sive in heredity, in which it agrees with the behavior of the albino character. But if it is crossed with the albino variety itself, offspring are produced all of which are chinchillas, and in later generations both chinchilla and white young are to be expected. These facts indicate that it is an alternative form or allelomorph of albinism. It constitutes the fourth recorded albino allelomorph in rabbits, the series in the order of decreasing pigmentation being (1) ordinary pigmentation, (2) chinchilla, (3) Himalayan albinism, (4) ordinary albinism (snow white). A similar but not identical series of albino allelomorphs was described for the guinea pig several years ago by Sewall Wright.[1] Chinchilla seems to be substantially equivalent to the guinea-pig albino allelomorph seen in the red-eyed silver agouti variety. A homologous albino allelomorph in the rat has been described by Whiting and King,[2] under the name of ruby-eyed dilute gray.

One defect of the new fur varieties of rabbits is their relatively small size. Furriers desire larger, stronger pelts, such as can be obtained only from large-sized animals. In the case of the chinchilla variety the desired improvement can be obtained easily and speedily. The desired size is found in varieties raised chiefly for meat, such as the Flemish Giant. Various color varieties occur in this breed including the albino, known as "white Flemish." By mating a pure chinchilla with white Flemish rabbits, young will be obtained all of which will be chinchillas in color yet will have increased size, intermediate or a little greater than intermediate between the sizes of the respective parents. By further crossing of the improved chinchillas with white Flemish, still larger chinchillas may be obtained, and in a very short time the full size of the Flemish breed may be substantially secured in a rabbit having the chinchilla coat. In this process of improvement there will be no wasters, unless the fifty per cent. of whites are so regarded, for the peculiar method of inheritance renders all other young valuable, since all will be chinchillas.

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[1] Carnegie Institution of Washington, Publication No. 241, 1916.

[2] *Jour. Exp. Zool.*, 26, 1918.

THE EARLY HISTORY OF LITMUS IN BACTERIOLOGY

The writer is indebted to Professor F. G. Novy, of the University of Michigan, for the correction of a statement in a recent article entitled "Chemical Criteria of Anaerobiosis with Special Reference to Methylene Blue," published in the *Journal of Bacteriology*, January, 1921, Volume 6, page 1.

The statement in question is as follows:

> "The earliest authentic reference to the bacteriological use of litmus appears to be that of Wurtz (1892) who introduced litmus lactose agar as a differential medium for *Bact. coli* and *Bact. typhosum*. It was impossible to confirm Novy's (1893) allusion (copied by Hunziker, 1902) to Buchner (1885) and Cohen (?) as first to use litmus acid and reduction changes respectively, the last reference apparently being altogether erroneous."

Professor Novy points out in a letter, which is quoted by permission, that many of the workers of that period, including himself, had used litmus for several years prior to the date of Wurtz's paper. As Professor Novy says, "Wurtz was a late comer." My reference to Wurtz as apparently the first can be defended only upon the admittedly uncertain grounds that having attempted in vain to find a reference to litmus in Buchner's article as quoted by Novy and Hunziker, and having failed to find even an article by Cohen, I took what seemed at the time the earliest authentic reference.

The following is quoted verbatim from Professor Novy's letter:

> It is true that the references are not correct; whether it be due to failure to send me proof, or to my own carelessness I am unable to say.
>
> The only reference which I give to Buchner is to E. Buchner, the chemist, and concerns his hydrogen culture work. My text (p. 597) mentioned Buchner (unqualified) and, as was more or less the custom of the day, it meant the bacteriologist, Hans Buchner. Unfortunately, through some slip no reference to his work is given.

Buchner was apparently the first to use litmus media for bacteria, although the ophthalmologist Leber preceded him by three years, employing litmus gelatine to demonstrate acid production by *Aspergillus*.

Cahen, and not "Cohen (?)," published his paper in the *Journal* given, in the next volume to that cited. While the citation is not correct as to volume and page, still with the name and *Journal* given it hardly justifies characterization as "apparently altogether erroneous."

It thus appears that both of us have been to some extent guilty and the present note is therefore offered in mutual condonation.

The following list of *authentic references* prior to 1890 was supplied by Professor Novy and each has been confirmed by the undersigned.

Leber—*Berl. klin. Wchnschr.*, 1882, 19. 163.

H. Buchner—*Arch. f. Hyg.*, 1885, 3, pp. 417, 418, 419.

Marpmann—*Centralbl. f. d. allgemeine Gesundheitspflege; Ergänzungshefte*, 1885–1886, 2, Heft 2, p. 123. (The number appeared in 1886 but the title page of the volume bears date of 1889.)

Weisser—*Ztschr. f. Hyg.*, 1886, 1, p. 334.

Cahen—*Ibid.*, 1887, 2, pp. 387, 394.

Neisser—*Virchow's Archiv. f. pathol. Anat. u. Physiol.*, 1887, 110, p. 394.

Loeffler—*Berl. klin. Wchnschr.*, 1887, 24, pp. 610, 631.

Berhring—*Ztschr. f. Hyg.*, 1889, 6, p. 142; 7, pp. 173, 177.

Petruschky—*Centralbl. f. Bakteriol.*, 1889, 6, pp. 628, 657.

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ANOTHER DRIFT BOTTLE WHICH CROSSED THE ATLANTIC

IN a previous note[1] the writer gave the record of a bottle which drifted from the Gulf of Maine to the Azores. Recently record has been received of a bottle which was picked up in the Orkney Islands. This bottle, No. 230, was set out on the same day (August 29, 1919) as No. 198 which went to the Azores and was put out about 6½ miles to the southeast of it, *i.e.*, 7½ miles southeast of Point Lepreaux in the Bay of Fundy. It was picked up on the Island of Papa Westray, one of the northwestern islands of the Orkney group, on January 21, 1921, about one year and five months after it was set out. This bottle probably followed the northern route of the North Atlantic wind drift ("Gulf Stream") as indicated for another bottle recorded previously.[1]

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[1] "On a bottle which drifted from the Gulf of Maine to the Azores," SCIENCE, N. S., Vol. LIII., No. 1365, February 25, 1921. Through a misprint the writer's name was given as "James W. Moor" instead of "James W. Mavor."

NEWSPAPER SCIENCE

TO THE EDITOR OF SCIENCE: The recent press reports quoting me as saying that I had "obtained the closest approach to a perfect vacuum ever recorded" are false and without foundation. The daily press copied and added to an item in the *Utah Chronicle*, a student paper, which itself was inaccurate in saying I had "perfected the apparatus." The student reporter after seeing in the department of physics a well-known form of vacuum pump wrote the original article without submitting it to me before publication. I am taking this opportunity to deny the statements credited to me by the newspapers which have given me so much undesirable and distasteful publicity.

ORIN TUGMAN
UNIVERSITY OF UTAH,
April 8, 1921

SCIENTIFIC BOOKS

Atmospheric Pollution.[1] Sixth Report of the Committee for the Investigation of Atmospheric Pollution.

(In SCIENCE, November 28, 1919, a summary of the fourth report of this committee, on the work in 1917–18, is given.)

[1] Meteorological Office. Report on Observations for year ending March 31, 1920, London, 1921.