

heard in reference to his terminology. I agree with Prof. Armstrong that there is some advantage to be gained during early stages of instruction by using names that do not prejudge the chemistry of the problem that is being investigated. But I think history usually supplies a good provisional name, such as inflammable air, calx of lead, spirit of nitre, and personally I should keep to the historical name where possible.

To call carbon dioxide chalk-stuff gas asserts that it comes from chalk, or that, in other words, it is a kind of air fixed somehow in chalk. I confess I cannot see that any greater presupposition is involved in calling it fixed air than in calling it chalk-stuff gas. Historically it was called fixed air, and I value the name because Black's clear perception and proof that a gas could be fixed in a solid and be a weighable material part of it was the means of inspiring Lavoisier with the right view of the part played by air in the calcination of metals, and so led to results of revolutionary importance. ARTHUR SMITHELLS.

Variation in Oat Hybrids.

AMERICAN and English observers have shown that the principles enunciated by Mendel are applicable to hybrid wheats. From observations carried out at St. Andrews, I have been able to demonstrate that the same principles are applicable to hybrid oats.

In 1901 I crossed a few white varieties of oats one with the other, and also black varieties with white ones. The progeny was in all cases characterised by very great vigour and prolificness. The hybrid characters were most easily distinguishable in the crosses between black and white varieties, the unilateral ear and dark grain of the one parent, and the pyramidal ear and light-coloured grain of the other, being so blended in the respective hybrids as to result in a somewhat one-sided ear and rich brown grain. It should be mentioned that by the colour of the grain is meant that of the closely adherent flowering-glume.

The grains of the four hybrids given below, after being classed according to their position in the spikelets, were sown singly in rows of one hundred each. At harvesting the ears of each plant were tied together, and the product of each row made into a separate bundle.

Long continued wet weather had damaged the plants so seriously as to render the working out of certain points impossible, e.g. the variation in the ears. From what has been noted in the available examples studied, the form of the ear will no doubt be found to be a constant character in the Mendelian sense. Sufficient material has been secured to show the dissociation of the colour of the grain.

The numbers of plants bearing respectively black, brown, white or yellow grain in the several bundles varied considerably. The totals only are given in the subjoined tables, the brown being classed with the black grain, and the yellow with the white. The distinction between the two classes thus tabulated was in all cases so marked as to offer no difficulty in sorting out, and they are therefore briefly put as black and white.

Goldfinder ♀ × *Black Tartarian* ♂ (two plants).

	No. of grains sown	No. of plants saved at harvesting	No. with black grains	No. with white grains	Ratio of black and white
(1)	1000	567	433	134	3'23 : 1
(2)	900	566	415	151	2'75 : 1

Black Tartarian × *White Canadian* (one plant).

890	532	379	153	2'48 : 1
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Black Tartarian × *Abundance* (one plant).

600	274	209	65	3'21 : 1
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The Black Tartarian oat is thus shown, in respect of the character in question, to be dominant, whether serving as pollen or seed parent. It is impossible to say whether the destruction done by bad weather affected one type more than another. If all the plants had survived, the proportion of black to white forms shown in the above tables

might have been somewhat altered, but for several reasons it may safely be assumed that, at most, the alteration would not have materially affected the conclusion so clearly pointed to, namely, that the dominant and recessive characters in hybrid oats, as in many other self-fertilised plants, assert themselves in the second generation in a ratio closely approximating 3 : 1. JOHN H. WILSON.

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Visitors from the High North in Central Italy.

THAT vexata quaestio the migration of birds presents strange anomalies which confound the best informed theories on the subject. Last winter we had a surprise in the appearance in central Italy of the great white-billed diver, *Colymbus adamsi*, G. R. Gray, two of which were captured, a big ♀ on the Lake Chiusi or Montepulciano on December 2, 1902, and a large-billed ♂ on the 19th of the same month on Lake Trasimeno. Both were adults in autumn plumage, and are now in the central collection of Italian vertebrata in this museum. It is the first time that this sub-polar and eastern species has been noted in Italy.

This winter we have had a considerable invasion of that beautiful northern bird, the waxwing (*Ampelis garrulus*, L.). During December and January last they appeared in hundreds in our northern provinces, and from Vicenza, Padova, and Verona spread in flocks westward and southward. I received the first specimens on December 18, 1903, from Vicenza, and the last from Barberino di Mugello (Florence) and from Fano (Marche) on January 1 and 15. I also heard from Nice that more than 200 specimens, said to have come from Corsica, had been sold in the market.

HENRY H. GIGLIOLI.

R. Zool. Museum, Florence, February 22.

THE NEW BUILDINGS AT CAMBRIDGE.

THE King, accompanied by the Queen and Princess Victoria, visited Cambridge last Tuesday to open the new Law School and Science Laboratories which have recently been completed on the site the university acquired from Downing College a few years ago.

On reaching Cambridge, the royal party proceeded to the Senate House, where, in the absence of the Chancellor, the Duke of Devonshire, who was prevented from attending by illness, the Vice-Chancellor, Dr. Chase, president of Queens' College, presented an address, which was graciously replied to by his Majesty. In the course of his reply, the King remarked that he earnestly desired the well-being of the university and "the extension and development of all branches of study and research which are essential to the maintenance and the greatness and the welfare of my Empire." There must, he added, be "new endowments for education if my realm is to be kept up to its proper standard of efficiency." The Vice-Chancellor then gave a short description of the buildings, and an account of the Cambridge Association, whose benefactions had enabled the university to build them. He also dwelt upon the pressing need for buildings for the department of agriculture, and for proper provision for housing the ethnological and archæological collections of the university.

When the ceremony was over the King and Queen were entertained at lunch by the university in the large gallery at the Fitzwilliam Museum. The royal lunch party was strictly limited in number, and the university entertained a number of distinguished guests in the halls of Gonville and Caius and of King's College.