request.

William A. Stiles.

October 6, 1897.

During the last two years of his life, the Zoological Society was benefited by the cordial sympathy and co-operation of the Hon. William A. Stiles, Park Commissioner, life member of the Society, and also a member of the Board of Managers. As a tribute to the memory of a helpful friend, the following resolution was adopted :

“RESOLVED, That the Board of Managers of the New York Zoological Society learned with deep regret of the death of their late associate, William A. Stiles, and desire to place on record this tribute to his zeal and interest in the work of this Society, and

“RESOLVED, That the Secretary cause this Resolution to be spread upon the minutes, and a copy thereof to be transmitted to the family of the late William A. Stiles.”

PROGRESS OF THE YEAR.

REPORT OF THE EXECUTIVE COMMITTEE TO THE BOARD OF MANAGERS.

This has been an eventful year in the history of the Zoological Society, and has ended in its establishment as a permanent institution for the promotion of zoological knowledge, and the love of animate nature, in the City and State of New York.

All our original objects have been furthered, and we have attained the following noteworthy results:

A contract with the City of New York, unanimously adopted by the Commissioners of the Sinking Fund, March 24, 1897.

Completion of the General Plan of the Park, and its unanimous approval by the Park Commissioners, November 22, 1897.

Subscription of the first \$100,000 toward the gift of \$250,000 from the Society to the City; completed February 15, 1898.

Preliminary Plans of nine of the principal buildings, prepared and submitted for criticism to several American and European zoological garden specialists.

Increase of the membership of the society from 118 to 600 Active Members.

AGREEMENT WITH THE CITY.

On March 24, at the final public hearing before the Commissioners of the Sinking Fund, the following Commissioners were present:

Hon. William L. Strong, Mayor; Hon. Ashbel P. Fitch, Comptroller; General Anson G. McCook, City Chamberlain; Hon. John W. Goff, Recorder; and Alderman John T. Oakley, Chairman of the Finance Committee of the Board of Aldermen.

The proposal by the Society that 261 acres of land in South

Bronx Park should be set apart as the site of the New York Zoological Park, was formally approved in a long resolution prepared by the Corporation Counsel, Hon. Francis M. Scott, setting forth the conditions of the tenure, and the relations to exist between the Society and the City of New York. The full text of the resolution is appended to this report.

This resolution was adopted by the unanimous vote of the Commissioners, and met the approval of both the press and the public. In brief, the collections and animal buildings, to cost not less than \$250,000, are to be presented to the City by the Society. The City is to prepare the ground for occupancy, and maintain the Zoological Park when established. The terms of the grant are equitable to both parties to the transaction, and while demanding more of the Society than the contracts existing between the City and the two Museums, they are, upon the whole, satisfactory. Nevertheless, they involve very liberal contributions to the Park from the citizens of New York.

It is both a duty and a pleasure to record here that in the very serious task the Zoological Society has assumed in undertaking to establish a zoological park for this City on the scale proposed, its efforts were met by the Mayor, the Sinking Fund Commission and the Board of Parks in a most liberal and helpful spirit, without which the accomplishment of the ends attained would have been quite impossible.

In view of the wholly unimproved condition of South Bronx Park, with the consent of the Mayor and the informal approval of the Board of Parks, a bill was introduced in the Legislature, by Senator Charles B. Page in the Senate, and in the Assembly by Mr. George C. Austin, authorizing the City of New York to issue and sell bonds to the amount of \$125,000, for the purpose of meeting the cost of the ground improvements that are necessary to enable the public to utilize and enjoy the park.

Having first received the approval of Mayor Strong and Governor Black, the bill became a law on the 18th day of May, 1897, and is now known as Chapter 510 of the Laws of 1897. The text of the bill appears at the end of this report. In brief, it provides that the Department of Public Parks shall improve South Bronx Park, in accordance with the plans of this Society, as soon as the Zoological Society shall have raised, by subscription or otherwise, the sum of \$100,000 for the prosecution of its own share of the work.



VIEW OF BRONX LAKE,
LOOKING NORTH, FROM THE EASTERN SHORE.

The schedule of work by the City that is imperatively necessary at the outset, is published herewith. The estimates of cost have been prepared with care by the Director, and with the aid of expert advice obtained in the City's Departments of Parks, Sewers and Water, and elsewhere. The figures given are based on a premise of *strict economy, no useless expenditure, the work needed first to be executed first.*

SCHEDULE OF WORK, AND ESTIMATED COST.

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| Rock asphalt walks. | \$50,275 |
| Sewers. | 17,050 |
| Public comfort buildings. | 10,000 |
| Benches. | 3,000 |
| Workshops and sheds | 3,000 |
| Burying an open sewer. | 3,300 |
| Service roads for teams. | 4,800 |
| Ponds and pools. | 5,000 |
| Croton-water supply pipes | 4,377 |
| Reconstruction of dam. | 1,500 |
| Hydraulic engines. | 1,200 |
| Bronx-water supply pipes, to ponds. | 3,058 |
| Fences for animal ranges. | 5,890 |
| Boundary fence. | 1,850 |
| Entrances | 3,000 |
| Macadamizing yards. | 3,000 |
| Cleaning Bronx River. | 4,700 |
| Total. | \$125,000 |

PREPARATION OF PARK AND BUILDING PLANS.

Immediately after the enactment of this legislation, work was begun on the elaboration of the general plan of the Zoological Park. The *Preliminary Plan*, which had been prepared in 1896 by the Director, was submitted to a searching examination by the Executive Committee. To make sure of meeting all scientific requirements, and especially the needs of the animals, the Committee first invited two of the leading zoological experts of the country to carefully examine the park in connection with the plan. The two gentlemen so invited were Dr. C. Hart Merriam, Chief of the United States Biological Survey of Washington, D. C., and Mr. George Bird Grinnell, editor of *Forest and Stream*. Their reports are so valuable and suggestive that they deserve to be permanently recorded here.

Dr. Merriam writes (April 15, 1897) as follows :

Taken as a whole, the ground selected for the Park could hardly be better adapted to the ends in view. I was surprised to find so near New York City a tract combining such natural beauty and ruggedness, an abundance of mature forest trees, an unlimited water supply, and sufficient diversity of local conditions to meet the needs of nearly all the animals it is desirable to exhibit in a zoological park.

It is true that the Park does not contain ideal places for the Bighorn, Mountain Goat, and Prairie Dogs. With respect to the two former, however, it may be said that no ideal locality exists nearer than the higher peaks of the Catskills. But, by supplementing the rock ridges chosen for the Bighorn and Mountain Goat by artificial masses of rock, I think these animals will secure the best conditions that can be afforded them in the neighborhood of New York City.

With respect to the Prairie Dogs, the only spot in the Park really suited, in my judgment, to the needs of such burrowing animals, is the knoll which on your preliminary plan is surrounded by the four principal houses—the Lion House, Monkey House, Bird House, and Sub-Tropical House. For my part, I see no good reason why these mild-mannered and inoffensive animals could not occupy this prominence without in any way interfering with the animal houses to be erected in the immediate vicinity. If they are put elsewhere it will be necessary to cart in a large quantity of soil to give them sufficient depth of earth for their diggings.

The areas selected for the Bison herd, Antelope, Moose, Caribou, and the various Deer, the ledges for the dens of the Bears, Wolves and Foxes, and the ponds for the Beaver and Muskrat, and so on, seem to me excellently chosen, and well adapted to the wants of these animals, and I do not see how they could be improved.

Near the north entrance of the Park, on the west side of the road, is a picturesque mass of rock partly concealed by junipers. This, in my judgment, is an almost ideal spot for colonies of two of the most beautiful and interesting of our small mammals. I refer to the Silver-sided Ground Squirrel of California (*Spermophilus fisheri*), and the Golden-mantled Ground Squirrel of the Cascade Range in Oregon (*Spermophilus chrysodeirus*). Both of these animals are diurnal, graceful, and extremely beautiful. They naturally live in loose colonies, are easily tamed, and would, in my opinion, form one of the most attractive and interesting exhibits it will be possible to make.

In closing, allow me to express the hope that you and your colleagues will ever bear in mind that the principal object of a Zoological Park is to keep living animals as nearly as possible under natural conditions, and at the same time where they may be seen by the public. This being the case, the aim should always be to give each animal the place best adapted to its habits of life. In some cases the selection of a site must be regarded as experimental, and subject to change. In other cases, certain animals will have to be moved from time to time in order to give them fresh ground. For all these reasons it seems obvious that the Park should be left as nearly as pos-

sible in a state of nature, and that no attempt at landscape gardening should be tolerated—at least for the first few years—until the requirements of the animals and the requirements of the public have become thoroughly adjusted.

I congratulate your Society on having secured so commodious and desirable a site for your new Park, and firmly believe that, under the efficient management of your able Director, it will become the leading zoological park of the world.

Mr. Grinnell's report, dated April 24, 1897, is as follows :

“In the letter referred to, you ask me to report especially (1) as to the desirability of the ranges selected for the principal North American ruminants, (2) as to the locality selected for the dens of the bears, wolves and foxes, (3) as to the beaver pond and (4) as to the site selected for squirrels and other gnawing animals.

“As I have before remarked, the land allotted to the Society for its park is singularly well fitted for the purpose to which it is to be devoted. In topography, in the quantity, character and distribution of the timber on it, in the abundance of its water supply for purposes other than for drinking, and in the great quantity of rock contained within its limits, South Bronx Park seems to contain a combination of the essential requirements of a zoological park such as could hardly be matched anywhere.

“The ranges selected for the bison, antelope, elk, deer, moose, caribou and mountain sheep are well chosen, and with such modifications as will naturally suggest themselves, the different species named ought to do well.

“I have suggested to the Director that, in view of the considerable range allotted on the plans to the bison, and the habits of the antelope and the bison, it might be practicable to enclose the prong-horned antelope with them for a portion, at least, of the year. It is not likely that for a long time the herd of bison will be very numerous, and I am disposed to think that the antelope might well range with them, since we know that in the old days of buffalo plenty on the plains these two species associated closely with one another, the antelope feeding in the midst of the herds of buffalo, and the buffalo paying no regard to their presence.

“If it should be deemed wise to make this change, the tract now marked on the plans as antelope range might advantageously be used for a summer range for the tropical ruminants, or some of them whose pens are adjacent to this tract.

“In the cases of several species of the North American ruminants I believe that while the ranges selected for them are excellent, they may be greatly improved by a little artificial work. Such species as the bison, the elk, the mule deer, and, of course, the mountain sheep, frequent—when it is possible—rough and broken ground, and are very much disposed to climb up to high points of rocky hills or ledges, where they stand or lie and look over the country. I have suggested to the Director that in the ranges assigned to the species named, great piles of large rocks should be erected, which I believe these animals would use in this way, and which would undoubtedly contribute greatly to their health and would tend to keep them in

good condition. The first and most serious difficulty met with in caring for captive animals is to give them sufficient exercise, and if they can be induced to move about, and especially to climb and descend steep acclivities, the prospects for their health and well-being will be greatly increased. Such rocks would be used also as scratching places, and in this way would contribute to the animal's comfort.

"I have elaborated this idea to the Director, and have suggested how such erections may be made not only without marring the landscape, but may even be made to add to its picturesqueness.

"It is, of course, well known that the hoofs of the ungulates grow more or less to compensate for the wear to which they are subjected in a state of nature, and in the case of certain species which travel over rocky or gravelly ground, this wear is considerable, and the growth of the hoof correspondingly rapid. It is evident that the hoofs of animals confined in pens, or in limited ranges where the soil is soft, will not be subjected to this wear, and yet their growth continues. Provision must therefore be made for an artificial wearing down of the hoof, or the animal's feet must be pared from time to time. The great amount of rock and stone now on the ground allotted to the Society will make it an easy matter to build, within and close to the fences confining each species of ruminants, a walk of rough broken stone which will be of the greatest value in keeping the animals' feet in good condition.

"The locality selected for the dens of the bears is admirable, and I am inclined to approve that chosen for the wolves and foxes. It may be necessary, however, to plant a line of evergreens west of these dens.

"I heartily approve of the location of the beaver pond, and have suggested to the Director a mode of treating it which I believe will be greatly for the benefit of any animals that may be confined there.

"As yet I am somewhat in doubt as to how to treat the accommodations for the squirrels and other gnawing animals. It is quite obvious, however, that it will prove impracticable to furnish the squirrels with permanently living trees in their enclosures, unless these enclosures shall be moved from time to time. In other words, if the number of squirrels using any tree is large, in the course of a comparatively short time the animals will kill the tree. It will probably be better, therefore, for the Society to provide living trees for the groups of squirrels and to accept the fact that they must be killed. After the trees have been killed, the squirrels may be allowed still to live in them.

"The location of the burrowing rodents presents problems that require further investigation, as in many places the rock is so near the surface of the soil that it may well be that artificial burrowing places will have to be prepared for animals such as prairie dogs, woodchucks and other species of like habits." * * * * *

After careful deliberation, the Preliminary Plan was approved by the Executive Committee. A city surveyor was employed to make a close topographical survey of the northwestern portion



THE WATERFALL, IN MIDSUMMER,
PREVIOUS TO RESTORATION.

of the Park, where the most important buildings are to be located, and also to make a complete geographical survey of the entire Park, excepting the few features taken from the official maps.

Every step taken was considered with the utmost care. During the progress of the work, the Committee sought the advice and assistance of a number of gentlemen possessed of technical knowledge of value to the work in hand. Regarding the main court, Mr. Thomas Hastings, of Carrere & Hastings, was consulted; on engineering, Mr. W. Barclay Parsons, of the Rapid Transit Commission; on the general landscape development, the late Park Commissioner, William A. Stiles. Professor Chas. S. Sargent, of Harvard University, also accepted a place on this Advisory Committee, but was subsequently prevented from serving.

Messrs. Heins & LaFarge were appointed Architects, and commissioned to develop especially the architectural and landscape features of the main court and its main approaches. Mr. Charles N. Lowrie, who has had considerable experience in the public parks, was regularly employed for the landscape treatment of the portions outlying the main court. The Director coöperated in and partly supervised all this work, so that the scientific and practical requirements should be met at every point. All the plans were developed under the supervision of the Executive Committee, whose decision on all points in dispute was accepted as final.

Upon the special features of the buildings for animals, and the general plan, Mr. Arthur E. Brown, Superintendent of the Zoological Garden of Philadelphia, Mr. Carl Hagenbeck, of Hamburg, Dr. J. A. Allen, of the American Museum of Natural History, and Professor D. G. Elliot, of the Field Columbian Museum, Chicago, were consulted, and kindly gave their valuable time and advice. We are greatly indebted to these gentlemen for their suggestions, which have been duly considered in the preparation of the plans.

After several months of labor, the "*Final Plan of the Zoological Park*" was completed, drawn in duplicate, signed by the President and all the other members of the Executive Committee, and on November 15th it was laid before the Board of Parks for approval. With it the Society presented a communication setting forth the care and labor that had been bestowed up-

on its preparation, and a memorandum stating the principles which had guided the Society throughout, together with the following :

1. The final plan of the Zoological Park, showing the location of buildings, ranges, dens and other enclosures for animals ; its lakes and ponds, entrances, walks, roads and pleasure grounds.

2. A colored bird's-eye view of the Zoological Park, as it will appear when its development is complete.

3. A map showing how it is possible to introduce an auto-motor or horseless-carriage service over a narrow roadway, without detriment to the Park.

4. Preliminary plans for nine of the most important buildings. These are subject to such alterations in details as may be found advisable.

5. A map showing the contour lines of the topographical survey of the western portion of the Park, as made by William H. Grant, in 1873, for the Department of Parks.

6. The Society's topographical model of the Zoological Park, to be placed at the disposal of the Board of Parks, if it is desired.

The explanatory memorandum is as follows :—

MEMORANDA OF THE FUNDAMENTAL PRINCIPLES OBSERVED BY
THE ZOOLOGICAL SOCIETY IN PLANNING THE
ZOOLOGICAL PARK.

The fundamental principles which the Zoological Society has observed in discharging its duty toward the City of New York and the general public in the planning and the development of the Zoological Park, may be briefly formulated as follows:—

1. The Zoological Park must be established on lines by which it can be made a complete zoological success, and also satisfactory and beneficial to the public.

2. The very valuable tract of park land assigned to the Society's use as a site must not be injured in any way, either permanently or temporarily, but must at all times be regarded as a sacred trust.

3. The public is entitled to the use of the picturesque area along the Bronx River, below the Boston Road bridge, as pleasure grounds only, which shall be kept open at all times, subject to suitable regulations. On that area no animal collections are at present to be installed.

4. Even of the area devoted to animal collections, the choice landscapes are to be preserved unharmed, by locating all the large closed buildings so that they will be unobtrusive, especially from the boundary boulevards.

5. In selecting suitable locations for the numerous collections of creatures that will be required to live in the open air all the year round, it is of paramount importance that such animals should have all the advantages that are available in the nature of shade, shelter from westerly winds, dry situations, etc., in order that they may survive as long as possible.

6. So far as it be possible, it is extremely desirable that all animals living in the open air should be so installed that their surroundings will suggest, even if not closely resemble, their natural haunts.

7. The fences for large animals in open ranges shall be of the lightest description consistent with the proper confinement of the animals, and all posts used shall be as unobtrusive as possible.

8. As far as possible, the general aspect of wildness which now characterizes South Bronx Park, must be maintained. In other words, it is desirable that the Park should be maintained as a well-kept and accessible natural wilderness rather than as a conventional city park.

9. It is totally inexpedient and undesirable to have the area of the animals bisected in either direction by a carriage roadway, other than that projected to lead to the principal restaurant.

10. A single-track road for horseless carriages, so laid out as to reach the principal buildings and collections, but without interfering with pedestrians, is not objectionable, and will probably become necessary.

11. In order to protect and control the Zoological Park, the area for the animals, west of the Boston Road, must be entirely surrounded by a light wire fence, save on the north side, where the water forms a natural barrier.

On November 22nd the Board of Parks, by a unanimous vote, passed a resolution approving the Final Plan, accepted it for the City, and later affixed upon the Society's copy their official signatures. The Executive Committee has directed that this plan be forthwith engraved and printed in colors, and included in this Annual Report.

DIRECTOR'S REPORT.

Concerning the duties discharged by him during the year 1897, the Director has submitted a report, from which the following quotations may be made:

“It was the special duty of the Director to plan and sharply define the accommodations to be provided for the living mammals, birds and reptiles soon to be installed, and to make them accessible to visitors. Inasmuch as the whole zoological arrangement

has been dictated by the ground itself, many very puzzling questions arose, and it would require more space than is now available to convey an adequate idea of the effort that has been expended by the Society in perfecting the Final Plan. Both the architects and the landscape gardener were limited in their work by conditions which, though unusual, and often unwelcome, are of vital importance to a successful zoological park.

“Our Final Plan is believed to locate each species as nearly as possible where nature would design to have it placed, to absolutely avoid all disfigurement of the site, to make the most of the shade which nature has provided, to enable the visitor to see the whole series of collections with the least possible amount of walking, to yield the greatest return for the money that is to be expended, and last, but not least, to yield something that is hardly to be found to an equal degree in any smaller zoological garden or park—a logical and fairly symmetrical zoological arrangement.

“In the preparation of the plans for the buildings to be erected in the Zoological Park, the Director was required to furnish to the Architects a series of preliminary ground plans, and the details of such other scientific features as cage arrangement, and general assignment of space. In this connection it is a pleasure to acknowledge the assistance that has been derived from certain European zoological gardens whose buildings have furnished points that have been incorporated in our own.

“The plan of our Lion House contains several ideas drawn from the admirable London Lion House, but with one noteworthy improvement, by means of which the out-door and in-door cages are provided with free communication. The plan of our Elephant House contains features derived from the well-nigh perfect “Palais des Hippopotames” in Antwerp. Our Antelope House contains many ideas borrowed from that in Frankfort. Our Reptile House copies several features from that in the London Garden, but many of its most important features are original.

“Our Bird House, Monkey House, Sub-tropical House, Small Mammals’ House, Winter House for Birds, Administration Building, Bear Dens, Wolf and Fox Dens, Alligators’ Pools, Burrowing Rodents’ Quarters, Squirrel installations, Beaver Pond and Aquatic Rodents’ Ponds, all are features absolutely new, both in design and general arrangement.”



"THE FOREST PRIMEVAL."

A TYPICAL FOREST VIEW IN THE ZOOLOGICAL PARK.

PUBLICATIONS.

In order to keep the members of the Society fully informed of the progress of the organization and its work, early in 1897 the Committee decided to issue at intervals a *News Bulletin of the Zoological Society*. An edition of 5,000 copies of the first number was issued on June 1st, and a similar edition of the second number on October 1st. Besides the distribution to members, these bulletins were widely distributed, with invitations to join the Society, and further its work. As a result, nearly 400 persons forwarded applications for membership, and were duly elected. The *Bulletin* will appear at least three times a year, illustrated by photographs of the plans, and including popular articles on the Park and on zoological subjects.

MEMBERSHIP.

Since March 15th, 1897, the day of issue of our first Annual Report, the membership of the Society has risen from 30 Life Members and 88 Annual Members to 13 Founders, 6 Associate Founders, 21 Patrons, 69 Life Members, and 491 Annual Members, making a total of 600. Inasmuch as the establishment of the Zoological Park is now assured, it is necessary that the annual membership roll should contain the names of several thousand persons. The rolls of some of the foreign zoological societies are approximately as follows:—

| | | | | | | |
|------------|---|---|---|---|---|-------|
| London, | - | - | - | - | - | 3,027 |
| Antwerp, | - | - | - | - | - | 5,000 |
| Amsterdam, | - | - | - | - | - | 5,000 |

The annual income from the membership dues will afford the principal means of purchasing animals, and replenishing the losses by death, while large donations will be devoted to the erection of buildings. The proposed Zoological Park undoubtedly will yield as much pleasure and benefit to the people of this City as either of our great museums or parks, and should enlist the interest and strong support of people of all classes. We are much gratified to note that many ladies have joined the Society, as well as a large number of young people, both as annual members and life members. It is also encouraging to find on the member-

ship rolls the names of many non-residents, representing New Jersey, Connecticut, Rhode Island, Massachusetts and various cities in this state. The Committee invites the members of the Society to disseminate among their friends information as to the educational as well as recreational advantages of the Park. In order to carry out our plans on a scale worthy of this City, the Society should enroll at least 3,000 annual members.

SUBSCRIPTIONS TO THE PARK FUND.

Immediately after the action of the Sinking Fund Commissioners, the Executive Committee began the work of raising the Society's promised fund of \$250,000 for buildings and collections. At first the subscription list progressed slowly, but owing to the active interest of several members of the Board of Managers it has recently made rapid advances. In behalf of the Society, the Committee desires to gratefully acknowledge the gifts to the Park which have come from the following persons :

| | |
|-------------------------------------|-------------|
| OSWALD OTTENDORFER, | \$ 5,000.00 |
| PERCY R. PYNE, | 5,000.00 |
| WILLIAM K. VANDERBILT, | 5,000.00 |
| LEVI P. MORTON, | 5,000.00 |
| WILLIAM E. DODGE, | 5,000.00 |
| ROBERT GOELET, | 5,000.00 |
| J. PIERPONT MORGAN, | 5,000.00 |
| JACOB H. SCHIFF, | 5,000.00 |
| WILLIAM D. SLOANE, | 5,000.00 |
| WILLIAM C. WHITNEY, | 5,000.00 |
| C. P. HUNTINGTON, | 5,000.00 |
| HENRY A. C. TAYLOR, | 5,000.00 |
| GEORGE J. GOULD, | 5,000.00 |
| JOHN L. CADWALADER, | 2,700.00 |
| JOHN S. BARNES, | 2,500.00 |
| PHILIP SCHUYLER, | 2,500.00 |
| F. AUGUSTUS SCHERMERHORN, | 2,500.00 |
| TIFFANY & Co., | 2,500.00 |
| MORRIS K. JESUP, | 2,500.00 |
| HENRY F. OSBORN, | 1,000.00 |
| A. NEWBOLD MORRIS, | 1,000.00 |
| EDWARD J. BERWIND, | 1,000.00 |
| WILLIAM H. WEBB, | 1,000.00 |
| CHARLES T. BARNEY, | 1,000.00 |
| SAMUEL THORNE, | 1,000.00 |
| MRS. WILLIAM H. OSBORN, | 1,000.00 |

| | |
|--------------------------------|----------|
| HENRY W. POOR, | 1,000.00 |
| GEORGE CROCKER, | 1,000.00 |
| CHARLES W. HARKNESS, | 1,000.00 |
| GEORGE T. BLISS, | 1,000.00 |
| WM. C. SCHERMERHORN, | 1,000.00 |
| J. HOWARD FORD, | 1,000.00 |
| WM. C. OSBORN, | 1,000.00 |
| ABRAM S. HEWITT, | 1,000.00 |
| MRS. JOHN B. TREVOR, | 1,000.00 |
| H. MCK. TWOMBLY, | 1,000.00 |
| JAMES C. CARTER, | 1,000.00 |
| HENRY O. HAVEMEYER, | 1,000.00 |
| HENRY H. COOK, | 1,000.00 |
| GEORGE F. BAKER, | 1,000.00 |
| WALTER H. BURNS, | 500.00 |
| EUGENE G. BLACKFORD, | 500.00 |
| JAMES H. HIGGINSON, | 500.00 |
| SAMUEL D. BABCOCK, | 500.00 |
| WOODBURY G. LANGDON, | 250.00 |
| CASH, | 100.00 |

\$ 103,550

To the above list we might, with entire propriety, add the names of all the life members of the Society, for the reason that thus far all the funds received from them in life-membership fees have been devoted to advancing the plans for the Zoological Park. But precisely the same condition exists regarding the entire list of annual members, and their payments; and therefore reference must be made to the complete lists published elsewhere in connection with this report.

As already announced, the Building Fund will be devoted to the construction of the most essential buildings of the Park, particularly to such as are necessary for the care of a fine series of North American animals, while the remaining subscriptions will be devoted to the erection of some of the permanent tropical houses.

To show why a large building fund is required, we submit the following brief enumeration of the structures to be erected and filled with collections. We also invite the attention and consideration of our friends to the preliminary plans of these buildings, many of which will constitute highly attractive individual gifts to the Park, ranging from \$1,000 to \$75,000 in probable cost.

THE LARGER BUILDINGS.

THE LION HOUSE.—Extreme length, 263 feet; extreme width, 87 feet. The outdoor cages have an extreme width of 45 feet, and a total length of 200 feet. There are 12 inside and 9 outside cages, the largest of the latter measuring 39x43 feet.

THE MONKEY HOUSE.—Total length, 160 feet; width of building, 55 feet; and with outdoor cages, 77 feet. There are 32 inside cages, and 11 without.

THE BIRD HOUSE.—A T-shaped building, of which one section measures 50x100 feet, the other 46x96 feet. Within there are 330 lineal feet of cages, and 332 feet without.

THE ELEPHANT HOUSE.—An imposing structure, 78x144 feet, with 8 paved yards attached, swimming tanks, etc.

THE ANTELOPE HOUSE (for tropical ruminants).—Length, 112 feet; width, 78 feet. There will be 19 large compartments, connecting with shaded yards outside. This building must accommodate the large pachyderms until the Elephant House is erected.

THE REPTILE HOUSE.—One hundred and forty-five feet long, and 94 feet wide. At one end there will be a conservatory, and at the other a house and yards for tortoises.

SUB-TROPICAL HOUSE.—This building is chiefly for large marsupials and birds of the southern hemisphere. Length, 78 feet; width, 53 feet; all cages to connect with outside yards.

SMALL MAMMALS' HOUSE.—One hundred feet long, 50 feet wide. This building will accommodate the extensive assortment of miscellaneous species that cannot be installed in separate groups.

ADMINISTRATION BUILDING.—Fifty feet square and three stories in height; to contain the offices, library, picture gallery, and studios for artists and students at work in the Park.

BUILDINGS AND OTHER STRUCTURES OF A LESS COSTLY CHARACTER.

THE FLYING CAGE.—A huge cage, 150 feet long, 75 feet wide and 50 feet high, for large and showy Herodiones, flamingoes and other birds.

WINTER HOUSE FOR BIRDS.—A glass-roofed house, 66 feet long and 52 feet wide, to serve as winter quarters for the birds of the Flying Cage, and many others.

THE BUFFALO HOUSE.—A low, hill-side barn of rough stone, to be used as a shelter in winter.

THE EAGLES' AND VULTURES' AVIARY.—A series of immense out-door cages, aggregating 220 feet in length. Greatest height, 30 feet.

THE CRANES' AND STORKS' AVIARY.—A series of yards, with low and narrow shelter house, 100 feet long.

THE PHEASANTS' AVIARY.—Ten wire-covered run-ways, with a low and narrow shelter house, 150 feet long.

THE WOLF AND FOX DENS.—A series of out-door enclosures with dry and warm shelter dens attached; in all about 200 feet long.

THE BEAR DENS.—A series of enclosures and shelter dens aggregating about 300 feet in length.



THE ROCKING STONE.

THE SEA-LIONS' POOL AND ROCKS.—A large and deep tank of concrete, with a hill of rock attached, providing shelter dens.

INEXPENSIVE INSTALLATIONS.

THE BEAVER POND.—The beavers will be required to build all the necessary dams for their ponds, all their canals, save one, and also their houses for winter use. A strong iron fence three feet in height will surround about two acres of land and water.

THE OTTERS' POOL.

THE DUCKS' AVIARY.

THE UPLAND GAME BIRDS' AVIARY.

THE CROCODILE POOL.

THE SQUIRRELS' ENCLOSURES.

THE BURROWING RODENTS' ENCLOSURES.

THE PRAIRIE-DOG VILLAGE.

THE WOODCHUCKS' ENCLOSURE.

Shelter barns or sheds must be provided for each of the following herds:

ELK, MOOSE, CARIBOU, MULE DEER, VIRGINIA DEER, RED DEER, ANTELOPE, FALLOW DEER, PECCARY AND WILD BOAR.

PRESERVATION OF WILD ANIMALS.

The following resolution was adopted at the annual meeting, January 11, 1898:

WHEREAS, The investigations of the New York Zoological Society have revealed the fact that over all save a very small portion of the United States our large mammals, our game birds, birds of prey, song birds and the so-called plume birds are disappearing at an alarming rate, and that existing measures are by no means adequate for their preservation from extinction, and

WHEREAS, The preservation of our native animals is one of the avowed purposes for which this Society was created, now, therefore, be it

RESOLVED, That the Executive Committee of this Society be requested to take such active measures as it may deem best to inform the public of the great decrease in animal life, to stimulate public sentiment in favor of better protection, and to co-operate with other scientific bodies, and with the press, in efforts calculated to secure the perpetual preservation of our higher vertebrates from the extinction which now threatens so many species.

The investigations referred to were those carried on by the Director. They demonstrate a most alarmingly rapid decrease in our beautiful native bird fauna, as fully set forth in the appended report. We should take active measures of our own, and co-operate with the Audubon and other Societies to arouse a public sentiment towards the preservation of all forms of bird life.

ANIMAL PAINTING AND SCULPTURE.

It is of the utmost importance to American painting and sculpture that every facility should be offered by the Society to those desiring to work from life. Extensive inquiry has developed the fact that there are many young artists and sculptors who only require encouragement, proper facilities for their work, and opportunities for exhibition in order to establish a school of animal painting and sculpture which shall be worthy of this city and country. Provisions for studios have been made in the plans of several of our buildings, especially in the Lion House, where it will be possible to transfer cages containing any of the exhibition types. In matters pertaining to the provisions to be made for artists, the Society has frequently consulted Mr. Ernest Seton Thompson, the well-known delineator of American birds and mammals, from whom an interesting communication on "A School for Animal Painting and Sculpture," appears in connection with this report.

The Society has decided to systematically foster both the painting and sculpture of animals. Last June the Executive Committee decided to make arrangements for an exhibition of animal paintings, to be held in December, 1897, but subsequently the date was deferred to February or March, 1898. Unfortunately many months were lost in an effort to secure the advice and co-operation of the Fine Arts Federation, and it is now doubtful whether it is possible to prepare a successful exhibition before next November.

In this connection we may note that a beautiful design for the Society's seal has been modelled by Mr. Charles R. Knight, and will appear upon future documents. A certificate of membership, engraved by Tiffany & Co., will be issued to members who desire it, during the present month. The certificate bears a figure of our most characteristic American mammal, the Prong-horned Antelope, drawn by another of our animal artists, Mr. Carl Rungius. The Society is indebted to Mr. Rudolph Kersting for a large number of photographs showing the present condition of Bronx Park, several of which are reproduced in this volume.

RECEIPTS AND EXPENDITURES.

Our total receipts for the year 1897 were \$47,191.01, divided into \$33,211.58 for the Park Improvement Fund, and \$13,979.43

for the General Fund. It will be understood that all the latter fund is practically devoted to the improvement of the Zoological Park, as the chief expenditures are for the work of the Director, Architects and Surveyors upon the Plans. Our expenses have been much reduced by the generous and gratuitous services of several members of the Board in legal and official work, especially by our counsel, Mr. John L. Cadwalader, and by Mr. Madison Grant.

Respectfully submitted,

HENRY F. OSBORN, Chairman.

MADISON GRANT, Secretary.

FORM OF BEQUEST.

I do hereby give and bequeath to the "NEW YORK ZOOLOGICAL SOCIETY," of the City of New York,.....

TREASURER'S

For the Year ending

RECEIPTS.

| | |
|--|-------------|
| Annual dues from 399 members | \$ 3,990.00 |
| Life membership fees, 49 @ \$200 | 9,800.00 |
| Founders' fees: | |
| From Oswald Ottendorfer | 5,000.00 |
| " Percy R. Pyne* | 2,000.00 |
| " William E. Dodge | 5,000.00 |
| " J. Pierpont Morgan | 5,000.00 |
| " Jacob H. Schiff* | 1,000.00 |
| Associate Founders' fees: | |
| From John L. Cadwalader | 2,500.00 |
| " F. Augustus Schermerhorn | 2,500.00 |
| " Philip Schuyler* | 1,150.00 |
| Patrons' fees: | |
| From Henry F. Osborn, balance | 800.00 |
| " Virginia R. Osborn | 1,000.00 |
| " William H. Webb | 1,000.00 |
| " A. Newbold Morris | 1,000.00 |
| " Samuel Thorne | 1,000.00 |
| " C. P. Huntington | 1,000.00 |
| " George Crocker | 1,000.00 |
| " George T. Bliss | 1,000.00 |
| Subscription to building fund: | |
| From Walter H. Burns | 500.00 |
| Harper Brothers, for article written by Mr. Hornaday | 28.00 |
| Interest on deposits, Atlantic Trust Company | 232.11 |
| | 46,500.11 |
| Add balance in Treasury, Jan. 4, 1897 | 690.90 |
| | 47,191.01 |

Atlantic Trust Company, 39 William Street,
January 5, 1898.

*Balance of subscription paid in full since January 1.

STATEMENT

December 31, 1897.

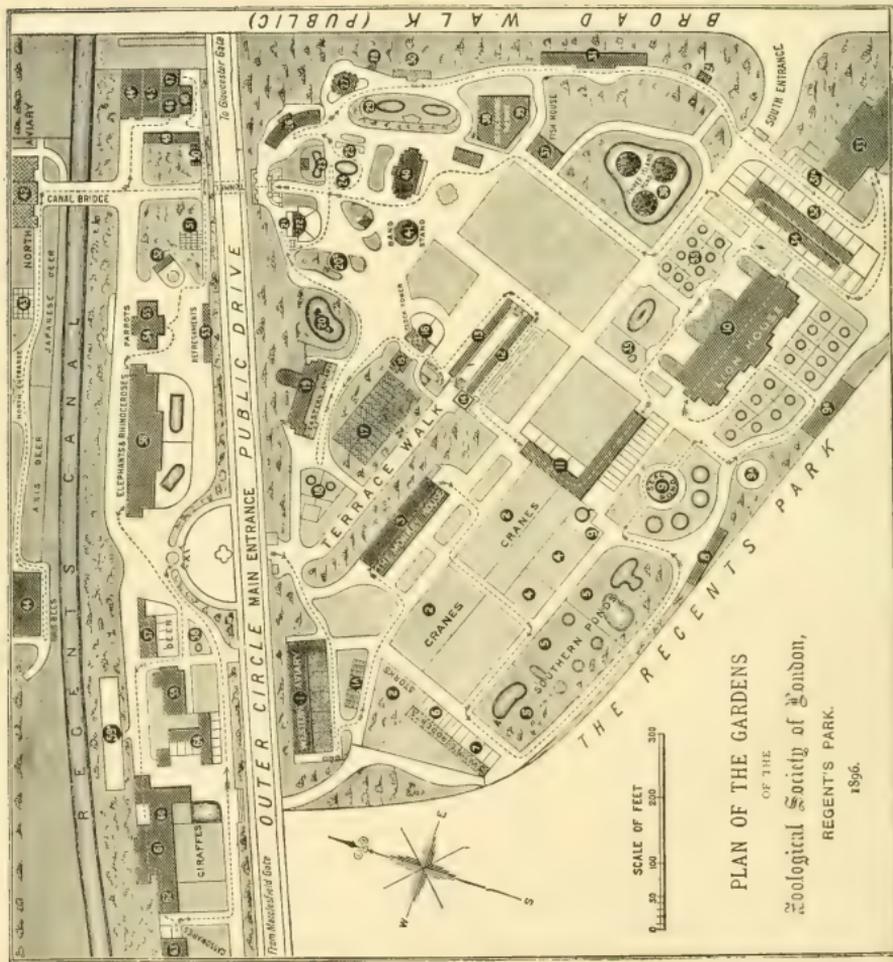
| EXPENDITURES. | |
|---|-----------|
| Stationery and office supplies | \$ 212.58 |
| Office furniture | 15.75 |
| Office rent | 300.00 |
| Material for maps and plans | 8.40 |
| Cost of Annual Report and Bulletin | 650.69 |
| Photographs, prints, albums, slides for lectures, etc. | 176.31 |
| Engrossing and drawing | 23.50 |
| Architectural drawings | 951.28 |
| Topographical and other surveys | 465.00 |
| Stenographic work and typewriting | 306.17 |
| Circulars and envelopes | 70.30 |
| Press clippings | 15.51 |
| Seal and die | 115.00 |
| District messenger service | 38.91 |
| Salary of Director | 4,999.93 |
| Clerical and other services | 271.50 |
| General expenses, including petty cash, disbursed by the Director, for office and other expenses . . | 707.52 |
| | 9,328.35 |
| Cash balance in treasury (in Atlantic Trust Company) December 31, 1897 : | |
| At credit of general account | 4,651.08 |
| " " " Park Improvement Fund | 33,211.58 |
| | 37,862.66 |
| | 47,191.01 |

Respectfully submitted,

L. V. F. RANDOLPH, Treasurer.

1. The Western Aviary
- 1A. The Crows' Cages
2. The Geese and Storks
3. The Monkey House
4. The Emu, Paddock
5. The Southern Ponds
6. The Bullant's House
7. The Snake House
8. The Sheep Sheds
9. The Sealions' Ponds
- 9A. The Sheep-yard
- 9B. The Wolves' and Foxes' Pens
10. The Lion House
11. The Antelope House
- 12, 13. The Hyenas' and Bears' Pens
14. The Bear Pit
15. The Eagle-Owl's Aviary
16. The Camel House
17. The Night-Herons' Aviary
18. The Pelicans' Inclosure
19. The Eastern Aviary
20. The Northern Pond
- 20A. The Barbary-Sleep Yard
21. The Owl's Cages
22. The Llama's House
23. The Mandarin Ducks' Pond
24. The Otters' Cage
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26. The Givets' House
- 27, 28. The Small Mammals' House
29. The Garguays' Ponds
30. The Racoms' Cages
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- 31A. The Pheasants' Aviaires
32. The Wrayle-Deer House
33. The Reptile House
34. The Cattle Sheds
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- 44A. The Small Cats' House
45. The Lecture Room
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50. The Wombats' House
51. The Bush-Turkeys' Inclosure
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- 54, 55. The Parrot House
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THE LONDON ZOOLOGICAL SOCIETY AND ITS GARDENS.—AN OBJECT LESSON FOR NEW YORK.

BY WILLIAM T. HORNADAY.

The evolution of every American city proceeds on a uniform plan. Immutable laws demand, in regular order, a supply of dwellings, schools, churches, business blocks, water, sewerage, pavements, police and fire protection. These are the essentials of life in a municipality. Next in order come high schools, colleges, libraries, hospitals and universities. The next stage witnesses the rise of the park system, the scientific museum, the art gallery, and the zoological garden, in the order named. Of all municipal institutions, the last effort is the zoological garden, or park; and it is the high-water mark of civilization and progress.

During the last twenty years, nearly a score of American cities have become aroused to the necessity of purchasing generous areas of land for park purposes, before the march of improvements should seriously interfere with the development of broad and liberal plans. Cities of the second and third class have bought hundreds of acres, and cities of the first class have bought in thousands. In 1888-9 Washington acquired 1,500 acres; in 1884 New York purchased 4,000 choice acres in the Annexed District alone, and in 1894 Boston acquired a still broader domain of 6,000 acres. To-day the American city which does not own a generous area of unimproved, or half-improved, park land, which has been acquired during recent years, is an exception.

All this has to do with our subject, and touches the matter in hand. Give a progressive American city an abundant area of park land, and the step to a zoological garden is a natural one. As our beautiful American quadrupeds and birds disappear, interest in them, and a general desire to know them better *and to preserve them*, increases day by day. At this moment the cities of New York, Washington, Pittsburg, Providence, Buffalo, Rochester and San Francisco are at work on the zoological-garden problem, each endeavoring to solve it according to its individual

needs. Of the cities enumerated, it is feared that some are seeking success without the light of experience, and without comprehensive plans for the future.

It is folly to found a zoological garden without a most carefully studied general plan. It is unbusinesslike to plan and execute costly permanent improvements without the closest study of what has been done elsewhere in zoological garden development, and without the constant direction of a specialist. No architect, however expert in general work, can, from his inner consciousness, plan and erect a lion house, a monkey house, an aviary, or even a deer barn that will be perfectly adapted to the wants of its inmates. It would be quite as wise to build and equip an observatory without the co-operation of an astronomer as to ignore zoological garden experts and experience in the creation of a zoological garden. No matter what the line, money will always purchase expert advice, and if all American sources should fail, let it be borne in mind that there are specialists abroad, among them Carl Hagenbeck, of Hamburg, who are competent to advise on all questions involved.

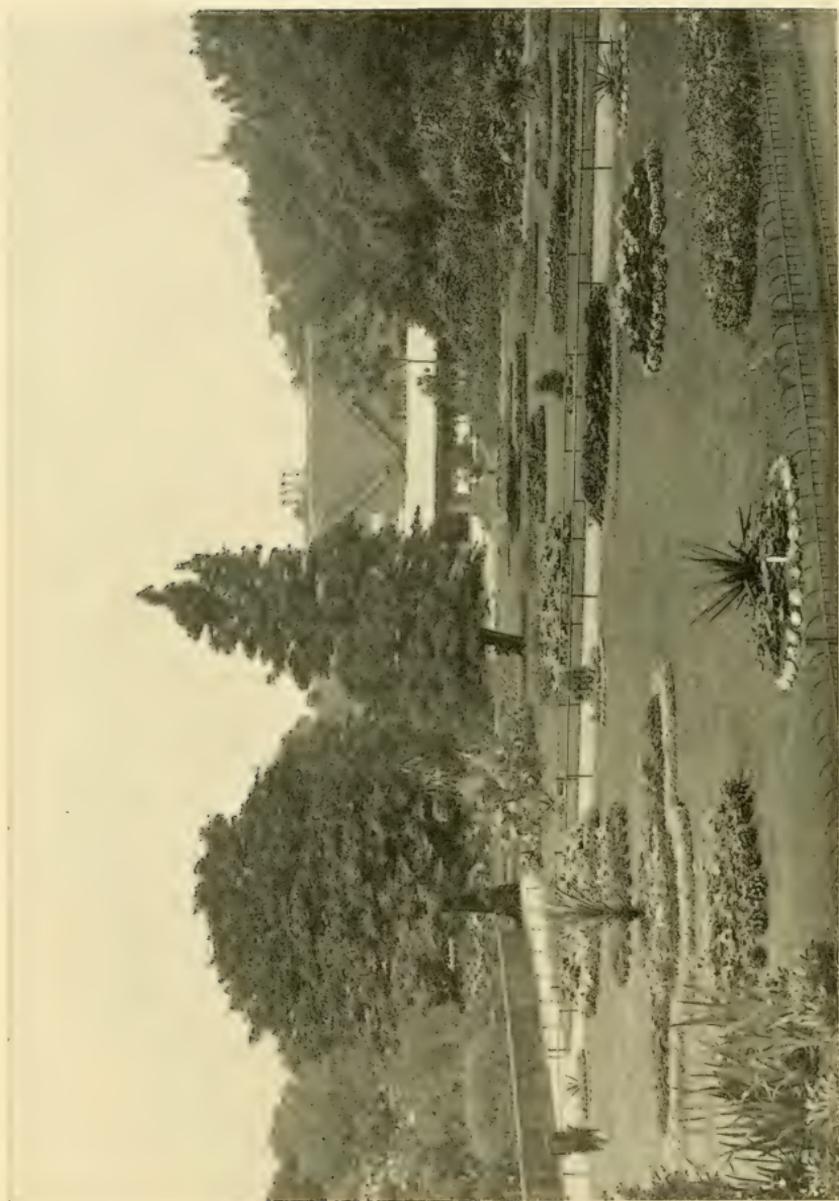
The time was when nearly every feature of a zoological garden was an experiment, with perfection to be determined by trial. That situation exists no longer. There are now hundreds of fixed scientific facts to be learned by proper effort, which, when secured and utilized, mean two things of vital importance—economy and success. Let those who are inclined to build blindly beware; for the pitfalls are many. The cost of experience, when extracted from the raw material, is always great. To those who would found successfully in this line, we offer, as a useful object lesson, the London Zoological Society and its Gardens. Between it and the zoological gardens of Antwerp, Rotterdam, Amsterdam, Berlin, Hamburg, Hanover, Frankfort, Cologne—it is impossible to name all—each of which now rises before us like a beautiful vision, it is difficult to choose. One feature, however, strongly impels the choice of the London institution, and that is, its commanding importance in the scientific world. There are other societies whose gardens contain more costly buildings, and more extensive and beautiful grounds, but there are none which have finer or more extensive collections, none which have yielded a greater store of useful zoological knowledge.

The reasons for this are by no means obscure. England is a

colonial nation. Her flag waves around the world, and on more parallels of latitude than the flag of any other country. She has consuls in all countries, all of whom are well paid. English sportsmen, travellers and men of science go everywhere; and an Englishman who does not take an intelligent interest in the animal life of the world is a rarity fit for a museum. Every Englishman is proud of his great London "Zoo," and when he meets with an opportunity to add a rarity to its world-famous collections, he gladly embraces it.* Throughout the British Empire, there is no member of the royal family, or the nobility, no colonial officer nor native prince who does not feel proud to present fine animals to the London "Zoo." Last year the list of the 268 persons who donated 575 living creatures, was headed by "H. M. The Queen," who presented "One Lion," and "H. R. H. The Duke of Connaught," who gave another. The gifts of the year 1895-6—which were no more numerous than those of other years—were, of themselves alone, enough to stock a zoological garden of the third class. The list of gifts fill thirteen pages of the Report. There are chimpanzees, baboons, macaques and lemurs; polar bears, leopards, foxes, wolves and jackals; there are zebras, deer and river hogs; squirrels, kangaroos, eagles, macaws and other birds in great variety. There are crocodiles, pythons, vipers, lizards, turtles, tortoises, and batrachians in great variety.

As an instance of the pride and interest which Englishmen take in keeping up the collections of this institution, consider "Warsaw," one of the finest tigers ever possessed by the London Gardens. Colonel Stafford, of the Afghan Boundary Commission, found him, caged and stranded at a remote railway station on the eastern shore of the Caspian Sea, without a kopeck with which to pay his fare to Warsaw. He had already come a long journey, from central Turkestan, and the journey from thence to London was little less than appalling. With commendable judgment, Colonel Stafford recognized the fact that a tiger from that northern locality would be a prize—if it could be taken alive to London. He finally purchased it, and despite the length and hardships of the long journey to the Black Sea, and from thence to England, the journey was safely accomplished, and "War-

*In some countries it often happens that the first act of a man who acquires a fine animal is to write to the nearest zoological garden, and say, "What will you give me for it?"



FLOWERS AND TREES, IN THE LONDON "ZOO,"
VIEW FROM SOUTH ENTRANCE, LOOKING NORTH.

saw" landed in the London Zoo, alive and well. There he lived for many years, and besides being the best tempered tiger ever kept in those Gardens, he was also one of the largest and handsomest. In connection with this instance of commendable enterprise in behalf of a zoological specimen, the thought occurs that in such cases the label upon the object might very properly record the fact of the exceptional difficulties which the donor surmounted in securing and transporting his gift. The knowledge of such circumstances means multiplied appreciation on the part of the public.

The Zoological Society of London was founded in 1828, and its Gardens established in Regent's Park, on 30½ acres of land held on a lease from the Office of Woods, at a nominal annual rental. In 1896 the membership of the Society consisted of 3,027 Fellows, of whom 1,880 pay £3 per year, 923 have become Fellows for life by the payment of £30, and 177 are classed as "dormant." The membership fees for the year amounted to the very handsome total of \$37,550.40. The Society owns the building it occupies at No. 3 Hanover Square, valued at £25,000, and its zoological library, which is second to none, is valued at £16,629. The animals in the Gardens are put down at £22,128, and various other properties and "accounts considered good" bring its total assets up to £73,163. The buildings and other improvements in the Gardens are not taken into account in the reckoning. Deducting a paltry £1,210 of liabilities, the salable property of the Society, without any incumbrances, has a net cash value of £71,953, which, reckoned exactly, is the equivalent of \$345,374 of our money.*

As all zoologists know, Dr. Philip Lutley Sclater is the Secretary and chief executive officer of the Zoological Society and its Gardens. It is now forty years ago that he assumed active management of the affairs of the Society, and to him, it is very safe to say, their present admirable condition is chiefly due. Rarely has it happened in this age of "specialization" that scientific knowledge and business ability have been so perfectly combined in one individual as has proven to be the case in Dr. Sclater. To his judgment, knowledge and industry, these pages are merely

*This explains why the New York Zoological Society requires the moral and financial support of 3,000 members. If our Park is to take a position in the front rank of such institutions, it will need fully that number.

an incomplete testimonial. It may be stated without fear of contradiction, that the great work accomplished by the London Zoological Society during the last forty years is largely due to the fact that during that entire period, Dr. Sclater has combined good business methods with high scientific aims and far-reaching zoological knowledge. As might be expected from the opportunities of his position, his own contributions to zoology have been very numerous and important. His published writings, from 1844 to 1896, include 1,287 titles, chiefly relating to birds and mammals exhibited in the Gardens.

The Zoological Society of London gives its members a great deal for their money. Its public functions are three fold. It is an institution of research, of publication, and of popular instruction, and it is of immense value to the public in all three.

Concerning the scientific work of the Society, it is impossible to do more in this paper than to direct attention to the thousands of zoological papers that have been given to the world, richly illustrated by colored plates from the hands of the best zoological artists, in the Society's regular publications. The "Transactions" comprise fourteen stately quarto volumes; the "Proceedings" make sixty-five thick octavos, and without them no zoological library can for one moment be considered complete. If to these volumes of research we add the thirty-one volumes of the "Zoological Record," the total of 110 volumes make a showing which it is believed cannot be matched by any other zoological body or institution in the world. The total cost of the three series of publications is, to the public, \$1,125. It must not be supposed, however, that any scientific society can produce such costly books, and distribute them to its members and to the scientific world gratuitously. Each volume has its fixed price, that "to Fellows" being always about 25% lower than the "price to the public." The Transactions range in price from ten shillings to £15 per volume, and the volumes of Proceedings, which contain colored plates, are now produced at the uniform price of 48 shillings—"to the public."

But the feature which most powerfully appeals to the millions of London, and round which the whole corporate system of the organization may fairly be said to revolve, is the Society's Gardens in Regent's Park.

Strange to say, the Gardens are rather difficult to reach. By

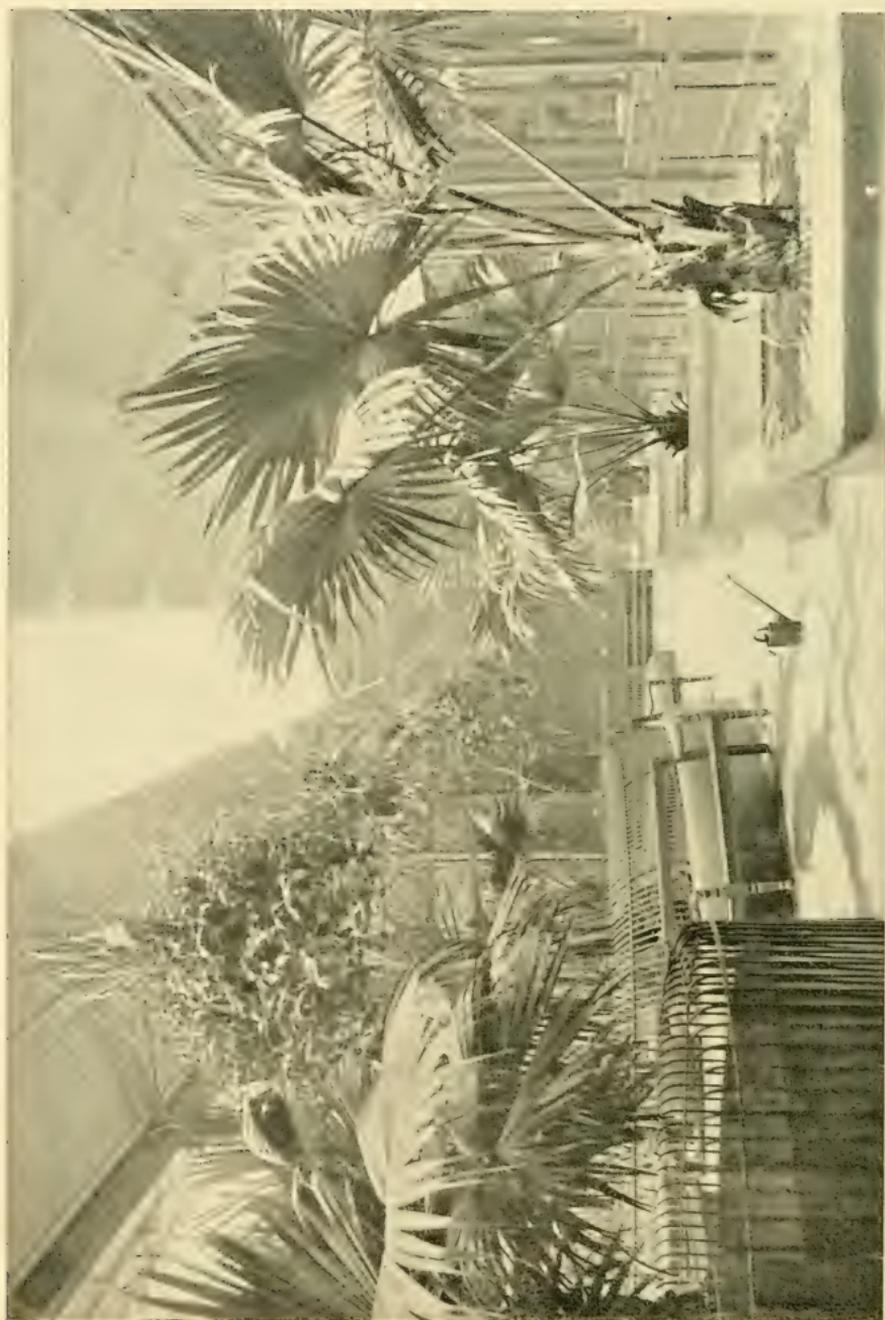
reason of their insular position in Regent's Park, they are touched by no tram cars, and by only one line of omnibuses, although other lines do land the visitor within walking distance of the gates. Of thirteen zoological gardens visited on the Continent, I remember none save the Paris Jardin d'Acclimation with such inadequate means of access as the London institution. For this, however, the Society is in no wise responsible.

If you visit those Gardens in midsummer, when rain is as badly needed as it was in July, 1896, it will seem to you like a green and delightful oasis in a brown woods-pasture.* Even at its best the upper end of Regent's Park is merely a meadow with a setting of trees; but at all times, save in winter, "The Zoo" is a botanical paradise.

Owing to its limited area, and the great number of its collections, the Gardens are a perfect labyrinth of buildings, aviaries, dens, yards and ponds, laid out in rectangles, because that is the best way to secure the utmost benefit from every square yard of space. A little study of the map will reveal the fact that no attempt has been made to secure a systematic zoological arrangement. In a large garden it is possible to secure a partial systematic arrangement of the collections, but on an area of thirty acres it may be regarded as an absolute impossibility. The other conditions to be satisfied are too numerous and too exacting to admit of it. It is the large hoofed animals that upset one's calculations as to arrangement, both in zoological gardens and in museums.

As you enter the South Gate, from the Broad Walk of Regent's Park, and look straight before you into the heart of the South Garden, you see a fine sweep of velvety green, dotted and hummocked every few feet with beds of brilliant flowers. In the distance appears the Restaurant—a very modest building in comparison with the magnificent and imposing structures that prevail in the gardens of the continent. Low, spreading trees and flowering shrubs form the boundaries of this beauty spot; and truly it is a most charming prospect. As you penetrate farther, you will find flowers everywhere, in lavish richness and profusion, and trees wherever trees ought to be. There are twenty men in the Gardener's Department, and the grounds are

*Quite recently the Gardens have secured, by means of an artesian well, an independent water supply of 240,000 gallons per day.



INTERIOR OF THE REPTILE HOUSE.

a fine testimonial to their skill and industry. Beside these thirty-one acres of sylvan beauty, completely walled in by living green, the remainder of Regent's Park seems like a meadow with oak trees—nothing more.

"We are sadly cramped for room," said Dr. Sclater, "and we can grow no more."

"You should have another slice of Regent's Park."

"They will not give us another foot of it," was the reply, in a tone implying absolute certainty.

But the Society might be much worse off than to have thirty-one good, broad acres in a public park, in the heart of London. For a garden that must be supported chiefly by gate receipts, a small site in the heart of a city is better than twice the area in suburb.

As you turn abruptly to the left, you see a long row of square flat-topped, wire-netting enclosures, with a thrifty bush, a square of grass and a graveled border in each. These are labeled "31A. THE PHEASANTS' AVIARIES;" and the careless visitor is ready to say, "That is nothing in particular. Come on." But wait a moment. Look before you, and you will see a gloriously iridescent Impeyan pheasant, or moonal, from the lofty pine-clad slopes of the Himalayas. It takes a man to climb up and kill one, to say nothing of capturing one alive. And here are magnificent Lady Amherst and silver pheasants from the interior of China, the Reeve's pheasant, the golden, the peacock pheasant and an old friend from Borneo, whose relatives the Dyaks often caught for us in their cunning snares, and whose clean, white flesh we have eaten half a dozen times—the argus pheasant. In the jungle he is beautiful beyond compare, with flesh as savory as that of the quail. There are many other pheasant species; but just beyond stands a particularly fine Reptile House, and an equally fine collection of living reptiles.

They call this building "Jumbo's Gift." When the news spread over London that Mr. Barnum had purchased that great and ugly pachyderm, crowds of people, young and old, rushed to the Gardens to feed him one last bun, and bid him a tearful adieu. The Jumbo sentiment netted the Gardens the very neat sum of \$26,400, besides the \$9,000 or so paid by Mr. Barnum for Jumbo himself; and Dr. Sclater took the money and built the Reptile House.

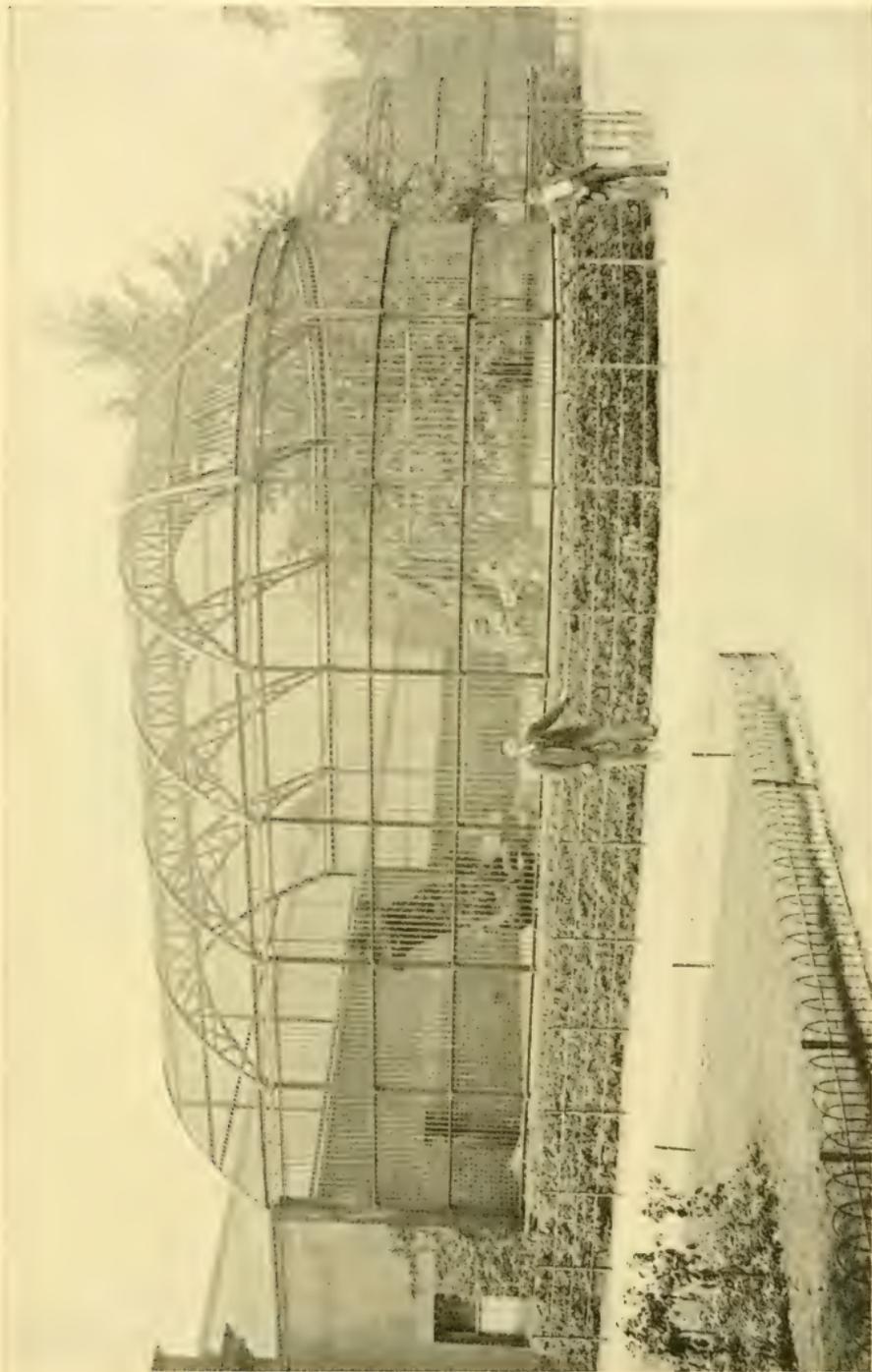
Like most zoological-garden buildings, it is only one story in height, built of red brick, and lighted chiefly from above. Along both ends and one side extend big, roomy cages, with graveled bottoms, bath tanks and tree-trunks for the dozens of huge pythons, boa constrictors, anacondas, cobras, rattlers, iguanas and lizards that inhabit them. The central floor space is partly occupied by large masonry tanks, fringed above with pointed iron bars, containing the crocodilians. Without exception, all the cages are clean, and the occupants seem well fed and comfortable. And, in all conscience, they should, considering what a menagerie of rabbits, ducks, pigeons, rats, mice and what-not, is maintained in the rear yard to furnish food acceptable to the capricious appetites within.

This house is very popular with visitors, and it deserves to be. It affords a fine opportunity to study groups of animals which, to most people, are very imperfectly known; and it is appreciated accordingly. About it there is nothing offensive, and the profusion of palms and hanging baskets gives this building the most charming interior to be found in the whole garden.

Leaving the Reptile House, and looking toward the centre of the Gardens, the visitor's curiosity is awakened by the sight of a large iron structure which looms up above the shrubbery like the lower portion of a modern steel-framed office building, going up on "the American plan." Its vaulted roof of iron bars is supported by four heavy girders, and we wonder at the lavish expenditure of iron so far above a wild beast's range of assault.

A nearer view discloses five huge outdoor cages attached to the Lion House, their high, cemented floors occupied by lions, tigers, leopards and pumas, who ought to be among the happiest of their respective kinds. Each cage is nearly large enough for a croquet ground, and contains two or more groups of rocks and tree-trunks on which the inmates love to lie and bask in the sunlight, and lazily blink at the visitors. Unlike the open-air cages of the continental gardens, these are quite without roofs, or other shelter from the weather.

The Lion House itself is wholly of red brick, unpretentious as to architecture—albeit its aspect is decidedly pleasing—and it is not too much to say that it is one of the best buildings of its kind in Europe. It must be confessed, however, that in one point—the means of communication between the indoor and outdoor cages—



OUTDOOR CAGES OF THE LION HOUSE.

the plan leaves something to be desired. In comparison with what will be necessary to accommodate the crowds that will throng our free Zoological Park, its doors and vestibules are narrow; but for a "pay garden" they seem to be ample. The total length of the building is 240 feet, and its extreme width, 70 feet. Along one side of the great interior hall extend the indoor cages, 14 in number. Six of them are 20 feet wide and 12 feet deep, the remainder are 12 feet square, and at the rear each cage is provided with two



EXTERIOR OF THE LION HOUSE.

warm, well-ventilated sleeping dens. The cage floors are of pitch pine, with a front margin of oak, to afford immunity from moisture—and rheumatism. The diet of every animal is regulated with great judgment and precision to insure no extravagance in the supply, and such weekly variations as the health of the animal absolutely requires. Like all well-regulated lion houses, this is heated by hot water (to secure an even temperature), and in cleanliness and freedom from disagreeable odors it is absolutely beyond the reach of criticism. Either from within or without, in cold weather or in hot, it is a pleasure to look at the well fed and well groomed tenants of this palace of brick, iron and cement.

The collection of large feline animals displayed in this building is certainly second to none.

In 1896 it contained one great rarity, seldom seen in captivity, even in its own land. It was a full-grown ounce, or snow leopard, of the Himalayas and Thibet, a specimen which was as good-tempered as it was beautiful. In contrast with the black leopard in the adjoining cage—a creature with a satanic countenance and diabolical temper—it seemed fairly angelic.



INTERIOR OF THE LION HOUSE.

Whenever you visit a Monkey House, and find within it a score or more of rare and beautiful marmosets, hapales and owl monkeys from South America; of lorises, slow lemurs and flying foxes from the East Indies; a fine collection of lemurs, and the wonderful—and problematical—aye-aye, from Madagascar, you may know that you are in a zoological garden of the first rank; for you will find such rare species as the above in no other kind. As to the big African baboons, the macaques, capuchins, spider monkeys and the like—they are common stock; the others are the “preferred.” As you are about to enter the long, low, many-windowed Monkey House of the London Gardens, you will notice in a cage outside a fine, robust tcheli monkey (*macacus*

tcheliensis) from Northern China. He is covered with a dense coat of fur, and so well fitted to withstand winter weather that he lives outside all the year, even when the cold is 10° below zero, and requires to be kept cool rather than warm. Evidently his temper is as warm as his body, for a placard entreats the inquisitive visitor not to irritate him.

Strange to say, the Monkey House does not contain the anthropoid apes. They live in a small wooden building in the Middle Garden, adjoining the Small Cats' House and the Kangaroo Sheds; and having been told the collection contained that rarity of rarities, a *live gorilla*, we hastened thither with all speed, lest the creature should perversely die before we had made good an opportunity to gaze upon its sable countenance. The writer confesses to a feeling of the same kind of excitement that every hunter feels when, after a long and tedious quest, he at last—and for the first time in his life—beholds the object of his pursuit. It was sheer good fortune, and nothing else, that took him to London during the lifetime of that particular gorilla, which is said to be the third specimen ever brought alive to Europe.

Morose and sullen as captive gorillas ever are, this specimen, a half-grown female, crouched on the floor at the rear of her cage, so completely enveloped in a heavy gray blanket that not even a finger-tip was visible. Upon speaking to her, she refused to notice anyone without a formal introduction. At last the keeper of the Ape House, Mr. George Mansbridge, procured an apple, approached the bars, and said, "Here, old lady! Come and get this apple. Come on, now!" In a moment the blanket began to heave, presently it fell aside, and *Troglodytes gorilla* stood revealed.

How black she was! She looked as if she had spent her life in cleaning chimneys. Slowly and grudgingly she waddled down to the front of the cage, unsteadily, like a heavy man traversing the aisle of a moving street-car. Very deliberately she received the apple sections that were offered her by Mr. Mansbridge, and ate them with the air of one who confers a favor. Her protruding stomach suggested inactivity, enlargement of the spleen, indigestion and other ills to which inactive flesh is the natural heir. Apes are just like human beings; those who will not take exercise are the first to die.

In the Ape House there were orang-utans and chimpanzees

in plenty. What interests one much more, however, is the room devoted to the gibbons—the long-armed, “living-skeleton” apes of Borneo, Burmah and Siam, who can, when pursued, almost fly through the tree-tops. Going down hill they actually turn summersaults, one after another, catching alternately with their hands and their feet, and flying forward at a tremendous rate. There were three jet black gibbons (from Burmah), two of which were of medium size, while the third was almost a giant of his kind. They perched high in the upper corners of their tall cages, and from below resembled three black imps of darkness.

The keeper spoke to them in their own language, and the response is almost beyond description. The big fellow had a voice like a steam calliope, and he was generous with it.

“*Hoo-lock ! hoo-lock ! hoo-lock !*” he cried, over and over ; and his mates answered him until the windows rattled, and our ears rang. Then he paused, made up a most diabolical wry face, drew a long breath, opened his mouth to an enormous stretch, and emitted a prolonged, ear-rasping, falsetto shriek. It was an excellent imitation of the shriek of an European locomotive.

The Small Cats' House, adjoining the apes' quarters, is the only building in the Gardens in which there is a pronounced animal odor. Although the cages are kept as clean as water and labor can make them, yet the characteristic feline odor is there. Amongst zoological garden men, it is generally conceded to be practically inseparable from every large collection of small Felidæ. For this reason, there are some zoological gardens on the continent from which small cats are absolutely banished. Notwithstanding the admitted impossibility of maintaining a collection of the smaller Felidæ on an odorless basis, the group is so large, and to most persons so interesting, it seems that its representatives should be kept. In America, certainly, with its fine array of lynxes, wild cats, “bob” cats and ocelots ; its yaguarundi, eyra, and other forms, their entire absence from a zoological garden which assumes to be reasonably complete, would be quite inexcusable.

By many zoological garden authorities on the Continent, the kangaroo collection and its installation in the London Gardens is said to be the best in existence. And inasmuch as England owns the entire kangaroo fauna of the world (excepting the New Guinea tree-kangaroo), this is quite as it should be. The kanga-

roos of the London Gardens live in long and rather narrow yards that are enclosed by iron fences, and completely covered by roofs of glass. Along the rear extends a low and unpretentious shelter-house of brick. The yards are always well filled, and the number of species really is surprising. As usual, the kangaroo babies attract more attention than their parents, and one of the drollest sights to be seen in all the Gardens is a patient macropian mother going about her daily work with a long-eared, big-eyed baby—abundantly able to hop alone—looking out of the top of her pouch.



THE MONKEY HOUSE.

The Middle Garden contains the Elephant and Rhinoceros House, but in summer the visitor usually finds those huge pachyderms ponderously marching up and down their well shaded yards, or bathing in the great tanks of brick and cement that have been provided for them. Not far beyond is situated the Giraffe House, never tenantless but for one period of two years, when the supply of giraffes from the Soudan was cut off by the ever-troublesome Madhi. Like the pachyderms, these great beasts never seem so fine, so attractive, and so interesting as when they are stalking about in commodious open yards, in evident enjoyment of the air,

the light and freedom ! And why should they not be happier than any of their congeners in Africa? They are safe from the rifles of the game-killers, hunger and thirst they know only by hearsay, and if they are ill their meals are cheerfully sent to their rooms.

To show the richness of the various collections in this marvelous gathering of living creatures, we may point out that when the new dens for the wolves and foxes were completed, in 1887, the gathering of the *Canidae* scattered about the Gardens revealed 30 specimens, representing 20 species, from many different parts of the world. The collection of bears seldom contains fewer



THE POLAR BEARS' DEN.

than nine species. The Antelope House is always well stocked with representatives of the most beautiful and conspicuous of the many African species known to science, such as the superbly handsome sable antelope, the hartebeest, the beisa antelope, the nagor, harnessed and sing-sing antelopes, the gnu, the eland and others.

In the London Gardens it is possible to see a handsome hog. In 1896 one of the compartments of the Swine House was occupied by a red river hog, which really was a beautiful animal. He was of good size and pleasing proportions, and instead of the mean, clam-shaped ears of most hogs, his were thin and spatulate, and

each one tapered into a long, flowing pencil of red hair, which reached back far across his shoulder. His hair was quite abundant, of a brick-red color, and so clean and so bright it seemed as if Nature had bestowed upon him all the color that was denied to his hideously ugly neighbor, the wart hog, and the other Suidæ.

Of the Sloth's House, and its admirable collection of sloths, ant eaters, ant bears, armadillos and pengolins ; of the collection of bison, buffaloes, gaur and gayal at the Cattle Sheds ; of the collection of wild goats and ibexes, from India and elsewhere ; of the collection of zebras and wild asses, of deer, and of gazelles, it is impossible to speak in detail.

Nor is it possible to convey, in the remainder of the space available for these notes, an adequate impression of the extent of the bird collections, and the wide range of their contents. The species are so numerous, and their demands in the matter of care are so exacting, imposing effects in aviary construction and arrangement have been sacrificed on the altar of utility. We find here but two aviaries which are in line with the finest structures of the same nature in such gardens as those of Antwerp, Amsterdam, Rotterdam and Berlin. There are the Vultures' Aviary, and what is set down (oddly enough) as the "Night Herons' Aviary." Great is the temptation to call the latter the Flying Cage, and this term will be adopted in the New York Zoological Park. At the precise moment of the writer's visit, a particularly brilliant scarlet ibis was in full flight in its top, at least 30 feet from the ground, flashing like a burst of scarlet flame from one end of the cage to the other (66 feet), wheeling gracefully against the rich green foliage, and sweeping back again. Perching—and also nesting—in the living trees that grew in this mammoth cage were egrets and herons, and also roseate spoonbills ; and their graceful evolutions on the wing, back and forth, in the joy of freedom in security, distinctly conveyed the impression that they regarded their cage as a cage in which to fly !

In the centre of the enclosed space—it seems like misnaming to call it a *cage*—was a pool of clear, running water, and a rocky islet, surrounded by banks of velvety grass, clumps of shrubbery, and small trees galore. It was the most charming enclosure for living creatures that the writer had ever seen ; and it is to be regretted that its great size and the density of the walls of living green that surround it quite prevent an adequate portrayal of it



THE HERONS' AVIARY.

by photography. Of its living contents, the most conspicuous were the tall and superbly-dignified flamingoes who stalked majestically over the green carpet, and from their lofty stilts looked down disdainfully upon the flock of gulls that paddled in the pool and squabbled over bits of food as if such a feeling as dignity was to them unknown.

On the continent there are two more flying cages of this type, one of which is at Paris, in the Jardin des Plantes—a beautiful structure, architecturally—and the other is to be found at Rot-



THE EAGLES' AVIARY.

terdam. The latter was erected by the late Dr. A. Von Bemmelin, for many years Director of that beautiful Garden. His was the first ever constructed, and so completely is it a part of the forestry of the Garden that wild herons actually build their nests and rear their young in the tree-tops that surround it.

We intend to erect a Flying Cage in our Zoological Park, in a charming spot that nature has prepared for it. To make it as large and as perfect as we wish to make it, and to stock it with the various flocks of showy and beautiful birds which we wish it to contain when the opening day arrives, will cost between \$4,000

and \$5,000. The only question about it is,—will the price be available? From the first \$100,000 of the Building Fund, we fear it can not be taken; but it would constitute an attractive gift.

Frequently is the question asked,—“How many animals are there in the London Gardens?” In April, 1896, there were 768 quadrupeds, 1,267 birds and 334 reptiles, making a total of 2,369 living creatures (fishes and insects not counted), valued at £22,128 (\$106,214.40). Of this number there were born in the Gardens during the previous year, 57 quadrupeds, 76 birds and 8 reptiles. The gifts numbered 575 specimens, the purchases were 192, there were 259 specimens received on deposit, and 136 were obtained in exchange, making a total of 1,303 accessions during the year.

But wild animals do not live forever, even in the best zoological gardens. The total number of deaths during the year was 1,092—rather more than the average. The mortality amongst the Felidæ chanced to be unusually heavy, and robbed the Gardens of a tiger, 3 leopards, 2 cheetahs and a puma, besides which there also died a polar bear, a Burchell's zebra, a grysbok, and two male ostriches. And this brings to mind the continuous draught of regret that must be quaffed by the executive officer of every zoological garden. None of his animals are immortal, and, care for them as he may, sooner or later all are bound to die.

During the 70 years of their existence, the London Gardens have contained 770 species of mammals, 1,676 species of birds, and 420 species of reptiles, on exhibition and available for study. The printed “List of Animals” that have lived in the Gardens since 1830 makes two thick octavo volumes of about 650 pages each.

Few persons have had an opportunity to know the extent and curious variety of the bill of fare of the inmates of a large zoological garden. Not only is the variety great, but the amount of food consumed really is astonishing. To satisfy popular curiosity on these points, the Council of the Zoological Society has compiled and published a statement of the provisions consumed in the Gardens by the 2,369 animals living there in 1895-6. The following is the list:

| | | | |
|-------------|-------------|---------|----------|
| Clover Hay, | 113¼ loads. | Maize, | 70 qrs. |
| Meadow Hay, | 131 loads. | Bran, | 350 qrs. |
| Oats, | 144 qrs. | Canary, | 15 qrs. |
| Wheat, | 43½ qrs. | Hemp, | 11¼ qrs. |

| | | | |
|--------------|-------------|-------------|------------|
| Rape, | 1 qr. | Greens, | 37 bush. |
| Millet, | 3¾ qrs. | Cabbage, | 260 doz. |
| Barley, | 28¼ qrs. | Onions, | 3 bush. |
| Bread, | 5,515 qtns. | Watercress, | 3,436 bun. |
| Biscuits. | 302 cwt. | Nuts, | 33½ pks. |
| Rice, | 78 cwt. | Lettuce, | 229 doz. |
| Oil-cake, | 56 cwt. | Apples, | 138 bush. |
| Mawseed, | 28 cwt. | Pears, | 2½ bush. |
| Buckwheat, | 6 qrs. | Grapes, | 1,156 lbs. |
| Ground Nuts, | 29 cwt. | Dates, | 1,395 lbs. |
| Barley Meal, | 3 cwt. | Oranges, | 169 hund. |
| Oatmeal, | 2 cwt. | Carrots, | 132 cwt. |
| Milk, | 5,120 qts. | Potatoes, | 59 cwt. |
| Goats, | 197. | Cherries, | 9 boxes. |
| Flounders, | 2,184 lbs. | Marrows, | 35 doz. |
| Whiting, | 26,520 lbs. | Eggs, | 23,954. |
| Shrimps, | 1,252 qts. | Horses, | 200. |
| Fowl-heads, | 7,512. | Bananas, | 1,149 doz. |
| Rough Fish, | 9,667 lbs. | Melons, | 50 doz. |

Like all the zoological gardens of Europe, save the Paris Jardin des Plantes, the London "Zoo," as it is always called by the London public, is a "pay garden," to which there are no



THE KANGAROO YARDS.

free days. Regular admission is a shilling for adults and sixpence for children, but on every Monday the admission is sixpence for everyone. On Sundays the Gardens are closed to all persons save members of the Society and their friends, and those provided with special passes. The privileges of members—or "Fellows" as they are called—are many, but they pay smartly for them. The initiation fee of a member is \$25, and the annual dues are \$15; but the latter may be compounded for life by the payment of either \$100 or \$150, according to circumstances. Members are allowed to take their wives to the Gardens without payment, but there is a limit to the admission of friends.

During the year 1895-6, the Gardens were visited by 665,326 persons. Only twice since 1871 has the annual number of visitors fallen below 600,000, and eight times since that year it has exceeded 700,000. The high-water mark was reached in 1876, the year of the exhibition of the Prince of Wales' Indian Menagerie, when the turn-stiles clicked for 915,764 visitors. The greatest number of visitors in a single day was 42,000, who came on the August bank holiday of 1876; but 30,000 on a holiday is by no means an unusual number.

To Americans—and to all others who require zoological gardens—the income and expenses of the Zoological Society of London are matters of practical interest. For the year ending April 29th, 1896, the principal items of the former were as follows:

| | |
|---|---------------|
| Admission to the Gardens, | \$ 75,067.20 |
| Members fees and dues, | 37,550.40 |
| Income from refreshment privileges, riding animals, and sales, | 10,233.00 |
| Other items not relating to the Gardens, | 6,449.96 |
| | <hr/> |
| | \$ 129,300.56 |

The total expenditures during the same period on account of the Gardens alone, and leaving out of account the expenditures for the library, publications, rent, taxes and insurance, amounted to \$97,764. It may be stated that, in round numbers, the annual cost of maintaining the London Gardens is \$100,000.

The staff at the Gardens remains, from year to year, about the same. It consists of a Superintendent,* an Assistant Superintendent (in 1896, Mr. Clarence Bartlett, who is now Superin-

*For thirty-eight years this position was filled most acceptably by Mr. A. D. Bartlett, who finally died "in the harness" in May, 1897, only a few months after the author's last visit to the Gardens.

tendent), 1 Head Keeper and 23 Keepers, 3 Money-takers, 1 Store-keeper, 1 Prosecutor's Assistant, 1 Head Gardener, 13 Garden Laborers, 19 Helpers in the Menagerie, 9 Artisans, 7 Painters, 9 Laborers, 2 Butchers, 1 Cook, 2 Firemen, 2 Night Watchmen, 1 Time-Keeper and 2 Messengers, making a total of about 100 persons. The salaries paid (other than those to the Superintendents) are low, as is the case in all European gardens; but faithful employees are retired on pensions when they grow old in the service. A Keeper of skill and experience, in charge of a



RESIDENCE OF SUPERINTENDENT CLARENCE BARTLETT.

large and valuable collection, informed me that he receives thirty shillings per week, (\$7.20.) While this seems like a small sum, the agreeable nature of his duties, the certainty of increased pay with longer service, and of a pension when he becomes too old to work, renders its acceptance desirable. In no institution is continuity of acceptable service more desirable or more necessary to success than in a zoological garden. The testimony of the officers in charge of the institutions at London, Antwerp, Amsterdam and Berlin exactly coincided on these points: (1) Select keepers most carefully, (2) retain the good ones permanently, (3) increase their pay steadily, and (4) pension them off comfort-

ably in old age. The pursuit of this policy yields the maximum of intelligent, faithful and conscientious service.

Any American who visits the great cities of north-western Europe, and fails to see their zoological gardens, robs himself of a great amount of enjoyment. The points of difference between those institutions are so numerous, and the features of surpassing excellence are so thoroughly scattered, each garden has its own individuality, and it is well worth while to see them all. In a picture gallery, the strain upon the eyes, the brain and the body is constant. In a zoological garden, the restfulness of it is equally constant. It is a series of charming dissolving views of foliage and flowers, green grass and placid water, and a constantly changing variety of interesting and beautiful living creatures. If one tires of walking, there is the shady grove, or nook beside the water, inviting one to rest, without the endless procession of vehicles, and the beat of horses' hoofs, which the rest-seeker in Hyde Park, or Central Park, seldom can escape.

As all the world knows, New York City is over-crowded ; and each year the congestion of certain districts becomes more serious. As is always the case in cities, the poorest people are those who suffer most, because it is so very difficult to place within their reach great areas of pure air, and restful woods and waters, at a price which they can afford to pay. Can it be doubted, then, that an undertaking which proposes to make accessible, for a few cents in car-fare, a beautiful natural world in miniature, of forest, stream, lake, meadow and rock, peopled with living creatures, is a philanthropic enterprise of the first magnitude, quite aside from its educational value? We think not ; and when the New York Zoological Park stands as *un fait accompli*, the people of this city will realize that they owe much to the zoologists of London, Berlin, Amsterdam, Antwerp and other European capitals for having developed the peculiar field of scientific enterprise which has given the world the modern zoological garden.

A SCHOOL OF ANIMAL PAINTING AND SCULPTURE,
IN THE NEW YORK ZOOLOGICAL PARK.

BY ERNEST SETON THOMPSON.

Presented at the annual meeting of the Society, Jan. 11, 1898.

A London *Times* art critic not long ago hurled at America the reproach that with all our glorious landscape, and our noble game animals so fast disappearing, we have not yet produced a great painter of wild life.

To produce a great animalier we must have two things—ability and opportunity. Obviously an eagle cannot soar if he is buried six feet under ground. No one can say whether or not we have been persistently smothering born animaliers by denying them opportunity, and the point is not worth discussing here; but I could readily show that there is in this country a very wide-spread and growing taste for representations of animals.

My contention now is for the giving of better opportunities to the would-be animalier.* There come to our art schools each year young would-be animaliers whose art inspiration is founded on a love of animals, and who yet realize that there is only one road to art, *i. e.*, through the schools. At present the schools are wholly devoted to the study of figures and landscape. They afford no opportunity whatever for studying animals. There is not in America to-day for the student of animals a single available collection of paintings, photos, books, casts, sculptures, skeletons and animals such as are necessary to develop the animalier.

Before going into details of his necessities, let me outline the career of the typical student, and, although a type, it is also a portrait of many I could name. He comes to New York or Boston to get a good grounding in art. From first to last, all the influences tend to push him away from animals. He looks forward to a chance when he gets to Europe. He goes to Paris. He is told that there is only one road to art, and that is by way of the

* I adopt the European word as being brief, and covering the ground of all our clumsy expressions, "animal-painter," "animal-sculptor," and "animal-illustrator."

academies. He must there "learn his trade, then apply his skill where it suits him."*

This sounds reasonable, but how does it work out? Intelligent, cultivated sympathy is the basis of all good work in art. The student has his culture, his intelligence and his sympathies forced into other channels; the best years for learning are not devoted to the line of his real talent, and he is either handicapped for the race, or forced out of it altogether before his natural bent can recover from the academic incubus.

In 1894, a number of students in Paris were so impressed by the necessity for a different state of things that I was deputed to go to the Director of the Jardin des Plantes to ask for a better chance to study the animals, and for access to the vast collections of priceless material in the way of skeletons, casts and pictures in the adjoining galleries. Prof. Milne-Edwards heard me attentively. His reply was brief and emphatic:

"My friend, this is a menagerie, not an art school. We are not going to run in opposition to the Beaux Arts. We admit art students here as a favor, but art work is outside of our objects as a corporation."

I replied, "Am I to understand that under no circumstances will you give any better privileges to artists?"

He answered: "If M. Fremiet† will take an active interest, and undertake to say what is wanted, and does not ask for anything that will entail additional expense, we will consider the matter."

I went to M. Fremiet. His reply may be thus condensed:

"I hate teaching. I cannot be bothered with administrative work. I have too much work of my own on hand to undertake fresh responsibilities at a place so remote from my home as the Jardin des Plantes."

I had one more resource. I went to M. Julian, the founder, manager and proprietor of the celebrated Julian Academy. He heard me with much interest, and said:

"The subject is not only very important, but a very live one just now. Not long ago the director of the Jardin d'Acclimation came to me and said: 'The time is ripe for making Paris the headquarters of a great school of animaliers. We will place

* These were Gerome's words on the subject.

† The famous animal sculptor.

at your disposal a building, and our animals, if you will undertake to manage it.' The scheme was a most alluring one. Had I been twenty years younger I would have entered into it with great enthusiasm. But when I considered the newness of the field, the tentative nature of each step under the circumstances, the worry of inventing appliances for everything, the poorness of the probable pay, the remoteness of the gardens from my own home and from my other work, and, above all, the fact that my health is very poor, I reluctantly declined to undertake it."

My information on the subject so far as Germany is concerned is derived from students who left Berlin and came to Paris in the hope of getting a better chance to study animals. So far as I could make out, there is not much to be learned there in the conduct of an animal-art school.

In London the Zoo is essentially for zoologists. What would a microscopist, a writer or a mathematician think if he had to do his work exposed to the weather, and surrounded by a jostling rabble of unmannerly persons! Surely an artist's work requires his whole attention as much as does that of the classes named.

The demand in London at length induced Mr. W. Frank Calderon to found, in 1892, a private school of animal painting. Although his quarters are very small, his equipment meagre, and his animals limited to two or three of the domestic species, the attendance has doubled each year, and to-day he has, I understand, one hundred students, and must move into larger quarters.

Last summer I made a beginning in this direction by opening a school at Tappan. My equipment consisted of a large building, a few good skeletons, the latest works on anatomy, a few casts of animals, and, for living models, one or two domestic species. The season was so far advanced before I was ready that the attendance was not what it might have been. Also, I lacked two essentials—convenience to New York, and the more interesting wild animals.

I have given but an outline of the evidence I have on this subject, but if the Zoological Society desires it, I can amplify to any extent. This much is clear to me: *The time has come for a great art school for studying animals.* Unless it takes form at New York, it will at some other point; and wherever it is founded, it will in time make that place the headquarters of animal painting and sculpture.

New York is undoubtedly the place for it ; and it seems to me that such an institution is worthy of being considered a prime object with such a body as our new Zoological Society. The ordinary expenses of the Zoological Park need not be sensibly increased by such an undertaking, once the accommodation is provided ; and yet it does not seem unreasonable to claim that the Park might thus double its usefulness.

The practical needs of the student, touched upon in my previous communication,* may here be enlarged upon, and enumerated about as follows :

ANIMALS MADE SERVICEABLE FOR STUDY.—This may be done in two ways. First, by having one or more convenient cages in a studio ; second, by having places behind, or in the cages or enclosures, where the artist can get a good view of his model without being harassed by the public, or exposed to the weather.

STUDIO.—There should be a commodious, well-lighted and well-equipped studio, which should be available to students at all times compatible with proper administration. Notwithstanding its disadvantages, the Jardin des Plantes has some four hundred art students on its roll. If good facilities were offered, this number would soon reach one thousand ; but that, of course, is in Paris. In the New York Zoo, with such facilities as I am advocating, it would be very safe to say that two hundred art students would enter the first year. The average daily attendance would probably exceed ten. A convenient studio for such a number would not be less than 30x40 feet, by 20 feet at the eaves. And even this, I believe, would have to be enlarged within a very few years. The studio should have large north side and top lights, with arrangements for regulating the same, and for admitting sunlight. It should also be provided with lockers for the students' effects. I should have at least one carefully devised cage that would permit students to work all around it.

EQUIPMENT IN GENERAL.—The difficulties of the animalier are unusually great ; therefore his equipment should be unusually good, not unusually poor, as at present. His studio equipment

*Vide the First Annual Report, Page 61.

should consist of casts, photographs, pictures, books and mechanical appliances, including facilities for making dissections.

The models of the figure-painter pose for him, those of the animalier never do. Therefore, more than any other artist, he must work from knowledge of his subject. Obviously then, a thorough knowledge of its form and anatomy is essential. Nor is this mere theory. Barye, Landseer, Bonheur, Fremiet, Gericault, Swan, Riviere—indeed, every successful animalier that ever has been, was an earnest student of anatomy.

CASTS.—There are numbers of anatomical casts in the market, but the best are the private property of such institutions as the Beaux Arts and the Galerie d' Anatomie Comparée at Paris. These are almost beyond the reach of the student, though no doubt copies would readily be furnished to an important corporation making proper application.

Some of the most valuable material consists of careful casts from freshly-killed animals. These cannot often be made in the wilderness, for obvious reasons. Practically there is only one place where they can be made, and that is the menagerie, where expert assistance and the best appliances are available. Of casts from statuary it will be quite easy to form a valuable collection at slight expense as soon as a place is prepared for their reception.

SKELTONS.—Fremiet voiced the sentiments of the zoological art world when he said to me, "The most important thing about an animal is its skeleton." A collection of available typical skeletons alone would attract a crowd of earnest students; but they must be *available*; and that does not mean in glass cases, or a mile away—but handleable, measurable, and at hand. Of course, this means breakage and loss in course of time; but what are they for if not to be used?

SKINS.—In the practical working of my own school I found a few good skins very valuable. We must remember that color is a comparative term. An object is one color in one light or setting, and another in a different one. No one can foretell what it will become under the next change, and yet all have an instinctive knowledge whether it be right or wrong. The only way to learn the proper effect is to have a skin to place in the desired light.

BOOKS.—The number of books that can directly assist the artist is very small, and they are all sure to be found in a well-equipped zoological library.

PHOTOGRAPHS.—Photography has done much in the way of killing conventionalisms and bringing art nearer to the truth. A good photograph will often save the artist a vast amount of labor, and a good collection of photographs would surely be of great service.

PICTURES.—A good picture is a perpetual teacher. Pictures by masters are expensive, but valuable service might be rendered by photographic and other reproductions of standard works. And if a proper place to exhibit were provided, good pictures might be loaned, or even presented, by those who become convinced that they would promote good work.

Experience has made known an important fact that cannot be over-emphasized. An equipment costing only \$100, but right at hand in the studio, is worth far more than a \$1,000-equipment in the next block. No man can write advantageously half-a-mile from all reference books. A modest equipment of one hundred good books at his elbow is of far more practical use to him than the Astor Library across the city; and the case of the art student is parallel.

Finally, an outfit of easels, stools and modelling stands is necessary; but these might be purchased by each student for himself, at least at the outset.

TEACHERS.—The question of a professor will naturally be raised; but it is not so important as it may at first seem. For a long time Julian's Academy was run without any teachers. What the student needs chiefly is *the opportunity of working from animals*, and the matter of tuition can well be left to the future. The pressing needs of the student animalier will be amply met by furnishing and equipping a studio as outlined. The only surveillance necessary would be to see that the privileges were not abused.

NOTE.—In accordance with the previously declared intentions of the Society, regarding opportunities for animal painters and sculptors desiring to work in the Zoological Park, it is a great pleasure to state that studio accom-

modations sufficient for a large body of working artists and art students have been planned on what is believed to be a liberal scale.

The Lion House will contain a studio 21x26 feet, connected by a miniature railway with every cage in the building, and into which any of the feline animals, wolves, foxes, or bears can be made to do duty as living models. In the Monkey House there will be another studio, somewhat smaller, and the corrals for the ruminant animals will also be provided with special accommodations for artists. The most important studio, however, will be situated on the second floor of the Administration Building. Its dimensions will be 20x50 feet, and immediately adjoining it will be the gallery for animal paintings and statuary, and the Society's library.

In the planning of these studios, advice has frequently been sought from Mr. Thompson and Mr. Daniel C. Beard, and will be throughout their entire development.

W. T. H.

THE DESTRUCTION OF OUR BIRDS AND MAMMALS :
A REPORT ON THE RESULTS OF AN INQUIRY.

BY WILLIAM T. HORNADAY.

Unless man is willing to accept a place in the list of predatory animals which have no other thought than the wolfish instinct to slay every living species save their own, he is bound by the unwritten laws of civilization to protect from annihilation the beasts and birds that still beautify the earth, and still make it interesting.

The only way to save our birds and mammals from annihilation is to arouse an active national sentiment in favor of their preservation. During all these years of destruction—in the course of which the state of Florida, once marvellously rich in bird life, has been swept almost as clean of birds as is the Colorado desert—we have witnessed the strange spectacle of all our zoologists (save a very few) wholly engrossed in their studies, and leaving to the sportsmen the task of law-making and game preservation. Worse than that, there are those who will even accuse the oologists of setting a pace for the juvenile army of nest-robbers that now takes the field every spring. The ornithologists of Massachusetts and of New York, and a few of the active members of the American Ornithologists' Union and the Audubon Society, really have taken a hand in the enactment of laws for the protection of birds generally. Doubtless others will do likewise ; but there is no escape from the hard fact that, as a body, our ornithologists and mammalogists, our scientific museums, the professors of natural history in our higher institutions of learning,—in fact, *the very men most deeply interested in the preservation of our fauna*,—have been strangely, almost fatally, apathetic regarding the existence of the creatures they claim to love. Their love of natural history has been so great that in the intensity of their studies, and in the increase of their "material" for purposes of study, they have not noticed the carnage going on around them !

In the course of the correspondence of the New York Zoological Society with hunters and collectors regarding a future supply of American mammals and birds with which to stock the Zoological Park, the extent of the disappearance of our vertebrate fauna, as a whole, has become painfully evident. It seems that the war of annihilation, now going on with great activity against all our wild creatures, indiscriminately, is far more universal and far more fatal in its effects than people are aware.

In order either to verify or disprove what appeared to be the existing facts, and to discover possible remedies for existing evils, the Society resolved to make a brief but pointed inquiry into conditions affecting bird life as they exist to-day throughout the United States.

The prime object of this inquiry, and the report on its results, is to call universal attention to the fact that the whole volume of bird and mammal life in the United States is decreasing at an alarming rate. To that object, the question as to what species are disappearing most rapidly, or most generally, is but a side issue. That is a branch of our subject which might be pursued indefinitely, and it would be both easy and interesting to devote to it a great quantity of time and labor which might much better be expended in the promotion of measures to arrest the universal slaughter.

In seeking a method by which the extent of bird destruction—or preservation—might be reduced to figures and averages, it seemed entirely possible for any person who is specially interested in birds, and who has lived for several years in a given locality, to make and furnish a general estimate as to the abundance of bird life about him to-day in comparison with what it was ten or fifteen years ago. Accordingly, the following questions were prepared, and addressed to persons competent to answer them :

1. Are birds decreasing in number in your locality?
2. About how many are there now in comparison with the number fifteen years ago? (one-half as many? one-third? one-fourth?)
3. What agency (or class of men) has been most destructive to the birds of your locality?
4. What important species of birds or quadrupeds are becoming extinct in your state?

In each state and territory several observers were addressed, and an effort was made to cover the various sections of each large state. Had every addressee responded with a report, the results would have been more voluminous, but it is doubtful if the figures given herein would have been greatly changed. While the majority of the persons addressed were ornithologists, and associate members of the American Ornithologists' Union, the list of observers was purposely made to include many well-known sportsmen, guides, collectors of animals, and taxidermists.

The fact that the inquiry was intended as a step in the direction of preservation awakened keen interest, and brought forth reports from nearly two hundred observers, representing all states and territories in our country, except three. Fully 90 per cent. of the reports bear unmistakable evidence of having been prepared with conscientious thought and care. Many are very full, and particularly valuable by reason of their wealth of detail. The closeness with which the estimates of different observers in a given state or region agree with each other is quite surprising, and this may justly be regarded as evidence of their scientific value. There is no longer room to doubt the possibility of obtaining a collection of estimates which, when combined and correlated, yield a true statement of conditions as they exist to-day. As a whole, they constitute a mine of information which will undoubtedly prove of service in the organization of more comprehensive measures for the protection of our living creatures.

With these reports before us, and from other data in our possession, it would be an easy matter to fill a volume with the history of bird and mammal annihilation in North America down to the present year. The temptation to do so is great, and particularly so when we are thus brought face to face with the fact that *our most highly-prized species*—the "big game" quadrupeds, the fur-bearers, the gallinaceous game birds, water-birds, herons, shore-birds, and most beautiful song birds—*are the very ones that are most persecuted, and that are disappearing most rapidly.*

For the present, however, a comparatively brief statement, embracing a concise summary and digest of ascertained facts, may be brought to the attention of a greater number of readers than could be reached by a more voluminous report.

Without any desire to be sensational, or to be considered an alarmist, it may be said that the facts now established fully war-

rant the belief that unless much more radical and much more general protective measures are taken forthwith, the next fifteen years will witness the total annihilation within the United States of practically all our birds except the warblers and sparrows, and all our wild quadrupeds save the rabbits and the small species that burrow in the earth.

Whether this belief is warranted by existing facts, the reader will now have an opportunity to judge for himself.

DESTRUCTIVE AGENCIES NOW IN OPERATION.—In studying the reports now before us, the inquirer is bound to be impressed by the great variety of causes operating to bring about the annihilation of our birds and quadrupeds. With but very few exceptions, wherever bird life or mammal life still exists, there will be found a full complement of destructive agencies, hard at work, trying to break down the barriers by which nature or the humane portion of mankind is endeavoring to save our fauna from destruction. Wherever living creatures are still striving to hold their own, in something like abundance, there are the destroyers most numerous, both in kind and in number. Wherever there are birds that can be considered edible, or classed as "game," there will you find the sportsman, the idler, the market-hunter, the farmer and the "game hog," with dogs, or decoys, or baits of grain, and hired help of every kind available, afield early and late, eager to "kill something," eager to make "a good bag." Each class of destroyers is keenly anxious to kill all the birds before "the other fellows" get a chance to do so. These five classes of gunners spread over the fields and forests of nearly the whole United States where edible birds make their homes and rear their young.

If the reports before us are true, the boys of America are the chief destroyers of our passerine birds, and other small non-edible birds generally. The majority of them shoot the birds, a great many devote their energies to gathering eggs, and some do both. Wherever there are herons who bear the fatal gift of "plumes," there will the plume-hunter be found, hard at work. Every now and then, the newspapers and sportsmen's magazines record sickening details of the slaughter of gulls, terns, doves, or ducks; of brutal "side" hunts; of enormous catches of trout, bass or other game fishes. It is estimated that during last

autumn's hunting season, three thousand hunters entered the Maine forests in quest of deer, moose and caribou. Not taking into account what they killed and ate while in camp, they brought out 2,640 deer, 102 moose, and 53 caribou; and concerning the ability of those three species to survive the attacks of the army of riflemen that annually sweeps through the forests of Maine, Mr. Caton, State Game Warden of Maine, has expressed the opinion that it is only a question of a very short time when the moose and caribou will all have disappeared from the hunting grounds of Maine. It has been estimated that during the past season 7,500 deer were killed in that state.

Of the series of one hundred and ninety reports now before us, about 80 per cent. declare a decrease in bird life, and state the causes therefor. The list of destructive agencies now operating against our birds is a long one, and it is interesting to note the number of observers who complain of each. The figures given below show the number of observers who have reported each of these various causes in answer to the third question in the list.

CAUSES OF DECREASE IN BIRD LIFE.

| | | | |
|-----|---|----|---------|
| 1. | Sportsmen, and "so-called sportsmen," | 54 | reports |
| 2. | Boys who shoot, | 42 | " |
| 3. | Market-hunters and "pot-hunters," | 26 | " |
| 4. | Plume hunters, and milliners' hunters, | 32 | " |
| 5. | "Shooters, generally," | 21 | " |
| 6. | Egg-collecting, chiefly by small boys, | 20 | " |
| 7. | English sparrow, | 18 | " |
| 8. | Clearing off timber, development of towns and cities, | 31 | " |
| 9. | Italians, and others, who devour song birds, | 12 | " |
| 10. | Cheap firearms, | 5 | " |
| 11. | Drainage of marshes, | 5 | " |
| 12. | Non-enforcement of laws, | 5 | " |
| 13. | Gun clubs and hunting contests, | 5 | " |
| 14. | Trapping birds for sale alive, | 2 | " |
| 15. | Prospectors, miners and range-riders, | 2 | " |
| 16. | Collectors (ornithologists and taxidermists), | 5 | " |
| 17. | Colored population, | 4 | " |
| 18. | Indians (for decrease of game quadrupeds), | 4 | " |

SLAUGHTER OF ALL EDIBLE BIRDS.—In the absence of deer, elk, bear and other large mammals, the well-nigh universal desire to range afield and “kill something,” expends itself upon the so-called “game” birds. Thousands of usually conscientious sportsmen and farmers find an excuse for killing the last grouse, duck or snipe in their locality in the fact that the bird is a “game bird,” *i. e.*, fit for food, and therefore deserving of death before the gun. And when finally the work of extermination in a given locality is complete, and the most earnest search of thicket and pond fails to put up a single bird larger than a sparrow, how infinitely touching is the complaint, uttered with an air of injured innocence and surprise: “The birds are all gone! I wonder why there are no more! *The winter must have killed them!*”

All those who are opposed to bird annihilation are invited to note the fact that the list of North American birds universally classified by gunners and others under the general head of “game birds,” is not only very large, but is constantly being increased. To-day it stands about as follows, for the United States alone:

| | | |
|---|----------|---------|
| Gallinaceous birds—pheasants, grouse, partridges, quail, etc., | about 33 | species |
| Pigeons and doves, | “ 12 | “ |
| Shore birds—snipes, sandpipers, curlews, etc., | “ 47 | “ |
| Anseres—ducks, geese, swans, | “ 43 | “ |
| Rails, | “ 9 | “ |
| Cranes, herons, egrets, ibises and other large birds always shot on sight, for their plumage, or for other reasons, | “ 10 | “ |
| | — | |
| | 154 | “ |

This summary does not include *the song birds now being killed for food*, which will be noticed separately. Aside from the kinds included in the above families of game birds, what else have we in the United States?

We have the gulls, terns, and other ocean-going swimmers; the birds of prey, the perching birds and the woodpeckers. Considering their size, their importance and their *original* abundance, the so-called game birds once represented nearly one-third of the total of bird life inhabiting the United States.

It would be an easy matter to fill several pages with records of the former abundance of upland game birds, ducks and geese throughout an almost countless number of localities in the United States. Beyond all possibility of question, it was once within the power of the people of the United States to maintain—simply by acting in time—a constant supply of gallinaceous game birds, which would have made about one-half of the entire United States a vast shooting preserve, yielding a generous annual supply for a great number of honorable sportsmen and farmer-hunters. Precisely what has occurred in most localities is reflected in the following extracts, taken almost at random, from some of the reports before us :

A FEW REPORTS ON GAME BIRDS.

“Shore birds and game birds are very rapidly decreasing, so that in a few years they will be extinct in this state.”—HENRY H. BROCK, Portland, Me.

“Bob White has become nearly extinct here.”—J. L. DAVISON, Lockport, N. Y.

“Bob White and wild ducks are fast disappearing.”—VERDI BURTSCH, Penn Yan, N. Y.

“The ruffed grouse is fast being exterminated in this section.”—A. E. KIBBE, Mayville, N. Y.

“Quail and woodcock are becoming extinct.”—WILMOT TOWNSEND, Bay Ridge, L. I.

“Partridge have decreased two-thirds.”—CEYLON CLARK, Hamilton Co., N. Y.

“Game birds, water fowl of all kinds (except gulls, terns, black ducks and brant geese), the larger hawks, owls and herons have decreased in this part of the state from 10% to 80% or 90% within the past fifteen or twenty years.”—WILLIAM BREWSTER, Cambridge, Mass.

“All game birds are pretty well run out within ten miles of the shore, and are very scarce beyond that.”—MRS. MABEL OSGOOD WRIGHT, Fairfield, Conn.

“The ruffed grouse can hardly be found now.”—LYNDS JONES, Oberlin, O.

“Probably the wild turkey and ruffed grouse are becoming extinct.”—F. W. LANGTON, Cincinnati, O.

“The following birds are becoming extinct: Wild turkey, prairie chicken, ruffed grouse, wild pigeon, white herons and others.”—PROF. AMOS W. BUTLER, Brookville, Ind.

“All species disappearing rapidly, except quail.”—F. M. NOE, Indianapolis, Ind.

“Becoming extinct: *All* game birds, *perhaps* with exception of quail; all raptors.”—C. K. WORTHEN, Warsaw, Ill.

"Quail, partridge, prairie chicken, wild turkey, snipe, woodcock, plover and all kinds of ducks are growing less plentiful."—FRED WELLS, Battle Creek, Mich.

"The quail has almost entirely disappeared from this state. The ruffed grouse and the prairie hen are scarcely met with anywhere in the southern and central parts of this state. They are entirely extinct near Milwaukee."—PROF. H. NEHRLING, Milwaukee.

"Of birds of prey, one-half remain; of water fowl, one-third; game birds, one-tenth."—EDMONDE S. CURRIER, Keokuk, Iowa.

"Prairie chickens almost exterminated in eastern third of this state. Not one-thousandth as many as there were at one time. Wild turkey extinct in the state. Water birds—geese, ducks, Wilson's snipe, plover, etc.—about one-twentieth as many as formerly. Woodcock rare; ruffed grouse and wild pigeon extinct."—PROF. L. L. DYCHE, Lawrence, Kansas.

"The pin-tailed grouse is threatened with extermination. Wild ducks, geese and other migratory water fowl have decreased one-half."—C. A. WATERMAN, Hay Springs, Neb.

"Prairie chickens nearly extinct; quails, one-half; turkeys, one-twentieth."—L. C. PERRYMAN, Tulsa, Indian Territory.

Such testimony as the above can be continued indefinitely, and for many other states and territories. In view of present conditions—a constantly decreasing supply of game birds, a constantly increasing number of cheap guns and gunners, and a seemingly insatiable demand for "game on the bill of fare"—does any sane person doubt that without some sweeping and radical change in the direction of conservation, the next fifteen years will witness the practical annihilation of the whole 144 species falling under the fatal designation of "game birds"?

It is time that game birds of every description should cease to be regarded as *necessary* food. It is time that all market hunting, and the sale of game birds and mammals of every description should cease, and forever. The food supply of the inhabitants of the United States has not yet reached so low a point that it is necessary to slay every edible beast and bird in order to keep the American soul and body together. So long as our market stalls are piled high with domestic turkeys, ducks and chickens selling at fifteen cents a pound, or less, and the finest beef in the world continues to be so plentiful and so cheap that there is little profit in raising cattle on free grass, the survival of the fittest American can be amply secured without the annihilation of the few game birds and quadrupeds that still remain.

USE OF SONG BIRDS AS FOOD.—A new danger now threatens our song birds, and others of their order.

In this grinding, pulverizing, end-of-the-century period, there is a large percentage of the human race which sticks at nothing that the law allows. For example, those who like to wear fur will wear fur as long as there lives a single wild and killable creature that is clothed with hair. In ten short years we have seen the taste for fur descend swiftly from the fur seal, otter and mink to the once-despised muskrat, rabbit and skunk.

In like manner, as our grouse and wild ducks grow scarce and disappear, the taste of the epicure and the pot-hunter descends by swift stages from the wild turkey, ruffed grouse, pinnated grouse and canvas-back, to the rail, sandpiper, mourning dove, bobolink and meadow lark. Consider the "reed-bird on toast"—or, worse still, "on a skewer." It is a trifle too large for one mouthful, but by no means large enough for two. To see a healthy, able-bodied American at work upon this two-ounce bird with a ten-inch knife, with the idea of satisfying the pangs of Hunger, is the acme of absurdity. But the reed-bird epicure must look to his laurels. There are rivals in his field. Let me quote some facts that have lately been communicated on the destruction of song birds :

From DR. R. L. WALKER, Carnegie Pa.:—"The birds are decreasing. In traveling through the country I do not see more than about one-third as many as I did fifteen years ago. . . . I think the English sparrow and the foreigners are the main cause of decrease of our native birds. When I say foreigners, I mean French, Italian and Hungarian laborers who shoot everything with feathers or fur whenever they can see them. . . . One Frenchman came in with nearly half a bushel of birds in one day." [He was brought to book by Dr. Walker, thoroughly frightened by threats of arrest, fine and imprisonment, begged off under promise of reformation, and actually became a bird protectionist.]

From WILLIAM PALMER, Washington, D. C.:—"Last year [1897] 2,600 robins were received in one month by a single dealer in the Washington market. They came from one locality in North Carolina, and were killed while roosting, with a lot of other species. The other species were also sent to market, but their fate was incidental to that of the robins. The birds were plucked and bunched when received, and offered for sale."

From WILLIAM BREWSTER, Cambridge, Mass.:—"Italians are beginning to kill the small song birds."

From EVERETT H. BARNEY, Springfield, Mass.:—"The Italians are destroying the small singing birds."

From CHARLES F. BATCHELDER, Cambridge, Mass.:—"Causes of bird destruction:—Cheap firearms in the hands of small boys, and of Germans, and Italians (especially), of the lower classes, *aided by an almost total non-enforcement of the laws for the protection of small birds.*"

From JAMES M. SOUTHWICK, Providence, R. I.:—"There is a gang of Italians in Providence who *gather for food* everything that has feathers or fur." . . . Messrs. John and Thomas Flanagan, who frequently visit their homestead at Greenwich, R. I., "report that Italians are scouring the country, particularly on Sundays. . . . One chap coming down a tree had four unfeathered crows. He could not speak English, but when made to understand [a question], pointed down his own mouth to indicate what he would do with them."

From WILLIAM OSBORN, Nashville, Tenn.:—"Hunters destroy doves, bob-whites and robins."

From E. E. BREWSTER, Iron Mountain, Mich.:—"The Italians are great offenders against bird life. . . . I met one of them out with a gun who had four brown thrashers in his pocket."

From PROF. H. NEHRLING, Milwaukee, Wis.:—"One main cause of the fearful decrease of our small migratory birds must be looked for in our Southern States. There, millions of all kinds of birds are killed to satisfy the palate of the gourmand. I shall give only one example. In the French Market of New Orleans, immense piles of birds are offered for sale. The lover of birds who has an opportunity of spending the fall and winter in the Southern States, and sees these hundreds and thousands of dead bodies, is surprised that there are still so many birds left. The negroes, Italians and French Creoles are especially responsible for this wholesale slaughter. There is scarcely a hotel in New Orleans where small birds do not form an item on the bill of fare. At certain seasons the robin, wood thrush, thrasher, olive-backed thrush, hermit thrush, chewink, flicker, and many of our beautiful sparrows form the bulk of these victims; but cat-birds, cardinals and almost all small birds, *even swallows*, can be found in the markets."

From ANDREW ALLISON, New Orleans:—"In the fall migrations, when all the migrants are literal butter-balls, appalling numbers of cat-birds, wood thrushes, red-eyed vireos, king birds, tanagers, and in fact any easily-shot birds are killed by the Creoles, or 'Gizis' that settle the country near the coast towns. Wood thrushes and cat-birds are more persecuted than any other, under the name of *grassé*, and many are sent to the markets here in September and October. . . . Green, little blue and yellow-crowned night herons are eagerly sought after by the same class of people. . . . Sandpipers, especially 'grass snipe,' or pectorals, are in demand, and every kind seen is killed. Bartram's sandpipers have decreased in this locality, so have killdeers,—for what is said about sandpipers will apply equally well to plovers."

From J. F. ILLINGWORTH, Claremont, Cal.:—"Sturnella neglecta [Western meadow lark] is getting scarce, *because it is shot as a game bird.*"

In this country there are hundreds of hotels and restaurants wherein the serving of choice game is as much a point of honor

toward their guests as is the furnishing of clean table linen. If game is procurable for money, game will appear on hundreds of bills of fare, daily, until forbidden by law—and very often for long after. To the manager of a banquet, or a bill of fare in a good hotel, the temptation to crown the list with a regulation dish of game is irresistible ; and, therefore, game must be procured. If the law stands in the way, the cold-storage men must have it amended. Meanwhile, give the bird another name than its own, serve it up, and take the chances of prosecution. If our sportsmen make too much disturbance over the quantity of game killed for the New York market, satisfy their clamor by inventing the pleasing fiction that all game sold in New York out of season has been killed 300 miles away. In a word, do whatever is necessary to procure the game. Trap it, shoot it,—on the wing, on the ground, or even on the nest if necessary,—but *get it*, so long as a bird remains.

Beyond question, unless the present rage for “ game-on-the-bill-of-fare ” subsides very materially, it is reasonably certain that all our game birds—and some of our game quadrupeds also—will cease to exist outside of fenced preserves. And when the birds grow still more scarce, and finally vanish altogether, does any one doubt that our thrushes, and robins, meadow-larks, black-birds and scores of others will be called upon to take their place on the bill of fare ? True, they may be christened anew—like the “ electric seal ” and the “ Alaskan sable ” amongst fur-bearing mammals ; but the song-birds will be killed, nevertheless.

DESTRUCTION OF BIRDS FOR MILLINERY PURPOSES.—One of the strangest anomalies of modern civilization, is the spectacle of modern woman—the refined and the tender-hearted, the merciful and compassionate—suddenly transformed into a creature heedlessly destructive of bird life, and in practice as bloodthirsty as the most sanguinary birds of prey.

Not all American women, however, submit to the edict of Paris regarding the wearing of birds ; but enough have done so, and now do, that whole states have been swept clean of all the species of birds that the Herodias of France decree shall be worn. This subject is by no means new. The statistics of the slaughter of the feathered innocents have been published by the Audubon Societies many times ; but the slaughter continues. After having

stripped our Atlantic coast, the whole of Florida and the Gulf coast of egrets, terns, and hundreds of thousands of other birds acceptable to the milliners for hat trimmings, the "plume hunters" are now at work along the coast of Mexico and Central America, Lower California, and even upon the headwaters of the Orinoco and Amazon. Quite recently, two of them risked their lives with the Indians on Tiburon Island, Gulf of California, and lost their stake!

Many sportsmen have become so appalled by the slaughter of birds in general, that they have laid aside their guns, and taken up the camera instead. Already this has attained the dignity of a "movement." But there is no corresponding general movement against bird millinery on the part of American women. The members of the Audubon Societies are a mere handful in comparison with the millions of girls and women who have not been stirred by the spirit of bird-protection. No task could be more difficult or more discouraging than that of convincing the majority of women that the thing which is in fashion is *not* the right thing to wear. It is the belief of the writer that it will be far easier to induce the average sportsman to lay aside his gun for the sake of saving his favorite game birds from annihilation than it will be to persuade the average girl or woman to refrain from wearing upon her hats the badly-stuffed birds and the hideous composites of wings, tails and feathers which occupy, but do not adorn them.

Apparently the only remedy that ever will reach the root of the bird-millinery evil is that recently proposed by the League of American Sportsmen—a law forbidding the sale of birds "for commercial purposes,"* and its rigid enforcement.

THE SCOURGE OF EGG-COLLECTORS.—Throughout the north-eastern quarter of the United States, extending as far westward as the Mississippi River and as far south as Virginia, bird life generally is persecuted by a perfect scourge of egg-collectors, largely in the name of science, but really for purposes of mere curiosity or trade. In the reports now before us, the outcry against the havoc thus wrought is very general and bitter. During the breeding season of the birds that nest in the region indicated, an army of boys

*The wording of the passage referred to in the Constitution of the League was proposed by Dr. J. A. Allen, expressly to cover the bird-millinery evil, as well as the sale of game.

and men takes the field, and sweeps through the thickets, the woods and the meadows, searching out the home of every nesting bird, gathering in or destroying all the eggs that are found, and very often shooting great numbers of the nesting birds. Says Mr. J. Warren Jacobs, Waynesburg, Pa. :

“Numbers of boys from seven to twelve years of age continually rob the birds that nest in the town, and its immediate vicinity. Many simply upset the nests and break the eggs; others throw eggs at each other, while some choose to blow the eggs, and keep them in cigar boxes. One father brought his son—who was ‘a rare collector’—to my place, to ‘strike a deal’ for the sale of three cigar boxes full of eggs—the fruits of the boy’s season’s work.”

Mr. Jacobs estimates the decrease in bird life in that locality at a little under 50%.

At Mayville, New York, the situation is thus described by Mr. A. E. Kibbe :

“The boys are, most of the time when out of school during the breeding season, looking after birds’ eggs. They are not checked at all, even by their parents. Last season I have had as many as four or five boys come to me at one time with eggs in their hands, and hold them out, asking me to identify them.”

It was Mr. Kibbe’s habit to give every youthful nest-robber “a talking to,” and admonish him to desist from such evil work; but the “collecting” continued very much as before. Even amongst bird-lovers, it seems that comparatively few persons are aware that the game laws of the State of New York expressly provide that the nests of wild birds shall not be robbed, or wilfully or needlessly destroyed, except when necessary to protect buildings. In Pennsylvania, no persons save those above fifteen years of age who hold certificates from the State Game Commissioners, are permitted to collect birds, their nests or eggs, and even then only for strictly scientific purposes. In these two states, at least, the friends of the birds have it entirely within their power to prevent egg collecting, simply by invoking the power of the law; and this has now been done by Mr. Jacobs.

The outcry against the irresponsible, unscientific egg-and-bird-skin collectors is almost as great as that against the English sparrow. They are the special enemies of the birds most useful to agriculture—those which seek the privilege of making their homes with us during at least one-half the year, and fighting the

noxious insects all through their summer campaign. The amount of actual damage inflicted upon the farmers by those who collect the eggs of insectivorous birds, and useful birds of prey, is undoubtedly great. Is it not time for egg collecting to be brought to a full stop, at least for five years? The country is full of eggs, and egg "collections," the majority of which are of doubtful value, and for the most of which nobody cares. If the bulk of eggs and egg literature may be accepted as an index, it is safe to assert that regarding the oology of Eastern North America there is very little of value that can be added by school-boys.

As an instance of what a professional collector can do in the wholesale destruction of birds, consider a few figures. We have before us a copy of a small publication called the *Oologist*, published at Albion, New York. On page 104 is a "list of the sets of eggs of warblers in the collection of J. P. Norris, Esq., on Oct. 1, 1897." Fifty-one species of warblers are represented in the collection; and here are a few of the figures given:

| | | |
|---------------------------------|-----------|-----------|
| Worm-eating Warbler, | 84 sets, | 416 eggs. |
| Yellow Warbler, | 94 sets, | 388 eggs. |
| Oven bird, | 105 sets, | 458 eggs. |
| Yellow-breasted Chat, | 139 sets, | 521 eggs. |
| Kentucky Warbler, | 210 sets, | 917 eggs. |

Grand total for 51 species, 1,274 sets, 5,433 eggs.

The birds of North America number 766 species. Those of the Eastern United States alone number 400 species, of which the warblers enumerated represent one-eighth. Judge then from these figures the probable number of eggs in the entire collection of Mr. Norris. It is difficult to ascertain the total number of egg-collectors in the United States, but there are several hundred, beyond all doubt, leaving entirely out of account the thousands of small boys who play at "egg-collecting." It would be exceedingly interesting for some professional oologist to secure sufficient data on which to base an estimate of the total number of collectors in the United States, the approximate number of eggs in their possession, and the number now collected annually. It is likely that to represent the total number of eggs available to-day, six large figures would be required, and possibly seven.

To the scientific egg-collectors themselves—the serious-minded men, not the irresponsible schoolboys who robs nests under the

pretense of being "interested in ornithology"—we submit this question: Is it not time to call a halt? Behold the abuse that has grown out of your legitimate and proper work. Will *you* attack it, seriously and at once, and abate it? The legitimate study of oology is one thing, but wholesale nest-robbing and bird-destruction, in the name of oology, is quite another.

HUNTING CONTESTS, OR "SIDE" HUNTS.—Of all the influences now operating for the destruction of our birds and mammals, the most outrageous is the so-called "side hunt." A side hunt may properly be defined as a game of murder, in which a body of particularly brutal (or thoughtless) men, sometimes *more than a hundred* in number, and usually known as a "gun club," choose sides, arm themselves with guns and an unlimited quantity of ammunition, go forth on a given day, and for a fixed number of days shoot many kinds of wild creatures, "for points." At the close of the slaughter, the victims are collected, counted according to the "points" agreed upon for each species, and the side which has accomplished the greatest amount of butchery is declared the winner.

The character of the men who engage in such contests—and *of course find pleasure in them*—may be gauged by the fact that they are not above killing barrels of herons, woodpeckers, crows, jays, red squirrels, chipmunks *and skunks*, and counting up the points allotted to each. We have read much of the doings of savages, and seen a little, but so far as known, the side hunt descends a step lower than any hunting operations accredited to the Digger Indians, Dog-Ribs, Apaches, or any other savage tribe, red or black. Organized killing *for the mere sake of killing*—so far as about one-half the results are concerned—is a pastime which, when indulged in in a country like ours, ought on retrospection to bring the blush of shame to the cheek of any self-respecting man. We know of but few of the predatory animals that indulge in such practices, those which have come under our observation being a few particularly blood-thirsty individuals amongst the gray wolf species, the tiger, weasel, skunk and sheep-killing dog. Even with these, however, the killers generally confine their wholesale operation to victims of a single species; but the side-hunter shoots nearly everything that he can discover.

As an object lesson on the necessity for more drastic measures for bird and mammal protection, a few facts in regard to one or two side hunts may serve a useful purpose. In *Recreation* magazine for December there appeared (with a strong denunciation), a quotation from the Leominster, Mass., *Daily Enterprise*, giving the names of thirty-three members of the Gute Zeit Club, who were to engage [in a side hunt "all day Saturday, with or without dogs," * * * "the game to be counted as follows : Fox, 100 points ; coon, 60 ; owl, 75 ; blue heron, 50 ; partridge, duck (wild), hen hawk and black squirrel, 50 each ; woodcock and crow, 40 each ; gray squirrel, 30 ; rabbit, 20 ; red squirrel, 20 ; chipmunk, 10 ; skunk, 60 ; woodpecker, 10 ; blue jay, 10."

Before this hunt took place, the game warden of Leominster warned its promoters that certain birds in their list of intended victims were protected by law, and they were forbidden to kill them. So far as known, the warning was heeded, and the woodpeckers and blue jays escaped the general slaughter.

In *Recreation* for January, 1898, was reproduced, from the Lebanon, N. H., *Free Press*, the details of a side hunt around that town, *which lasted one week, and in which 140 men and boys were engaged!* An indignant resident of Lebanon forwarded to the editor a copy of "a yellow hand-bill, in circus-poster type, announcing the great slaughtering match," and a letter of protest in which he said :

"Red squirrels may not be game, but they are harmless little creatures ; and that *a barrel full* of them should be shot and brought in, and then thrown on the dump to rot, is an outrage. All the true sportsmen here are indignant at this piece of wholesale slaughter."*

From Mr. R. A. Gunn, Jr., of St. Albans, Vermont, we have received lists of the birds and mammals killed at Enosburg, Vermont, on the last three annual side hunts let loose at that place. The record of slaughter for the last two years is as follows :

*Since the above was written the editor of *Recreation* (Mr. G. O. Shields) has informed me of the following :

"I have had several letters from each of the two towns named, from persons who participated in the hunts, or who were billed to do so, who admit frankly that they now see the error of their ways, and they promise never to participate in another side hunt. It is safe to say that many of these men are heartily ashamed of their work, and I doubt whether another side hunt could ever be gotten up in either place."

ANNUAL SIDE HUNT AT ENOSBURG FALLS, VT., OCT. 9, 1896.

| "Captain" Stetson and 19 others. | | "Captain" Rublee and 19 others. | | Totals. |
|----------------------------------|--|---------------------------------|--|---------|
| 128 gray squirrels, | | 84 gray squirrels, | | 212 |
| 145 red squirrels, | | 65 red squirrels, | | 210 |
| 34 partridges, | | 22 partridges, | | 56 |
| 4 owls, | | 2 owls, | | 6 |
| 14 blue jays, | | 11 blue jays, | | 25 |
| 3 crows, | | 2 crows, | | 5 |
| 18 woodpeckers, | | 23 woodpeckers, | | 41 |
| 2 hen hawks, | | 1 woodcock, | | 3 |
| 1 fox, | | 1 fox, | | 2 |
| 1 rabbit, | | 3 rabbits, | | 4 |
| 1 muskrat, | | | | 1 |
| | | | | 565 |

Strange to say, the side hunt of November 18, 1897, did not yield such an abundant harvest of dead animals. It is true that only thirty killers were engaged, against the forty of the previous year; but the total of victims for both sides was painfully low—only 51.

| "Capt." Marsh, and 14 shooters. | | "Capt." Best, and 14 shooters. | |
|---------------------------------|--|--------------------------------|--|
| 1 duck. | | | |
| 2 crows. | | | |
| 1 fox. | | | |
| 3 partridges, | | 4 partridges. | |
| 7 rabbits, | | 3 rabbits. | |
| 3 gray squirrels, | | 4 gray squirrels. | |
| 1 mink. | | | |
| 7 red squirrels, | | 2 red squirrels. | |
| 10 woodpeckers, | | 3 woodpeckers. | |

The great falling off from the previous year's splendid (!) record was attributed, locally, to *the wet weather of the spring of 1897, which killed off the game*, the lateness of the hunt, and the fewer number of men engaged. The slaughter of the previous year of course was the principal cause.

Writing from Waynesburg, Pa., Mr. J. Warren Jacobs communicates the following: "In the eastern part of the county are city hunting-club game reserves. These various clubs are

giving prizes for the largest number of scalps of hawks and owls killed by local contestants. This is poor policy; for destruction of beneficial species will surely follow."

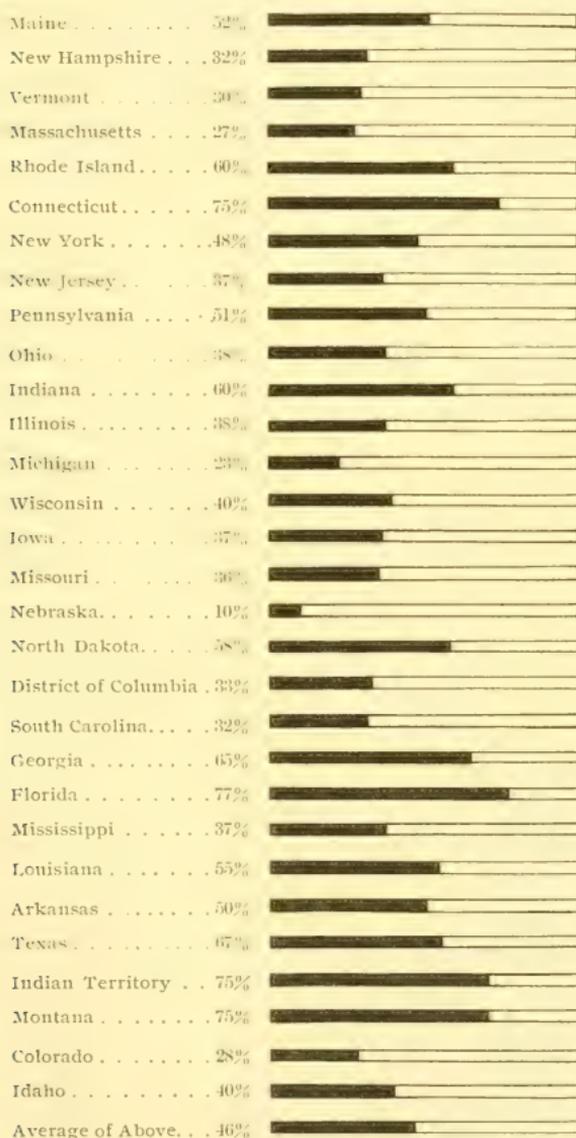
The fact has been clearly established by the researches of the U. S. Biological Survey that of all our hawks and owls, only the sharp-shinned hawk, Cooper's hawk and the goshawk have a debit balance against them, and deserve destruction. In the destruction of noxious mice, gophers, insects, etc., the others do vastly more good than harm.

On last Thanksgiving day (1897), fourteen young men and boys engaged in a side hunt at Sedan, Indiana, and killed the following creatures: 50 English sparrows, 8 chipping sparrows, 5 blue jays, 27 nuthatches, 17 downy woodpeckers, 14 hairy woodpeckers, 12 red-bellied woodpeckers, and 2 flying squirrels. A number of rabbits and squirrels were killed, but the total of each was not recorded. Our informant assures us that the young men of Sedan are no worse than others—in fact, "better than they will average"—and the whole affair may perhaps be charged to the cruelty of thoughtlessness as applied to innocent wild creatures.

WHAT THE REPORTS SHOW.—A satisfactory number of reports have been received from each of thirty-six states. In all save a very few, the general estimates of decrease (or increase) were so precise that it seemed entirely feasible to combine them into a series of general averages for each state. In a few cases, where no percentage of decrease was named, but a fairly clear idea was conveyed by an array of detailed facts, or the use of such expressions as "decided decrease in bird life," or "very perceptible decrease," we have assigned to each of such reports figures representing a decrease of ten per-cent., or twenty per-cent., or twenty-five per-cent., as the facts seemed to warrant. Throughout our calculations, wherever a doubt existed, we have given the living birds the full benefit of it, and in the accompanying table of diagrams showing the average of decrease in thirty different states and territories, we are certain that the statements of loss are under the mark rather than above it. Many observers took pains to consult others before deciding what their figures should be, and the effort to be conservative in estimating losses was quite generally apparent. We believe that some observers have

DECREASE IN BIRD LIFE IN 30 STATES.

The shaded portions show the percentages of decrease throughout the states named during the last 15 years, according to the reports.



forgotten how plentiful birds really were fifteen years ago, before "hat-birds" and aigrettes, and birds' wings and heads were worn, before egg-collecting became a serious menace, and when the shot-guns were fewer, by half a million or so, than they now are.

For the whole thirty states represented in the diagrams, the average of loss in bird life for their combined area is forty-six per cent.

Balanced Areas.—Three states, fully represented by reports, show that in them the balance of bird life has been maintained. They are North Carolina, Oregon and California. In North Carolina there has been a serious loss in the ducks, geese and other waterfowl of the coast, but we gladly assume that it has been made good through an actual increase in other portions of the state. The conditions for the preservation of bird life in the mountainous and heavily timbered interior portions of the state seem exceptionally good, and the usual agencies for destruction are happily absent. But for the destruction of the game birds, we would be able to report a balanced condition for Nebraska, and it seems as if it would be an easy matter for that state to occupy the position of Kansas.

Areas of Increase.—It is a great pleasure to be able to report four states in which bird life is on the increase, instead of on the decline. They are

KANSAS,
WYOMING,

WASHINGTON, and
UTAH.

At present Kansas seems to be the banner state for bird protection, and so far as we can discover, the chief cause of it is to be found in this charming law:

"Section 6.—It shall be unlawful at any time to buy, sell, barter, ship or offer for sale, barter or shipment within the state of Kansas, any bird or birds named in Section 1." In this law and its enforcement are to be found the reasons for the great abundance of bird life observed last spring during a six days' drive through central Kansas, when flocks of quail ran along the road sides, as tame as blackbirds, and rabbits were equally abundant and fearless.

The western part of the state of Washington reveals the uncommon paradox of a locality being filled up with new bird forms because of the clearing away of the timber! Ordinarily, those forests are too dense for insectivorous birds; and now, as man

clears the ground and plants his crops and orchards—and prepares to fight the insects which everywhere follow his efforts—the birds troop in to make war upon the insect pests that would fain destroy the fruits of his labors. On this point the report of Mr. John M. Edson, of New Whatcom, Washington, is of such general interest that we quote it in full :

For the past three years I have followed the practice of counting (or estimating) the birds of each species seen in a day's outing, and recording the result. These outings have been as frequent as once a week. I may say that my observations in this region, extending over a period of eight years, would indicate that there is here an increase in bird life rather than otherwise. The conditions here are, no doubt, exceptional.

The field of my observations has been in the vicinity of Bellingham Bay (an arm of Puget Sound). This region, like all of Washington west of the Cascades, is, as you well know, covered with a heavy growth of evergreen timber. But a small beginning has as yet been made in the cutting away of these forests. They are but sparingly populated with birds, whether we refer to the number of individuals or species. The woodman and his axe have not as yet encroached upon their domain enough to make any perceptible alteration in their numbers. Yet, on the other hand, the woodman is unquestionably to be credited with bringing a considerable increase in that considerable class of birds which inhabit the open, partially cleared lands.

As an instance of marked increase, I noted my first chipping sparrow in 1894. Since then their numbers have increased annually, till this season I have seen more than a dozen in Whatcom. The robin, bluebird, meadow-lark, Gambel's sparrow, junco, savanna sparrow, swallows, martin, king-bird and probably some warblers have, I think, perceptibly increased. The California mountain quail, an introduced species, has multiplied greatly, as has also to some extent the valley quail and bob-white. The Asiatic pheasants are reported to be increasing at points south of here, though none have come under my own observation. I have never seen or heard of the presence hereabouts of any of the European song birds introduced in Oregon a few years ago.

Even our crow seems to welcome the advent of man. His services as a scavenger are recognized, and he is little molested. He consorts with the chickens in the barnyard and doves upon the street, and during the rainy season is abundant in all parts of the town. Of course, I refer to the Northwest crow.

The sooty grouse seems to be one of the first species to retire before the encroachments of the white man. Large numbers of the band-tailed pigeon are killed annually, and its fate will, I have no doubt, ultimately be that of its eastern congener, though I have not observed that any decrease is as yet apparent.

As to the ducks, geese, etc., there has probably been some decrease. Certainly many more are killed than formerly. With the gulls, grebes, guil-

mots, murrelets, etc., and the birds of prey, there is no change in numbers that I have been able to detect.

All the larger mammals are no doubt decreasing to a greater or less extent. The beaver, martin and otter have become quite rare. The Indian market hunters are perhaps the most destructive to the ducks and game birds. Boy hunters destroy some small birds, but the professional bird-butcher and nest-robber have not as yet commenced their nefarious work.

Of all cities that have come under our notice, Cheyenne surely deserves the first place as a bird refuge. Birds are now many times more numerous there than fifteen years ago. Causes: tree-planting, bird protection and English sparrow extermination. Why should not every American city learn from Cheyenne? The extermination of the sparrow in a given locality is merely a question of a little prize money for distribution among the boys who will produce during a given season the greatest number of sparrows' heads.

Insufficient Data.—From six states the reports received were not sufficient in number to afford a satisfactory basis for a general average for each state as a whole. These were Minnesota, Arizona, Tennessee, Kentucky, West Virginia and Maryland; but all the reports have been duly set forth. From four states—South Dakota, Delaware, Alabama and Nevada,—there are no returns, up to the date of going to press.

SPECIES THAT ARE BECOMING EXTINCT.—It is quite germane to our subject to state very briefly what species have been named in the reports before us as becoming extinct. In order to compress this information into the smallest possible limit, we have gone through all of the 190 reports in hand, and made a complete list of the species named in answer to question No. 4—“What important species of birds or quadrupeds are becoming extinct in your state?” The total number of localities in which each species is mentioned has also been reckoned up, and the figures are stated herewith.

It must be remarked, by way of explanation, that many observers used the terms “becoming rare,” “very scarce” or “disappearing,” instead of “extinct,” or “becoming extinct;” and all species mentioned under such qualified terms as the three first quoted, have been excluded from our reckoning. Had they been included, the totals would be at least double the figures given. It is hardly necessary to remind the reader that many of the

species enumerated occur in only a very few of the 190 localities reported upon. For example, 15 observers report the prong-horned antelope as extinct, or becoming so, which very nearly represents the whole number of states ever inhabited by that animal. Although the disappearance of the caribou is reported in but two localities, it must be borne in mind that there are only seven of our states in which it has been found during modern times. The species most frequently reported in the list now given are merely those of widest distribution.

SPECIES REPORTED AS "EXTINCT," OR "BECOMING EXTINCT."

Mammals.

| | |
|--|------------|
| "The larger quadrupeds, generally," | 6 reports. |
| Bison; Buffalo (<i>Bos americanus</i>), | 15 " |
| Elk; Wapiti (<i>Cervus canadensis</i>), | 22 " |
| Moose (<i>Alces americana</i>), | 7 " |
| Virginia or White-tailed Deer (<i>Cariacus</i> <i>virginianus</i>), | 32 " |
| Mule Deer (<i>Cariacus macrotis</i>), | 3 " |
| Black-tailed Deer (<i>Cariacus columbianus</i>), | 1 " |
| Woodland Caribou (<i>Rangifer caribou</i>), | 2 " |
| Prong-horned Antelope (<i>Antilocapra americana</i>), | 15 " |
| Mountain Sheep (<i>Ovis montana</i>), | 10 " |
| Mountain Goat (<i>Haploceros montanus</i>), | 2 " |
| "Bears, generally," | 1 " |
| California Grizzly Bear (<i>Ursus horribilis horriaeus</i>), | 2 " |
| Black Bear (<i>Ursus americanus</i>), | 15 " |
| Jaguar (<i>Felis onca</i>), | 1 " |
| Puma; Mountain Lion (<i>Felis concolor</i>), | 6 " |
| Red Lynx (<i>Lynx rufus</i>), | 5 " |
| Otter (<i>Lutra canadensis</i>), | 11 " |
| Beaver (<i>Castor canadensis</i>), | 22 " |

Birds.

| | |
|--|------------|
| "All birds, generally" | 3 reports. |
| "Game birds, generally" (meaning gallinaceous species), | 5 " |
| "Shore birds, generally" | 5 " |
| "Geese and ducks, generally" | 20 " |

| | |
|--|----------------|
| " Herons and egrets, generally "; " plume birds " | . 12 reports. |
| " Hawks, generally " | 3 " |
| " Owls, generally " | 4 " |
| Wild Turkey (<i>Meleagris gallopavo</i>), | 30 " |
| Ruffed Grouse (<i>Bonasa umbellus</i>), | 20 " |
| Pinnated Grouse ; Prairie Hen (<i>Tympanuchus</i> <i>americanus</i>), | 13 " |
| Heath Hen (<i>Tympanuchus cupido</i>), | 1 " |
| Passenger Pigeon (<i>Ectopistes migratorius</i>), | 35 " |
| Blue Bird (<i>Sialia sialis</i>), | 15 " |
| Carolina Paroquet (<i>Conurus carolinensis</i>), | 5 " |
| Wood Duck (<i>Aix sponsa</i>), | 5 " |
| Flamingo (<i>Phœnicopterus ruber</i>), | 1 " |
| Roseate Spoonbill (<i>Ajaja ajaja</i>), | 3 " |
| White Heron (<i>Ardea candidissima</i>), | 10 " |
| Ivory-billed Woodpecker (<i>Campephilus principalis</i>) | 4 " |
| Pileated Woodpecker (<i>Ceophlœus pileatus</i>), | 4 " |
| California Vulture (<i>Pseudogryphus californianus</i>), | 1 " |

From a much larger number of birds and mammals than are included in the above lists, these have been selected because there is good reason to believe that, under present conditions, they are all certain to become practically extinct *throughout the whole United States* within a few years. For the majority of the above, *total* extinction—which means the death of the last individual of a species or race—probably is far away. The qualified term, *practical* extinction, now destined to come into very general use, may properly be applied to any species which has become so rare in a state of nature that it is an impossibility to discover living representatives by seeking for them. The larger and more conspicuous the quadruped or bird, the more quickly it is exterminated. All persons who have any regard for the preservation of the few wild herds of elk, antelope, deer, mountain sheep and other "big game" mammals that still exist in our country, should be warned by the fate of the great northern herd of American bison, and act in time. In 1880 it was estimated by the hunters and fur-buyers of Montana that "the buffalo range" of Montana, Wyoming and western Dakota contained 500,000 buffaloes; and I think the estimate was not over the mark. On June 1, 1883, less than 400 individuals remained; and it was several years

before the people of the United States awoke to a realization of the fact that the great buffalo herds were actually and absolutely *gone!* With the fate of the buffalo before our eyes, it requires no seer to predict, with absolute certainty, that unless thorough and drastic measures are immediately taken to preserve the remnants of our once-splendid herds of game quadrupeds, and flocks of game birds, a very few years more—we will say ten, for some, and fifteen for others—will find our country without enough wild representatives of those species to stock a zoological garden.

CONCLUSIONS REGARDING BIRDS.—Regarding the avian fauna of the United States, the following conclusions are justified by facts:

1. Throughout about three-fifths of the whole area of our country, exclusive of Alaska, bird life in general is being annihilated.

2. The edible birds (about 144 species) have been, and still are, most severely persecuted.

3. In many localities edible birds of nearly all species have become rare, and some important species are on the point of general extermination.

4. Owing to the disappearance of the true game birds, our song and insectivorous birds are now being killed for food purposes, and, unless prevented, this abuse of nature is likely to become general.

5. The extermination, throughout this country, of the so-called "plume birds" is now practically complete.

6. The persecution of our birds during their nesting season, by egg-collectors and by boys generally, has become so universal as to demand immediate and special attention.

7. Excepting in a few localities, existing measures for the protection of birds, *as they are carried into effect*, are notoriously inadequate for the maintenance of a proper balance of bird life.

8. Destructive agencies are constantly on the increase.

9. Under present conditions, and excepting in a few localities, the practical annihilation of all our birds, except the smallest species, and within a comparatively short period, may be regarded as absolutely certain to occur.*

*The protection of migratory birds must be general in order to be effective. New Orleans should not rob Cheyenne of the fruit of her labors in the field for protection.

10. If the present war of extermination is to be terminated, drastic measures must be adopted, and resolutely carried out; and the crusade for protection must be general. No half-way measures will suffice; and it is to be expected that some of the destroyers will be displeased.

RECOMMENDATIONS REGARDING BIRDS.—While at first thought it may seem impossible to propose a series of universal laws for bird protection that can save our bird fauna from annihilation, even if adopted by the different states, we believe it will be found on close examination that the task is not nearly so difficult as it seems. The difficulty lies, not in the framing of comprehensive measures, but in securing their adoption in the various groups of states wherein they are needed. The business of securing the enactment of legislation is a separate question, and need not be discussed here. As to the character of the legislation that would be most effective, there are certain demands so imperative as to be perfectly obvious, and the laws that would satisfy them would be so universally beneficial, their enactment would be desirable to every state and territory, save two or three. They are as follows:

1. Prohibit all egg-collecting, except under license from state game commissioners, and the payment of a license fee.
2. Provide for the extermination of the English sparrow.
3. Prohibit the sale of dead game, at all seasons.*
4. Prohibit the killing or capture of wild birds, and of quadrupeds, other than fur-bearing animals, for commercial purposes of any kind. (This will stop the slaughter of birds for millinery purposes).
5. Prohibit all spring shooting.
6. Prohibit the carrying or using of a gun without a license.
7. For three years prohibit the killing or capture of any birds, except such birds of prey as may be declared by the U. S. Biological Survey to be sufficiently noxious to merit destruction. The only exception should be in favor of persons desiring to collect for scientific purposes, *in moderation*, and then only when properly vouched for by some scientific institution, and duly licensed by the state game commissioners.

*This has long been earnestly advocated by *Forest and Stream*, and the proposition is constantly gaining advocates. It is also one of the planks in the platform of the League of American Sportsmen.

8. At the end of three years, restrict by legal enactment the number of game birds that may be killed or taken in one day, or in any given period, by a single individual.

CONCLUSIONS REGARDING WESTERN MAMMALS.—1. Throughout the whole region west of the Mississippi River, except in the Yellowstone Park and Colorado, all the large quadrupeds, save gray wolves and coyotes, are being shot down several times faster than they multiply.

2. Under existing conditions, their general annihilation within a few years time (save in the two localities noted) may be regarded as a certainty.

3. Outside of areas actually protected, the prong-horned antelope will be the next large species to disappear; and it will be closely followed by the mountain sheep, mountain goat, California grizzly bear, beaver, elk and mule deer.

4. It should be accepted as a fixed fact that any western state or territory so sparsely settled that large quadrupeds can successfully hide and breed in its wilderness areas, is not financially able to employ a force of salaried game wardens large enough to maintain surveillance over all persons who are inclined to kill game.

5. *The professional guides and hunters, the ranchmen and other country residents of the Rocky Mountain and Pacific Coast regions, are the only men who have it within their power, or who ever will have it within their power, to save our noblest species of wild game animals from complete annihilation.*

6. These men are the ones who will lose most, both in money and in food, by the destruction of the game animals that now furnish them a valuable source of revenue.

RECOMMENDATIONS REGARDING MAMMALS.—1. As a matter of duty to their own interests, the guides, hunters, ranchmen and sportsmen of the Rocky Mountain and Pacific Coast regions should assemble and decide what restrictions shall be placed upon the killing of large game—as to the number of head per man that may be taken, license fees and fines, and as to the necessity of total prohibition for given periods.

2. Every state and territory now inhabited by large game should immediately enact a law prohibiting the killing of any female hoofed animal, under any and all circumstances, and also

prohibiting the killing of any hoofed animal less than one year old.

3. Throughout every state and territory now inhabited by them, the killing of antelope, mountain sheep and mountain goats should be absolutely prohibited for ten years; and the possession of a fresh skin or head should be regarded as *prima facie* evidence of violation of law.

4. Henceforth every person visiting the Western regions in quest of large game should regard it as his duty to co-operate with state and territorial authorities in the observance and enforcement of the game laws, to kill sparingly at all times, and under no circumstances to shoot female or yearling animals.

5. No guide should conduct a hunting party in quest of game unless each member of it pledged himself to observe the rules of moderation in shooting that now are morally binding upon all.

6. In view of the alarming decrease of our large game animals, it is time for the adoption throughout the United States of an unwritten law that any man who kills a female hoofed animal is not to be considered a true and honorable sportsman.

7. Every state and territory containing large game should collect a license fee on each gun carried or used in hunting; and all funds derived from this source, and from fines, should be used in payment of the salaries of game wardens.

8. The sale of dead game should be prohibited.

There are few persons, intelligent or otherwise, who will deny the desirability of preserving from destruction the splendid vertebrate fauna which still inhabits our country. Throughout the whole United States, the love of natural history, and interest in zoological studies—and their promotion—is growing at a rapid rate. A practical demonstration of this fact may be of some interest.

Three months ago, when the principal of one of the large public schools in New York City appealed to an officer of the New York Zoological Society for suggestions which might lead to the procurement of avian *bric-à-brac* for a little army of nearly 800 children who knew absolutely nothing of wild birds, and had nothing from which to learn of them, an appeal for gifts of bird skins was published in *The Osprey* magazine. Only valueless duplicates were asked for.

Instantly, responses came hurrying in from every direction. Boxes of valuable specimens, fully labeled, came from Maine, from Oregon, southern California, Arizona, Florida, Louisiana, and nearly a score of other states. In a month the office of the Zoological Society looked like an ornithological clearing house. The total number of donors was 41, and the total number of mounted birds, bird skins, and other specimens exceeded seven hundred! The donors were really glad of an opportunity to place in the empty hands of the children of lower New York a few of the leaves of the great book of Nature which 'circumstances had so generously opened to them. It was the "one touch of Nature" which "makes the whole world kin."

If all the people of this country were assembled, and a rising vote taken on the question—Are our birds and mammals worth preserving? we believe nearly every man, woman and child would stand up to be counted. Even the worst destroyers believe in limiting the destructiveness of others! Thanks to the extent of our territory, and the diversity of its physical aspect, our mammalian and avian faunas are still exceedingly rich and varied, as well as interesting and valuable. With the exception of a few noxious species, our wild creatures are well worth preserving, and their further annihilation would be nothing less than a national disgrace. And even though we of to-day should feel little interest in the preservation of the animal life indigenous to North America, it must be remembered that *we owe a duty to succeeding generations*, and we have no right to rob those who come after us of the wealth of living forms that Nature has so lavishly bestowed upon this continent, and maintained in great abundance until fifteen years ago. The zoological estate now in our possession is not ours in fee simple, *but by inheritance under entail*; and it must be transmitted to those who come after us, in a good state of preservation.

Beyond all possibility of dispute, the time has now arrived when it is the duty of all American zoologists, all our Academies of Science, zoological societies and museums, and all our higher institutions of learning, to unite and become actively and aggressively interested in comprehensive measures for protection. In co-operation with the Audubon Society of the State of New York, the American Museum of Natural History, through its President and through Dr. J. A. Allen and Mr. Frank M. Chap-

man, is already, and for the past year has been, actively engaged in measures designed to save our remaining birds from annihilation. During the last twelve months, the Audubon Society has sent out 35,000 circulars, and solicited active assistance from over 300 newspapers in this state.

It seems to us that the United States Biological Survey, the Smithsonian Institution, the Philadelphia Academy of Sciences the American Museum of Natural History, the New York Zoological Society, Yale University, Harvard University, Cornell University, the Field Museum and the Leland Stanford University each should employ a competent man, provide him with a fair allowance for expenses, and instruct him to devote his entire time and energy to the business of securing adequate protective laws *throughout the whole United States*, and in furthering all legitimate measures for the protection of birds and mammals. It is reasonable to believe that four good men could enter the Rocky Mountain region, bring together the guides and ranchmen, and in less than two years accomplish results of great and lasting benefit.

We believe that the time is ripe for a general rebellion against the forces of destruction. We believe that the American people will yet rise to the seriousness of the situation, and bring about a complete revolution in behalf of "*the protection of our native animals*," which is one of the prime objects for which the New York Zoological Society was founded.

ADDENDA.—Very soon after this report was completed and sent to the printer, an Interstate Wardens' Convention was held in Chicago. It was a meeting of game wardens and special delegates appointed by the state legislatures of Wisconsin, Minnesota, Michigan, Illinois, Ohio and North Dakota. It contained sportsmen, naturalists and law-makers. It was, we believe, the most important meeting ever held in this country having for its sole object the preservation of our mammals, birds and fishes. Never before, it is safe to say, was a meeting for such a purpose pervaded by such earnestness and determination, and the disposition to urge relentless war on the existing agencies of destruction was plainly manifested. Strong resolutions were adopted urging the enactment of laws against the sale of game, the shipment

of game, and the existing iniquities of the cold storage laws of New York and Illinois. Mr. Ruthven Deane ably championed the cause of all birds not classed as game birds, and offered as proper text for an interstate law, the bill prepared by the American Ornithologists' Union, "for the Protection of Birds, their Nests and Eggs." By a formal resolution the enactment of the proposed law was recommended.

A very full and valuable report of the proceedings of the Convention will be found in *Forest and Stream* for February 19, and its perusal is recommended.

REPORTS ON THE DESTRUCTION OF BIRDS AND
MAMMALS THROUGHOUT THE UNITED STATES.

Explanation.—The following comprise all the reports received up to the date of going to press, but doubtless others will arrive too late for publication. Only a brief summary of each is offered, but as far as possible the observer's language is quoted. The states and territories are grouped in geographical sections, to facilitate generalization as to large areas. For the sake of brevity and clearness, the causes of decrease stated in answer to question No. 4, are recorded in figures, which refer to the serial numbers of the following list of causes :

1. Sportsmen ; and "so-called sportsmen."
2. Boys who shoot.
3. Market hunters, and "pot-hunters."
4. "Plume hunters," and milliner's hunters.
5. "Shooters generally ;" farmers.
6. Egg collecting, chiefly by boys.
7. The English sparrow.
8. Clearing off timber ; development of towns and cities.
9. Italians and others who devour song birds.
10. Cheap firearms.
11. Drainage of marshes.
12. Non-enforcement of game laws.
13. Gun clubs ; hunting contests, or "side hunts."
14. Trapping birds for sale alive.
15. Prospectors, miners and range riders.
16. Collectors (ornithologists and taxidermists).
17. Colored population.
18. Indians (for decrease of game animals).

NEW ENGLAND STATES.

| Locality | Name of Observer, and Digest of Report. |
|-------------------------|--|
| <i>Maine</i> :— | |
| Calais, | George A. Boardman, "Some kinds all gone, average probably half gone." 5, 7. |
| Portland, | Henry H. Brock, "Some cases $\frac{1}{2}$ remain, in others $\frac{1}{4}$." 3. |
| Portland, | Nathan Clifford Brown, "Decreasing." 1, 6, 8. |
| Brewer, | Manly Hardy, "Decreasing; $\frac{1}{10}$ to $\frac{1}{2}$ remain." 5, 6, 7, 4. |
| Bangor, | S. L. Crosby, "Undoubtedly decreasing; $\frac{1}{2}$ remain." 2, 6. |
| <i>New Hampshire</i> :— | |
| Antrim, | B. W. Small, "One-fourth remain." 5, 2. |
| Milford, | J. P. Melzer, "No special change observed." |
| Lancaster, | F. B. Spaulding, "Many important species have decreased $\frac{1}{2}$." 2. |
| Peterboro, | Prof. A. B. Call, "Many species have decreased; a few increased." |
| Francestown, | J. H. Johnson, "Game birds half gone; decrease in others." |
| <i>Vermont</i> :— | |
| Johnson, | Prof. J. B. Ham, "A visible decrease." |
| St. Albans, | Mrs. Nelly Hart Woodworth, "Some species have increased; many have decreased. General decrease about 30%." 6, 7. |
| St. Albans, | Geo. E. Edson, "Birds are growing less in number." 5, 7. |
| St. Albans, | R. J. Gunn, See report on hunting contests. |
| <i>Massachusetts</i> :— | |
| West Newton, | Geo. H. Clark, "Birds are decreasing; $\frac{1}{2}$ remain." 1, 5, 8, 11. |
| Cambridge, | Wm. Brewster, "Nearly all game birds, water fowl and large raptors decreased 10% to 80 or 90%." 1, 9, 16, 7. |
| Worcester, | Wm. G. Allen, "One-half as many birds now." 8, 3. |
| Springfield, | Everett H. Barney, "Largely decreasing, $\frac{1}{2}$ remain." 9. |
| Cambridge, | Chas. F. Batchelder, "Birds breeding near Cambridge show little difference in number." 10, 2, 9, 12. |
| Ponkapog, | C. W. and J. H. Bowles, "Bird life stationary." 5. |
| Stoneham, | C. J. Emerson, "Three-fourths of the birds remain." 6. |
| Melrose, | E. F. Holden, "Decreasing; three-fourths as many as 10 years ago." 8. |
| Boston, | F. B. Webster, "Can see no practical decrease in bird life; fully as many birds as 15 years ago: Cannot see that any class of men are doing that which would amount to an item in the destruction of song birds. Except as to woodcock, game protection seems to enable the game birds to hold their own against the sportsmen." |

Pittsfield, T. A. Schurr, "Some birds are decreasing, others not. Some have decreased $\frac{1}{2}$; some $\frac{2}{3}$." 2.

Rhode Island :—

Providence, James M. Southwick, "Only $\frac{1}{2}$ as many birds remain. Cheap and extended railroading carries the destruction everywhere, spring, summer and winter, and the poor creatures have nowhere any rest." 9, 6, 8, 10, 2.

Providence, Newton Dexter, "There are not now $\frac{1}{4}$ as many [birds] as formerly." 6, 2, 16.

Providence, W. H. Mason, "About $\frac{1}{3}$ as many birds now. Song birds and game birds becoming extinct." 8, 4, 7.

Pawtucket, Wm. H. Lewis, "Birds have decreased here $\frac{1}{2}$." 2, 3.

Connecticut :—

Fairfield, Mrs. Mabel Osgood Wright, "We have not a quarter as many of these kinds [game birds, meadow-nesting song birds and marsh birds] as ten years ago." 6, 8, 12.

Portland, John H. Sage, "Game birds particularly are decreasing; about $\frac{1}{4}$ remain." 1.

New York :—

Lynbrook, Long Island, Geo. B. Badger, "About one-fourth of the birds remain. The local gunners and oyster watchmen are eating up everything. Slaughtering everything that wears feathers; even gulls, divers and meadow-larks, as many as can be killed." 1, 5, 8.

Bay Ridge, Long Island, Wilmot Townsend, "Of resident forms in general, $\frac{1}{2}$ remain. Wild pigeon, quail, woodcock and meadow-lark are becoming extinct; hawks much fewer; owls practically nil." 8.

West Park, John Burroughs, "Except bobolinks and eagles, birds not fewer than 20 years ago."

Bedford Park, New York City, Hon. W. W. Niles, Jr., "We have not $\frac{1}{2}$ of the number of 15 or 20 years ago." 8, 7, 5.

Penn Yan, Verdi Burtch, "Probably $\frac{2}{3}$ as many birds as 15 years ago." 2, 5, 8.

Mayville, A. E. Kibbe, "Only one-half the birds remain. Chief cause, wholesale collecting of eggs by boys." 6.

Lowville, James H. Miller, "Song birds especially becoming scarcer every year, due to the everlasting craze of small boys for egg collecting." 6, 7, 8.

Albion, W. F. Webb, "Birds not decreasing."

Piseco, Ceylon Clark, "Ruffed grouse decreased $\frac{2}{3}$, from a small tick on the heads of young birds."

New Jersey :—

Beverly, J. Harris Reed, "Decrease of $\frac{1}{2}$ a fair estimate." 8, 2, 1, 5, 4.

- Maplewood, C. B. Riker, "Decrease of $\frac{1}{4}$." 8, 2, 7.
 Plainfield, John T. S. Humm, "Do not think summer-resident birds are decreasing. Becoming extinct: all migrating water fowl, and interesting species of hawks and owls." 5.

Pennsylvania :—

- Carnegie, Dr. R. L. Walker, "Decrease of $\frac{2}{3}$. Scarlet tanagers, bluebirds and purple martins are things of the past." 9, 7, 16.
 Williamsport, Chas. H. Eldon, "Birds are fully $\frac{1}{3}$ less." 2, 3.
 Philadelphia, Witmer Stone, "Impossible to give general estimate of decrease." 8.
 West Chester, Josiah Hoopes, "Some species decreasing, some increasing. Can not estimate. House wren, bluebird, night hawk and hairy woodpecker almost obliterated." 6.
 Waynesburg, J. Warren Jacobs, "Generally speaking, birds are decreasing. Some species are increasing, but the accession is not sufficient to overcome the falling off in others. Birds remaining, over $\frac{1}{2}$, but not $\frac{2}{3}$ of the number 15 years ago. Hawks are recovering from the 'Scalp Act,' but many farmers are still prejudiced against them." 2, 6, 1.

CENTRAL NORTHERN STATES.

Locality Name of Observer and Digest of Report.

Ohio :—

- Toledo, D. B. Davis, "Birds very rapidly decreasing; not more than $\frac{1}{2}$ remain." 8, 2.
 Salem, J. H. C. "Practically no game here. 'Game hogs' have done the work." 3, 1.
 Cincinnati, Dr. F. W. Langdon, "Some kinds are decreasing. No general estimate. 8.
 Oberlin, Lynds Jones, "Great decrease in all ducks and ruffed grouse, even in last 3 years." 17, 2, 5.
 Canton, R. H. Bulley, "Bird life in general not decreasing, but some species are. Ducks 10% decrease." 11.

Indiana :—

- Sedan, Mrs. Jane L. Hine, "Decrease in bird life $\frac{1}{3}$, possibly $\frac{1}{2}$. Side hunts occur occasionally on Thanksgiving." 8, 5, 6, 16, 13.
 Indianapolis, W. S. Blatchley, "Decrease in bird life $\frac{1}{2}$." 1, 2, 3.
 " Fletcher M. Noe, "All birds are very scarce in this locality. Only the most hardy species remain. As compared with 15 years ago, only $\frac{1}{10}$ as many." 2.
 Brookville, Prof. A. W. Butler, "Decreasing, but impossible to state proportions. Becoming extinct: wild turkey, prairie chicken, ruffed grouse, wild pigeon, white heron, raven, purple martin, eave swallow, bluebird." 8, 11.

Illinois :—

- Chicago, Benj. T. Gault, Decided decrease in bird life, both as to numbers and species. Proportions difficult to estimate, because it varies from a slight falling off of some species to an entire disappearance of others. Decrease from natural causes has been compensated by a corresponding increase of other forms; so man's devices are responsible for the net loss. The crow is reported as a great nest robber, very destructive to the eggs of the pinnated grouse. Many species are named as becoming rare, or already extinct. Remedy proposed: "Do away with spring shooting and make market hunting illegal." 8, 7, 2, 5, 1.
- Chicago, Prof. F. M. Woodruff, "Decrease, $\frac{1}{4}$ in passerines, $\frac{1}{2}$ in water fowl. *Ardea egretta* and passenger pigeon entirely gone." 1, 3.
- Warsaw, Chas. K. Worthen, "Birds about half gone. Most home birds driven to forests by English sparrow, which is increasing frightfully, and proving a greater curse as they increase." 3, 5, 2.
- Terra Cotta, Robert Knetsch, "Decrease is surely an indisputable fact; about $\frac{1}{4}$ to $\frac{1}{2}$ remain. Many town 'sportsmen' shoot every bird seen 'for the sake of sport.'" 8, 1.
- Terra Cotta, Isaac E. Hess, "We are so fortunate as to have $\frac{3}{4}$ of our numbers of ten years ago. Very few birds are killed in this vicinity. Our active ornithologists would rather shoot with opera glasses than firearms. Summing up, I find 23 species are decreasing, 13 species with numbers about the same, and 31 species are gradually or rapidly increasing." [List given of each class.]
- Lacon, R. M. Barnes, "General decrease, about $\frac{1}{5}$; of geese, ducks and swan $\frac{2}{3}$; bluebirds $\frac{9}{10}$." 3.

Kentucky :—

- Lexington, Prof. H. Garman, "Not half as many birds here as there were in Ill. when I collected in 1877-1881." 5, 2, 6.

Tennessee :—

- Nashville, William Osburn, "Fully as many birds as six years ago. Hunters destroy doves, bob whites and robins."

Michigan :—

- Detroit, R. J. Cram, "Water fowl generally have decreased in number, almost to total extinction. Certainly not more than $\frac{1}{4}$ as many seen now in Mich. as were seen 15 years ago." 3.
- Battle Creek, Fred. Wells, "Birds generally decreased about $\frac{1}{4}$. Sparrow bounty law results in the killing of many sparrows not English. Destruction of game birds very great, and all species disappearing." 5, 1, 8.
- Kalamazoo, Dr. Morris Gibbs, "Not $\frac{1}{2}$ as many birds as 15 years ago. . . . All the ducks are much fewer, as well as the shore and all game birds." 8, 11, chief causes.

- Sault Ste. Marie, Chase S. Osborn, "Birds are increasing; nearly twice as many, or quite, as 15 years ago." 2.
- Sault Ste. Marie, J. H. Steere, "As a whole, birds are decreasing. Have perhaps decreased $\frac{1}{4}$ to $\frac{1}{3}$. Most of the destruction has been by hunters amongst the game birds." 1, 3, 5.
- Greenville, Percy Selous, "Except a few species, birds are decreasing. Wild turkey, sandhill crane, wood-duck and birds of prey fast disappearing." 3, 8, 11, 12.
- Bay City, Newell A. Eddy "Water fowl have greatly decreased, through persistent persecution. Shore birds increasing, owing to waters of Saginaw Bay receding. City birds driven out by English sparrow; sparrow now being destroyed for bounty. One small roost of wild pigeons reported near Flint in 1896." 1, 8.
- Iron Mountain, E. E. Brewster, "Birds are about holding their number." 9.

Wisconsin:—

- Milwaukee, Prof. H. Nehrling, "Birds are decreasing fearfully in this locality. . . . Where, in the days of my boyhood, thirty-five years ago, orchards and woodlands were ringing with bird music, silence seems to reign supreme in these last years of the century. . . . Of many of the birds named [our finest song and game birds] scarcely $\frac{1}{4}$ are to be found now, while of numerous other species scarcely $\frac{1}{10}$ or even $\frac{1}{50}$ are to be met with to-day." 2, 5, 3, 1, 4, 7, 9.
- Milwaukee, Prof. R. M. Strong, "Birds have decreased very greatly. . . . Shooting by men and boys is a very destructive practice, and one that might be stopped." 7, 6, 2.
- Milwaukee, John A. Brandon, "Birds are decreasing, apparently decidedly so." 2, 7, 16.
- Fox Lake, Geo. A. Morrison, "One-half as many birds as formerly. Indiscriminate shooting, both spring and fall, has caused a great decrease in upland game birds and ducks. Spring shooting should be stopped." 1, 5.
- Waukesha, Clarence P. Howe, "Have noticed a marked decrease in the bird fauna around Waukesha within the last 5 years." 16, 6.
- Ripon, E. Morgan Congdon, "Only game birds decreasing perceptibly." 2, 5, 8.
- Delavan, N. Hollister, "A favored locality! Very little decrease, save of a few conspicuous species. No milliner's hunters, few sportsmen and hunters, boy egg-collectors few and far between, only one ornithologist: good breeding grounds.
- Milton, Prof. Ludwig Kumlien, "I could not give the percentage of decrease for the state as greater than 30% in 15 years; locally it seems greater. If one goes back 25 to 35 years, I should say it might amount to 50% for settled portions of the state. The

shore birds have decreased more than any other order. Ducks have held their own fairly well, considering that they may be legally slaughtered in spring, after they have mated, (up to May 1), in both Wisconsin and Illinois . . . Ruffed grouse have suffered, no doubt, to an extent (locally) of 75% and more. . . . Laws have forbidden hunting prairie chickens with dogs, and this, with drier weather in May and June, has been favorable to them. . . . A very few passenger pigeons still linger—a 'mere trace.' Gulls and terns have decreased very markedly. . . . 1, 16, 4, 7. [Remedy proposed]: *Abolish spring shooting, make it impossible for boys to procure permits, do not allow the taking of eggs at all, put a bounty on the English sparrow, and let nature take its own course.*"

Minnesota :—

- Lanesboro, Dr. J. C. Hvoslef, "Some species are decreasing. Swimming and wading birds have decreased very much, since the country has become so remarkably much drier. Hunting has not had much to do with it."
- St. Paul, Walton I. Mitchell, "Birds are not noticeably decreasing, except in certain cases. Total decrease, perhaps one-tenth. Becoming extinct: red-headed woodpecker, bluebird, robin and Baltimore oriole." 2.

Iowa :—

- Des Moines, A. J. Johnson, "Great decrease in birds generally, estimated at $\frac{1}{2}$. "Kites and all of the geese, ducks and cranes" are threatened with extinction. 2, 5, 3.
- Boone, Carl Fritz Henning, "One-third of the birds remain." 3, 7.
- Boone, Hon. Charles Aldrich, "All [birds] are yearly diminishing rapidly. Some species are seldom, if ever, seen. . . . Bobolinks, bluebirds, swallows, shrikes and possibly some others" becoming extinct. "migratory aquatic birds almost never seen." Causes: "Cultivation, the drying-up of rivers, streams, lakes and sloughs, *egg-collecting*, and some shooting." 6, 5.
- Keokuk, Edmonde S. Currier, "Birds as a whole are not disappearing, but, excepting the quail, the game birds, water-fowl, and birds of prey certainly are. Of the raptors $\frac{1}{2}$ remain; water fowl $\frac{1}{3}$; [upland] game birds not over $\frac{1}{10}$!" 1, 5, 8, 11.
- Keokuk, Dr. J. M. Shaffer, "Only water fowl and ivory-billed woodpecker decreasing. Wild turkey, prairie chicken and ruffed grouse quoted as becoming extinct. "Quail abundant. Game laws fairly well obeyed. Public sentiment strong in favor of protection of *all* birds, even owls and hawks." 5.
- Keokuk, Wm. E. Praeger, "Leaving out the great increase in the English sparrow, the total [of living birds] would have to be lowered by, say 15 per cent."

Chief causes: "Clearing away timber and underbrush, drainage of marshes, cultivating the prairies." Many important species are named as having become very rare. "Wolves are on the increase!" 8, 11, 1, 5.

Hillsboro, Walter G. Savage. "Birds are increasing. . . . One-fourth *more* than 15 years ago." Thirteen important species are named as slowly disappearing: mallard, two teals, wood duck, ruffed grouse, prairie chicken, turkey, pigeon, swallow-tailed kite, raven, pileated woodpecker, myrtle warbler, and tufted titmouse. 1, 5.

Missouri :—

Mexico, J. N. Baskett, Three fifths of the birds remain. 8, 11, 11.

Old Orchard, St. Louis Co., O. Widmann, No general estimate, but a long list of birds have decreased,—some 25%, some 50%. Dickcissels have increased. 1, 2, 3, 5, 8.

St. Joseph, Sidney S. Wilson, Birds undoubtedly decreasing— $\frac{1}{2}$ in the last 5 years! 2, 1.

Kansas :—

Manhattan, Prof. D. E. Lantz, As to whole number, birds are increasing. Nineteen species are more numerous than 15 years ago. But all wild ducks, geese, cranes, hawks, owls, curlews, the pinnated grouse, ruffed grouse, turkey, pigeon, 2 eagles, raven, black vulture and 7 small species have decreased, some being really extinct. 3, 5, 7.

Manhattan, C. W. Pape, As to whole number, not decreasing; but many species are, notably water birds, shore and marsh birds. The orders after *Columbae* are about holding their own; those preceding, "decreasing on the whole. Deep snows are one cause." 3.

Lawrence, Prof. L. L. Dyche. All game birds, except quail, decreasing. More quails than ever before. [See "Reports on Game Birds," page 84.] Pinnated grouse being exterminated by market and pot-hunters who use dogs. "Stop the hunting with dogs, and the chickens would increase." Song birds have held their own in the fields and forests, but (excepting the blue jay) have been driven out the towns by the English sparrow. "Sportsmen as a rule are very considerate; they are usually satisfied with a reasonable number of birds. All large mammals and many small ones becoming extinct." 3.

Garden City, Guy B. Norris, Birds are decreasing; several species conspicuously so. "There are about $\frac{1}{4}$ as many birds here now as ten years ago." Birds are almost all migrants; number fewest in dry season. 2, 16, 13.

Wichita, Chas. Payne, Birds are increasing. Cause: stringent game laws, that really are enforced. No quail can be sold in the state, nor any game exported, save for scientific purposes.

Nebraska :—

Lincoln, Prof. C. E. Bessey, "Game birds of nearly all kinds, especially geese and ducks, have decreased; others have held their own. Robins have greatly increased."

Hay Springs, C. A. Waterman, "Some kinds have not decreased; some have very much. Wild ducks, geese and other water fowl have decreased $\frac{1}{2}$." 3, 5.

North Dakota :—

Mandan, J. D. Allen, "Birds have decreased about $\frac{1}{2}$." 5, 1.
Becoming extinct: moose, elk, mountain sheep, beaver, otter, wolverine, sage grouse. Buffalo already gone.

Sanborn, Geo. F. Carl, "Not $\frac{1}{4}$ as many small birds as 10 years ago. *All* are decreasing."

Medora, Howard Eaton, "Yes, birds are decreasing. Three-fourths decrease in pin-tail grouse, $\frac{1}{10}$ in magpies, $\frac{1}{2}$ to $\frac{3}{4}$ in blackbirds, $\frac{3}{4}$ in sage grouse. [Cause:] Market hunters; and poison for the magpies. Buffalo and elk *gone*, beaver *almost* wiped out; sheep, mule deer, antelope and otter, ditto; golden eagles nearly gone, by poison. Wolves, coyotes and prairie dogs are increasing." 3.

SOUTHERN STATES.

District of Columbia :—

Washington, William Palmer, "About $\frac{2}{3}$ of the land birds and $\frac{1}{4}$ of the water birds remain. Immediately about Washington, birds [in general] have decreased $\frac{1}{2}$. I might say $\frac{1}{2}$, but fear that would be a little over the mark." 8.

Maryland :—

Baltimore, F. C. Kirkwood, "Some species decreasing, others not. Ducks are getting much fewer." 8, 11.

Laurel, Henry Marshall, "Land birds have decreased $\frac{1}{2}$." 8, 2.

Virginia :—

Blakesburg, Prof. E. A. Smyth, Jr., "A scarcity of hawks, but in six years have noticed no diminution in other bird life, generally."

West Virginia :—

Charleston, W. S. Edwards, "Quantity of bird life about the same as 15 years ago."

North Carolina :—

Haslin, Beaufort Co., Fenner S. Jarvis, "More birds now here than for many years. I am sure we have $\frac{1}{2}$ as many more here. The foxes, minks and hawks are the birds' worst enemies."

Raleigh, C. S. Brimley, "In 17 years can see no decrease in the numbers of birds in this locality, save of bluebirds—killed by the cold winter of 1895. No market hunters here; no collectors save myself. Less shooting done here than 10 years ago. I think the low price of cotton has impoverished

the small boy and negro; otherwise they would do damage. The pileated woodpecker is still found within 5 miles of Raleigh! Deer and bear are found nearly all over the state, and wild turkey in this county—the most populous in the state. In the east, the terns and shore-birds have been very largely killed out by the plume hunters, who do not come here.”

Littleton, Harry H. Thorne, “I do not think there has been a perceptible decrease in the number of birds within the time mentioned, with perhaps the exception of game birds.”

Deal's Island, Carrituck Sound, M. Corbel, “In this locality and the bays of Virginia, during the past 10 years, the wild fowl—canvas-back ducks, red head, and all other kinds—have decreased $\frac{1}{4}$. Swans have almost disappeared. Causes: float shooting, shooting from sail boats, fire-lighting and shooting at night.

South Carolina :—

Charleston, Prof. E. A. Smyth, Jr., All species reported upon greatly reduced in numbers. “All herons nearly exterminated.” Some species now regaining their numbers somewhat. Both the herons and terns have been destroyed en masse by plume-hunters—local and from Florida—but winter gulls still remain. “The flocks of ducks wintering in the harbor are less than $\frac{1}{10}$ of what they used to be.” Black skimmer, $\frac{1}{3}$ remain; various sandpipers, $\frac{1}{4}$; long-billed curlew, 10 where there used to be 500! 4, 6, 14.

Charleston, H. C. Cheves, “Some varieties have decreased very much, others little. Taking all together, should say there are about 20 per cent. less than 15 years ago. . . . Greatest loss has been amongst migratory varieties.” 4, 3, 14.

Mount Pleasant, Arthur T. Wayne, “Birds are decreasing in my locality. About $\frac{1}{4}$ the number are here now. . . . The least tern and snowy heron are *entirely extinct*. They bred abundantly here in 1885-1887.” 4.

Columbia, John T. Tennant, “On an average, bird life is about as plentiful as it was 15 years ago. 5, 17.

Florida :—

Osprey, Manatee Co., John G. Webb, “Yes, birds are decreasing. Compared with the number 30 years ago, there are not over 10 per cent. Compared with 15 years ago, I should say 25 per cent. The destroyers are the men who sell plumes and birds' wings to northern dealers. The rookeries have been destroyed. Twenty years ago, an ornithologist observed 16 species of herons and egrets in two weeks around my place. *You would not now see 16 birds (individuals) in a whole year!* They have been simply annihilated. A stray one comes along but rarely.” 4.

- Punta Gorda, J. L. Sandlin, "Birds of all kinds are at least $\frac{2}{3}$ less than 15 years ago, and some very nearly extinct. The flamingo, that used to stand in flocks of 50 to 200, are now not to be found at all. The egret, roseate spoonbill, turkey, deer and alligator, not so many by $\frac{2}{3}$." 4, 3.
- Myers, E. M. Rennolds, "Wild turkeys and migratory birds have decreased one-half. Ducks have decreased 500 per cent. in the time mentioned. The plume birds are decreasing faster than any others; about $\frac{1}{10}$ as many as 15 years ago. . . . *If the present state of affairs continues for 15 years, I think I could safely say that all [birds] would be extinct, or practically so, except the quail.*" One contributing cause, Seminole Indians. 4.
- Grant, Brevard Co., Miss Q. H. Latham, "Birds are decreasing; not $\frac{1}{4}$ remain. Many birds are shot by tourists. The paroquet is nearly extinct. Hunters say there are only 3 flocks known to remain in the state. Very few egrets remain, as Indians hunt them regardless of the bird laws—but the white men are as guilty as the red men." 4.
- Tarpon Springs, W. S. Dickinson, "Of the smaller birds, not over half as many as 10 years ago. Of egrets and herons, not $\frac{1}{10}$." Cause for decrease of small birds, unknown; others, 4.
- Ozona, Oliver Tinny, "Birds are decreasing in our locality. Not over $\frac{1}{4}$ as many now as 15 years ago." 3, 4.
- Tallahassee, Prof. F. W. Talley, "I think birds have decreased $\frac{1}{3}$ within the past 15 years." 2, 4.

Georgia:—

- Augusta, C. D. Perkins, Decreasing; "about $\frac{1}{2}$ as many." 17, 3.
- Augusta, A. H. Miegel, Decreasing; about $\frac{1}{10}$ as many. "Have known white men to kill a whole covey of half-grown quail as they were huddled on the ground. Have known them to kill doves off the nest. Negroes in this section kill every kind of bird they can point their loaded pot-metal at, in or out of season. Becoming extinct: quail, doves, summer ducks, woodcock, yellow-hammer." 17, 3, 5.
- Kirkwood, Robert Windsor Smith, Birds are decreasing. One-half remain. Bob white is the only game bird here. . . . Larks and robins are killed in winter, mostly by boys. The game laws are not enforced. 1, 8.
- Macon, Dr. H. McHatton, "Birds and game of all kinds are decreasing very rapidly here. Taking birds of all types, not over $\frac{1}{4}$ remain. [Causes]: shooting in the breeding season, market hunting, and the rapid increase of hunters of all classes. . . . In this section there are not more than $\frac{1}{10}$ of the ducks there used to be, and geese and swans are things of the past."

Alabama :—

- Birmingham, Robert Y. Jones, Birds are decreasing. One-fourth of the quail remain. No ducks at all. Deer are getting very scarce, wild ducks almost extinct. One cause, non-resident shooters. 3.
- Auburn, C. F. Bachus, Residence too short to afford an estimate. "Negroes and college boys shoot doves. English sparrows drive many birds out of town."

Mississippi :—

- Moss Point, C. H. Wood, "Birds have decreased at least $\frac{1}{2}$. The most potent cause is the rapidly increasing fondness for hunting, and desire to kill, by men and boys." 5, 2.
- Leggett, W. W. Leggett, "Some birds have decreased $\frac{1}{2}$, some $\frac{3}{4}$." Becoming extinct: quail, ducks, turkey, deer. 3.
- Moss Point, J. A. Hatlestad, "Apparently birds are not decreasing. None are becoming extinct."

Louisiana :—

- New Orleans, Gustave Kohn, Birds are decreasing. There are now about $\frac{1}{4}$ in comparison with 15 years ago. No attention is paid to the state laws for the protection of small birds, and there are no state officers to enforce them." 17, 3, 14.
- New Orleans, Prof. H. Nehrling. See "Reports on Game Birds."
- New Orleans, Andrew Allison, "I think that birds are not perceptibly decreasing. . . . Immense numbers of nonparreils and indigo buntings are caught every spring, cardinals at all times, and some goldfinches in winter. The number of painted and indigo buntings in the New Orleans bird stores in spring and summer is appalling. Have seen the following species in bird stores: blue grosbeak, indigo bird, Baltimore oriole, rose-breasted grosbeak, cardinal, mocking-bird, green jay, troopial, cedar bird and others. . . . A pernicious agency for the practical destruction of thousands of our native birds." 14, 3.
- Avery, John A. McIlhenny, Game birds and "plumage" birds greatly decreased in number. Geese, ducks, snipe, $\frac{1}{10}$ of what were here 15 years ago. 3, 4, 10.

Arkansas :—

- Helena, Mrs. Louise McG. Stephenson. "Yes, birds are decreasing. There are not $\frac{1}{3}$ in comparison with 15 years ago. Already extinct: parouquet, ivory-billed woodpecker and passenger pigeon. Becoming extinct: bluebirds, cardinals, mockers and indeed all song and gay plumaged birds. All wild creatures are gradually decreasing in number." 3, 5, 17, 4, 10.
- Little Rock, Hon. U. M. Rose, "Birds are decreasing, and about $\frac{1}{2}$ remain. Becoming extinct: all birds of bright plumage, and mocking birds." 2, 17, 4.
- Imboden, Carrington C. Bacon, "Some varieties are decreasing. Decrease of wild turkey, 40%; herons, 40%; ducks,

33%; bluebirds, 50%; deer, 50%. Decrease of deer due to hound-hunting, and clearing up of their ranges; also killing in snow (in violation of game laws), as they become quite gentle in the summer months. Bears rapidly disappearing; found only in thick cane-brakes of bottom lands. 4, 3, 12.

Texas :—

San Antonio. H. P. Attwater: "Birds are undoubtedly decreasing, some species more than others. Probably $\frac{2}{3}$ remain. Becoming extinct: prairie hen (several terns, herons and egrets on the coast), black bear, jaguar, antelope, beaver, golden eagle and bald eagle; some others rapidly diminishing—such as wild turkey, pelican, deer, puma and others." 5, 1.

Goodnight (Armstrong Co.) Chas. Goodnight. In comparison with the number of birds 15 years ago, there are only one-fourth. All important species of birds and quadrupeds are becoming extinct.

San Antonio. Arthur H. W. Norton. "Have not noticed any great decrease, except in prairie chickens, turkeys and road-runners."

Galveston. A. R. Shearer. "Decidedly decreasing. Based on waterfowl, $\frac{1}{4}$ [remain] or even less. But land birds have not suffered so much, except *M. gallopavo*. 4, 3, 1.

Indian Territory :—

Eufaula. Charles Gibson. "About 9-10 of the birds have been destroyed. The most destructive agency is the white men from near the border of the Indian Territory, who have no right to hunt within our borders. Becoming extinct: bear, deer, turkey, geese, ducks, prairie chickens, quails, squirrels and even rabbits. The country has been overrun with game-hogs, for we have no game laws in the Territory which the white men respect."

McAlester. M. J. Witt. "About $\frac{1}{4}$ as many birds here now as 20 years ago." 15, 5.

Catousa. M. C. Witmer. "About $\frac{1}{8}$ as many wild turkeys and prairie chickens. Other birds about the same." 5, 8.

Tulsa. L. C. Perryman. "Prairie chicken nearly extinct. Five out of a thousand remain. Quails, $\frac{1}{2}$; turkeys, $\frac{1}{10}$; destroyed by hunters from outside—whites, not Indians. If the whites who make a practice of coming in here and destroying game are not restricted, there will be no game here in a few years."

WESTERN AND SOUTH-WESTERN STATES AND TERRITORIES.

Montana :—

Anaconda. Vic Smith. "Birds have decreased very perceptibly. I very much doubt if there are $\frac{1}{4}$ as many. . . Ducks, geese, grouse, sage hen, fool hen and partridge were very scarce this season. I consider the members of the gun clubs responsible for

the decrease in feathered game. There is practically no limit to their killing. Elk, moose, sheep and antelope are scarce enough, I assure you; but this is owing to the Cree Indians, from Canada. For several years they have slaughtered the game, and caused our state plenty of trouble. Last year we deported the whole of them (about 2,000) to Canada, but they are all back here now, and have been murdering the game, last fall and summer,—and are at it now." 13.

Red Lodge, G. H. Heywood. "Not one-fifth of the birds remain. Cause: dudes from the East, who call themselves sportsmen."

Orlando. M. P. Dunham. "Without doubt, all kinds of game animals, as well as birds, are getting less every year. The members of the rod-and-gun clubs are responsible for the birds. They kill more game per man in a week's hunt than a hunter will in a whole season. . . . The animals are disappearing about alike, except the goat. If anything, however, the antelope are getting it the worst of them all." Much large game is destroyed by attempts to capture full-grown elk, deer and moose alive. 13.

Great Falls, R. S. Williams. "Water-fowl have decreased greatly; also sharp-tailed grouse. Less than $\frac{1}{4}$ remain. Many animals are becoming scarce, but I presume only the buffalo is threatened with extinction." 1, 2, 3, 5.

Wyoming:—

Cheyenne. Frank Bond. "Our situation here is unique and exceptional. Sixteen years ago native birds were far less abundant in Cheyenne than at present. Owing to tree planting, Cheyenne is now one large grove—a veritable 'oasis in the desert.' With the growth of trees came the birds, until now the city is the summer residence of hundreds of birds, where 16 years ago there were but few. Migrants, both spring and fall, are correspondingly numerous. I have been chiefly instrumental (if you will pardon the apparent egotism) in creating public sentiment in favor of our native birds,* and we have no class or special agency engaged in their destruction. . . . My only battle here in Cheyenne is with the English sparrow, which, by the use of poisoned grain and a shot gun, I have prevented from getting a permanent foothold among us. I find there are between 50 and 100 in the city now, but I expect to get all of them before spring."

Ten Sleep, Big Horn Co. Mark H. Warner. "Game birds have decreased about $\frac{1}{2}$. Don't know the reason. Becoming extinct: bear, elk, antelope and willow grouse. *Bear, elk and antelope will be gone in about three years!*"

*Mr. Bond is editor and manager of the *Wyoming Daily Tribune*, and his example and his success are commended to the attention of other editors.

- Ishawood, Big Horn Co. Jas. L. McLaughlin. "Birds are slowly decreasing in this section. About $\frac{2}{3}$ as many as 9 years ago. No particular class of men responsible. Ruffed grouse are fewer than any other. Small birds are seldom disturbed. Elk, mule deer and mountain sheep are about one-half as plentiful as they were 10 years ago. Moose and antelope are about one-third. Skin hunters are responsible for their destruction. Still quite a lot of antelope in the Big Horn basin."
- Cora. Ira Dodge. "Birds are increasing in Wyoming. Cause: Increased settlements and food. Present yearly decrease of antelope, 20%; black-tail deer, 10%; black and grizzly bears, 10 to 15%; mountain sheep (by hard winters and varmints), 10%. Moose, none. Coyotes, increasing. In my opinion, with improvement in our game laws, none of our game animals need become extinct—except the bison."
- Douglas. Dr. Mortimer Jesurun. "No decrease [in birds] except of sage grouse and sharp-tailed grouse. Half as many of the former, one-tenth as many of the latter. There is no market-hunting of birds, Elk are almost extinct in eastern third [of the state] where 10 years ago they existed in abundance." 1, 5.
- Yellowstone Park. Elwood Hofer. The rapid increase of coyotes and gray wolves threatens the destruction of all the antelope in the Park. The coyotes are very bold, and run down and kill antelope within sight of the town of Gardiner. But for the coyotes there would now be 1,000 antelope in the Park.

Utah :—

- Salt Lake City. Prof. Marcus E. Jones. "Birds are increasing in number in Utah. Grouse of all kinds are about at a stand-still. Ducks are decreasing, due to hunting. Quail and gulls are increasing, due to protection. Blackbirds and the like are increasing, and no species of birds are becoming extinct. Buffalo and mountain goat, all extinct. Mountain sheep, white-tailed deer, black bear and timber wolf are nearly extinct."

Colorado :—

- Ft. Collins. Prof. W. W. Cooke. "The birds of this, an irrigated region, have increased decidedly, and are still increasing. Probably fully double. [Becoming extinct]: Turkeys, sharp-tailed grouse, and ruffed grouse."
- Ft. Collins. William L. Burnett. "I have been a resident here for 15 years, and from field observations in this region I say birds are decidedly on the decrease. About $\frac{1}{2}$ remain. [Cause]: Boys from 12 to 20, who shoot everything in sight, especially the common birds. Elk, deer, antelope, mountain sheep and most of the smaller mammals are becoming very scarce; also the common birds, as mountain bluebird, western robin, western meadow-lark, house finch, red-shafted flicker, Bullock's oriole and barn swallow."

- Pueblo, W. F. Doertenbach, "Warblers, thrushes, sparrows and other small birds have increased, but doves, passenger pigeons, ducks and other native game birds have decreased. . . . Antelope, mountain sheep and elk rapidly diminishing." 1, 3.
- Buford, J. M. Campbell, "No perceptible decrease in birds, except geese, ducks and grouse, of which there are $\frac{3}{4}$ as many. Buffalo are practically extinct, and beaver becoming so. With proper legislation, and attention from game wardens, our big game will last a long time—if the Indians can be kept off the winter range of deer." 1, 5.
- Dotsero, J. T. Meier, Game birds have decreased about three-fourths; other birds have increased nearly $\frac{1}{2}$. Natural enemies, especially hawks, very destructive to grouse.
- Colorado generally, B. G. Voigt, "Yes, birds are decreasing. About half remain. 9, 15, 2. Becoming extinct: ptarmigan, all species of grouse, brown creeper and lazuli finch; beaver, antelope and elk. Cannot tell how long antelope will last. There are more killed by coyotes than sportsmen. I saw five attacked in one day, and two were killed. Mountain sheep are on the increase. Saw one bunch of 35 at —, and several bunches of from 5 to 12 near —. Saw one mountain goat in 9 years."
- Beulah, D. P. Ingraham, "Except migratory and game birds, the birds are not materially decreasing. All mammals are becoming rare. Becoming extinct: dusky grouse, deer, elk, mountain sheep, beaver and antelope. Buffalo entirely gone. So far as birds are concerned, I think the game law was framed by and in the interest of sportsmen." 1.

Arizona:—

NOTE.—It is apparent that in this territory, bird life is very sensitive to climatic and food conditions. The margin on which the birds survive is so narrow that it is easily disturbed.

- Tucson, Herbert Brown, "Quail in former times were very numerous, now equally as scarce. This decrease is not attributable to hunters, but to two successive seasons of drought, and the destruction of vegetation by an overstock of cattle. Other birds have probably been driven from the country through like cause. The past several seasons have been favorable for vegetation, and as the ranges have been practically stripped of stock, bird life is rapidly returning. . . . Indian market hunters were fast killing out the big game, but that is now prevented."
- Phoenix, Geo. F. Breninger, [Only two years a resident.] "From what I have been told, Gambel's quail were once much more numerous than now. Wild turkey were common throughout the timbered mountains on the border, now one can scarcely be seen. Ducks stop now only far down on the Gila. We all know that game birds and mammals are decreasing; the number slain each year, together with deaths through natural

causes, is far greater than the increase. . . . Tourists who come to Phoenix for the winter, kill birds indiscriminately, regardless of species."

Fort Huachuca, R. D. Lusk, "Nearly all birds have greatly diminished. In the years 1892 to 1895, there was a serious drought. By the close of the latter year, quail and rabbits had almost disappeared from the mesas, and valleys and mountains—but not so markedly from the valleys. Man was not the agent. Now, two years of plentiful vegetation has brought them fully up to the old numbers. The black-tail deer have nearly disappeared from the mesas and foothills, and the peccaries from the mountains. Agent,—man."

Idaho :

Lake, R. W. Rock, "Birds are decreasing very fast in this locality. About $\frac{1}{10}$ as many as 15 years ago. So-called sportsmen are responsible for their destruction. Swans, ruffed grouse, buffalo, caribou and moose are very scarce here, and nearly extinct." 1.

Arangee, G. W. Rea, "Birds are decreasing in numbers. About $\frac{1}{2}$ as many as 15 years ago. Cause: hogs that call themselves sportsmen, from the eastern states, who kill the birds to see them fall. Becoming extinct: swan, pelican and sand-hill crane. Sage grouse are not becoming extinct, but have decreased wonderfully in the last 8 years."

Elgin, W. L. Winegar, "There are more birds here than 15 years ago. In our section man has not been destructive to them. Some of the large game is becoming extinct, through hard winters, and the settling up of their wintering grounds."

Washington :—A pleasing variation ! Birds are increasing !

Tacoma, C. W. and J. H. Bowles, "From what everyone says, birds have increased very much. Where none used to be, there are quantities now. It is thought that clearing off the woods is the cause. . . . The birds are disturbed by nothing but skunks, and none that we know of are becoming extinct."

Chelan, Okanogan Co., W. C. Dawson, (Time covered, 9 years.) "Birds are increasing—all except the game birds, especially grouse. In eastern Washington the sage grouse seems to be the only bird that is certainly doomed to destruction; but it is still common in certain unsettled tracts. Hunting is for sport or the table, only. . . . The mountain sheep, common 10 years ago, is nearly exterminated. According to all information, the white-tailed deer is no longer found. The [Columbian] black-tailed deer is almost gone. The mule deer is still common, not $\frac{1}{4}$ its former number left. The mountain goat is still abundant on the higher ranges, but doomed because of its unsuspecting nature. *Of course, with all these it is a matter of a few years only.*"

New Whatcom, John M. Edson, General increase in bird life. Mr. Edson's very interesting report will be found printed in full on page 97.

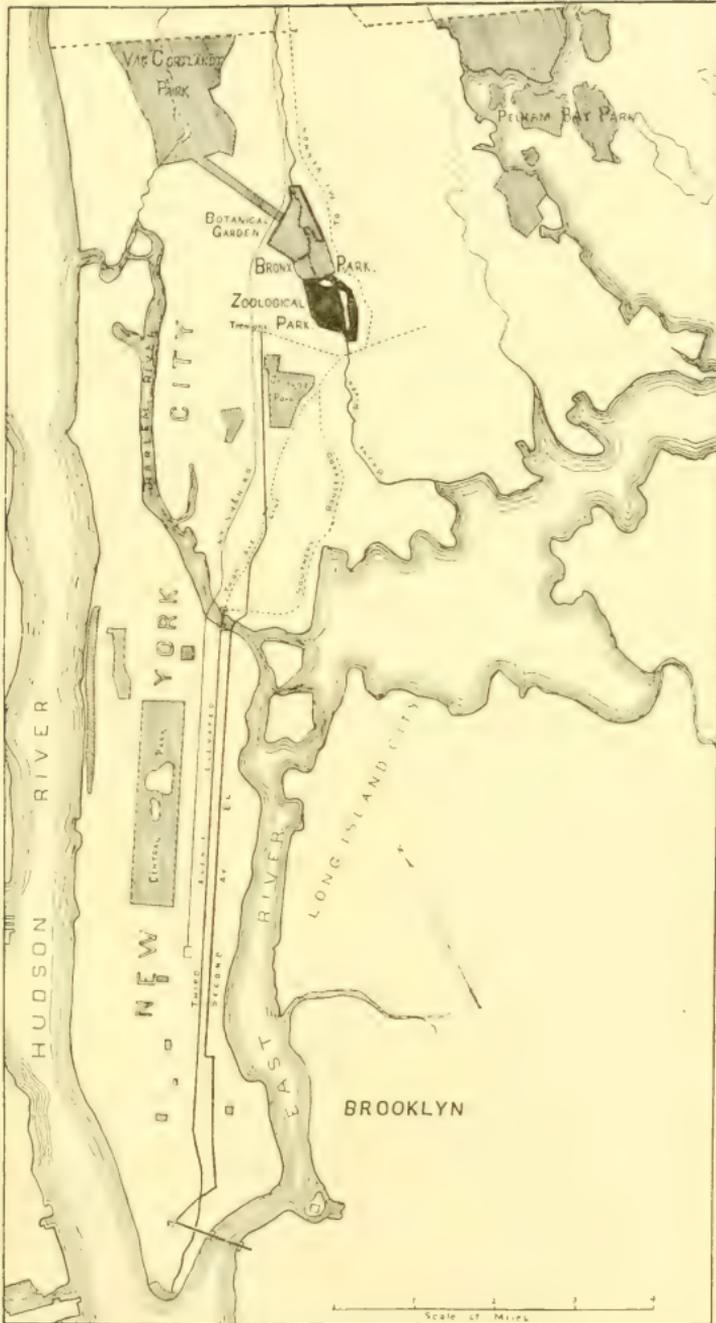
Oregon :—

- Salem, Geo. D. Peck, "Have been in Oregon 5 years. Small birds seem to be increasing here. I think there are $\frac{1}{2}$ more than when I came. I do not think our native game birds are decreasing very fast. Sportsmen pay more attention to the Mongolian pheasant, *which gives the native birds a chance to increase.* Among birds, the swan will be the first to become extinct; among mammals, the elk and beaver. The bounty paid on small rodents hardly serves to check their increase." 2.
- West Fork, Douglas Co., William Archer, "Birds are as plentiful here as they ever were. They are not hunted to any extent. All the large game of this locality is decreasing, such as elk, deer and goats. Mountain sheep are nearly extinct."
- Caswell, E. L. Howe, "Excepting Mongolian pheasants, birds are decreasing. There are only $\frac{1}{8}$ as many ducks and geese, and $\frac{1}{4}$ as many native grouse and pheasants. Cause: pot-gunners, and men who hunt all the time, out of season. The beaver has nearly disappeared, and deer and elk are decreasing."

California :—

- Oakland, Walter E. Bryant, "With exception of a few species, birds are decreasing. Causes: too many cheap guns and gunners; persistent annual destruction of nests, eggs and nesting sites, and also the systematic slaughter carried on by at least one pseudo-ornithologist." 10, 5, 6, 16.
- Clermont, Prof. J. F. Illingworth, "No decrease has been noticed in the smaller birds. The game birds, however, are decreasing very fast. The California partridge and the mountain partridge, are only $\frac{1}{4}$ as abundant as 15 years ago. The mourning dove is also growing very scarce, and the California vulture is almost extinct—by poison and other means. The western meadow lark is getting scarce, *because it is shot as a game bird.*" 1, 5.
- Santa Clara, Chester Barlow, "I do not think that bird life in any line is decreasing in the Santa Clara valley. During 10 years' collecting, I have not noted any material decrease, and the conditions conducive to bird life have remained favorable. Raptores, quail, larks and song birds are abundant, and with many of the small species, I believe they increase annually. Few species are molested to any extent. We have no "plume-hunters," few pot-hunters, and it is a satisfaction to know that the majority of the farmers appreciate the services of the most of our birds, and do not shoot them often for other than food purposes."

- Visalia, Tulare Co., John Broder, "There is no appreciable decrease in bird life in this part of California, unless possibly it is in ducks. The game laws of California are sufficient to protect all kinds of game birds, and they are well observed by our sportsmen. The 'small boy' is more destructive to bird life than any other class of people. No species of birds, in this locality, are threatened with extinction, but grizzly bear, elk and antelope are almost extinct. [These species were formerly very abundant in Tulare Co.] Deer are being killed off at an alarming rate, and it will be only a few years, at the present rate of destruction, until they too are extinct. Laws are sufficient, but not enforced. In the remote mountains they are killed in season and out of season, and without regard to age or sex."
- San Diego, Lyman Belding, Only the game birds are decreasing. Meadow larks and a few other species are increasing. In towns where the English sparrow has located, orioles, black-headed grosbeaks, and other desirable species are seldom heard or seen. The prong-horn antelope and elk are nearly, or quite, extinct. Grizzly bears are getting very scarce; deer also. Washoe Indians are mainly responsible for the scarcity of deer in the Sierra Nevada. 1, 3.
- Southern California, A. W. Anthony, Birds are holding their own very well. Few "hat-bird" fiends have infested the country. Hawks and owls are generally regarded by the farmers as friends, and protected. Jack rabbits and coyotes are growing less abundant near the settlements. Though not nearly so abundant as formerly, deer seem to be holding their own very well. A few antelope and bighorn are still found in eastern San Diego Co., but both are very rare, and can only be regarded as wanderers from Lower California. Sea birds have suffered considerably the past few years through the agency of the guano schooners. The rookeries are raided for guano at all seasons, and during the breeding season eggs or young ones are thrown over the bluffs by thousands. Those not destroyed in that way are eaten by the swarms of gulls that follow to grab the contents of the nests when the shags are frightened away. Dozens of large rookeries have been thus broken up. . . . A few parties have organized to hunt plume-birds along the Mexican coast, and have slaughtered a great many herons. One party of men who were looking for a good place to raid in the Gulf were killed on Tiburon Island, about two months ago. Both men well known to me, and had been killing birds in 1896 and 1897.



SKETCH MAP OF NEW YORK CITY,
 SHOWING THE LOCATION OF THE PROPOSED ZOOLOGICAL PARK, AND PRESENT
 MEANS OF ACCESS.

CHARTER
OF THE
New York Zoological Society.

CHAPTER 435.

AN ACT to incorporate the New York Zoological Society and to provide for the establishment of a zoological garden in the city of New York.

Accepted by the city. Became a law April 26th, 1895, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. Charles A. Dana, Oswald Ottendorfer, Andrew H. Green, William H. Webb, Henry H. Cook, Samuel D. Babcock, Charles R. Miller, George G. Haven, J. Hampden Robb, Frederic W. De Voe, J. Seaver Page, Rush C. Hawkins, David James King, Wager Swayne, Charles A. Peabody, Jr., Charles E. Whitehead, Charles R. Flint, Samuel Parsons, Jr., Mornay Williams, Henry E. Gregory, Isaac W. Maclay, Isaac Rosenwald, Hugh N. Camp, Andrew D. Parker, Cornelius Van Cott, William F. Havemeyer, Frederick Shonnard, William W. Thompson, Alexander Hadden, Edward L. Owen, John H. Starin, Rush S. Huidekoper, William W. Goodrich, Albert H. Gallatin, Frederick S. Church, Edward C. Spitzka, Robert L. Niles, Madison Grant, C. Grant La Farge, William Van Valkenburg, and such other persons as may, under the provisions of its by-laws, become members of the corporation hereby created, are hereby created a body corporate and politic, by and under the name of the New York Zoological Society.

SEC. 2. Said corporation shall have power to establish and maintain in said city a zoological garden for the purpose of encouraging and advancing the study of zoology, original researches in the same and kindred subjects, and of furnishing instruction and recreation to the people, and may purchase and hold animals, plants and specimens appropriate to the objects for which said corporation is created.

SEC. 3. The managers of said corporation shall have power to make and adopt by-laws for the management and government of its affairs and business, for the admission, suspension and expulsion of its members, and for the terms and conditions of membership; to prescribe the number and mode of election of its officers; to define their duties; to provide for the safe-keeping of its property, and from time to time to alter and modify its by-laws.

SEC. 4. The affairs and business of said corporation shall be managed and controlled by a board of managers, the number of whom shall be prescribed by the by-laws. The first board of managers shall be divided by lot into three classes, equal in number, one of which classes shall hold office for one year, another for two years, and the other for three years; and all persons elected to be managers at any subsequent election shall hold office for three years, and until others are elected in their stead. There shall be a president, two vice-presidents, treasurer and secretary, to be elected by the board of managers annually, who shall hold office until others are elected in their stead. The first meeting under this act may be held at any time upon a notice of five days, signed by any five of the incorporators named in the first section of this act, fixing a time and place for such meeting, a copy whereof shall be mailed to each of said incorporators at his usual post-office address, and twelve of such incorporators shall be a quorum for the purpose of organization, adoption of by-laws and election of officers. No manager of said corporation shall receive any compensation for his services, nor be interested, directly or indirectly, in any contract concerning its property or affairs.

SEC. 5. Said corporation may raise money by the issue of its bonds, secured by a mortgage on any or all of its property not acquired from said city or state.

SEC. 6. Said corporation may take, purchase and hold real and personal estate necessary for the purpose of its incorporation, the net annual income of which shall not exceed fifty thousand dollars, and shall possess the general powers and be subject to the restrictions and liabilities prescribed in the third title of the eighteenth chapter of the first part of the revised statutes.

SEC. 7. The commissioners of the sinking fund of the said city are authorized in their discretion to allot, set apart and appropriate for the use of said corporation, any of the lands belonging to said city north of One Hundred and Fifty-fifth street, but not in the Central Park, and such appropriation may be revoked if, after the expiration of five years from the passage of the act, a zoological garden is not established thereon; said grounds thus set apart and appropriated shall be used for no purpose whatsoever except those aforesaid. As soon as any lands are set apart the Mayor of the said city of New York, and the President of the Department of Parks of said city, shall become and be ex-officio members of the board of managers of said corporation. If at any time the animals now composing the menagerie at Central Park shall be removed therefrom by the authorities having charge thereof, said authorities may make an arrangement with the incorporators named in this act or the corporation formed by them for leasing or sale of such animals to such incorporators or corporation, and said incorporators or corporation shall have a preference over any other person or corporation in respect thereto upon the same terms which said authorities could make with any such other person or corporation, or upon such other terms as to such authorities may seem proper, but nothing herein provided shall be construed as giving the

commissioners of the Department of Public Parks authority to sell, lease, transfer, or in any otherwise dispose of said animals or other property connected with or belonging to said menagerie.

SEC. 8. Admission to the said garden shall be free to the public for at least four days, one of which shall be Sunday, in each week, subject to such rules and regulations as shall be prescribed by said corporation.

SEC. 9. This act shall take effect immediately.

STATE OF NEW YORK,
OFFICE OF THE SECRETARY OF STATE, } ss:

{ L. S. }

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom, and of the whole of said original law.

Given under my hand and the seal of office of the Secretary of State, at the city of Albany, this third day of May, in the year one thousand eight hundred and ninety-five.

ANDREW DAVIDSON,

Deputy Secretary of State.

BY-LAWS
OF THE
New York Zoological Society.

ARTICLE I.

MEETINGS OF THE SOCIETY.

SECTION 1. The office and place of business of the New York Zoological Society shall be in the City of New York, unless otherwise ordered.

SEC. 2. The Society shall hold its annual meeting for the election of Managers, and other business, on the second Tuesday of January, or such day thereafter during the month of January to which said annual meeting shall adjourn.

SEC. 3. Special meetings of the Society shall be called by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of ten members.

SEC. 4. Notices of all meetings shall be mailed to each member of the Society at least three days before such meeting.

SEC. 5. At meetings of the Society twenty members shall constitute a quorum.

SEC. 6. The order of business shall be as follows :

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.
6. Report of Director.
7. Election of Managers.
8. Communications.
9. Miscellaneous business.
10. Reports and resolutions.

ARTICLE II.

BOARD OF MANAGERS.

SEC. 1. The Board of Managers shall consist of thirty-six members, together with the Mayor of New York and President of the Park Board, or Commissioner for the Bronx, who shall be members *ex-officio* of the board.

SEC. 2. Nineteen managers shall constitute a quorum, but ten managers may transact current business, and adjourn, subject to the subsequent approval of a meeting at which a quorum shall be present.

SEC. 3. The Board of Managers shall hold an annual meeting on the third Tuesday of January, or on such day thereafter to which said annual meeting shall adjourn. Regular meetings of the Board may also be called by the Secretary on the third Tuesdays of October and April, upon the request of the President or Chairman of the Executive Committee. Special meetings of the Board shall be called at any time by the Secretary, upon the request of the President or the Chairman of the Executive Committee, or at the written request of five Managers.

SEC. 4. Notices of meetings of the Board shall be mailed to each Manager at least three days before such meetings.

SEC. 5. The successors to the outgoing class of Managers shall be elected by the Society at its annual meeting, but vacancies in the Board may be filled for the unexpired term by the Board of Managers, or by the Executive Committee.

SEC. 6. A Nominating Committee shall be annually appointed by the Executive Committee, and shall consist of three members of the Society at large, who shall nominate and post ten days before the annual election the names of twelve persons to succeed the outgoing class of Managers in a conspicuous place in the office of the Society.

SEC. 7. No person shall be eligible for election to the Board of Managers, except to fill vacancies, unless his name shall have been posted as a candidate by such Committee, or by not less than ten members, in writing, in a conspicuous place in the office of the Society ten days before the annual election.

SEC. 8. Any Manager who shall fail to attend three consecutive meetings of the Board, unless excused by vote of the Board, shall cease to be a Manager.

SEC. 9. The Board of Managers shall at its annual meeting elect a President, two Vice-Presidents, a Secretary and a Treasurer, who shall hold office for one year, or until their successors are elected. The President, Vice-Presidents and Treasurer shall be members of the Board.

SEC. 10. The Director of the Zoological Park, and all other persons employed by the Society, shall be appointed by the Board or by the Executive Committee, and shall hold office during the pleasure of the Board.

SEC. 11. The Board shall, at its annual meeting, elect an Executive Committee and Auditing Committee, which shall hold office for one year, or until their successors are elected. The Board of Managers and the Executive Committee shall also have authority to appoint such other Committees or Officers as they may at any time deem desirable, and to delegate to them such powers as may be necessary.

SEC. 12. The order of business of the meetings of the Board shall be as follows :

1. Roll call.
2. Reading of minutes not previously read.
3. Report of Executive Committee.
4. Report of Secretary.
5. Report of Treasurer.

6. Report of Auditing Committee.
7. Report of Director.
8. Election of Officers.
9. Election of Committees.
10. Election of new members.
11. Communications.
12. Miscellaneous business.

SEC. 13. All reports and resolutions shall be in writing, and the ayes and nays may be called on any resolution at the request of one Manager.

SEC. 14. Whenever the funds of the Society shall permit, the Board of Managers or the Executive Committee may award medals or other prizes for meritorious work connected with the objects of the Society.

ARTICLE III.

OFFICERS.

SEC. 1. The officers of the Society shall consist of a President, two Vice-Presidents, a Treasurer, a Secretary and a Director of the Zoological Park. These officers, with the exception of the Director, shall be elected at the annual meeting of the Board of Managers, but any vacancy may be filled for an unexpired term by the Board of Managers, or by the Executive Committee, until the next annual election.

SEC. 2. The President shall preside at all meetings of the Board and of the Society, and shall be *ex-officio* a member of the Executive and Auditing Committees.

SEC. 3. The Vice-Presidents shall, in the absence of the President, perform his duties and possess his powers, acting in the order of their election.

SEC. 4. The Treasurer shall receive, collect and hold, subject to the order of the Board of Managers, or the Executive Committee, all dues, subscriptions, fees and securities. He shall pay all bills as ordered by the Board of Managers or the Executive Committee, and shall report to the Society at its annual meeting, and to the Board of Managers at all regular meetings and to the Executive Committee at each meeting. He shall keep all moneys and securities in some bank or trust company to be approved by the Board of Managers or Executive Committee. The books of the Society shall at all times be open to the inspection of the Managers.

SEC. 5. The Secretary shall be a salaried officer of the Society. He shall be present, unless otherwise relieved by the Board or Executive Committee, at all meetings of the Society, of the Board and of the Standing Committees. He shall keep a careful record of all proceedings, shall have the custody of the seal, archives and books, other than books of account, and shall conduct the correspondence of the Society. He shall issue all notices and tickets and shall perform such other duties as the Board may direct. He shall be a member *ex-officio* of the Executive and Auditing Committees and of the Scientific Council.

SEC. 6. The Director of the Zoological Park shall be elected annually by the Executive Committee at a salary to be determined by said Commit-

tee, and paid monthly from funds of the Society.* He shall be the responsible administrative officer of the Park, and shall recommend to the Executive Committee candidates for the various positions in the Park. He shall also perform all such other duties in connection with the business, scientific and literary administration of the Society as may be assigned to him by the Executive Committee.

ARTICLE IV.

COMMITTEES.

SEC. 1. There shall be two standing committees, the Executive Committee and the Auditing Committee, which shall hold office for one year or until their successors are elected.

SEC. 2. The Executive Committee shall consist of seven Managers, together with the President and Secretary of the Society *ex-officio*. Four members shall constitute a quorum, and all meetings shall be called by the Chairman. The Executive Committee shall fill all vacancies in its own number and shall have the full powers of the Board of Managers, except so far as such delegation of power may be contrary to law.

SEC. 3. The Executive Committee shall have the control and regulation of the collections, library and all other property of the Society, and shall have power to purchase, sell and exchange specimens and books, to employ and control all officials and employees of the Society and Park, and generally to carry out in detail the directions of the Board of Managers and the terms of any contract between the City, or Park Board, and the Society.

SEC. 4. All the rules and regulations for the examination of applicants for the various positions in the Park shall be made or approved by the Executive Committee.

SEC. 5. The Executive Committee may regulate the auditing and payment for all current accounts.

SEC. 6. The Executive Committee shall annually appoint a Nominating Committee, whose duties and powers are set forth in Sections 6 and 7, Article II. of these By-Laws.

SEC. 7. It shall also appoint a Scientific Council whose powers and duties are set forth in Section 2 of Article V. of the By-Laws.

SEC. 8. The Committee shall make a written report at each regular meeting of the Board of Managers.

SEC. 9. The Auditing Committee shall consist of three regular members of the Society, in addition to the President and Secretary, members *ex-officio*, and vacancies shall be filled by the Executive Committee. It shall be the duty of the Auditing Committee to audit, annually, the accounts of the Treasurer and of the Director, and any other accounts of the Society, and shall report to the Board of Managers at its annual meeting.

*Until such time as he enters fully upon his public administrative duties.

ARTICLE V.

SCIENTIFIC COUNCIL.

SEC. 1. The Executive Committee shall annually appoint a Scientific Council of not more than ten members, and shall fill all vacancies. Members of the Council shall hold office until their successors are appointed.

SEC. 2. The duties of the Council shall be to act as an advisory board in all matters pertaining to the scientific administration of the Society, and especially as to the scientific features of the Park, the promotion of zoology by publications and otherwise, and the preservation of the native fauna of America.

SEC. 3. Four members, including the Chairman, shall constitute a quorum. The Chairman shall be elected annually by the Council. The Secretary of the Society shall be a member and Secretary *ex-officio* of the Council.

ARTICLE VI.

MEMBERS.

SEC. 1. The present members and such others as shall become associated with them, under the conditions prescribed by the By-Laws, shall be members of this Society as long as they shall comply with the By-Laws.

SEC. 2. Members failing to comply with these By-Laws, or for other good and sufficient cause, may be expelled from the Society by the Executive committee.

SEC. 3. Candidates for membership shall be proposed and seconded by members of the Society. The name, occupation and place of residence of every member so proposed shall be submitted for election to the Board of Managers or the Executive Committee, and such person, when elected, shall become a member upon payment of the annual dues, or of the fees as prescribed below.

SEC. 4. The annual dues shall be ten dollars, payable in advance, on the first day of May of each year, but the Executive Committee may remit the dues for the current year in the case of members elected between January 1st and May 1st of each year. The classes of membership shall be as follows:

SEC. 5. The payment of \$200 at one time shall constitute any member a Life Member.

SEC. 6. The payment of \$1,000 at one time, or in the case of a Life Member, of \$800, shall constitute any member a Patron.

SEC. 7. The payment of \$2,500 at one time, or in the case of a Patron of \$1,500, or of a Life Member of \$2,300, shall constitute any member an Associate Founder.

SEC. 8. Any member who shall donate to the Society \$5,000, or property of equal value, or any Associate Founder who shall donate \$2,500, or any Patron who shall donate \$4,000, may be elected by the Board of Managers or Executive Committee a Founder.

SEC. 9. Any member who shall donate to the Society \$25,000, or any Founder who shall donate \$20,000, may be elected by the Board of Managers or Executive Committee a Benefactor.

SEC. 10. Persons who have rendered marked service in the science of zoology or natural history may be elected Honorary Members, but not more than three such Honorary Members shall be elected in any one calendar year.

SEC. 11. Residents who have rendered scientific services to the Society, or marked services in zoology or natural history, may be elected as Permanent Fellows.

SEC. 12. Non-residents who communicate valuable information to the Society, or who have rendered marked service in the science of zoology or natural history may be elected Corresponding Members.

SEC. 13. Benefactors, Founders, Associate Founders, Patrons, Life Members, Honorary Members, Permanent Fellows and Corresponding Members shall be exempt from annual dues.

ARTICLE VII.

PRIVILEGES OF MEMBERS.

SEC. 1. A member's ticket admits the member and his immediate family to the Park on reserve days, and to all lectures and special exhibitions, and may be used by the member's immediate family, and shall be good for the current year.

SEC. 2. Admission tickets, each admitting two persons on reserve days, are issued to members for distribution, and are good for the current year.

SEC. 3. Each member of the Society is entitled annually to a member's ticket and to ten admission tickets.

SEC. 4. Each member shall also receive one copy of the catalogue or handbook, the report and official publications of the Society, and shall have all the privileges of the Library and Members' Building.

SEC. 5. No member shall be entitled to the privileges enumerated in this Article unless his annual dues shall have been paid.

SEC. 6. The Life Members shall have all the privileges of Members and ten additional admission tickets.

SEC. 7. Benefactors, Founders, Associate Founders and Patrons shall have all the privileges of Life Members, and shall in addition receive copies of all scientific works published by the Society.

SEC. 8. Any member who shall fail to pay his annual dues within three months after the same shall have become due, and after notice of thirty days, by mail, shall cease to be a member of the Society; subject, however, to reinstatement by the Board of Managers or Executive Committee for good cause shown.

SEC. 9. Any person elected to membership who shall fail to qualify within three months after notice of his election shall be considered to have declined his election; but such term may be extended by the Board of Managers or Executive Committee.

ARTICLE VIII.

FINANCES.

SEC. 1. The fiscal year of the corporation shall be the calendar year commencing January 1st and ending December 31st.

SEC. 2. Neither the Society nor any of its Managers or Officers shall contract any debt which, with existing debts, shall exceed in amount the funds then in the Treasury.

ARTICLE IX.

AMENDMENTS.

SEC. 1. Amendments to these By-Laws may be proposed, in writing, at any meeting of the Board of Managers, and adopted by unanimous consent of the Managers present, or if such proposed amendment shall fail to receive unanimous consent, the Secretary shall, with the notices of the next meeting, send a copy of it to each Manager and state that it will be brought up for action at such meeting, when it may be passed by a majority vote.

GRANT OF SOUTH BRONX PARK

TO THE

New York Zoological Society.

At a special meeting of the Commissioners of the Sinking Fund, City of New York, held on March 24, 1897, a resolution was passed allotting South Bronx Park for the use of the New York Zoological Society upon conditions entirely satisfactory to the Society.

The full text of the resolution is as follows :

WHEREAS, by chapter 435 of the Laws of 1895, entitled "An act to incorporate the New York Zoological Society and to provide for the establishment of a Zoological Garden in the City of New York," it is provided that the Commissioners of the Sinking fund of the City of New York are authorized in their discretion to allot, set apart and appropriate, for the use of said corporation, any of the lands belonging to said city north of 155th Street, but not in Central Park,

RESOLVED, that the said Commissioners of the Sinking Fund do hereby allot, set apart and appropriate for the use of said corporation, a tract of land in the southern portion of Bronx Park, embracing an area of about 261 acres, and consisting of so much of said park as lies south of Pelham Avenue, upon the following terms and conditions, to wit :

First. That said grounds thus set apart and appropriated, shall be used for no other purpose whatsoever except for the purposes of said Zoological Garden as the same are specified in the act aforesaid, and that said appropriation of said lands hereby made shall be revoked if, after the expiration of three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, a Zoological Garden is not established upon said tract of land.

Second. That the original equipment of buildings and animals for said Zoological Garden shall be paid for from funds contributed by the New York Zoological Society, and that said Society shall, before it enters into occupation of the allotted land and within one year from the date of this Resolution, raise one hundred thousand dollars by subscription, and within three years from the date of the commencement of the work by the Park Department for the necessary improvement of the grounds as referred to and described in the sixth paragraph of this Resolution, the further sum of at least one hundred and fifty thousand dollars. If the said Society shall fail or neglect to raise said funds within the periods respectively fixed therefor,

it shall, on demand of the Commissioners of the Sinking Fund, surrender to the City of New York the land allotted to it as a site for said Garden, and all improvements made thereon. The said Society shall not mortgage its buildings or animals, or any of its property within said Garden, which is directly or indirectly maintained by the City of New York.

Third. The said Zoological Society shall have the power to establish an endowment fund from the donations and bequests, which fund shall be used solely, unless otherwise specified by the donors thereof, for the general uses and purposes of said Society. The funds of said Society, other than the sums contributed to said endowment fund, shall be expended upon buildings and other enclosures for animals, for the collections of animals, and for the general purposes of the Society. Among the funds thus to be expended shall be the subscriptions of members, life members and patrons, and all cash donations to said Society, other than those made for the purposes of the endowment fund, and all moneys derived from the sale of animals; and the net proceeds of the privileges that may be developed in said Garden, such as refreshments, boating, riding animals, the sale of photographs, etc., shall be used for, and expended in the increase of the collections; and payments from the funds of such Society, including the endowment fund, shall be made directly from the treasury of the Society.

Fourth. The library, pictures, maps, office furniture, and other movable property purchased and owned by the Society shall remain the property of the Society, and excepting living animals, may be removable at will, and every piece of such property shall bear a distinguishing mark. But no buildings, aviaries or cages may be sold or removed by said Society without the written consent of the Board of Parks. All property paid for from the maintenance fund, hereinafter referred to, shall belong to the City.

Fifth. So long as the said Society is entrusted with the control and management of the said Zoological Garden, and the city provides for the proper maintenance and care of the animals and collections therein, the said Society shall not remove any of its animals or collections for exhibition elsewhere without the consent of the Board of Parks, but if the City shall ever cease to provide for the proper maintenance and care of the said animals and collections, the said Zoological Society shall have the right, upon giving three months' notice in writing to the Board of Parks, to remove the said animals and collections owned by it. The said Society shall have the right to improve its collections by the exchange of animals, and also by the sale of animals not needed for exhibition; but all moneys derived from such sale or exchange of animals shall be used only for the purpose of increasing said collections.

Sixth. The City of New York shall annually provide the necessary funds for the maintenance and care of the Zoological Garden, its buildings, inclosures and other improvements made from time to time therein, and the animals and collections of said Society; but the appropriation for the first year is not to exceed Sixty thousand dollars (\$60,000). It shall be the duty of the City to provide from such sums or appropriations, as may be applicable thereto, the cost of the necessary improvement of the ground

prior to the erection of buildings and inclosures, including such roads, walks, fences, grading, water supply, drainage and heating as may be or become necessary for the proper development of said Zoological Garden, all of which work of preparation and construction shall be performed in conformity with the plans therefor to be agreed upon between the Park Department and the Zoological Society. The said City shall also furnish the necessary supply of water, and adequate police patrol and protection, and the salaries of all persons employed directly in the service and development of the Zoological Garden shall be paid from the maintenance fund, and from such other funds as may be available for and applicable to the purpose. Payments from the maintenance fund shall be made upon vouchers filed with the Comptroller and drawn in such form as he may direct; and said Society shall annually render to the Mayor of the City of New York, a report showing all expenditures during the year then past, made on account of the said Zoological Garden, all revenues and resources thereof, a statement of the number of the members of said Society, of the donations received and of the number of animals in the Garden, the chief items of improvement made during the year, and all other information that the said Mayor may require.

Seventh. The Park Department shall at all times have access to the grounds, buildings and other inclosures of the said Zoological Society for general police visitation and supervision, and for all other lawful purposes. Prior to the commencement of any work on said Garden the general plan therefor shall be submitted to and approved by the Park Board, and all subsequent plans for buildings, roadways and paths shall also be so submitted and approved. No living tree shall be cut down or removed, except by the express authority of said Park Department, but the said Zoological Society shall have the right to remove dead trees and such bushes as it may be necessary to remove in the preparation of inclosures for animals, or in making other improvements. The said Department of Parks shall plant such and so many shade trees, aquatic plants, shrubs and flowers as may be necessary to enhance and secure the seclusion, beauty and usefulness of the park, and shall do and perform all the work of gardening necessary to carry out the general plan of improvement and the subsequent plans as may be agreed upon between the said Zoological Society and the said Department of Parks.

Eighth. The said Zoological Garden and its collections shall be free to the public without the payment of any admission fee or gratuity whatsoever for not less than seven hours a day on at least five days of the week, one or which shall be Sunday, and also on all legal holidays and half holidays, subject to such reasonable regulations as may be made by said Society, but the said Society may close the area devoted to the collections of animals on not more than two days in each week, and on such days may charge an admission fee which shall be fixed by said Society, and all moneys derived from such admission fees shall be expended by said Society in the increase of the collections or in the improvement of said Garden or its buildings; but the portion of the grounds situate east of Boston Road, and all the Bronx River below the Boston Road bridge shall be open to the public

at all times as pleasure grounds, subject to such reasonable regulations as may be adopted by said Society with the approval of the Park Department, and the occupancy of that portion of the park by herds of animals or by collections, shall be subject to the consent of the Park Department.

Ninth. The said Zoological Society shall have the right and power to appoint, direct, control and remove all persons and officers employed by them in and about the Zoological Garden, and to fix the salaries of such persons and officers and to make promotions, but all regular employees shall be chosen, and their salaries fixed and promotions made, by reason of special fitness and ability.

Tenth. Subject to the conditions hereinbefore contained, the said Zoological Society shall exercise entire control and management over all the affairs of the said Zoological Garden.

ACT PROVIDING FOR GROUND IMPROVEMENTS IN THE ZOOLOGICAL PARK.

CHAPTER 510.

AN ACT to provide for the improvement of a portion of Bronx Park in the City of New York to be allotted and set apart to the New York Zoological Society.

Accepted by the City. Became a law May 18, 1897, with the approval of the Governor. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows :

SECTION 1. Whenever the commissioners of the sinking fund of the city of New York shall, pursuant to the provisions of section seven of an act entitled "An act to incorporate the New York Zoological Society, and to provide for the establishment of a zoological garden in the city of New York, being chapter four hundred and thirty-five of the laws of eighteen hundred and ninety-five," allot, set apart and appropriate for the uses of the said corporation, a portion of Bronx park, in the city of New York ; and in making such allotment shall by contract executed between the said commissioners of the sinking fund and the said zoological society, or otherwise, fix the terms and conditions upon which said land shall be so allotted, and thereafter had, used and occupied, pursuant to the provisions of the said act ; the department of public parks in the city of New York shall forthwith make such improvements upon the said portion of Bronx park so allotted, set apart and appropriated as shall be necessary to provide proper sites for the buildings and fenced enclosures for the animal collections of said society, and for the use of said land in carrying out the objects and purposes of the said society and for the accomodation of the public ; roads and approaches ; the excavation and construction of pools and ponds ; the grading of building sites and other parts of said land ; the construction of a system of drains and sewers ; the construction of water supply and heating plants ; the erection of the necessary fences and guard-rails or barriers ; the macadamizing or paving of enclosures for large animals, the construction of suitable entrances ; planting of trees, shrubs and plants, and at least two buildings for the public comfort, and in addition such other changes or improvements as may be deemed necessary for the use of said ground as a public zoological garden or park, by said society pursuant to the provisions of said act ; and the conditions or provisions on which the same has been allotted to or is held by said society.

SEC. 2. Such improvements, construction and erections shall be made pursuant to general plans to be made and prepared by said the New York Zoological society, when approved by said department of public parks ;

and no work shall be performed upon the said land pursuant to the provisions of this act until such plans have been presented to and approved by the said commissioners, nor until specifications shall have been made to carry out the same, in like manner approved by the said department of public parks; nor except in accordance with such plans and specifications as so approved; nor until the said zoological society shall have raised by subscription or otherwise the sum of one hundred thousand dollars for the prosecution of its work, and the same shall have been actually paid in to said society or secured to the satisfaction of said commissioners of public parks.

SEC. 3. For the purpose of providing means for carrying into effect the provisions of this act, it shall be the duty of the comptroller of the city of New York, upon being thereunto authorized by the board of estimate and apportionment of the city of New York, to issue and sell consolidated stock of the city of New York at such rate of interest as may be fixed by the comptroller of said city, not exceeding four per centum per annum, as said board of estimate and apportionment may from time to time prescribe. The said stock shall provide for the payment of the principal and interest thereof in gold coin of the United States of America, and shall be free from taxation and be redeemable within a period not exceeding forty years from the date of its issue. The same shall not be sold for less than the par value thereof, and the proceeds thereof shall be paid out and expended for the purposes hereinabove indicated, and for which the same are issued, upon vouchers certified by the department of public parks. The aggregate amount of said stock to be issued under the provisions of this act shall not exceed one hundred and twenty-five thousand dollars.

SEC. 4. All acts or parts of acts inconsistent with the provisions hereof are hereby repealed.

SEC. 5. This act shall take effect immediately.





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