Table of the quantity of abſorbent earths ſoluble in acids.

		grains.
576 grains of Spirit of Salt diſſolved of	Crabs eyes	216
	Mother of Pearl	144
	Pearls	128
	Oyſter ſhells	156
	Hartſhorn	165
	Coral	186
	Oriental Bezoar	118
	Occidental Bezoar	123
	Quick Lime	199
	Slacked Lime	193
576 grains of Spirit of Nitre diſſolved of	Crabs eyes	297
	Mother of Pearl	202
	Pearls	219
	Oyſter ſhells	236
	Hartſhorn	234
	Coral	233
	Oriental Bezoar	108
	Occidental Bezoar	144
	Quick Lime	180
	Slacked Lime	216

Theſe experiments do not ſufficiently aſcertain the point intended by them; in the firſt ſett, the quantity of acid is too vague and indetermined: in the ſecond, we are not told whether the acid was perfectly ſaturated: and in both, the acids made uſe of were ſo very different from any that can be ſuppoſed ever to exiſt in the human body, that little can be concluded from them with regard to the medical effects of theſe abſorbents. Trial ſhould have been made with the mild vegetable acids, as the juices of certain fruits, ſour fermented liquors; or rather with ſour milk. Nevertheleſs theſe tables, though not ſo perfect as could be wiſhed, have their uſe in the hands of ſuch as can make proper allowances See the experimental hiſtory of the materia medica, page 557.

EARTHS NOT DISSOLUBLE *in acids, or other liquors.*

The earths of this kind may be ranged in two claſſes:

Claſs 1. *Hard cryſtalline earths:* as the ruby, garnet, emerald, ſapphire, hyacinth, and other precious ſtones; cryſtal, flint, &c.

THESE kinds of ſubſtances were introduced into medicine, and many fabulous virtues attributed to them, by the ſuperſtition of the earlier ages. Some of them are ſtill preſerved in foreign phar-

pharmacopœias, but at length very justly expunged from our's, notwithstanding what some late writers of repute speak of their medical virtue. These indissoluble hard bodies are not capable of producing any other effect than by their rigid angular particles (which tho' levigated with the utmost care, the microscope still discovers in them) to offend or wound the intestines. In levigation they wear off so much from the hardest *marble* instruments, as will equal or exceed their own weight: from this circumstance we may account for their having sometimes appeared to act as *absorbents*. Some of these stones, exposed to a vehement fire, become in some measure friable; but nevertheless remain indissoluble. Most of the coloured ones by this treatment lose their colour; and in this state, prove nearly of the same quality with common crystal; such are, the sapphire, emerald, amethyst, and cornelian. Others melt into a blackish vitreous matter, from which a portion of iron is obtainable by proper fluxes; as the hyacinth and garnet. Geoffroy concludes from hence, that these stones really possess some medical virtues, depending upon their metallic part; but the quantity of metallic matter, sufficient to give them a considerable tinct, is so exceedingly small, and so inclosed in a stony matter not at all soluble by any of the known menstrua, as scarce to admit of any possibility of its acting in the human body.

Class 2. *Softer earths; the* talky, gypseous, *and* argillaceous.

The tales and gypsums have rarely been used as medicines. Some of the former, from their unctuous softness and silver hue, stand recommended externally as cosmetics; and some of the latter, on little better foundation, internally as astringents. But they have long been deservedly rejected by the judicious practitioners. They seem to possess the ill qualities of the alkaline earths (concreting with the mucus of the stomach, &c.) without any of their good ones.

Several of the clays, boles, and terræ sigillatæ were highly celebrated by the ancients as astringents and alexipharmacs, and some of them still continue in esteem; though it is certain they have no great claim to the virtues that have been attributed to them. Their real effects are, to give a greater degree of consistency to the fluids in the first passages, and in some measure defend the solids from their acrimony.

Most of these bodies contain, besides the tenacious indissoluble earth, which is their principal characteristic, (1) a portion of an earth soluble in acids, similar to those of the first section; (2) of acid, separable by distillation in a strong fire: this acid is always of the same nature with that obtained from vitriol, sulphur, and alum (3). The coloured ones contain likewise small quantities of iron, reducible, by inflammable fluxes, into its metallic form. In consequence of the first of these ingredients, these earths may be looked upon in some measure as absorbent: the acid appears to be united with a part of the absorbent earth, into a saline compound, approaching to an aluminous nature; whence they have some de-

gree of aſtringency: whether they receive any peculiar virtue from the iron, is greatly to be doubted; ſince it is in a very crude ſtate, and in quantity extremely ſmall.

Theſe earths unite with water into a turbid liquor, ſlippery and ſmooth to the touch, and remain for ſome time ſuſpended; the ſand, grit, or other groſſer matters which are often found naturally mingled with them, ſubſiding. They may be freed by means of acids from their alkaline earth; by coction in water, from their ſaline matter; and the coloured ones from their iron by digeſtion in aqua regis, the only menſtruum we are acquainted with that will extract the ferrugineous matter of argillaceous and bolar earths. Thus purified, they have all nearly the ſame appearance and qualities. Expoſed to a ſtrong fire, they loſe their ſoft glutinous quality, and are reduced into hard maſſes indiſſoluble as at firſt.

GLUTINOUS, *vegetable, and animal ſubſtances.*

Claſs 1. *Vegetable.*

Pure gums.
Tragacanth,
Senica,
The gums of cherry, plum, and other European trees.

Vegetables abounding with mucilage:
Orchis roots,
Althæa root,
Quince ſeeds, &c.

GUMS and mucilages are glutinous vegetable productions, of no particular taſte or ſmell, ſoluble in water, but not in vinous ſpirits, or in oils: ſee p. 13. They differ from one another, only in degree of tenacity: the more tenacious are called gums; thoſe which are leſs ſo, mucilages. The firſt naturally exude from certain trees and ſhrubs; the latter are extracted by art. Almoſt all vegetable ſubſtances contain ſome portion of theſe, which after the reſinous part has been extracted by ſpirit, may be ſeparated from the remaining matter by means of water.

The general virtues of theſe kinds of ſubſtances are, to thicken the fluids, and defend the ſolids from them, when grown ſharp or corroſive. Hence their uſe in a thin acrimonious ſtate of the juices, and where the natural mucus of the inteſtines is abraded.

Claſs 2. *Animal.*

MOST animal ſubſtances (the fat excepted) contain a viſcous matter, in many reſpects ſimilar to the foregoing, and capable of being extracted by ſtrong coction in water.

Animal glues and jellies have the general qualities of the vegetable gums and mucilages; with this difference, that the former are more nutrimental, and apt to run into a putrid ſtate. Conſidered as the ſubjects of chemiſtry, the difference betwixt them is very great: thoſe of the animal kind are changed by fire into a volatile alkaline ſalt, and a fetid oil; the vegetable into an acid liquor, and a very ſmall portion of oily matter, conſiderably leſs fetid than the former.

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