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THE NATURAL AND ECONOMIC HISTORY OF KELP.

By ARCHIBALD CLOW, M.A., Ph.D., D.Sc.,
and NAN L. CLOW, M.A., B.Sc.,

Marischal College, University of Aberdeen.

[PLATE II.]

BEFORE the expansion of the heavy chemical industry in the early years of the nineteenth century which assured a supply of synthetic soda to manufacturers of soap and glass, trade in *ashes* (natural alkali) was diverse and widespread. From forests in eastern Europe and in the British Colonies, manufacturers in Leith, Glasgow, Newcastle and Liverpool imported considerable quantities of wood-ash (*potash* or *pearl-ash*). From the Mediterranean came the ash of salsola soda (*barilla*), and from the shores of Scotland, Ireland, and Norway, seaweed ash (*kelp*).

Spanish barilla was the form of alkali most sought after by early manufacturers, and an account by one Jas. Howell of the rigours of arranging for its importation has survived from 1618 :

> " I am now, thanks to God, come to Alicant in Spain, for I am to send thence a commodity cald Barillia for making crystal glass, and I have treated with Signor Andriotti for a good round parcel of it to the value of £2,000. This Barillia is a strange kind of vegetable. . . . I think earthy shrub that bears berries like barberries. When ripe they dig it up by the roots and stack it in cocks like hay to dry. When dry they place the shrubs in a track and set fire to them. The pit is closed and when after some days, it is opened, the Barillia juice is found turned into a blue hardstone " [1].

But the long series of hostilities between Britain and Spain often made barilla supplies precarious. Indeed, Francis Home (1719–1813), Professor of Materia Medica in Edinburgh, wrote of the situation as it was at the beginning of the eighteenth century :

> " Our manufacture could not have subsisted during the late war with Spain (1717) unless the order of the King and Council had passed, allowing the importation of Spanish ashes " [2].

[1] Powell, H. J. : *Glass making in England*, Cambridge, 1923, p. 33.
[2] Home, F. : *Experiments on Bleaching*, Edin., 1754, p. 16.