c and *X* are entirely absent; those present are *p, d, o, f* and *g*, with *m* and *l* of the prism; the pyramid faces are etched. The general character strongly recalls the Alabashka type of the Urals, and this likeness would suggest that the minerals to be found with it will also resemble those of that noted locality. Other crystals are perfectly colorless, but with the same general form and proportions; those of about one centimeter in length are extremely brilliant, the larger ones less so externally, but clear within. It is of great interest that this belt of rare species which traverses the state in its southern portion gives indication of further occurrences of remarkable minerals there to be found.

Clackamas Meteoric Iron: Dr. George F. Kunz.

There has lately been discovered in Oregon an enormous iron meteorite, ranking with the two immense ones found respectively by Lieutenant Peary in Greenland and by Professor H. A. Ward in Mexico. This is a mass of iron, measuring ten feet in length by seven in width and five in height, pitted in the usual manner, but in an extensive degree, and at one point even perforated, so as to leave an opening through it as large as a man's hand. It was discovered in the autumn of 1902 by a prospector, Mr. Dale, on land belonging to the Oregon Steel and Iron Company, some two miles south of Oregon City, in Clackamas County. The official statement of its location is T. 2, S.; R. 1, E. of Willamette Meridian. It was dug loose from the soil and removed on a truck to adjacent land belonging to Mr. Ellis Hughes, where it now lies, subject to a claim by the company and a suit now in progress. The material has been subjected to analysis by a local chemist and found to contain a small percentage of nickel; but the exact figures are not yet in the author's possession. According to Mr. A. W. Miller, of Portland, Oregon, from whom most of the facts have been learned, a piece which he examined for structure did not show the Widmanstatten figures, but a marked cubical structure, with very high silvery luster. A fine photograph sent by him to the author shows the mass as roughly conical or dome-shaped, on an elliptic base, wonderfully pitted, and with the hole through its lower portion. Men standing by it indicate its size, which is perhaps as large as that of any other meteorite known.

Edmund Otis Hovey,
Secretary.

MICHIGAN ORNITHOLOGICAL CLUB.

The last meeting of the Michigan Ornithological Club for the current year was held at the Detroit Museum of Art on December 6. President Adolphe B. Covert presided. There was a good attendance and the papers presented were of much interest. The program was as follows:

Norman A. Wood: 'The Discovery of the Breeding Area of Kirtland's Warbler in Michigan.'

Alexander W. Blain, Jr.: 'Observations made on the Habits of Birds of the Family Mniotiltidæ in Monroe County, Michigan, by Jerome Trombley, during the years 1875–81.'

J. Claire Wood: 'Some Late Breeders.'

Edward Arnold: 'Nesting of the Sandhill Crane in Michigan.'

Professor A. H. Griffith: 'Birds in their Relation to Art.'

Following the papers a business session was held. Dr. J. A. Allen, of the American Museum of Natural History, Wm. Brewster, of Cambridge, and Robert Ridgway, of the Smithsonian Institution, were elected to honorary membership. Many new active members were elected. The constitution was amended so as to allow quarterly instead of monthly meetings. A class of patrons was created.

The next meeting of the club will be held at the Detroit Museum of Art on February 5, 1904. Visiting ornithologists are cordially invited to attend.

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DISCUSSION AND CORRESPONDENCE.

THE WORD BAROMETER.

To the Editor of Science: In my letter of August 28 I expressed the belief that the letter of John Beale to Robert Boyle bearing date February 6, 1665, should read 1666. Since then Dr. J. B. Nichols, of Washington, D. C., has called my attention to the system of

double dating in vogue during the time that both church and civil almanacs were in use. During this time a date falling between January 1 and March 25 would by the church almanac be a year earlier than the same date on the civil almanac. This was sometimes indicated by a double date thus, February 6, 1665/6.

This was a point that I had overlooked, as had also Drs. Rotch and Bolton. A reexamination of the various dates and of their context leads to the following conclusions. John Beale's letter was written February 6, 1665/6. The paper cited by Dr. Rotch and myself is of date March 24, 1665/6. Henry Oldenburg's letter to Robert Boyle, cited by me, is of date March 19, 1665/6.

During the year 1665 several instances of the use of the word 'barometer' are to be found in Robert Boyle's correspondence. In Robert Boyle's paper of April 2, 1666, he refers to 'barometrical observations' made by John Beale; these observations Henry Oldenburg transmits to Robert Boyle on December 19, 1665 (Vol. V., p. 343), and again on December 30, 1665, and on January 16, 1665/6.

More interesting than the above is what would seem to be the original passage in which the word barometer is used. This passage I found by following up the reference in John Beale's letter to the three papers on 'thermometers and baroscopes.' A close examination of Robert Boyle's papers shows these to be three papers printed with the 'History of Cold' in the spring of 1664/5. They are entitled 'New Thermometrical Experiments,' and are preliminary to the 'History.' There is also an introductory note by Henry Oldenburg of date March 10, 1664/5, and beginning thus: 'I am fully persuaded, you will much rejoice to see that exquisite searcher of nature, the illustrious *Robert Boyle*, come abroad again, * * *' (Vol. II., p. 231). A little further on he says: "I am now to advertise you of one or two circumstances necessary to be taken notice of in its perusal. One is that the noble author being at Oxford, when the book was printed at London, he hopes the reader will not impute to him the errors of the press, which yet he is persuaded will not be many, and out of which must be excepted a blank or two, occasioned by this, that the author's papers being near two years since given to be transcribed to one. * * *" This passage shows that the papers were written by Robert Boyle prior to March, 1662/3.

Turning to the author's preface we find the following, "* * * how great a power my friends have with me * * * the reader may guess by the preamble he will find prefixed to the first title of the ensuing history. For by the date of that he will see how early my papers about cold were to have been communicated." The preamble bears date 'Little Chelsea, February 14, 1662, S. A.,' or 1663 civil almanac.

Turning to discourse I., we find the following interesting passage: "Among the several notes I find among my loose papers and in a diary I kept for a while of these observations, I shall content myself to transcribe the following two. * * * The first of these memorandums runs thus. Last night I took notice that there was but one or two divisions difference betwixt the two thermometers, but upon such a change of weather, that happened this day, as made me imagine that the atmosphere would be lighter than before, consulting the barometer (if to avoid circumlocutions, I may so call the whole instrument wherein a mercurial cylinder of 29 or 30 inches is kept suspended after the manner of the Torricellian experiment) * * *" (Vol. II., p. 244b). The date of the diary from which these remarks are taken is not given, and the best that can be concluded from a reading of the whole paper is to say that the date must be prior to March, 1662/3, and probably prior to February 14, 1662/3. Later on in the same paper the word baroscope is used.

It is a pity that Robert Boyle had not earlier followed the determination of giving all requisite dates, expressed by him in the following letter to Henry Oldenburg, dated October 26, 1667. "* * * Care will be taken for the future, that the letters I send you be dated. * * * And I am the more solicitous about this matter, because frequent experience shews us how much our English have lost, for want of being so; and (which is more

considerable) how difficult it is, otherwise, to avoid the occasions of personal disputes, or reflections; which, for my part, I heartily desire to shun" (Vol. V., p. 252b).

One can not but conclude, judging from the phraseology, that the passage in the *Phil. Trans.* cited by Dr. Bolton is from the same pen as Henry Oldenburg's prefatory note. Further evidence of the same authorship is found in the capitalization, following, as it does, the German method. Now Robert Boyle would not be likely to use this mode of writing, while Henry Oldenburg, being a native of Bremen in lower Saxony, might easily have lapsed into the style of his native tongue.

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SPECIAL ARTICLES.

COLOR INHERITANCE IN MICE.

Within the last few years great interest has been aroused by the rediscovery of Mendel's Law of Dichotomy in plant hybridization. This law has been confirmed for many species of plants, especially by De Vries (1902, pp. 146–151, etc.), Correns, Tschermak and others. The study of mice, rats and rabbits has yielded a partial confirmation of this law for animals. I wish here to contribute additional although too meager data drawn from my experiments of the past four years.

The two great laws enunciated by Mendel were these: Of the two antagonistic peculiarities possessed by two races that are crossed, the hybrid, or mongrel, exhibits only one; and it exhibits it completely, so that the mongrel is not distinguishable as regards this character from one of the parents. Intermediate conditions do not occur. That one of the two parental qualities that alone appears in the mongrels is called dominant; the other recessive. Second, in the formation of the pollen or egg-cell the two antagonistic peculiarities are segregated; so that each ripe germ cell carries either one or the other of these peculiarities, but not both. It is a result of the second law that in the second generation of mongrels each of the two qualities of their grandparents shall crop out on distinct individuals, and that the recessive quality shall appear in 25 per cent. of the individuals, the remaining 75 per cent. having the dominant quality. Such recessive individuals, crossed *inter se,* should never produce anything but recessive offspring.

Now experiments with animals have revealed the existence of recessive qualities—*e. g.,* in mice, when white and wild gray are crossed and the mongrel offspring are crossed *inter se,* the second mongrel generation will yield some white mice, and such white mice, bred *inter se,* will thenceforth produce only white mice. These results have been got by Crampe (1885), von Guaita (1898, 1900)—cf. Davenport (1900)—Cuénot (1902, 1903)—cf. Bateson (1902, p. 173)—Darbishire (1902, 1903), Castle (1903) and Bateson (1903). Is the percentage of the recessive individuals always 25? In such a second mongrel generation Cuénot (1902) found 162 gray and 57 albino individuals, or 74 per cent. to 26 per cent., and in von Guaita's breedings between walzing and albino mice the crossed gray hybrids gave 25 per cent. albinos; results that accord with theory. But instead of the 75 per cent. gray which Mendel's law calls for, von Guaita got 57 per cent. gray and 18 per cent. walzing mice of gray, gray-white, black, and black and white colors. Rabbits gave Woods (1903) only 21 per cent. instead of 25 per cent. of the recessive type in the second mongrel generation, and in crossing hybrids with albinos he got only 40 per cent. albinos instead of 50 per cent., as theory demands.

The discussion concerning the validity of Mendelism for mice has been based chiefly upon crosses between albinic mice on the one hand (Crampe, Cuénot, Castle and Allen) and gray or walzing mice on the other (Haacke, von Guaita, Darbishire). Bateson (1903) alone has recorded, without details, the results of crossing mice of varied colors. His data will be referred to in the following account of my experiments.

A. THE OFFSPRING OF MICE OF THE SAME COLOR.

I. *Albino* $\times$ *Albino.*—This cross appears to produce only albinos. Bateson (1903, p. 76) has examined the evidence and finds only one