the ſoap is made ; and then it is put out of the coper into tubs or baſkets with ſheets in them, and imme­diately (whilſt ſoft) made into balls. It requires near 24 hours in this proceſs to boil away the watery part of the ley.

When oil unites with alkali in the formation of ſoap, it is little altered in the connection of its principles ; for it may be ſeparated irons the alkali by decompoſing ſoap with any acid, and may be obtained nearly in its original ſtate.

Concerning the decompoſition of ſoap by means of acids, we muſt obſerve, firſt, that all acids, even the weakeſt vegetable acids, may occaſion this decompoſi­tion, becauſe every one of them has a greater affinity than oil with fixed alkali. Secondly, theſe acids, even when united with any baſis, excepting fixed alkali, are capable of occaſioning the ſame decompoſition ; whence all ammoniacal ſalts, all ſalts with baſis of earth, and all thoſe with metallic baſes, are capable of decompoſing ſoap, in the ſame manner as disengaged acids are ; with this difference, that the oil ſeparated ſrom the fixed al­kali, by the acid of theſe ſalts, may unite more or leſs intimately with the ſubſtance which was the baſis oſ the neutral ſalt employed for the decompoſition.

Soap may alſo be decompoſed by diſtillation, as Lemery has done. When firſt exposed to fire, it yields a phlegm called by him a *ſpirit ;* which nevertheleſs is neither acid nor alkaline, but ſome water which enters into the compoſition of ſoap. It becomes more and more coloured and empyreumatic as the fire is increaſed, which ſhows that it contains the moſt ſubtle part of the oil. It ſeems even to raiſe along with it, by help of the oil and action of the fire, a ſmall part of the alkali of the ſoap : for, as the ſame chemiſt obſerves, it occaſions a precipitate in a ſolution of corroſive ſublimate. After this phlegm the oil riſes altered, preciſely as if it had been distilled from quicklime, that is, empyreumatic, ſoluble in ſpirit of wine, at firſt ſufficiently ſubtle and afterwards thicker. An alkaline reſiduous coal remains in the retort, conſiſting chiefly of the mineral alkali contained in the ſoap, and which may be diſengaged from the coal by calcination in an open fire, and obtained in its pure ſtate.

Alkaline ſoaps are very uſeful in many arts and trades, and alſo in chemiſtry and medicine. Their principal uti­lity conſiſts in a detersive quality that they receive from their alkali, which, although it is in ſome meaſure ſatura­ted with oil, is yet capable of acting upon oily matters, and oſ rendering them ſaponaceous and miſcible with water. Hence ſoap is very uſeful to cleanſe any ſubstances from all fat matters with which they happen to be soiled. Soap is therefore daily uſed for the waſhing and whitening of linen, for the cleanſing of woollen- cloths from oil, and for whitening silk and freeing it from the reſinous varniſh with which it is naturally co­vered. Pure alkaline lixiviums being capable of diſſol­ving oils more effectually than ſoap, might be employed for the ſame purpoſes ; but when this activity is not mitigated by oil, as it is in ſoap, they are capable of al­tering, and even of deſtroying entirely by their cauſti­city, moſt ſubſtances, eſpecially animal matters, as ſilk, wool, and others : whereas ſoap cleanſes from oil almoſt as effectually as pure alkali, without danger of altering or deſtroying ; which renders it very uſeful.

Soap was imperfectly known to the ancients. It is mentioned by Pliny as made of fat and aſhes, and as an invention of the Gauls. @@Aretæus and others inform us, that the Greeks obtained tfieir knowledge of its medi­cal uſe from the Romans. Its virtues, according to Bergius, are detergent, resolvent, and aperient, and its uſe recommended in jaundice, gout, calculous complaints, and in obſtructions of the viſcera. The efficacy of ſoap in the firſt of theſe diſeaſes was experienced by Sylvius, and ſince recommended very generally by various au­thors who have written on this complaint ; and it has alſo been thought of uſe in ſupplying the place of bile in the primæ vise. The utility of this medicine in icte­rical cafes was inferred chiefly from its ſuppoſed power of diſſolving biliary concretions ; but this medicine has loſt much of its reputation in jaundice, ſince it is now known that gall-ſtones have been found in many after death who had been daily taking ſoap for ſeveral months and even years. Of its good effects in urinary calcu­lous affections, we have the teſtimony of ſeveral, eſpe­cially when diſſolved in lime-water, by which its efficacy is conſiderably increaſed ; for it thus becomes a power­ful solvent of mucus, which an ingenious modern author ſuppoſes to be the chief agent in the formation of caſe culi : it is, however, only in the incipient ſtate of the diſeaſe that theſe remedies promiſe effectual benefit ; though they generally abate the more violent ſymptoms where they cannot remove the cauſe. With Boerhaave ſoap was a general medicine : for as he attributed moſt complaints to viſcidity of the fluids, he, and moſt of the Boerhaavian ſchool, preſcribed it in conjunction with different reſinous and other ſubſtances, in gout, rheumatiſm, and various viſceral complaints. Soap is alſo externally employed as a resolvent, and gives name to ſeveral officinal preparations.

From the properties of ſoap we may know that it muſt be a very effectual and convenient anti-acid. It absorbs acids as powerfully as pure alkalis and abſorbent earths, without having the cauſticity of the for­mer, and without oppreſſing the ſtomach by its weight like the latter.

Laſtly, we may perceive that ſoap muſt be one of the beſt of all antidotes to ſtop quickly, and with the leaſt inconvenience, the bad effects of acid corroſive poisons, as aquafortis, corroſive ſublimate, &c.

Soap imported is ſubject by 10 Ann. cap. 19. to a duty of 2d. a pound (over and above former duties); and by 12 Ann. ſtat. 2. cap. 9. to the farther ſum of 1 d. a pound. And by the ſame acts, the duty on ſoap made in the kingdom is 1 1/2d. a pound. By 17 **G.** III. cap. 52. no person within the limits of the head office of exciſe in London ſhall be permitted to make any ſoap unleſs he occupy a tenement of 10 l. a year, be aſſeſſed, and pay the pariſh rates; or elſewhere, unless he be aſſeſſed, and pay to church and poor. Places of making are to be entered on pain of 50 l. and covers and locks to be provided under a forfeiture of 100 l. ; the furnace-door of every utenſil uſed **in** the manufacture of ſoap ſhall be locked by the exciſe offi­cer, as ſoon as the fire is damped or drawn out, and faſtenings provided, under the penalty of 501. ; and opening or damaging ſuch faſtening incurs a penalty of 100 l. Officers are required to enter and ſurvey at all times, by day or night, and the penalty of obſtructing is 20 l. and they may unlock and examine every copper, **&c. between the hours of five in the morning and** ele­

@@@[mu] Woodville's Medical Botany, p. 309.