

high authority writes in 1855,¹⁹ "We ourselves have no hesitation in stating our conviction, as the result of all the most reliable evidence, that none of these Cerealia exist, or have existed, truly wild in their present state, but that all are cultivated varieties of species now growing in great abundance in S. Europe or W. Asia." On the other hand, Alph. De Candolle²⁰ has adduced abundant evidence that common wheat (*Triticum vulgare*) has been found wild in various parts of Asia, where it is not likely to have escaped from cultivation: and there is some force in M. Godron's remark, that, supposing these plants to be escaped seedlings,²¹ as they have propagated themselves in a wild state for several generations, their continued resemblance to cultivated wheat renders it probable that the latter has retained its aboriginal character. But the strong tendency to inheritance, which most of the varieties of wheat evince, as we shall presently see, is here greatly undervalued. Much weight must also be attributed to a remark by Professor Hildebrand,²² that when the seeds or fruit of cultivated plants possess qualities disadvantageous to them as a means of distribution, we may feel almost sure that they no longer retain their aboriginal condition. On the other hand, M. De Candolle insists strongly on the frequent occurrence in the Austrian dominions of rye and of one kind of oats in an apparently wild condition. With the exception of these two cases, which however are rather doubtful, and with the exception of two forms of wheat and one of barley, which he believes to have been found truly wild, M. De Candolle does not seem fully satisfied with the other reported discoveries of the parent-forms of our other cereals. With respect to oats, according to Mr. Buckmann,²³ the wild English *Avena fatua* can be converted by a few years of careful cultivation and selection into forms almost identical with two very distinct cultivated races. The whole subject of the origin and specific distinctness of the various cereal plants is a most difficult one; but we shall perhaps be able to judge a little better after considering the amount of variation which wheat has undergone.

Metzger describes seven species of wheat, Godron refers to five,

¹⁹ Mr. Bentham, in his review, entitled 'Hist. Notes on cultivated Plants,' by Dr. A. Targioni-Tozzetti, in 'Journal of Hort. Soc.,' vol. ix. (1855), p. 133. He informs me that he still retains the same opinion.

²⁰ 'Géograph. Bot.,' p. 928. The whole subject is discussed with admirable fulness and knowledge.

²¹ Godron, 'De l'Espèce,' tom. ii. p. 72. A few years ago the excellent, though misinterpreted, observations of M. Fabre led many persons to believe that wheat was a modified descendant of *Ægilops*; but M. Godron

(tom. i. p. 165) has shown by careful experiments that the first step in the series, viz. *Ægilops triticoides*, is a hybrid between wheat and *Æ. ovata*. The frequency with which these hybrids spontaneously arise, and the gradual manner in which the *Æ. triticoides* becomes converted into true wheat, alone leave any doubt with respect to M. Godron's conclusions.

²² 'Die Verbreitungsmittel der Pflanzen, 1873, p. 129.

²³ Report to British Association for 1857, p. 207.