

## READING 4-1

A. Candolle 1890. *Origin of Cultivated Plants*, p. 233–236, D. Appleton and Company, New York

### Apple – *Pyrus Malus*, Linnaeus

The apple tree grows wild throughout Europe (excepting in the extreme north), in Anatolia, the south of the Caucasus, and the Persian province of Ghilan.<sup>1</sup> Near Trebizond, the botanist Bourgeau saw quite a small forest of them.<sup>2</sup> In the mountains of the north-west of India it is “apparently wild,” as Sir Joseph Hooker writes in his *Flora of British India*. No author mentions it as growing in Siberia, in Mongolia, or in Japan.<sup>3</sup>

There are two varieties wild in Germany, the one with glabrous leaves and ovaries, the other with leaves downy on the under side, and Koch adds that this down varies considerably.<sup>4</sup> In France accurate authors also give two wild varieties, but with characters which do not tally exactly with those of the German flora.<sup>5</sup> It would be easy to account for this difference if the wild trees in certain districts spring from cultivated varieties whose seeds have been accidentally dispersed. The question is, therefore, to discover to what degree the species is probably ancient and indigenous in different countries, and, if it is not more ancient in one country than another, how it was gradually extended by the accidental sowing of forms changed by the crossing of varieties and by cultivation.

The country in which the apple appears to be in most indigenous is the region lying between Trebizond and Ghilan. The variety which there grows wild has leaves downy on the under side, short peduncles, and sweet fruit,<sup>6</sup> like *Malus communis* of France, described by Boreau. This indicates that its prehistoric area extended from the Caspian Sea nearly to Europe.

Piddington gives in his *Index* a Sanskrit name for the apple, but Adolphe Pictet<sup>7</sup> informs us that this name *seba* is Hindustani, and comes from the Persian *sêb*, *sêf*. The absence of an earlier name in India argues that the now common cultivation of the apple in Kashmir and Thibet, and especially that in the north-west and central provinces of India, is not very ancient. The tree was probably known only to the western Aryans.

This people had in all probability a name of which the root was *ab*, *af*, *av*, *ob*, as this root recurs in several European names of Aryan origin. Pictet gives *aball*, *ubhall*, in Erse; *afal* in Kymric; *aval* in Armorican; *aphal* in old High German; *appel* in old English; *apli* in Scandinavian; *obolys* in Lithuanian; *iabluko* in ancient Slav; *iabloko* in Russian. It would appear from this that the western Aryans, finding the apple wild or already naturalized in the north of Europe, kept the name under which they had known it. The Greeks had *mailea* or *maila*, the Latins *malus*, *malum*, words whose origin, according to Pictet, is very uncertain. The Albanians, descendants of the Pelasgians, have *molé*.<sup>8</sup> Theophrastus<sup>9</sup> mentions wild and cultivated *maila*. Lastly, the Basques (ancient Iberians) have an entirely different name, *sagara*, which implies an existence in Europe prior to the Aryan invasions.

The inhabitants of the *terra-mare* of Parma, and of the palafittes of the lakes of Lombardy, Savoy, and Switzerland, made great use of apples. They always cut them lengthways, and preserved them dried as a

<sup>1</sup> Nyman, *Conspectus Florae Europaeae*, p. 240; Ledebour, *Flora Rossica*, ii. p. 96; Boissier, *Flora Orientalis*, ii. p. 656; Decaisne, *Nouv. Arch. Mus.*, x. p. 153.

<sup>2</sup> Boissier, *ibid.*

<sup>3</sup> Maximowicz, *Prim. Ussur.*; Regel, *Opit. Flori*, etc., on the plants of the Ussuri collected by Maak; Schmidt, *Reisen Amur*. Franchet and Savatier do not mention it in their *Enum. Jap.* Bretschneider quotes a Chinese name which, he says, applies also to other species.

<sup>4</sup> Koch, *Syn. Fl. Germ.*, i. p. 261.

<sup>5</sup> Boreau, *Fl. du Centre de la France*, edit. 3, vol. ii. p. 236.

<sup>6</sup> Boissier, *ubi supra*.

<sup>7</sup> *Orig. Indo-Eur.*, i. p. 276.

<sup>8</sup> Heldreich, *Nutzpflanzen Griechenlands*, i. p. 64.

<sup>9</sup> Theophrastus, *De Causis*, lib. 6, cap. 24

provision for the winter. The specimens are often carbonized by fire, but the internal structure of the fruit is only the more clearly to be distinguished. Heer,<sup>10</sup> who has shown great penetration in observing these details, distinguishes two varieties of the apple known to the inhabitants of the lake-dwellings before they possessed metals. The smaller kind are 15 to 24 mm in their longitudinal diameter, and about 3 mm more across (in their dried and carbonized state); the larger, 29, to 32 mm lengthways by 36 wide (dried, but not carbonized). The latter corresponds to an apple of German-Swiss orchards, now called *campaner*. The English wild apple, figured in *English Botany*, pl. 179, is 17 mm long by 22 wide. It is possible that the little apples of the lake-dwellings were wild; however, their abundance in the stores makes it doubtful. Dr. Gross sent me two apples from the more recent palafittes of Lake Neuchâtel; the one is 17 the other 22 mm in longitudinal diameter. At Lagozza, in Lombardy, Sordelli<sup>11</sup> mentions two apples, the one 17 mm by 19, the other 19 mm by 27. In a prehistoric deposit of Lago Varese, at Bardello, Ragazzoni found an apple in the stores a little larger than the others.

From all these facts, I consider the apple to have existed in Europe, both wild and cultivated, from prehistoric times. The lack of communication with Asia before the Aryan invasion makes it probable that the tree was indigenous in Europe as in Anatolia, the south of the Caucasus, and Northern Russia, and that its cultivation began early everywhere.

<sup>10</sup> Heer, *Pfahlbauten*, p. 24, figs. 1-7.

<sup>11</sup> Sordelli, *Sulle Piante della Stazime di Lagozza*, p. 35.