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Animal Simples

W. T. FERNIE, M.D.

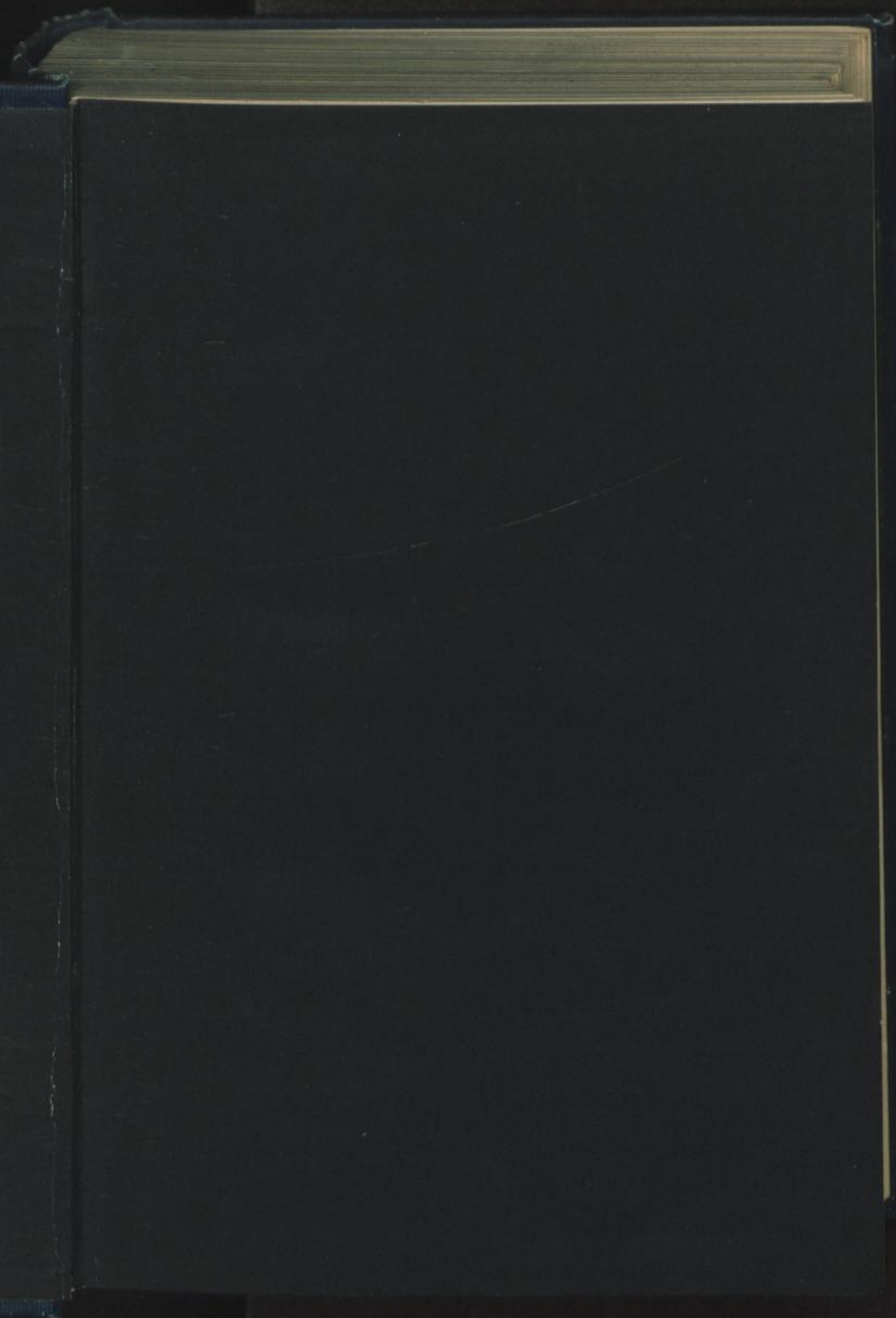
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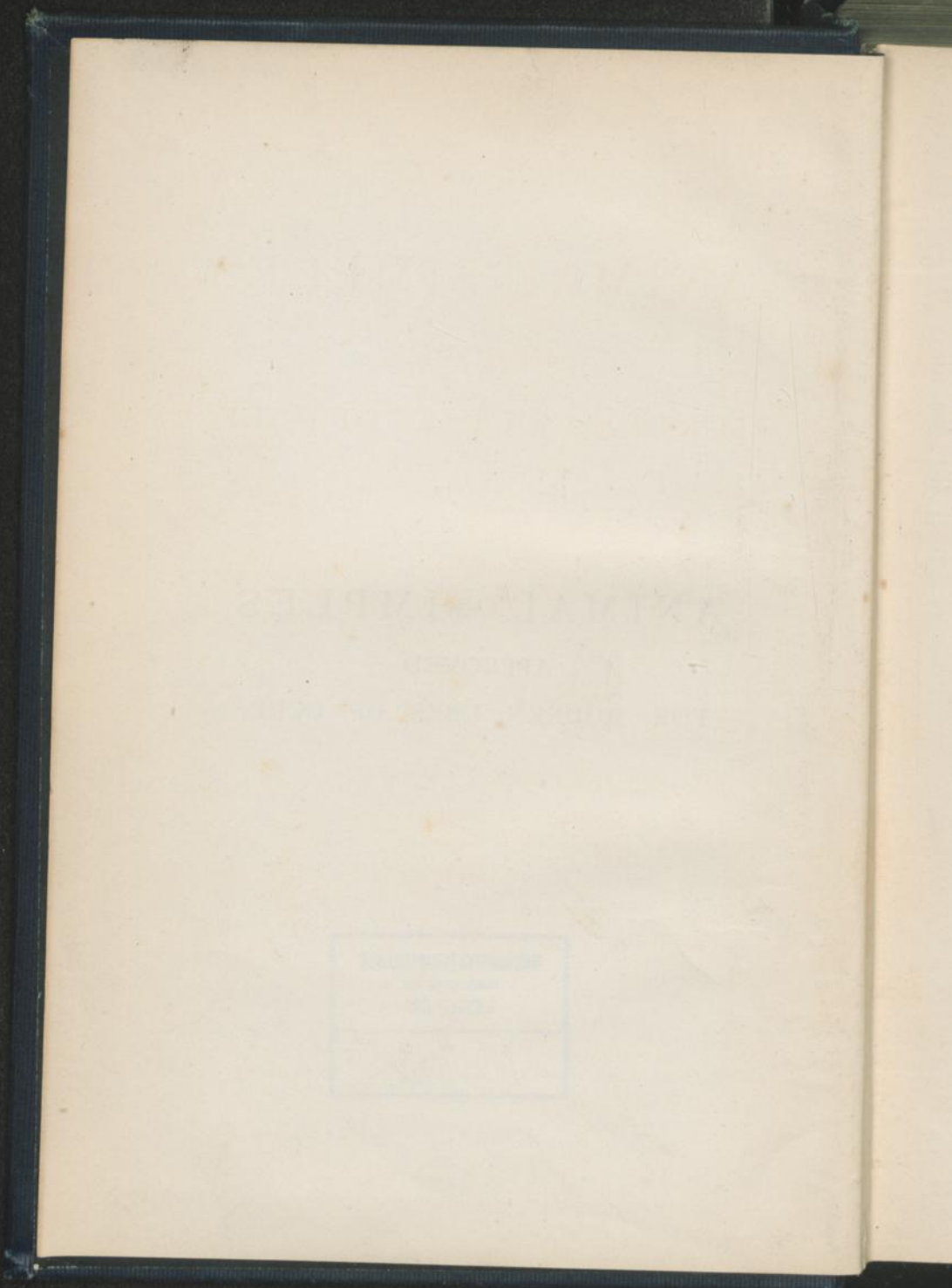
FOR MODERN USES OF CURE.

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ANIMAL SIMPLES
APPROVED
FOR MODERN USES OF CURE.

BY

W. T. FERNIE, M.D.

Author of "Herbal Simples," "Botanical Outlines," etc., etc.

"If the rascal have not given me medicines to make
me love him, I'll be hanged."

King Henry IV, PART I—ACT II, SC. II.

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ANNUAL SIMILES
APPROVED
THE NATIONAL GAZETTE OF GREAT BRITAIN

JOHN WRIGHT AND CO.,
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“Round about the Cauldron go :
In the poison'd entrails throw—
Toad, that under coldest stone
Days and nights has't thirty-one
Swelter'd venom sleeping got,
Boil thou first i' the charmed pot !

“Fillet of a fenny snake
In the Cauldron boil and bake :
Eye of newt, and toe of frog,
Wool of bat, and tongue of dog,
Adder's fork, and blind-worm's sting,
Lizard's leg, owlet's wing,
For a charm of powerful trouble,
Like a hell-broth boil, and bubble !

“Scale of dragon, tooth of wolf,
Witches' mummy ; maw, and gulf
Of the ravin'd salt-sea shark ;
Root of hemlock, digged i' the dark,
Liver of blaspheming Jew,
Gall of goat, and slips of yew,
Silver'd in the moon's eclipse ;
Nose of Turk, and Tartar's lips ;
Finger of birth-strangled babe,
Ditch-deliver'd by a drab,
Make the gruel thick and slab :
Add thereto a tiger's chaudron,
For the ingredients of our Cauldron.

“Double, double toil and trouble :
Fire, burn : and Cauldron, bubble !
Cool it with a baboon's blood,
Then the charm is firm and good.”

THE WITCHES—*Macbeth*, Act iv, Sc. i.

"Haud prorsus indignum qui in juniorum, et rure degentium
medicorum gratiam typis mandetur"—(1700).

PREFACE.

IN our eager boyish days, when a travelling exhibition of wild beasts came to visit the neighbourhood, with an imposing procession of elephants, camels, monkeys, lion-tamers, gilded cars, and other multiform fascinations, its lively brass band on the boards outside, and its voluble showman on the front steps, were, to our thinking, indispensable attractions before we sought zoological instruction within the big tent.

But, of course, a doctor's medicinal menagerie is a much more serious affair; and far be it from us to announce the arrival thereof with beat of drum, or flourish of trumpet, in any such mountebank fashion! None the less we take leave to temper the grave occasion with some light prefatory patter before becoming didactic, and solemn, in the body of our book.

“Dicit enim citius, meminitque libentius illud
Quod quis deridet, quam quod probat, et veneratur.”

“Men see a joke when to a sermon blind:
And laughter's lessons long possess the mind.”

“*Risus enim Divum, atque hominum est æterna voluptas.*” “All the world allows that laughter is an eternal delight of both gods and men.”

"Tickle even the dull earth with a hoe," said Douglas Jerrold, "it will laugh with a harvest."

In the first place we would note that many of the curative Animal Simples now advocated take the place of appetising foods more readily than the medicinal form of draught, powder, or pill. It was a famous old aphorism of Arnoldus (1275), that "the wise and pious doctor gives physic only on necessity, first trying medicinal dyet before he proceeds to medicinal cure." "*Prudens, et pius medicus cibus prius medicinalibus quam medicinis puris morbum expellere satagat*": "*modestus et sapiens medicus nunquam properabit ad pharmacum nisi cogente necessitate.*" Likewise "of old," quoth Lemnius (1566), "in this our island there was no use of physick amongst us, and but little at this day; the country people use kitchin physick; and common experience tells us that they who make least use of Apothecaries' physick live freest from all manner of infirmities." "Some think physicians kill as many as they save," wrote quaint old Burton. "Who can tell, *quot Themison ægros autumno occiderit uno,*" "how many unfortunate victims the complex pharmacy of Sir Benjamin Bolus sends to the shades in a single season?" "A few simples, well prepared, and understood, are better than the heap of nonsense, confused compounds, which are in Apothecaries' shops ordinarily sold."

“Vivere naturæ si convenienter amarent
Mortales, medicâ nil opus esset ope.”

“In Arcady, where nature holds the sway,
Doctors and druggists find no parts to play.”

Many of the Animal Simples to be herein discussed will be therefore regarded from a dietetic as well as from a medicinal point of view. The Schola Salernitana (1600) fully recognized in its day how important it is for the physician to regulate the diet of his patients, particularly with respect to meats, which are known to contain principles of food and physic combined.

“Quale, quid, et quando, quantum, quoties, ubi dando,
Ista notare cibo debet medicus dietando.”

“What, of what kind, and when, how much, how oft,
and where,
Food may be had, to teach sick folk should be the
doctor's care.”

“Victuals and drink,” says Poorgrass (Thomas Hardy), in a pleasant masticating manner, “is a cheerful thing, and gives nerves to the nerveless, if the form of words may be used. 'Tis the gospel of the body, without which we perish, so to speak it.”

Next we would seek to dispel beforehand such prejudices as might otherwise occupy the minds of our readers against certain edible clean-feeding *insects*, eminently delicate, and remedial, which, together with their grubs, and pupæ, have failed hitherto to gain favour as food, or medicine.

Respecting these we take up our parable boldly, and Vincent Holt is our inspired prophet. Writing about them (in *Why not eat Insects?* 1885), he humorously puts it, "Whilst confident that the caterpillars, the grubs, the chafers, and the butterflies will never condescend *to eat us*, I am equally sure that on finding out how good they are (and what excellent virtues they possess), we shall right gladly determine to cook and *eat them!* Moreover, what a welcome change it will be to the labourer's wearisome meal of bread and bacon day after day for him to get a savoury mess of fried cockchafers, or of dainty grasshoppers done on toast! In these respects the birds are much more sensible than ourselves: they well know the value of the fat chafer as food. With what joy the jaunty rooks pounce upon its luscious grubs when they follow the plough with long strides over the upturned lea! What a feast the wise creatures obtain when aloft on the wing by devouring the fledged beetles swarming in the tall tree tops!"

"Men's stomachs," says Dolly Winthrop, the village nurse in *Silas Marner*, "are made so comical they wants a change; they do, I know; God help 'em!"

Sextus Placitus (1535) has taught that Idpartus, an Egyptian king, sent to Cæsar Octavianus this message of health: "I ween that thou never camest to know Leechdoms such as those which we

obtain from Æsculapius; and for that I wist thee worthy to wit of leechcrafts of wild beasts, as far as is well said." "Pythagoras held opinion" (tells Gratiano in *The Merchant of Venice*) "that souls of animals infuse themselves into the trunks of men." Cornelius Agrippa in his *Occult Philosophy* supposes we have learnt the use of numerous remedies from animals; "the sick magpie puts a bay leaf into her nest, and is recovered; the lion, if he be feverish, is delivered by the eating of an ape."

So, ladies, and gentlemen! now's your time! hale and hearty; or sick and sorry! there are Animal Simples enough and to spare for curing all your ailments! We shall first afford you a little amusement outside on the stage, and then take you with earnest purpose through the menagerie. So! hi! hi! hi! gather round! tumble round! and you shall see what you shall see!! Is any one weak in the back, or shaky in the limbs? Here you have strong marrow, fresh from the spine of the ox! "Who'll toll the bell? I, said the bull, because I can pull: I'll toll the bell!" Is your only son consumptive, and racked by a cough which seems to forebode a coffin? Our cod-liver oil will give him a fresh life! Our milk of the jenny ass will make him wax fat, and kick, like Jeshurun in the psalms of David! Our slug broth will heal his lungs and renew his strength like the eagle's!

“What are little boys made of? made of? snips, and snails; and puppy dogs’ tails: that’s what little boys are made of!” Is your pretty daughter inclined to grow fat, and ungraceful? A thyroid gland from the throat of a sheep will cause her to skip like a lambkin! Has your small family caught the infection of whooping cough! Give them owls! tu whit! tu whoo! and a ride on the Russian bear at the Zoo; or cochineal insects, as Goldsmith tells, and a coral to suck at with silver bells!

For dropsy from trouble of heart we supply a toad in the hole; and cockroaches ground into powder for white of egg in your water! They who suffer from corns will be sent to the ant for her juice, whilst the sluggard and drone will be taught by a text to “consider her ways, and be wise.” To keep sailors from drowning we give them a caul to be saved; and a lick (from a dog) with a promise of cure, to beggars who pains from their sores endure! For the falling sickness we’ve magpies dried; and for toothache a ladybird stuffed inside! For a nursing mother her breasts to fill we have whiting soup, or an earthworm pill! And flesh of swine; (but apply its skin to your throat, if sore, with the fat side in!)

A kingfisher hung by the heels will point with its beak to the wind; or fried (when it blows from the north-north-west) will restore one wrong in his mind! Goosegrease an “open sesame”

gives for an easy use of the w.c.; or to have a sparrow pudding for dinner relaxes sooner than senna tea! "This little cock sparrow shall make me a stew! and his giblets shall give me a little pie too!"

Such, my worshipful dames, and masters, are some of the Animal Simples we hold for your bodily good. And when at the last the doctor comes, solemnly bidding you make your will, split pigeons we put to your feet, and we keep you alive in a fleece from the slaughter-house. Like Surgeon Dobbs, and his good nag Nobbs, which was frozen stiff, and taken for dead; he flayed it alive for the sake of its hide, but then it revived in front of the fire; so some sheep were killed, and the steed sewn up, red and raw in their reeking skins; when, strange to tell! they grew to its flesh; and Surgeon Dobbs had a *woolly horse*; such a wonderful creature as never was known, before, nor since!!

Then hurry up! neighbours and friends, young and old, rich and poor! be in time! be in time! the Show is about to commence! Mr. Merryman, having now gone through his antics, will promptly retire behind the curtain; and the grand Panjandrum himself, with the little round button at top, will lead you through the caravans! So, prick up your ears! keep clear of the bars! and gather in front of the first cage!!

Certain it is that most of the creatures we shall straightway describe are endowed in their bodies with dual powers,—alike for evil, and good!

“ When Adam named the various animals
In Paradise, he little could have reck'd
Their double qualities, for weal, or woe,
To kill, or cure! Six thousand years must pass
Ere these would be revealed, to serve as guides
In future medicine! thus, the dog, to wit,
When rabid bites and maddens; none the less
In kindlier mood it licks and heals a sore!
Thus too the angered snake wounds mortally
By its envenomed fang: yet when at rest
It owns remedial virtues, and its bile
Innocuous antidotes the bane! So, man
Frenzied by passion, or debased by drink,
Does deadly mischief to his fellow man:
But pure of life, and using *simple* means,
Works God-like good, a saviour of his race.”

Furthermore, that various bodily effects besides those of a medicinal sort are exercised upon mankind by numerous animals has long been commonly allowed. For instance, in New England an injunction to rheumatic patients is that they shall take the cat to bed with them. This creature, as is well known, possesses, especially if black, a large amount of curative electricity. It was worshipped by the Egyptians, chiefly because of the supposed close resemblance between its eyes and the moon: each of the twain being most active at night, whilst subject to changes of phase, varying from the crescent to the full. Their name

for the animal—"Pasht," as signifying the face of the moon, was the origin of our familiar "Puss."

About Fifeshire, again, the Scotch folk believe that for a dog to lick a wound, or a running sore, is a certain means of cure; also that the breath and smell of a cow will serve to dispel consumption. To be straightway wrapped in a fleece taken hot from the carcass of a fresh-killed sheep will sometimes rescue a moribund sufferer. The timely use of a spider's web will stay dangerous bleeding from a cut or wound. By the repeated barkings of a dog at night, and the way in which the animal then looks, may be surely predicted the issue of an illness: if upwards, a recovery is to be expected; but if with a downcast head, imminent death must be feared.

So also continual association with this or that animal will often bring about a likeness in feature and disposition between it and its human companion. Familiar examples of which fact are to be seen in the slow, ponderous, bovine gait, the patient eye, and steady endurance of one who tends oxen; or the elongated visage, the spare frame, and the spindle shanks of a man devoted to horses.

One of our leading novelists has advanced the supposition that in many cases dogs have lived as men, and cats as women, in a former state of existence.

“And herewith, as said Paracelsus, will we finish this preface, and write of the names of the Simples which are occupied in this arte.”

“Et refellere sine pertinaciâ, et refelli sine iracundiâ semper parati sumus.”

“Prepared we are unflinchingly to stand our ground, Or yield without offence where faulty found.”

“What experiences soever we have digged out of hard stones, blowne out from hot fire, raked out from foule ashes, with great cost, and greater trouble, that hast thou here, gentle reader, in our book to see, and in our shops to use, at thy ready commandment.”

If so be it is remembered that some few topics which receive our present consideration have been treated of before among “Herbal Simples,” this is not without a sufficient reason. For instance, Honey, though it was reckoned of a vegetable character as gathered from flowers, is far more properly an animal product secreted by bees. Again, Snails were incidentally described with reference to the herbs they feed upon; though indeed they are undoubtedly of an animal sort when taken as curative simples. Likewise the Eggs of Poultry, which were specially mentioned in association with culinary herbs, have seemed to need a fuller notice because of their animal virtues. So that these several creatures, together

with others of a corresponding two-fold nature, may justly claim resumed attention in our following Manual.

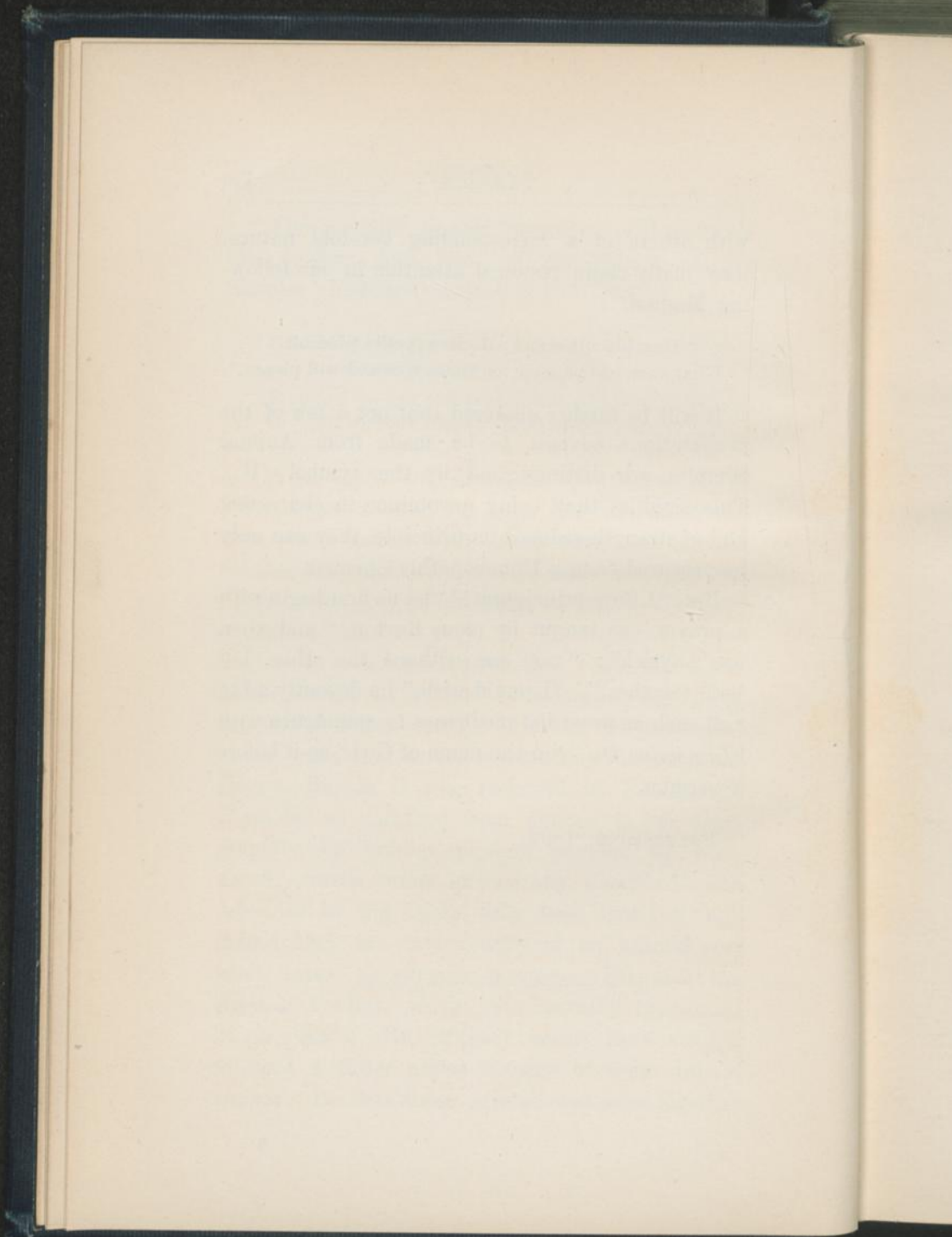
“Hæc placuit semel : decies repetita placebit.”

“What once has pleased, ten times renewed will please.”

It will be further observed that not a few of the preparations advised to be made from Animal Simples are distinguished by the symbol (H.). This signifies that, being uncommon in character, and of strength reduced on principle, they can only be procured from a Homœopathic Chemist.

But, “A Jove principium!” “let us first begin with a prayer,” as taught by pious Burton, “and then use physick”: “not one without the other, but both together.” “I would wish,” he devoutly adds, “all such as prescribe medicines to commence with *“In nomine Dei,”* “in the name of God,” as if before a sermon.”

FOLKESTONE, 1899.



CONTENTS.

	PAGE		PAGE
ADDER -	16, 453	Beetles, Rose Chafer -	57
" Stone -	20	" Stag -	55
Agates -	474	Bezoar Stone -	58
Air as food -	220	Bile 194, 197, 397, 401, 460	
Ale -	162, 454	Birds' Nest Soup -	480
Amber -	104, 106, 107	Blackbird -	61, 319
Ambergris -	22	Black Puddings -	68
Amulet -	319, 467	Bleak -	158
Amylene -	298	Blood, Animal and	
Anchovy -	348	Human -	61, 296
Anemones, Sea 158, 267, 424		Blood residuum -	67
Angel Fish -	167	Blue Bottle Fly -	175, 180
Animal Oil -	24	Bogie -	216
Animal Substances -	27	Boh to a Goose -	215
Ant, Red -	30	Botango -	172
" White -	32	Brain Substance -	69
Anti-toxin, Horse -	251	Bream -	170
Aphis -	273	Buff Tip Moth Grub -	256
Arthur, King, a Chough -	324	Bug -	71
Ash Tree, hostile to Vipers -	19	Buprestis Beetle -	56
Ass -	34	Butter -	73
" Milk -	36, 314	" Oil of -	74
Astrological influences -	157	" Milk -	74, 303
BACON -	365	Butterflies -	355
Badger -	39	CABBAGE GRUB -	255
Barbel -	158	Camel Hair and Milk 314, 532	
Barnacle Goose -	216	Candle Snuff -	89, 439
Bat -	490	Cannibal Flesh Eater -	297
Bear -	318, 432	Carmines -	93
" Woolly -	85	Carp -	158
Beaver -	41	" Frog on head of 159, 491	
Bee-sting venom -	44	Casein -	303
Beef -	48, 368	Castor (see "Beaver") -	41
Beetles -	54	Cat, Domestic Preface xiv, 78	
" Bloody-nosed -	57	Caterpillars -	83, 255
" Cock Tail -	56	Caurl -	87, 320
" Oil -	54	Caviare -	159, 164, 261

	PAGE		PAGE
Cement	- 455	Donkey	- 34
Charcoal, Animal	87, 142	Dormouse	- 342, 358
" Vegetable	88, 283	Dragon Fly	- 512
Cheese	90, 201, 357	Drowning, to protect	
Chinese Pharmacopœia	- 490	against	- 321
Chloroform from Red Ants	30	Duck	- 326
Chrysalids	86, 256	Dungs, various, 200, 249, 296,	
Chub	- 159	405, 478, 512	
Cinder Tea	- 380	EAR WAX	- 125
Cinnamon	- 75	Earthworm	- 190
Civet Cat	- 83	Earwig	- 124
Clam	92, 321	Eaters, great	- 70
Cobra poison	- 456	Eel	- 126
Cobweb	- 466	" Conger	- 128
Cochineal	- 92	" Electrical	- 131
Cockbroth	- 183	Egg	133, 462
Cockchafer	256, 366	" Oil	- 134
Cockle	- 94	Elephant	- 141
Cockroach	- 96	" Milk	142, 315
Cocktail	- 184	Elk	- 229
Cod	99, 173	Ergot of Rye	- 518
" Sounds	101, 262	Excrements	143, 500
" Liver, for Oil	- 100	FAT (see also "Oil")	364, 433
Conger Eel	- 132	Feathers, not able to die on	184
Constrictor, Boa, Urine	- 146	Fennel with Fish	- 158
Copper	- 526	Fiddler	- 173
Coral, Red and White	- 102	Fingers	- 148
Cow	- 107	Fish	- 155 to 174
" Urine	- 109	" Sauces ("Alec and	
Cow Tree	- 316	Garum")	- 98
Crab, Sea Shore	110, 287	Flatulence (give vent to)	- 198
Crabs' eyes	110, 112, 285	Flea	- 174
Crawfish	- 112	Flint	- 474
Cricket	99, 259	Fly	- 175
Crocodile Oil	- 101	" Spanish	- 176
Crow	114, 322	"Folkestone Beef"	- 172
Cuckoo	114, 325	Formic Acid, of Ants	- 33
" Spittle	- 326	Fowl, the Domestic	181-185
Curry Powder	- 499	Fox	- 185
Cuttle Fish	- 114	Frog, Red and Green	- 188
DAB	- 160	" Spawn	- 192
Days, exceptional for		GAD FLY	- 434
Medicines	- 214	Gall, Ox	- 194
Diamond	- 106	Garum	99, 172
Dog	- 116	Gelatine	199, 261
Dog Fish, Liver & Oil	102, 173		
Dog's Milk cure	- 121		

CONTENTS.

xxi

	PAGE		PAGE
Gizzard -	199	ICHTHYOL -	166
Glands, Animal, Curative -	28	Ingluvin (Gizzard) -	199
Glasse, Mrs., Cookery -	226	Insects -	254
Glow Worm -	199, 326	Iron-Copperas -	526
Glycerine -	199, 436	Isinglass -	261
Gnat -	14, 327	Itch Insect -	264
Gneiss Lime -	135	Ivory -	141, 232
Goat -	199	JAEGER WOOL -	531
„ Whey Cure -	202	Jay -	266, 328
Gold -	204	Jelly-fish cure -	132, 266
„ Healing by pieces		Juniper Bark -	301
of -	151	Junket -	306
Golls -	154	KICKER -	250
Goose -	211, 283	Kidney -	269
„ Barnacle -	216	Kingfisher -	270
Grasshopper -	218	Koumiss (of Mare's Milk)	252, 317
Grayling -	160	LACTIC ACID -	315
Guano -	147	Ladybird -	272
Guinea Pig -	222, 327	Lama's Dung -	145
Gum Arabic -	230	Lamb -	274, 432
HAIR, HUMAN -	296	Lamp, of Human Blood -	68
„ Horse -	249	Lamprey and Lampern -	274
Hake -	170	Lanoline (Sheep's Wool	
Halec -	174	Fat) -	166, 364
Hand (see "Fingers") -	148	Lard, Hog's -	395
Hare -	222	Lark -	277, 345
Harlyn Pie -	329	Leather -	277, 369
Hart (or Stag) -	228	Leech -	277
Hartshorn -	229	Liebig's Meat Extract -	50
Harvest Bug -	72	Lime, Gneiss -	135
Hedgehog -	233	„ Vinegar of -	377
Hellebore, Green -	61	Limpet -	328
Hen -	183	Ling -	162
Henbane Bug -	258, 468	Liver Substance, Animal, 222	
Herbal Milk -	309	280, 431	
Herring -	160	Lizard -	284, 329
Hog -	394	Loach -	113, 284
Hoglouse -	236	Lobster -	284
Hogs Norton -	400	Locust -	85, 218, 260
Honey -	241	Louse -	288
„ Dew -	246	MACKEREL -	162
Hoof, Elk's -	229	Madrepore -	105
Horse -	247, 425	Magic -	353, 397-485
„ Shoe -	248		
Hound -	121		
Huss -	172		

	PAGE		PAGE
Magpie - - -	292	Palm Oil - - -	101
Man - - -	294	Palmer Worm - - -	85
„ Skull of - - -	295	Pancreas (Stomach-bread) - - -	381
„ Sperma - - -	296	Pangla, Snake antidote - - -	458
Manna - - -	246	Papav Juice - - -	52
Mare's Milk - - -	252, 314	Paper, Oil of - - -	366
Marrow - - -	201, 298, 364	Partridge - - -	336
Mealworm - - -	86	Pasty, Cornish - - -	235
Meat, Raw - - -	48	Paté de foie Gras - - -	212, 216, 282
Medical Finger - - -	150	Peacock - - -	383
Medusa (Sea Anemone) - - -	267	Pearl - - -	386
Mercaptan (Sulphur) - - -	380	Peep-boh - - -	216
Metals, Effects of - - -	442	Peony - - -	467
„ Transmutation of - - -	210	Pepsin - - -	392
Milks - - -	201, 252, 301-317	Perch - - -	173
Millepede Pill - - -	236	Periwinkle - - -	162, 338
Milpreve (Adderstone) - - -	20	Pheasant - - -	338
Milt, of Fish - - -	169	Phosphorus - - -	71, 155, 500
Miscellaneous Animal - - -		Physicians' length of life - - -	298
„ Simples - - -	318	Piebald Horse - - -	248
Mite, Cheese - - -	91	Pie, Rabbit - - -	342
Mole - - -	352	Pig - - -	394
Moonlight, Effects of - - -	167, 528	Pigeon - - -	402
Morrhual (of Cod-liver - - -		Pike - - -	162
„ Oil) - - -	101	Pilchard - - -	163
Mosquito - - -	175, 467	Pill, Beetle - - -	56
Moths - - -	354	Pillow - - -	181
Mouse - - -	356	Plaster, Court and Isin- - -	
Mullet - - -	172	„ glass - - -	262
Mummy - - -	297	Pollack - - -	170
Musk - - -	361	Porcelain - - -	400
Mussel - - -	331	Pork - - -	394
Mutton - - -	365, 432	Porpoise - - -	163
		Poultry - - -	183
NAILS, CUTTING - - -	148, 153	Propolis of Bees - - -	245
Nail Springs - - -	149	Prostatic Gland - - -	29
Neat's Foot Oil - - -	26, 366	Psora - - -	264
Nest, Swallow's - - -	479	Ptomaines - - -	51, 215
Newt - - -	329	Pudding, Black - - -	395
Nightingale - - -	333	Purple, from Whelk - - -	453, 520
OCTOPUS (Cuttlefish) - - -	114	RABBIT - - -	341
Oils, Animal - - -	78, 364	„ Pie - - -	342
Otter - - -	43	Rat - - -	343
Owl - - -	334	Rattlesnake - - -	456
Ox - - -	367	Raven - - -	406
Oyster - - -	370	Ray (Skate) - - -	344
„ Shell - - -	371, 376	Ray-liver Oil - - -	102

	PAGE		PAGE
Resin Ointment -	47	Spirits, high -	391
Rig -	172	Spittle -	409
Roe of Fish -	169	Sponge -	471
Rook -	324	Sprat -	347
Rose Chafer Beetle -	57	Squirrel -	348
Royal Touch, the -	150	Stag -	228, 477
Rye -	518	Starfish -	164, 349
		Sterilized Milk -	316
SAGO PALM MAGGOT -	260	Stomach-bread (Pancreas) -	381
Salamander -	329	Stone, Horse -	248
Saliva -	296, 409	" from Bladder -	296
Salmon -	164	" Philosopher's -	210
Salt -	413	" Precious -	106
Sauces, Alec & Garum -	99, 172	Sturgeon -	164, 261
Sawfly -	257	Suet -	431
Scallop -	96	Sugar (Cane) -	245
Sclater, Scotch -	238	Sugar of Milk -	312
Sea Nettle, venomous -	266	Sulphur -	378
Sepia (Cuttlefish) -	114	Sunshine, effects of -	528
Serpent Charmers -	458	Sur-alimentation with raw	
Serums -	251, 424	beef -	49
Sheep -	426	Swallow -	478
" Raw Fleece to wrap		Sweat -	350, 481
in -	427	Sweetbread -	481
Shellac -	94		
Shrew Mouse -	358	TALLOW -	435
Shrimp -	164, 259	Tamarind Whey -	308
Silk -	473, 511, 536	Tarantula Spider -	465
Silkworm -	14, 469, 473	Tench -	165
Silver -	439	Testicle substance -	40
Skate -	101, 131, 344	Thrush -	482
Skink -	330	Thyroid Gland, Sheep's -	28
Skull, Oil of -	295	Tick -	120
Slug -	447, 452	Toad -	483
Snail, Apple and Garden -	444	" Stone -	488
Snake -	197, 455	Torpedo -	131
" Egg -	510	Tortoise -	496
Snipe -	337, 346, 464	Toxins -	424
Snoekfish -	167	Touch, the Royal -	150
Soot -	89	" by hand of crimi-	
Soy, from Black Beetles -	98	nal -	153
Spanish Fly -	176	Tripe -	351
Sparrow -	347, 464	Trotters -	431
Spawn of Frog -	193	Turbot -	237
Spermaceti -	519	Turkey -	493
Sperma Hominis -	311	Turtle -	496
Spider and Web -	464	" Mock -	498

	PAGE		PAGE
UMBER - - -	160	Whelk - - -	520
Umble Pie - - -	507	Whey Cure - - -	304, 317
Unicorn - - -	60	Whistling - - -	163
Urine, Human - - -	296, 499	Whiting - - -	132, 165
" Animal - - -	109, 248	Wire Worm - - -	257
Uroscopy - - -	500	Woman, "Floral" - - -	522
VACCINATION - - -	369	Wood, Brazilian - - -	512
Veal and Calf, 53, 282, 342, 505		Woodcock - - -	337
Venison - - -	505	Woodlouse - - -	254, 524
Viper - - -	16, 455, 508	Wool, Sheep's, Oil - - -	525
Vital Heat - - -	428	Wool-sorters' Disease - - -	532
WALRUS LIVER - - -	282	Worm, Earth - - -	190, 532
Wasp - - -	513	" Wire - - -	536
" Grub - - -	514	YOUNG PERSON, influence	
Wax, Bees' - - -	516	of - - -	430
Weasel - - -	349	ZODIAC, Signs of as affect-	
Web of Spider - - -	464	ing Health - - -	157
Weevil - - -	85	Zymin, Digestive Fer-	
Wet Nurse's Milk - - -	310	ment - - -	382
Whale - - -	518		

ANIMAL SIMPLES

APPROVED

FOR MODERN USES OF CURE.

INTRODUCTION.

"ALL flesh is grass" say the Scriptures; and, as the converse must be equally true, a connection seems to stand clearly established between Herbal and Animal Simples. Of the former we have already described the virtues and folk-lore in a comprehensive volume; and we now proceed to discuss medicinal Simples procured from what has hitherto been called by a false distinction the *Animal Kingdom*. There are no broad lines of demarcation really existing between minerals, vegetables, and animals, as intercurrent parts of a continuous whole.

The field of *Animal Simples* for remedial uses is wider, but less fondly familiar to us than that from which our herbal medicines are gathered, almost by instinct. Parsees have said that as Ahriman created ten thousand diseases so Ormazd gave to mankind the same number of healing plants; and this idea is firmly fixed in most minds at the present time. A belief obtains that for every disease there must of necessity be its remedy, which, with the common people, is usually supposed to be an herb.

The province of Animal Simples was explored to some purpose by early Anglo-Saxon leeches : subsequently its denizens, great and small, became credited with marvellous powers by doctors in the middle ages ; and later on, in our own day, certain organic substances are being cultivated therefrom by sure and patient science for restoring the balance of deranged health, or arresting the progress of infective disease.

It is contended by some, and not without reason, that vegetable elementary matters, in order to suit mankind as food, must be first eaten by animals, and assimilated into their tissues, just as the mineral constituents of the earth have to be taken up and sublimated by vegetables before they can minister directly to human sustenance. Certain it is that graminivorous (grass-eating) animals which live on vegetable foods are those which best commend themselves to us for edible purposes ; whilst we decide to reject carnivorous (flesh devouring) creatures as repugnant, distasteful, and unwholesome for our support. Homely examples of the one kind are the ox, the cow, the deer, the sheep, the hare, the rabbit, and domestic poultry ; whilst instances to hand of the unwelcome flesh eaters are the dog, the fox, the cat, the rat, the crow, and the earth worm. Nevertheless, we have accustomed ourselves to strange inconsistencies about observing this supposed rule, refusing, for instance, the clean-feeding horse, the ass, and the guinea-pig, but giving a ready dietetic acceptance to such eaters of animal refuse as the lobster, the oyster, the eel, and the shrimp. It must, however, be allowed that most of the fish which come to our tables, though piscivorous creatures devouring their own kind, are white-blooded, and therefore do not as a rule engender noxious animal products within themselves or us ; so that they fail to fall

strictly under the flesh-eating ban, though, at times, the oyster, the mussel, and the crab—which display a great liking for sewage—prove highly poisonous through indulging their vicious tastes in this respect!

Moreover, seeing that many of the carnivorous animals possess properties and attributes more or less harmful to the human subject when their flesh or their blood is taken as food, the inference may logically be drawn that when any ailment analogous in its symptoms to the noxious results of eating such flesh or blood occurs spontaneously in man, then a medicinal administration of these animal substances reduced to a fresh extract will serve a curative antidotal purpose.

Of the Animal Simples prescribed by our forefathers many were far-fetched, others were strangely fanciful, and some were positively disgusting. For example, by the ancient physicians Mummy was ordered “of a proper smell, and which, being burnt, does not stink of pitch,” this being reckoned proper for contusions, and to hinder the blood from coagulating in the body. So also Human grease was thought good against the gout, and was purchased from the public executioner; whilst Man’s Skull powdered was a specific against epilepsy, and Moss from the heads of those hung in gibbets was employed as a snuff to stay obstinate bleedings from the nose. Even so recently as in the year 1852, among the select drugs on the shelves of a pharmaceutical chemist at Leamington was to be seen a bottle labelled in the ordinary way with the words “Moss from a dead man’s skull.” And soldiers had a notion that drinking out of a skull made them invulnerable in battle.

The learned Andrew Boorde, in his *Breviary of Health* (1553) commended “for a bad rheum to apply the oil of scorpions with fat of the fox, washing the place with

white wine and plastering it with an oak leaf." Also, preparations of the hyena were then made for curing seventy-nine diseases; and (saith the *Touchstone of Medicine*) "horse dung mixed with beer was given for pain of the syde." That hyenas once inhabited this country, living chiefly upon carrion, is known by a cave discovered at Kirkdale, which has afforded relics and evident traces of these animals. The floor was strewed with bones of different creatures broken and splintered, and bearing evidence of the action of jaws which, even in the more diminutive species now existing, are known to be sufficiently powerful to bite off the leg of a dog at a single snap.

In the second volume of *Amoenitates Academicae Linnæi* (1751) is to be found a complete list of the animal materia medica then in vogue, from which we learn that there were no fewer than sixty-seven animals yielding various substances employed in physic at that time, including corals, shells, ostrich eggs, horns of stags, feathers of partridges, fat of man, bear, dog, wolf, badger, and viper, Egyptian mummy for epilepsy, peacock's dung, toad's flesh, and silkworms; the lungs of a fox good for consumption; decoctions of the base parts of a horse, stag, goat, or whale, for promoting the female monthly flow, or giving strength to the sexual functions. Southey has recently noted that in the sixteenth century six hundred pounds of mummy were brought home by the Turkey Company.

Until lately the practice has prevailed with medical men and the lettered public to look with complacent ridicule, or contempt, on the obsolete remedies thus employed at random by our empirical grandsires. Credulity and superstition are thought to have determined their choice rather than any true insight into

their natural curative powers. But unprejudiced research is beginning at length to show that when compiling their dispensatories the early mediciners often had truth on their side, and that a close, watchful perception stood them in excellent stead, though the lamp of analytical science had not as yet been lighted. For instance, the common Toad was believed in primitive times to be poisonous, and its supposed venom was given against various diseases, such as bleedings, cancer, epilepsy, and troubles of the heart with dropsy. Dried toads (*bufones exsiccati*), and the ashes of toads (*cineres bufonum*), were ordered as authorised drugs in the eighteenth century; and even until lately, tells Dr. Hewlett in current *Science Progress*, "a popular notion has prevailed in the West of England that if a dog should worry a toad the animal would become mad forthwith." But most writers of recent times, whilst shutting their eyes to these facts, have agreed in pronouncing the toad a harmless, much-abused animal, innocent of all harmful or medicinal belongings. In Patterson's *Zoology for the use of Schools* (thirty-sixth thousand), it is taught that "perhaps no individual among the amphibia has been so slandered as the toad; and if we did not know how often imagination takes the place of reason it would seem incredible that this unoffending reptile should have been regarded as highly poisonous from its bite, its breath, and even its glance!" Again, in *Silas Marner*, by George Eliot (1861), Mr. Macy, the parish clerk, is made to say oracularly, "It isn't every queer looks'ed thing as old Harry's had the making of! I mean speaking of toads and such, for they're harmless, and useful against varmin." Nevertheless, Dr. Hewlett now shows that this creature (the toad) actually possesses glands which are venomous (one on each side of the

neck) because of a white, milky secretion formed thereby, intensely bitter and somewhat acrid to the taste; that its active principle, phrynin, exercises a powerful influence on the pulsations of the heart, and when injected beneath the skin of a dog, or a guinea pig, quickly proves fatal as a nervine poison. "Truth," adds the doctor, "is stranger than fiction," and the result of numerous present investigations is found to confirm views held by Pliny, Theophrastus, and the early English apothecaries concerning the toad's poison, much as these views have been since derided! The *Lancet*, when commenting on Dr. Hewlett's conclusions, adds further: "The old practice of prescribing preparations of the toad as remedies for dropsy was not so absurd as might at first appear, for a fetid substance is secreted by the toad's skin which is very like digitalin (from the foxglove), and hence it may have a favourable effect in cases of dropsy from heart affections.' Even, as the *History of Medicine* (Berdoe, 1893) confesses, "In the apparently absurd, outrageous, or nasty old animal remedies, by reading between the lines with our modern scientific enlightenment, may be discovered veritable reasons (altogether unfathomed at the time) why these medicines should have produced the alleged curative results."

Setting aside such animal medicines of the past as were manifestly extravagant, or employed in sheer ignorance and only for quackish pretences, we still find that not a few of the old animal simples have stood their ground from primitive times until now, whilst others, though discarded for a while, are steadily recovering their former curative reputation. A shrewd and observant sagacity alone guided our predecessors in choosing these useful remedies, but their modern position

is assured by chemical research, and by a scientific knowledge which has been gained of their constituent parts. Furthermore, proof by experiment has clearly shown with regard to many of these time-honoured simples, that their animal substances when given to excess will produce symptoms closely resembling those of the diseases which they cure when administered in a reduced quantity.

To illustrate this last fact the Marine Coral (an animal zoophyte) and the Garden Spider may be taken as fair examples. Pliny taught in his day (A.D. 70) about red coral that it was then a Roman custom to protect infants from the evil eye by tying some of this zoophyte round their necks as an amulet.

“Surculi Infantiae adligati tutelam habere creduntur,
Observavi namque quam invito hunc lapidem
Diabolus toleret.”

“How ill the devil brooks the Coral stone
When worn by babes was to the ancients known.”

From that date until now trinkets of red coral made to be suspended from the neck or waist have been constantly bestowed upon babies, chiefly at their baptism, as a christening gift, but continuing to hand down the said old Pagan superstition. The favoured modern custom is to mount the coral with a silver whistle and tinkling bells:—

“Rings on her fingers, and bells on her toes!
And so she makes music wherever she goes.”

“Cui gemmæ in manibus. cui tintinnabula plantis
Plurima, concordi sonitu comitantur euntem.”

Yet in all probability the actual healing virtue which exists in coral, but which has only revealed itself to recent medical scrutiny, gave rise from the first to this time-honoured practice. M. Teste, in his *Modern Manual of Children's Diseases*, places coral first among

medicines potent against croup, convulsions, and whooping cough. From provings made therewith on his own person, and confirmed by others, he was induced to order it, with striking success for the prevention or cure of these several ailments (which are kindred in their character), and we are warranted in supposing that an intelligent inkling of such a virtue has been all along the chief inducement for giving to the fondlings at one and the same time a protective manubrium which they should suck, and a fascinating toy for them to play with.

So in like manner respecting the Garden Spider and its web; these were employed with success of old for the cure of ague by Dioscorides, Matthiolus, and Alderovandus, finding equal subsequent favour with their numerous medical followers down to our generation. But it has remained for chemists now living to explain the intimate method of cure operating thereby, among whom Dr. Bence Jones was the first to discover that an albuminous substance furnished by the spider, and contained in its web, is the counterpart of Cinchona Bark, which is a known specific for ague.

Just in the same way, too, might many other parallel instances be adduced of an old curative animal Simple being given empirically in past days with undoubted results, but the chemical action of which has only of late become solved. And a remarkable fact, worthy of incidental notice here, is to be gathered from the records of English physic in the middle ages, that its help was chiefly sought against the falling sickness (then strangely familiar), consumption of the lungs, jaundice, bronchitis, dropsies, and troubles of the eyes.

Convincing illustrations may also be brought forward of the double power exercised contrariwise by many animal simples, injuriously, when given in large, harmful

quantities, and curatively, when administered in much reduced doses for symptoms which have presented themselves as disease, but which closely resemble those which poisonous doses of such animal simples would produce in a healthy person. This duplex power is well demonstrated by the sting venom of the common bee. Everyone knows that to be stung severely by bees is a dangerous mishap, whether to a human being, or to a dumb animal. The physical symptoms which ensue, besides nervous shock, are extensive swelling of the skin and of its deeper parts, with large, raised, smarting wheals, which burn like nettle-rash, or break out into an angry diffuse eruption like erysipelas; also the throat is made vividly red and obstructively swollen, just as in scarlet fever, or diphtheria. Moreover, in extreme cases an effusion of water is poured out within the brain, as well as around the heart. On the other hand, it is beyond question that in each of these specified maladies prompt curative relief may be afforded by repeatedly giving diminutive doses of a tincture made from the bee sting, whilst sufficiently diluted. And action of such sort may be fairly taken to show the fixed rule which holds good with numerous other animal simples, if they are tested experimentally by provers to learn what guiding symptoms will be induced, so that these symptoms, when occurring as illness, may be cured by the same simples highly diluted. The scriptural teachings of the Old Testament forcibly inculcate this doctrine of cure by simple means approved experimentally beforehand, rather than by material usage of powerful weapons on no fixed principle: "And there went out a champion out of the camp of the Philistines named Goliath of Gath: and the weight of his coat was five thousand shekels of

brass, and he had a helmet of brass on his head, and the staff of his spear was like a weaver's beam; and the Philistine said, 'I defy the armies of Israel this day; give me a man that we may fight together.' Then Saul armed David, the youth who was keeping his father's sheep, putting a helmet of brass upon his head: also he armed him with a coat of mail. And David girded his sword upon his armour, and he assayed to go, *for he had not proved it.* And David said unto Saul '*I cannot go with these, for I have not proved them.*' And David put them off him: and he took his staff in his hand, and chose him five smooth stones out of the brook: and his sling was in his hand, and he drew near the Philistine. And David put his hand in his bag, and took thence a stone, and slung it, and smote the Philistine in his forehead that the stone sunk in his forehead, and he fell upon his face to the earth. So *David prevailed over the Philistine with a sling, and with a stone.*"

Equally akin to the purpose of the present manual are the curative effects, lately brought to light, of fresh animal glands or their extracts, as got from the ox, the sheep, and other healthy domestic beasts when newly killed. Advanced medical science now teaches how to make amends for impairment of the general health, when this or that important human gland fails to render its secretion to the blood, by giving portions of the corresponding animal gland, or its medicinal extract, as procured from a healthy animal freshly slaughtered. Very small quantities of the sound animal gland will suffice to subsidise the entire crippled human gland of the sufferer; and it is found that these act by a fixed law through arousing those constitutional energies which have become specially at fault by the disease.

A notable example of such curative action may be seen in the treatment of human goitre (or enlarged "thyroid" gland of the front neck) by giving the same gland (thyroid) obtained from the newly-killed carcase of a healthy sheep. This goitre, sometimes known as Derbyshire neck, is incurred through defective surroundings of breezy air, and sunlight, with wholesome water (free from lime in excess), and is transmitted through successive generations, as in closed Alpine valleys. The neck gland grows palpably large, whilst its natural juices become arrested from passing into the general circulation, so that the whole system breaks down in health and symmetry; under which grave conditions a balance of health can be surely restored by nourishing the patient with small portions of the same neck gland, obtained from a slaughtered, sound sheep. "It is," says Dr. Lauder Brunton, "most remarkable to see, under the influence of the (thyroid) animal gland, given remedially, how the thick, heavy lips, the dull aspect, and the swollen features of the human patient, resume the complexion of health."

Animal Simples, therefore, of this curative nature, which concern those glands of our bodies about which everyone knows, may rightly be discussed in pages written for general reading. Even savages have long been accustomed, through an intuitive perception of some such physical law as that now explained, to eat the raw hearts and other organs of lions, tigers, and similar fierce creatures, as well as those even of their conquered enemies, for the purpose of inspiring their own hearts with increased valour for the fray. Sir Edward Arnold records a notice of the same principle in a poem of Japan, where the cure of a Princess sick with jaundice could only be effected by giving her the liver

of a fox as a medicine. Faustina, the wife of the Roman Emperor Marcus Antoninus, being anxious to have a child, drank the warm blood of a dying gladiator, and then at once became pregnant by her husband. Presently she brought forth the cruel Commodus. A ram's brain, fried, was directed under authority by the London College (1695) to be given against the lethargic, and other drowsie diseases. In the early Jewish Talmud a dog's liver was ordered for the bite of a mad dog. The Corsicans eat dogs, both domestic and wild, and are therefore doggish. In New Zealand stones are thrust down the throat of a babe to give him a stony heart, and to make him a stern, fearless warrior.

Thus, then, the fact has become established that animal organs contain principles which exercise powerful alterative actions in the human economy, insomuch that very small doses thereof produce constitutional effects which are strongly marked. And it is specially noteworthy that these curative virtues of healthy animal glands are not spoilt by cooking, or destroyed in the stomach by digestion. But stress has always to be laid on the unimpeachably sound state of the animals whose fresh extracts are to be employed medicinally. And of almost equal importance is it that the administering doctor who is in immediate attendance on the sick should be pure and wholesome in body and mind. "The knowledge of the physician"—said the son of Sirach—"lifteth up his head: and in the sight of great men he shall be in admiration. For he also shall pray unto the Lord that He would prosper that which is given for ease; and their physick for the prolonging of life." Saint Luke, in his own person, quoted the Hebrew maxim "Physician, heal thyself"; and a pithy German proverb runs that "Doctor Luther's shoes don't fit every village

priest." "The seventh son of a seventh son"—says *Ravenscroft's Comedy*—"is an infallible doctor."

Hindu wisdom has handed down the weighty counsel that the physician who desires success in his practice, with a good name, and finally a place in heaven, must pray daily for all living creatures, including the cow, must have his hair short, keep his nails clean and cut close, wear a sweet-smelling dress, and never leave the house without a cane, or an umbrella.

"The Frog—of boasted learning full,
But such a dunce, of wit so dull,
He does not know from foot of bull
 Big B, the letter—
Has left the stream, has scaled the bank,
And croaked abroad, with visage lank,
That now he holds a doctor's rank :
 None other better !

So, squatted on the rising ground,
The Charlatan, with look profound,
Has gathered bird, beast, fish, around,
 To take his potion.
Poor, easy victims ! all agog
To glorify Physician Frog :
They swallow bottles from the bog
 In blind devotion.

But Master Fox, of sinews rude,
And sleek of fur, whilst far too shrewd
To let the trickster thus delude
 His seven senses,
Pretending to be sick and sad,
—The while he winks—puts forth his pad,
As if to gain the nostrum bad
 Which Frog dispenses.

Then, waxing wrath, he thus inveighs :—
'Go, Mountebank, and mend your ways !
How dare you hopes of healing raise
 In others eager ?
Impostor ! to the swamp get back !
All signs of health yourself you lack :
Your very phiz proclaims you Quack !
 So wan and meagre !

Be off ! and cure your own blotched skin,
 Your lantern jaws and legs so thin !
 Nor think to take your betters in
 By bare assurance !
 If doctor's skill can aught avail,
 Himself should seem strong, stout, and hale :
 But you are puny, weak, and pale
 Past all endurance !

Now get you gone ! Your game is done !
 Leave me to find some sporting fun ;
 For I still mean of many a run
 To be the hero !

Throw physic to the dogs ' say I ;
 And when they follow in full cry,
 My Maxim shall be till I die—
 'Dum spiro, spero.' "

With respect to the extent to which medical science stands indebted to *Insects*. Say Kirby and Spence, "A century ago this would have made an ample history." Amongst scores of infallible panaceas the Wood Louse would have been commended as a solvent and an aperient ; powder of Silkworm for vertigo and convulsions ; Millepedes against the jaundice ; Earwigs to strengthen the nerves ; powdered Scorpion for the stone and gravel ; Fly-water for disorders in the eyes ; and the Tick for erysipelas. Five Gnats would have been prescribed as an excellent purge ; Wasps as diuretics ; Lady-birds for the colic and measles ; the Cockchafer for the bite of a mad dog and the plague ; likewise Ants, with their acid, as incomparable against leprosy and deafness, also strengthening the memory, and giving vigorous animation to the whole frame.

"But these good times are long gone by ! Nevertheless, it should be observed that men are apt to run from one extreme to the other ! From having ascribed too much efficacy to insect remedies we may now credit them with too little ! Many insects emit powerful odours, some of which produce extraordinary effects on the human

frame, and it is an idea not altogether to be rejected, that such insects may concentrate into a small compass the properties and virtues of the plants on which they feed; and that they can thus afford medicines more powerful in operation than the plants themselves." The aged, aged man sang (in *Alice Through the Looking Glass*) to much the same effect:—

"He said I look for butterflies,
That sleep among the wheat;
I make them into mutton pies,
And sell them in the street.
I sell them unto men—he said—
Who sail on stormy seas:
And that's the way I get my bread;
A trifle if you please!"

Finally, it may be fairly said that Herbal and Animal Simples stand on the same level.

At Bodellen, in Cornwall, near St. Leven's Church, is to be seen Johana's three-cornered garden, where, on a certain Sunday, she was gathering pot herbs for her mid-day meal. St. Leven at the same time passed by to his usual fishing place below the church, to catch his dinner; but Johana proceeded to lecture the holy man for fishing on a Sunday. They came to high words, and St. Leven told Johana that he did no more sin in taking his dinner (Animal of its kind) from the sea than she committed in plucking hers (of an Herbal sort) from the garden.

ANIMAL SIMPLES.

ADDER.

THE Adder, or British Viper (*Vipera berus*), is the only venomous snake met with in England. It may be found in early summer on a sunny dry bank, or patch of heath. The reptile is small, of an olive-brownish colour, its body being marked with a zig-zag line of darker hue down the whole length of the back; the broad head is oval in shape, bearing a V on its top, whilst widening behind the eyes, and narrowing to the neck; the tail is blunt, and the whole body covered with small plates or scales. It is a shy animal, getting quickly out of man's way, and attacking only if closely pressed; the creature then coils itself up, elevating its head and striking at its assailant. When it bites, the poison, which is rarely, if ever, fatal, is conveyed through a tubular tooth, or fang. The symptoms vary considerably in different individuals; but, if serious, are those of prostration and faintings, with a faltering pulse, yellowness of the skin, and great pain about the navel. A ligature should be applied as quickly as possible, very tight around the wounded limb above the bite, and the wound should be sucked. At the same time, ammonia should be given—half-a-teaspoonful of sal volatile for each dose—or brandy in hot water repeatedly until the patient revives. Olive oil should be rubbed immediately and freely into the wound, general perspiration being also artificially induced.

Rustic folk in Warwickshire suppose that the only certain remedy for being bitten by an Adder is to kill the offending reptile, and apply some of its fat (raw, or melted down) to the wound, after the puncture has been well sucked. This practice is in accordance with the old maxim: "Seek your salve where you got your sore." In former days the flesh of the viper was given to lepers. Pliny says, the physician of Cæsar Augustus ordered these little creatures to be taken for healing intractable ulcers; and Galen tells of elephantiasis, a grievous skin disease, being cured with remarkable success by eating vipers dressed like eels, or by drinking viper wine.

Robert Lovell in his *Compleat History of Animals and Minerals*, 1661, said, "the flesh of the viper is hot and dry, and purgeth the whole body by sweat: also being eaten or drunk it helps the leprosy, and cures ulcers"; further, "these adders be round and cast their skinne by sliding through a narrow passage when fasting: they lay down their poison when drinking."

In the *London Pharmacopœia*, 1745, "viper's wine" was ordered to be made thus: "Take of dried vipers six, of Spanish wine two pints, and digest for a week." It was thought to be stimulating and "a rare medicament for all sickly persons."

In an old black-letter book is given the following recipe: "Take a living viper, remove his head, tail, and viscera, excepting his heart and liver, cut it into little pieces and mix them with the blood, then add of well-water twelve ounces, boil for two hours in a close vessel and strain, then the broth will be made." Dr. Salmon wrote in his *Pharmacopœia* (1696): "The broth of them cureth the French poxe and the leprosie, eating half a viper at once, and fasting five or six hours after

it, so also they cure all old ulcers and fistulas, clear the eyesight, help the pulsie, and strengthen the nerves." "The essence of vipers (made from their livers and hearts, together with the spirit of vipers) is a most excellent medicine, dissolves all excrements and coagulations of humours, dispersing, cleaning, and purifying like sope; carrying out every ill by urine, sweat, or insensible transpiration, curing all sorts of gouts, the stone in both veins and bladder, leprosie, French poxe, scurvie, melancholy, all obstructions and putrefactions, loss of strength, decays of nature, and consumptions; so that as it were, it even renovates a man, by taking away what is contrary to nature, and adding what is requisite."

Dr. Thomas Willis, 1621-1675, who first attempted to reform the *Materia Medica* in a right direction, said, "The use of a viper and the preparations thereof, doth enough commend the wonderful virtue of volatile salts in a grievous impetigo, and also in curing the leprosie itself. Galen reports that drink being poured out of a bottle wherein a viper was put to poyson one labouring with an elephantiasis, and so given him to free him from his misery, proved his remedy, and what was destined for his murder dispatched an incurable disease; and hither, he adds, relates the analogy from the nature of this animal whence they collect that it helps in this disease, because the viper yearly shakes off his scaly coat, therefore some think its particles prevalent to throw off the leprous skin of a diseased man; but though we do not attribute much to these things, yet it is manifest by frequent observation that remedies of a viper do profit in the impetigo and leprosie, the true reason whereof ought to be ascribed much to the volatile salts wherewith this animal is endued."

Long before Dr. Willis wrote as above, Bartholomæus Anglicus had said (in 1250), "To heal or to hide leprosy best is a red Adder, with a white womb, if the venom be away, the tail and the head being smitten off, and the body sod with leeks, if it be oft taken and caten; and this medicine helpeth in many evils, as appeareth by the blind man to whom his wife gave an Adder with garlick, instead of an eel, that it might slay him, and he ate it, and after that by much sweat he recovered his sight again."

In France and Italy the broth, jelly and flesh of vipers are much esteemed now-a-days as a strengthening medicine; whilst the Sardinians take them in soup. Quarles (1620) wrote about wines made from the reptiles as giving energy to the sexual organs.

Viper bites are more dangerous in the spring, after the torpor of winter is over, than in the autumn. The poison when applied to the tongue causes a sense of numbness, and if exposed to the air soon looks like gum arabic. If the mouth is not excoriated Adder venom may be swallowed in a considerable quantity without doing any serious harm. The poison of six vipers was given to a blackbird with no other effect than that of slight stupor.

Some have thought there exists a marvellous antipathy to the ash tree and the beech by all the viper brood. Pliny said, "If an Adder is encompassed about with beech or ashen twigs on one side, and a fire on the other, the Adder will attempt to pass through the fire rather than over the boughs: thus ash leaves as well as those of the beech were administered as an unfailing remedy for the bite of an Adder."

Miraculous powers were supposed to be acquired by the Druids through their possession of a viper's egg

laid in the air and caught before reaching the earth; all the brood of vipers pursuing the particular Druid, who became safe if he managed to cross a river.

It was an ancient belief that the young of the viper destroy the mother by eating their way through her bowels as they are born alive; hence the Romans punished parricide by drowning the criminal tied in a sack with a viper.

The title "an adder" is by mistake, and should be written "a nadder," from the Anglo-Saxon "nœdre," a snake.

The viper is so called from *vivus*, alive, *pario*, I produce, because the membrane which surrounds the eggs of its young is broken at birth, and the newly born vipers are straightway as fierce as their parent.

"For stroke of viper" said the Saxon leechdoms, "remove from thine ears the wax, and smear around therewith, and say thrice the prayer of St. John!"

Near the Land's End in Cornwall the country people hold it is not safe to venture among the furze without a milpreve, because of the numerous adders. This milpreve (*mil-prer*, a thousand worms) is the *Adderstone* of popular legends, variously known as adder's bead, serpent stone, Druid's glass, etc. It is really a ball of coralline lime-stone, the section of the coral being mistaken for young snakes. The Adder is thought to make it under a charm if found asleep, and impaled forthwith on a hazel stick in the centre of its coils. Richard Carew says in his *Survey of Cornwall*, "The country persons retain a conceite that the snakes by their breathing upon a hazel wand doe make a stone ring of blew colour in which there appeareth the yellow figure of a snake, and that beasts which are stung, being given to drink of the water wherein this stone hath

been socked, will therethrough recover." Small perforated stones are sometimes hung on cattle to charm away adders. It is further a Cornish superstition that when an Adder is seen a circle should be rapidly drawn round it on the ground, and the sign of the cross made within this, while the two first verses of the sixty-eighth Psalm are recited.

In Sussex there is a common saying, "Look under the deaf Adder's belly, and you'll find marked in mottled colours these words:—

"If I could hear as well as see,
No man of life should master me."

In Leicestershire the saying obtains: "It'll bring you good luck to hang an ether skin o'er the chimbley"; and in Cornwall it is believed that if the slough of an Adder be suspended on the rafters the house will be protected from fire.

Shakespeare makes Autolycus in the *Winter's Tale* discourse of a ballad to a very doleful tune, how "a usurer's wife longed to eat of Adders' heads and toads carbonado'ed"; whilst Brutus says in *Julius Caesar* "It is the bright day that brings forth the Adder, and that craves wary walking." Futhermore, Petruccio asks Katharina in *Taming of the Shrew*, "Is the Adder better than the eel because his painted skin contents the eye?" "It is told," quoth St. Francis of Sales, in the *Devout Life*, that those which have taken the preservative commonly called "the fat of St. Paul" do not swell when bit and stung by a viper; in like manner "humility and meekness preserve us from the swelling and burning heat which injuries are wont to raise in our hearts." Bishop Taylor and other old English divines said: "The true Christian not only kills

the viper, but, like the skilful apothecary, makes antidote and treacle of him."

According to Baptista Porta (Naples, 1590) and the ancients, among beasts the lion most resembles the man, and the leopard the woman; among birds the resemblance to man is found in the eagle, and in the partridge to woman; among reptiles man's likeness is found in the dragon, woman's in the viper. (*See also Viper.*)

AMBERGRIS.

Ambra grisea, grey amber. This animal excrement (from the Whale) is one of the few that are still retained on the shelves of druggists. It is a solid, light, fatty substance, ashcoloured, marbled, and often speckled with white, found floating on the waters of the Indian Ocean, or on the shores of the Moluccas, and other islands. It breaks easily, but cannot be reduced to powder, though melting with heat as wax does, and gradually dissolving in spirit of wine. Being strongly scented, like musk, or valerian, it powerfully affects the nervous system, and is therefore very useful in the treatment of hysteria, whilst much commended for the weakly giddiness of old persons. Formerly Ambergris was thought to be frozen sea foam; but it is now known to be the excrement of the spermaceti whale when lean and sickly. On pounding this substance (found within the intestines), the presence of numbers of cuttle fish beaks is revealed, which are recognised as most probably causing the secretion to have been formed and voided by the fish. It is an unctuous matter, with an agreeable odour, which improves by keeping. Although insoluble in water (fresh or salt), it can be slowly taken up by alcohol, after grinding it with sand, but even then occupying four months in the process before the solution

is ready for use by perfumers. They find it invaluable for rendering the scents of various essential oils with which it is mixed more intense and enduring.

Ambergris contains a resin, benzoic acid, adipocere, and charcoal, with a peculiar principle called *ambrein*. In Turkey it is employed to stimulate the sexual functions. Formerly the said material was much used in this country as an addition to wines and sauces. French chemists prepare a tincture of Ambergris which is of use in low fevers, as well as for hysterical spasms. From five to twenty grains of the odorous substance are given for a dose. Also a trituration is made (H.) therefrom by us, together with sugar of milk, for medicinal use; five grains of the powder to be taken three or four times in the day, with a spoonful of cold water. This is an admirable remedy for anxious wakefulness, and for a nervous spasmodic cough. Doses of the same, reduced by considerable dilution, will serve to allay morbid sexual excitement. "Concerning Ambergris," says quaint old Fuller (1656), "that is *gray amber* from the colour thereof, it is almost as hard to know what it is as where to find it. Some will have it the sperme of a fish, or some other unctuous matter arising from them; others that it's the foam of the sea, or some exeresency thence, boiled to such a height by the heat of the sun; others, that it is a gum that grows on the shore; some physitions holding one way, and some another; but this is most sure that apothecaries hold it at five pounds an ounce, which some say is dearer than ever it was in the memory of man." "It is a rare cordiall for the refreshing of the spirits, and sovereign for the strengthening the head, besides the most fragrant scent, far stronger in consort when compounded with other things, than when singly itself."

An old provincial English drink was "Amber Cawdle," made of "Ambergrease," and capable of restoring the generative powers. "You may talk," said Ravenscroft (1622), "of your amber caudles, your chocolate and jelly broths, but they are nothing comparable to youth and beauty."

Among the minor objects of personal use detailed in an inventory of Margaret de Bohun (1310), is a "*poume de aumbre*," or scent ball, in the composition of which it is supposed that Ambergris formed the chief ingredient.

About the third year of King Charles II., a mass of Ambergrease was found in Cornwall at low water, close to the shore of the manor of Anthony, then belonging to Richard Carew, Esq.

Southey, quoting from Flacourt, tells that Ambergris was burnt by the Portuguese in sacrifice at the graves of their ancestors.

In Milton's *Paradise Regained*, we read of:—

"Beasts of chase, or fowl of game,
In pastry built, or from the spit, or boiled,
Gris-amber steamed."

ANIMAL OIL.

"ANIMAL hartshorn," "Dippels oil," "Oleum fœtidum," etc., as sold by druggists, is an empyreumatic oil, obtained during the destructive distillation of bone, ivory, hair, or wool, being re-distilled again and again until a perfectly colourless oil is produced. Chemically it is a most complex substance, and contains at least methyilia, ethyilia, tritylia, amyilia, aniline, pyridine, picoline, lutidine, pyrrol, benzol, and a mixture of several nitriles. It is very volatile, becoming yellow on exposure to the air, then brownish, and black, whilst

growing thicker. It will mix with alcohol and ether, but only sparingly with water. To preserve its white colour and thin consistence it must be corked up, and carefully excluded from the light.

The Animal Oil of commerce is procured during the manufacture of "bone black." It is identical in its nature with the "*Oleum cornu cervi*," or "Oil of hartshorn" formerly used in medicine. Reichenbach obtained Creasote from it, and ascribed to this principle the supposed virtues of the oil. When rectified it is a colourless, thin, oily fluid, having a penetrating odour, and a pungent taste. It may be taken in moderate doses beneficially for hysteria, epilepsy, chronic rheumatism, paralysis, and to expel tapeworm. When given more largely it produces the effects of a remote narcotic. From five to ten drops excite a sense of warmth in the abdomen, making the pulse more frequent and stronger, whilst increasing the sweat and urine. The oil may be mixed with powdered sugar, or with spirit of ether.

Applied externally it is an energetic stimulant, and has therefore been employed against gangrene, as well as for indolent bruises and cramp. Some years ago (in 1841) Ulric Palmedo, of Berlin, made excellent cures of consumption, even in its advanced stages, by friction with this "fetid animal oil," some special volatile curative principle being certainly evolved. From a teaspoonful to a teaspoonful and a half of the oil (whereof the stench is extremely penetrating, and almost insupportable to some) was to be rubbed in over the front and sides of the chest each night and morning with the palm of the hand, in a small low room having few windows, so that at the same time the fumes diffused therein might be inspired. The chest

was to be afterwards covered with a large piece of sheepskin leather, and, so as to protect the clothes, the patient should remain in bed, or not, as seeming most desirable. In each case the inhalation of the volatile vapour was an important factor. Though the treatment might seem at first to aggravate the cough, and to increase the difficulty of breathing, nevertheless it was to be persevered with; then presently the pulse began to improve, and all the worst symptoms to become ameliorated, even in desperate cases. A trituration of the oil with powdered sugar of milk is prepared (H). Its aniline principle when given to animals in toxic quantity, will produce violent spasms; and the diluted trituration may be fairly taken to relieve these, when occurring from other causes.

Hoffman says that Animal Oil administered in moderate doses will induce a calm sleep, and gentle sweating, without heating the body, or being followed by any reactionary weakness. It should be always kept in a well-stoppered amber-coloured glass bottle.

Other animal oils of a more ordinary kind are given as medicinal simples, or applied for homely curative uses; such as cod-liver oil, whale oil, sheep's wool oil (lanoline), and neat's foot oil. The last-named, *Oleum bubulum*, *axungia pedum tauri*, is made by boiling the feet of the neat (ox, or other beeve) when deprived of their hoofs, in water, skimming off the oil which rises to the surface, and keeping it for some time on warm water. After the impurities have settled it is ready for use. Neat's foot oil, when of good quality, is nearly inodorous and tasteless, but becomes somewhat thickened on exposure to the air, though not readily turning rancid; it yields glycerin and fatty acids. Commercially it is employed for softening leather, and medicinally

it has been given as a substitute for cod-liver oil ; but it is devoid of the specific fish principles which make this latter so valuable ; besides, as commonly met with, the neat's foot oil has a singularly repulsive smell and taste, whilst tending to provoke diarrhoea as a stale animal product. "*Bovem in linguâ habere*" was, among the Latins, "to have an ox on the tongue," or to be bribed to silence. Inunction of the body and limbs with neat's foot oil when fresh and sweet, may be practised with benefit against atrophy, so as to soften the skin, retain the animal warmth, and promote nutrition by a supply of fat from without, which is absorbed into the system.

ANIMAL SUBSTANCES.

IN primitive British doctoring the entrails of animals and the bodies of reptiles were favourite medicinal remedies, each being thought curative somehow of the corresponding organ or part in man when affected by disease. Throughout China and other Eastern lands a like method of empirical cure by such substances is still pursued.

One of Sir Edwin Arnold's poems of Japan turns upon the necessity which had arisen to obtain a fox's liver for the cure of jaundice in a Royal Princess ; and as a reward for kindness once shown by this lady to the tribe of foxes a fox-wife brings her husband's liver, and lays it at the foot of the Princess's couch. After which fashion many of the animal substances were medicinally prescribed by physicians of old, such as the (*caput mortuum*) powdered skull and brain of a young man, as "a noble antiepileptick" ; the liver, washed in wine and dried in the sun—together with the hair—of a mad dog for hydrophobia ; the pulverised lungs of a fox

for disease within the chest; the cast-off skins of snakes and adders for leprous disorders of the human skin; cooked sheep's bladder, or goat's bladder for incontinence of urine, or diabetes; and the spinal marrow of an ox for weakness of the loins, or lack of sexual vigour in the human subject.

But within quite recent times a search for medicinal virtues in the glands, and several organs of healthy animals for curing diseased conditions of the same organs in man on a scientific basis, has received a really true impulse, especially through British experimentalists.

Marked success has been obtained by them, for instance, through giving from a sheep the gland (thyroid) which is found at the neck in front of the upper windpipe, for a morbid enlargement of the same gland, produced in any person through living in a district where the water contains lime, and the local conditions are unfavourable to health. This gland in a human being secretes certain elements which are indispensable for the whole bodily welfare, so that if they are arrested by a disease of the gland called goitre, all the functions of the system suffer serious impairment. But it is now learnt that if even a small portion of the same gland procured from a sound animal is given medicinally at intervals, then the lacking secretion is stimulated afresh within the human body, and health is restored. This animal gland does not act directly as a mere food, but it serves to regulate the nutrition in general, and to renovate the strength at large. Half a gland given once a week seems to be effective when taken in a cooked form, or if desiccated it may be given as a medicine in doses of from ten to fifteen grains. This is also of great remedial value in acute and chronic melancholy.

High expectations are being entertained, and are already meeting with fulfilment, of effecting similar cures by giving for their allied diseases the like preparations of other glands got from the healthy animal: such as the breast gland, the kidney, liver, ovary, and testicle.

The thyroid gland (in front of the throat) consists of albumen, gelatine, stearine, oleine, alkaline, and earthy salts (of lime, magnesia, and potash,) with water, and a trace of iron.

Preparations of healthy animal organs, and tissues exercise a remedial action within the human body in one of two ways, intrinsic, or extrinsic; intrinsic when they replace some necessary secretion which is defective in the patient: extrinsic when they act merely, like any other drug, without relation to the organ or structure from which they are derived. The intrinsic effects can only be derived from preparations of such glands as secrete a fluid within the body for its uses, such as the thymus, the thyroid, and the stomach-bread; or the same fresh glands themselves may be taken very effectively in small quantities. For the urinary difficulties of old men, because of the gland (prostate) at the neck of the bladder becoming thickened and hard through advanced age, the chopped prostate gland of a bull may be given with marked benefit, a quarter of a fresh gland finely minced in bread and butter, two or three times a week. This is better than administering tablets of the dried prostatic substance, in which the active constituents have probably become more or less changed. It was by giving extract of the throat gland (thyroid) from a healthy sheep, for general disease through failure of his patient's own throat gland, that Dr. George Murray, in 1891, started a new era in our

methods of cure. This extract, or the animal gland itself in small portions, when cooked, if given systematically, tends further to reduce any excess of fat in persons who are oppressed thereby, and always within safe limits.

ANT.

THE Ant, called in Anglo-Saxon "œmette," and commonly known as *Formica flava*, exercises certain medicinal properties. In the *London Pharmacopœia*, 1696, we read "Ants are hot and dry; excite lust, and by their sharp scent wonderfully refresh the spirits: the greater, or winged, with a little salt, cure the psora or scab, and leprosie."

To prepare a solution of them (*Liquor formicarum*) take winged ants, cleanse them, put them into a narrow mouthed glass, stop it, set it in brown bread in an oven, and take it out therewith, which filter and keep for use. Inwardly it causeth magnanimity, and cures the stone: outwardly it helps suffusions of the eyes, cures the itch, and dissipates corns and warts." (Armstrong in *Medical Essays* says that corns are the sprouts of rheumatism, and not the effects of mere pressure.)

The *Formica rufa*, or Hill Ant, is found chiefly in woods, with nest-hills there, and was the first to furnish formic acid, which is the basis of chloroform. Dumas discovered that the peculiar acid which these ants secrete, contains "formyle" combined with oxygen; but if chlorine is substituted for the oxygen, then chloroform is produced. By distilling the ants formic acid passes over; but this can be chemically obtained with greater ease, and economy, from starch when treated with sulphuric acid and manganese. The ants possess also a certain proportion of malic acid (the acid of apple

juice). "Ants," say Kirby and Spence, "have no unpleasant flavour: they are very agreeably acid, the taste of the trunk and abdomen being different, whilst the formic acid provokes a flow of urine." In some parts of Sweden, ants are distilled with rye to flavour brandy of an inferior sort. Formic acid is also found in certain caterpillars, as well as in the stinging hairs of the nettle, and in some other plants. It produces a pungent sensation when applied to the skin. To make a "spirit of ants," take ten parts of recently collected ants, bruised, and add thereto for a couple of days fifteen parts of alcohol and water equally mixed, then if twenty parts are distilled they will make the "*Spiritus formicarum*." This may be given in doses of from ten to twenty drops in water three or four times a day, for gout, rheumatism, and difficulty of passing water. Also the expressed juice of ants has been successfully used as a lotion to remedy sexual impotency. Three pounds of boiling water are to be poured upon one pound of the bruised ants, and the infusion is to stand for three hours, then press out the liquor, and strain. The formic acid contained in the stinging hairs of the nettle (*urtica urens*), was commended by John Wesley to arrest bleeding, like that of an open cancer. By submitting ants' eggs to pressure, a kind of milk has further been obtained, resembling a mixture of milk and chocolate; it contains lactic and phosphoric acids, casein, albumen, and a sort of butter. Ants' eggs mixed with the juice of onions and dropped into the ear were an old Scotch certain cure for deafness. A tincture of Wood ants can be made by digesting two parts of fresh bruised ants in three parts of alcohol. It possesses a brown colour, and may be taken in doses of from ten to twenty drops. "The Russians,"

says Hudibras, "give as physic to their soldiers, 'purging comfits and ants' eggs'"; also they find the eggs of the Rose Beetle (*Cetonia aurata*) in their ant hills, which leads to the conclusion that the acid juice of the ants must bear some relation to the secretions of this Beetle. If Red ants are crushed, and the point of a lancet wetted with the concentrated acid got therefrom be used to prick a sparrow, a rabbit, or a cat, the same convulsive results are observed as when the poison of the Rose Beetle is similarly used. Their acid tincture has been medicinally administered with success in epilepsy, especially that of young subjects, the dose being two or three drops of the tincture made as aforesaid, or of a more diluted tincture. In "*A Thousand Notable Things*," we read that "a bath wherein emmets, or ants, and their eggs have been stamped, or sodden, doth quickly heal an old and almost incurable joint sickness." Robert Lovell (1661), says: "The best ants be those that live under resiniferous trees; nightingales use them when they are sick." "About the sixteenth century," says *Alchemy and Pharmacy*, "the winged ant was a favourite ingredient in love philtres, and was prepared in the form of a tincture by maceration in alcohol. This tincture dropped in the homeœopathic manner into wine, or mixed with food, was supposed to have a wonderful action in arousing the tender passion, even within the coldest hearts. The winged ants alone were used in making the said acid tincture, which enjoyed a long reputation. It was subsequently known as "Hoffmann's Water of Magnanimity," and largely taken in the seventeenth century as a sexual stimulant. Sidney Smith advised a diet of red ants, which, he was given to understand, taste like pineapple.

The white ants (*termites*) are eaten abundantly by

some of the African nations. They are skinned and parched in an iron pot, whilst stirred as, in roasting coffee, being served up in this state as a delicious food. The female ant in particular is supposed by the Hindoos to be endowed with highly nutritive properties. It was carefully sought after and preserved for the use of the debilitated Satjee Rao, Prime Minister of Scindia, Chief of the Mahrattas.

In this country ants are torpid during the winter; therefore the common notion that they gather food during harvest time for their winter's store is a mistaken one. Moreover, they live chiefly on animal food, sometimes eating even their own kindred. The so-called ants' eggs are in reality pupæ, or chrysalids.

"*Formicæ grata est formica: cicada cicadæ*" said Theocritus: "Birds of a feather will gather together."
"Sus sui, canis cani, bos bovi, et asinus asino pulcherrimus videtur."

Formic acid, whether got from the Red ant, or prepared artificially by the chemist, is highly corrosive, and causes when pure, if dropped on the skin, blisters, or ulcers. Medicinally its tincture is used (H.) of the third decimal strength for the same purpose as the Spirit of ants.

Southey in his *Common Place Book*, tells that the termites or white ants, when cakes made of them are eaten to excess, bring on an epidemic of colic and dysentery, which proves fatal in two or three hours; but the familiar Red ant is highly commended by him in another quotation as an animal simple. Savarof, addressing the Russian soldiers, bids them "have a dread of the hospital! German physic stinks from afar; is good for nothing and rather hurtful; but take care of your health; a soldier is inestimable! your messmates

will know where to find roots, herbs, and *pismires* (red ants) for your cure." Again, Southey relates the story of Schuman, a missionary among the free negroes at Surinam. He had suffered a dangerous attack of "season" fever, and lay helpless in his cot, being covered all over with boils and painful sores, whilst his only attendant was a poor old negro woman. At sunrise he saw an immense host of ants entering through the roof, and spreading themselves all over the inside of his chamber. Expecting little else but that they would make a meal of him, he commended his soul to God, and hoped thus to be released from all suffering. They presently covered his bed and himself, and, entering into his sores, caused an uncommon degree of smarting and pain. However, they soon quitted him and continued their march, and from that time he gradually recovered his health.

ASS.

THE Ass, or donkey (*Equus asinus*), is without doubt of Eastern origin, being still found wild in Asia. Its peculiar dark brown stripe down the back, crossed transversely on the shoulders, is the distinguishing badge of the race. By the Persians and Tartars the flesh of this animal is deemed excellent eating. The Greeks relished it highly; and, according to Martial, the Roman epicures considered it a dainty dish. Pliny tells that young fatted wild asses were commonly brought to the markets at Rome for sale as food. Bartholomæus Anglicus (1250) said, "The ass is fair of shape and disposition, while he is young and tender, ere he pass into age, for, the older the ass is the fouler he waxeth from day to day, and hairy, and rough, and is a melancholy beast that is cold and dry; and is

therefore kindly heavy, and slow, and un lusty, dull, and witless, and forgetful; and dieth at last after vain travails, and hath no reward after his death for the service and travail that he had living—not so much that his own skin is left with him, but is taken away, and the carrion is thrown out without sepulture, or burials." Quoth the *Comic Latin Grammar*:—

"Pomarii asinus duram servit servitutum."

"A Costermonger's donkey leads the life of a slave."

"Poor Animal! a *sterne* heart was once melted by thy sufferings;

How then must they affect that of the *gentle* reader?"

According to a Cornish cure for whooping cough, the child was to be drawn naked nine times over the back and under the belly of a female donkey three years old, on three mornings running. Three spoonfuls of milk were also to be taken from the teats of the animal; whilst three hairs were cut from its belly and back respectively, to be put into the milk. This was to stand for three hours, and then the child had to drink it in three doses. Some doggerel lines were connected with the ceremony, to the effect that as Christ placed the cross on the ass's back when He rode into Jerusalem, and so rendered the animal holy, if the child touched where Jesus sat it should cough no more; and a cure was always effected.

Hippocrates commended the Ass as a refined food; but on the contrary, Robert Lovell, in 1661, spoke about the flesh as "of very bad juice, hardly concocted, hurtful to the stomach, and unpleasant to the eater." The late Dr. John Beddoes of Clifton, wishing to try if the flesh of the Ass were savoury, invited a party of medical students to dinner, the principal dish being the hind quarter of a plump young donkey. This was supposed

to be part of a fawn, and was highly relished, several of the guests asking for a second helping; it being thus shown that only prejudice prevents the flesh of the Ass (which is not a carnivorous animal) from being added to the contents of our butchers' shops. "If you have nothing better to do," wrote Mr. Bicknell to Jeaffreson, after the banquet of horse flesh at the Langham Hotel, February, 1868, "come to me, and dine off donkey" (two years old, and killed six days before), which proved a great success. The middle cutlet from the loin was found to combine the texture of the finest mutton with the flavour of roast pig. "In Buda Pesth, the Magyar can eat his salami made of asses' meat, drink his soup flavoured with red hot pepper, enjoy his sweets, and then toss up with the vendor to decide whether he shall pay double or nothing."

The milk of the Ass in particular has in every age of physic from the time of Hippocrates to this day been esteemed the sheet anchor in preserving patients affected with pulmonary consumption from the most alarming symptoms.

Of the four milks—human, cow, ass, and goat—that of the Ass contains the smallest amount of solids, but is more rich in sugar than the rest, except the human milk. It is poor in curd and fat, being therefore light, sweet, and easy of digestion, whilst specially well suited for persons whose stomachs are too delicate to digest cow's milk easily. In convalescence from acute maladies, in consumptive cases, and in chronic diseases of the digestive organs, asses' milk is a very valuable aliment, depending beneficially on the small amount of butter, and the large quantity of milk sugar which it contains. An artificial asses' milk may be extemporised by dissolving a couple of ounces of sugar of milk in a

pint of skimmed cows' milk. Human milk and that of the Ass are alkaline.

In the *Pich Storehouse*, 1650, we read, "A good medicine to be used by one that is in a consumption": "Take a bottle of rose water, and as much asses' milk, if it may be gotten (or else the milk of a cow that is all of one colour), and put therein the number of fifty or sixty hen eggs that are new laid, temper the yolks and the milk and the rose water well together (but let none of the whites remain among them), and distil a water thereof, and drink it first in the morning and last at night warm, with a cake or two of *Manus Christi* (Pearl sugar), which is made of gold or pearls. Use this and you shall find great comfort by it; this hath holpen many."

In Dr. Salmon's *London Pharmacopœia*, 1696, asses' milk is called "alexipharmick, and nourishing, and cleansing; it helps in consumptions and diseases of the lungs"; and by one of the best modern writers on the pathology of pregnancy, it is now commended as an important article of diet during that state.

The occipital bone of an ass's head is said in Worcestershire to be a good periapt or medicine, which being tied about the neck is believed to expel disease. Likewise in Africa and Egypt, to avert the evil eye it is usual to put up the head of an Ass, or some bones of this animal. In Derbyshire the donkey is "yawney box"; in Dorsetshire "nirrup," and "rantipike"; in Lincolnshire "jazzup"; in the Isle of Wight "nutten." The life of the donkey is from thirty to forty years.

Among *A Thousand Notable Things*, 1815, it is told that, "The skin of an Ass being turned, and shoes made of that part of the hide whereon the burdens did lie that the Ass carried, they will never wear, nor become worn,

no, although you do go continually among stones and thorns, and with the oldness thereof they will wax hard that one cannot suffer to wear them."

In the Desert of Arabia, the post of honour is always filled by a donkey, who invariably leads the caravan, the camels refusing to move except under his guidance. It is said that among the Romans, rich women bathed themselves "in asses' milke; some in the milke of five hundred she asses at once."

During the early stages of consumption, when costiveness of the bowels is often a difficulty troublesome to be overcome, the laxative quality of asses' milk renders it particularly useful, especially if some pulp of sweet prunes, or of cassia, be added.

The Poet Hood in his *Ode to Ræe Wilson*, gives some humorous lines about a village in which only one pair of grown donkeys existed, and the she Ass, on whom a consumptive girl was depending for milk, had just died:—

"No matter: at the usual hour of eight
Down trots a donkey to the wicket gate,
With Mister Simon Gubbins on his back;
'Your sarvint, Miss! a verry spring-like day!
Bad time for hasses, though! good lack! good lack!
Jenny be dead, Miss! but I'se brought ye Jack:
He doesn't give no milk; but he can bray.'"

Moral:—

"Some Saints would sneer at Gubbins for his blindness;
But what the better are their pious saws
To ailing souls, than dry hee-haws
Without the milk of human kindness?"

Also, the Spaniards have a rhyme, which runs thus:—

"And, doctor, do you really think
An ass's milk I ought to drink?
It cured yourself, I grant 'tis true;
But then, 'twas mother's milk to you!"

A stone extracted from the wild Ass was esteemed in former times a cure for epilepsy, and made its possessor

invincible in the field: taken with wine it drove away quartan ague.

The slang phrase of street acrobats, "Two pence more and up goes the donkey," which signifies something which is beyond their powers and not to be done, is really a rabbinical expression, similar to which in its meaning is the Roman saying, "*Cum asinus in tegulo ascenderit.*" Though stupid and obstinate, the Ass sets mankind a good example in one respect, that of being very choice in the water he drinks.

BADGER.

ABOUT the Badger (brock) *Sextus Placitus*, "*Medicina de Quadrupedibus*," 1538, wrote, "Catch that four-footed neat which we name 'brock' in English, and do off the teeth from him while yet alive, those which he hath biggest; then wind them up in a linen garment, and work them in gold or silver, that they may not touch thy body; have them with thee: then shall scathe thee neither heavenly body, nor hail, nor strong storm, nor evil man, nor shall the touch of any evil damage thee. Seethe his brain in three sextarii of oil in a new crock till that the third part be boiled away; bottle off and preserve it. If any one be troubled with head-racking pain, smear him therewith for three nights, he will be healed." (This primitive method closely relates itself to the modern scientific theory of giving *Cerebrinin*, the brain substance of a healthy sheep, for troubles within the human head.) "Have fell pieces of his hide on thy shoes, thou shalt never feel distress in thy feet, thou holiest Cæsar! I would that thou shouldest believe that this wild brock benefits well if thou, on thy cleansing days where thou travellest, eateth his flesh sodden, and partakest of it; it shall be good to thee, and to thy hosts."

The Badger (*Meles taxus*) is said, by Professor Owen, to be the oldest known species of mammal now living on the face of the earth; but it becomes more rare year after year. The head is pointed, the legs are short, and the body is clothed with long coarse hair. It is a nocturnal solitary animal, seeking its food of mice, insects, and roots by night. Its colour is ash-grey, and black below. The flesh of the Badger is said to be savoury. By the Germans and French badger hams are eaten with relish, whilst the Chinese esteem a fatted badger to be a dish fit for the feast of a mandarin, if not for the Brother of the Sun himself.

But nevertheless the animal gives forth a disgusting odour, so that to "stink like a badger" has become proverbial! The hair of the creature forms excellent brushes for painters. Dr. Salmon, 1696, said of the Badger, "The testicles in powder eaten with honey stir up lust, and cause conception." This again is in accord with the recent practice of giving a sound animal testicular substance, as bearing curative reference to the sexual function at fault in the corresponding human organ.

W. Browne (*Britannia's Pastorals*, 1613) makes special allusion to the inequality of the badger's legs:

"And as that beast hath legs—which shepherds feare
'Ycleep'd a badger (which our lambs doth teare),
One long, the other short—that when he runnes
Upon the plaines he halts; but when he wonnes
On craggy rocks, or steepy hills, we see
None runnes more swift, nor easier than he."

Still, it is a vulgar error that the legs of a Badger are shorter on one side than on the other; though Lord Macaulay says: "I think that Titus Oates was as uneven as a badger."

BEAR (*see* MISCELLANEOUS).

BEAVER.

THE Beaver, *Castor Fiber* (*a castrando*, because castrated), is one of the Rodentia which furnishes an animal product—Castoreum—as imported for medicinal uses from Russia and America, chiefly from the Hudson's Bay territory. This is a secretion derived from the præputial sacs of the Beaver, male and female. It is a dry, resinous, reddish-brown substance, highly odorous, soluble in ether, and to a great part in spirit of wine. The Ancients supposed that the drug was lodged in the testicles of the male, and that the animal when hard pressed by hunters would bite them off, and leave them to his pursuers. Said Fuller, 1660, "Some will have him called 'Castro,' *a castrando se ipsum*, and others adde that having formerly bitten off his stones he standeth upright and showeth the hunters that he hath none, that so they may surcease their pursuit of an unprofitable quære. The plain truth is his stones are so placed in his body, as those of the boar, that it is impossible for himself with his teeth to touch them. And some maintain they cleave so fast to his back they cannot be taken away without loss of his life."

Juvenal wrote in his *Satires* (book xii, verse 34) of the Beaver:—

"Eunuchum ipse facit cupiens evadere damno
Testiculorum; adeo medicatum intelligit inguen."

"Emasculates itself, content to cast
Its odorous orchids on the hunter's path,
Staying thereby his course, and saving thus
Its barren life, at cost so keenly felt,
Of future seedlessness

Again:—

"Ut vivat Castor, sibi testes amputat ipse;
Tu quoque, si qua nocent, abjice; tutus eris."

"The Beaver bites off 's stones to save the rest,
Do thou the like with what thou art oppres't."

Castor is a powerful antispasmodic remedy ; it gently stimulates the nervous energies, and quiets spasm when given in small doses, for which reason this is a useful medicine against hysteria, as likewise in low forms of fever.

It exercises a specific influence on the womb, promoting the monthly flow, and relieving nervous disturbances connected therewith. From five to ten grains of powdered Castor may be given for a dose; also a tincture, and an ammoniated tincture are officinally made, of which from fifteen to twenty or thirty drops may be given with two tablespoonfuls of cold water every few hours. Castor consists of a mucilage, a bitter extract, a resin, an essential oil of the characteristic odour, and a peculiar principle known as *Castorine*. It further contains salicine, and several fats. For intestinal flatulent distension it does good service, as well as for hysterical tremblings and twitchings. The Beaver excretes so little phosphorus in its urine that chemical analysis fails to detect it ; whilst the female beaver has castor sacs as well as the male. Bartholomæus Anglicus (1250), said : "In their houses be two chambers, or three, distinguished, as it were three cellars ; and they dwell in the over place when the water ariseth, and in the nether when the water is away ; and each of them hath a certain hole properly made in the cellar, by the which hole he putteth out his tail in the water, for the tail is of a fishy kind, and it may not without water be long kept without corruption." Robert Lovell (1661) wrote about the Beaver, "Gluttons desire much the membranes that are between the toes, being betwixt fish and flesh, and they are therefore used in the time of fasting ; some rost the tail, and casting a little ginger thereon serve it to the table." Fuller said : "As

physicians have their succedanea, or seconds, which well supply the place of such simples which the patient cannot procure, so otter wool is much used in the making of Beavers; the otter is as destructive to fish as the wolf to sheep; but more is required to make fine flesh than to have fine feeding; the flesh of the otter, from his innate rankness, being nought, though his diet be dainty."

Beaver hats were introduced into this country as early as the Norman Conquest. Henry III wore "*unum capellum de Bevre* (1250) *cum apparatu auri, et lapidibus pretiosis.*" On the "Marchant's hed," in the *Canterbury Tales*, of Chaucer, was "a Flaundrish bever hat." There is a Beaver's Island in the Severn, near Ribbesford.

The Beaver is able to digest cellulose. American savages obtain an oil from the tail of the Beaver which they apply as an external embrocation. Theophrastus Paracelsus (Dr. Hester, 1633), ordered "To make oyle of castoreum, take the fattest that thou can get, and stampe it well; then put it into a glasse and set it to putrifie *in balneo mariæ* five or six dayes, then distill it with a soft fire, and thou shalt have an excellent oyle. This is good against all cold cramps and palsies, being mixt with Rew (*rue*) and vinegar, and put into the nostrills it comforteth the braine, and taketh away paines of the head. Beeing annoynted on the necke, and also drunke with wine, it helpeth much those that are troubled with the falling sicknesse; it helpeth the convulsions and paines of the sinewes, if you annoynt them therewith. Being drunk with pepper and hydromell it provoketh women's termes, it warmeth cold places, is also excellent against apoplexia, it helpeth those that are deafe, it moveth venery, it cureth the

collicke and the suffocation of the matrix, and strengtheneth the natural parts." Thomas Sibbald in Canada found the testes of the Beaver bottled in spirit as an Indian nostrum for nervous headache.

BEE.

THE common Honey Bee, *Apis mellifica*, Hymenoptera, besides producing honey (of which the virtues and uses have been fully described in *Herbal Simples*), is of curative value as an animal simple by the efficacy of its sting venom. This may be best obtained by seizing bees—one by one—as they emerge in the morning from a hive in full work, and by putting them as they are caught into a clean widemouth stoppered bottle. Here they become irritated by their imprisonment, and they try vainly to sting the operator's hand through the glass. Whilst they are still enraged a few drops of chloroform should be poured into the bottle, shaking it until the bees become stupefied; then the hinder part of the body of each should be cut off with a pair of sharp scissors. These parts are to be put in a mortar, with a sufficient quantity of glycerine to cover them, the whole being carefully rubbed together, and crushed up until reduced to a pulp. The same should be bottled with spirit of wine added to three times as much as the glycerine employed, the mortar being first washed out with the spirit. After maceration for several days, during which the bottle is shaken repeatedly, the tincture should next be filtered for use. If well prepared, then if the skin be pricked anywhere by a needle previously dipped in the tincture, a red patch of blush about as large as a shilling will be produced. When taken experimentally in full toxic doses by healthy provers, the sting venom has caused symptoms

diffused over the general skin, and the lining mucous membranes, similar to those which affect the skin locally when a sting is inflicted upon it. Acting upon which knowledge the (H.) physician prescribes the venom in dilution as a medicinal tincture of great virtue for obviating erysipelas, especially of the head and face; likewise for relieving a puffy sore throat with much loose swelling about the tonsils; also for dropsy of the limbs which has followed a chill, or is connected with passive inactivity of the kidneys. Ten drops of the tincture reduced to first decimal strength should be given every three or four hours with a tablespoonful of cold water. That kind of sore throat is specially amenable to this medicine wherein a watery swelling spreads over the tonsils with a brilliant redness, looking as if a bee had flown in and stung the sufferer there, like the sore throat of scarlet fever, and of incipient diphtheria. Again, for nettle-rash which presents the same features as those immediately following a bee-sting, *viz.*, burning, tingling, and itching of the skin, with a diffuse swelling in white and red wheals, the tincture of bee sting diluted to the second or third dilution is equally useful.

Provers of the venom have further become affected by a morning diarrhoea, which when it occurs from other idiopathic causes, the reduced tincture will arrest. Similarly for threatened or actual water on the brain, this remarkable remedy has over and over again rendered curative service.

The sting venom of bees has been found practically helpful for mitigating the pain and swelling of rheumatic gout in the hands and elsewhere: this is to be done by toxicating the tender and swollen limbs with lively bees placed over the parts in an inverted

tumbler, and then irritating the insects so as to make them sting. A custom prevails in Malta of inoculation by frequent bee stinging of this sort, so as to impart at length a protective immunity against rheumatism; such a result being confirmatory of the fact known to bee keepers in general, that after repeated exposure to the attacks of bees throughout a length of time, most persons will acquire a convenient freedom from all future disagreeable effects on being stung ever so often. An Austrian physician has based on these methods an infallible cure for rheumatism, whether subacute or chronic. Experiments have shown that it takes about four weeks of pretty frequent stinging by bees to make a person sting-proof.

In some recorded cases, the immediate sequence of bee stinging has been a short severe attack of asthmatic, difficult breathing. On dogs the venom of the Honey bee acts in the same way as the venom of the adder. German researches have detected in the bee-poison a small quantity of supposed formic acid (that of ants); but as this retains its venomous character in spite of submission to heat, it more probably partakes of the nature of an alkaloid. Boiling water poured on newly killed Worker bees makes Bee Tea, which is found to be of assistance for a straining, painful difficulty in passing water (strangury), as likewise for dropsy of the kidneys and heart. Dried and powdered bees given in a dose of twenty grains will similarly promote a free flow of urine. The propolis, or glutinous resin of bees with which they cement their hives, yields when burnt an anti-asthmatic fume. It contains benzoic acid, such as is employed in making fragrant pastilles. This has served usefully to check diarrhoea and dysentery.

A very effectual stimulating ointment for healing

indolent sores is made from beeswax with olive oil, resin, Burgundy pitch, and turpentine. This is Basilicon (Kingly) unguent, or that of "Compound resin," and is supposed to be identical with Holloway's ointment, of widespread and lucrative repute. Bee stinging has been purposely adopted by malingerers to feign disease for purposes of imposture.

American physicians have lately reported the cure of ovarian tumours in five or six weeks by drinking a small quantity of bee tea three times a day, this being made by pouring a teacupful of boiling water on twelve live Honey bees, and letting them infuse for a couple of hours.

"To have a bee in the bonnet" is a saying which bears reference to the moon under the name of a bee at the instance of the priestesses of Ceres, so that to be moonstruck, or lunatick, implies having a bee (moon) in the head: or, it may be, a mere homely "humming." "All flies," says the *Koran*, except the Bee, "shall perish in hell fire."

Dr. Marcy, 1847, told of a lad long afflicted with dropsy of the belly and chest, who had been treated in vain by several physicians, and had been tapped, but the fluid filled up again with great rapidity. Then a strolling Indian woman suggested the use of the Honey bee each night and morning. She put some bees in a covered tin pail, and placed them in a heated oven until they were killed, and then after powdering them gave one twice each day. After about twenty-four hours there was a decided increase in the quantity of urine; and from this time the symptoms continued to steadily improve, whilst the dropsical effusions diminished day by day, and at the end of a few weeks the patient was entirely cured. The grubs of bees are relished as food

by many persons, even in this country. That "Out of the eater came forth meat, and out of the strong came forth sweetness," was the riddle of Samson when he had slain the young lion, and taken honey to eat from the carcase thereof; and the secret of his animal simple, so pleasant to the taste, was discovered to the Philistines by plowing with Samson's heifer; for bees abhor carrion, and must in this instance have been more or less symbolical! (*Judges xiv.*, 14).

BEEF.

BEEF, the flesh of the ox, is so relied upon as the reputedly highest form of sustenance, whether for the sick or the sound, that full consideration must be paid it as an Animal Simple. The solid portion of beef is composed of albumen, fat, creatin, creatinin, inosinic acid, muscular tissue and various salts. As a restorative in illness it is given raw, or in solution more or less concentrated; but its chief nutriment consists in the albumen and fibrin for building up the solids of the body. These elements are coagulated by heat, and therefore have to be excluded from liquid extracts of beef made to be kept. Raw meat pulp is to be obtained by scraping the soft muscle constituents from the fibre—not by mincing the meat. This, and raw meat juice, contain a large amount of proteid (an element essential for recruiting the strength), which is used up more readily than the proteid of milk. For obtaining a solution rich in albumen and meat salts (but which must be always freshly prepared), cold water should be added to the best rump steak, minced finely, one ounce of water to four ounces of meat. This should be well stirred together, and allowed to stand for an hour. The juice should be then forcibly squeezed through muslin

by twisting it. The same makes a capital material for supplying proteid to children who cannot digest an adequate amount of milk proteid. Raw meat is more quickly assimilated than cooked meat, because in the latter the albumen becomes hardened by heat; but there is always a risk of contracting parasitic diseases from it raw, because the animal parasites can only be killed by cooking. Majendie, the French physiologist, made a strong, rich soup from fresh meat, and fed a number of dogs with this soup alone, and a number of other dogs with the rejected fibrine, the result being that the dogs fed on this supposed refuse lived and flourished, whereas the others all ultimately died. Raw meat is highly extolled by some French physicians for troublesome indigestion in pulmonary consumption, especially when associated with diarrhœa. The meat is to be scraped or cut, and pounded as fine as possible; then made into small round pellets, and covered with sugar or gum, or it can be mixed with a little hot, clear soup. By being finely subdivided the fibres are made more subject to the action of the stomach-juices. Dr. Débove, of Paris, has suggested forced feeding with powdered raw meat for consumptive patients who have lost all appetite. He discovered by accident that if, under these circumstances—when food taken in the ordinary way would excite disgust, and be rejected by vomiting—this food is introduced into the stomach through a tube passed down the gullet, it will be retained, and digested, even in large quantities. As the results of such "sur-alimentation" the cough and expectoration were lessened, the night-sweats ceased, the strength and weight were increased, and a marked improvement took place in all the physical symptoms. Presently by the continued use of powdered raw meat this

principle of forced feeding became practicable without any necessity for employing the gullet tube. The powder was mixed with lentil-flour and taken as soup, or (better still!) was had with grog, as "*grog de la poudre de viande.*" Two tablespoonfuls of the meat-powder were put into a bowl with three dessert-spoonfuls of essence of rum punch, and enough milk to make a perfectly fluid mixture. By this method it was found that from fifteen hundred to six thousand grains of meat-powder would be taken daily—the latter being equal to three and a half pounds of raw meat. Dr. Débove gave it also simply mixed with milk, first adding just enough to make a smooth paste, and then mixing in the remainder so as to prepare a uniform fluid easy to be drunk. It may be fairly supposed that by such a course of action the patient acquires a power of resisting the disease, and the bacillus or special microscopic germ of consumption finds a soil made hostile to its culture by this excess of food. For preparing the powdered raw meat lean beef was taken, and when cut up into small pieces dried in a water bath; then, after thorough drying, reduced to powder in a coffee mill. (See Dr. Yeo : *Food in Health and Disease.*)

Liebig's famous "broth for invalids," 1854, consisted of half a pound of chopped fresh meat macerated for an hour with a pound of cold water, to which four drops of hydrochloric acid (as representing the stomach juices) were added, together with from thirty to sixty grains of table-salt. This was then strained, and a pound of clear, red-coloured liquid was obtained, which comprised all the albuminoids of the meat held in solution. The same liquid when evaporated has been since made into an "extract (Liebig's) of meat," and transferred to glazed stoneware jars carefully covered. Liebig

expressly declared it to be incapable of promoting actual nutrition, but taught that it should be rather classed as a nervine restorative, together with tea, coffee, and perhaps alcohol. Both this and beef tea have no true claim to perform the function of a nutrient, whilst, without doubt, they act as temporary cordials, and nervine stimulants; but to regard them as substitutes for food would be quite a mistake. More especially are they suitable in febrile ailments when nature protests against the use of substantial food by the repugnance thereto of the patient, and by the increase of fever which it induces. Good extract of meat (such as Liebig's) usually contains from nine to ten per cent. of nitrogenous ingredients—as afforded by the creatin, the globulin (the urea), and sometimes the gelatin included. Beef tea comprises salts which are important as mineral food, especially the chlorides and sulphates of potash.

If meat is taken in excess of the digestive powers so as to be detained in the body and thus to undergo putrid changes, the corrupt products become absorbed into the blood, causing sleepiness, lassitude, and general indisposition, with vomiting and purgation occasionally.

Aretæus of old (*tempore* Adrian), enjoined that in epilepsy the patient should be entirely restricted from taking flesh meat; which cannot but be regarded as a direct stimulant to the nerves and the blood vessels. Savages eat enormously of meat; yet Wrangle says (as quoted by Herbert Spencer), "I have repeatedly seen a Yakut or a Yongoshi devour forty pounds of meat in a day; nevertheless the savage is less powerful and enduring than the civilized man, he is unable to exert suddenly as great an amount of force, or to continue the expenditure of force for so long a time." The word "meat" means really food in general, and not

exclusively animal food. In Psalm civ. v. 27, it is said of fishes, creeping things, and crocodiles that "God giveth them their meat in due season."

A Cornish cure for warts is to steal a piece of meat from a butcher's stall in the public market, so as to touch the warts with this and then bury it.

Byron says in *Don Juan*, "The best of remedies is a beef steak against sea sickness; try it, sir, before you sneer. I assure you this is true, for I have found it answer: so may you." In the *Regimen Sanitatis*, edited by John of Milan, and dedicated by him, on behalf of the School at Salerne, to Duke Robert, the eldest son of William the Conqueror, occurs an aphorism which (translated) runs thus, in allusion to the said affection —

"Sea-water drunk with wine doth well defend thee,
If on the sea, casting (sickness) chance to offend thee."

For delirium tremens, Dr. Stacey Jones of Philadelphia gave "beef tea, red hot with cayenne pepper, in copious draughts, and so strong that you would not care to taste it; yet the patient would declare it the most cool and refreshing drink." And a London surgeon has reported a hundred and fifty successive cures thereof with this remedy alone.

In Shakespeare's play of *Twelfth Night*, Sir Andrew Ague-cheek says to Sir Toby Belch: "But I am a great eater of beef, and I believe that does harm to my wit." Nutrient suppositories of beef (predigested by the solvent principle of the stomach-bread, as supplied by the chemist) are highly useful as a food to be introduced into the lower bowel, and absorbed there, when, through disease or accident, meat cannot be swallowed or digested in the stomach. The juice of the Papav tree, if a small quantity of it is rubbed upon meat, makes

it tender without injuring the quality. It is used for this purpose in the West Indies.

Raw beef sandwiches may be given in cases of great debility, prostration, or bloodlessness,—to make which slice thinly some raw, lean beef, then scrape it and serve between thin pieces of bread and butter, adding a little sugar or honey to disguise the taste. A sandwich may be taken between meals, or during the night if wakeful.

Hufeland declares about meat-eaters that all carnivorous men and animals are violent, cruel and passionate; whilst, on the other hand, the use of fish, milk, and vegetable food inclines men more to mildness, humanity, and longevity. Even our domestic animals advertise their food in their faces, and anyone can tell a butcher's dog as far as he can see him. "The Pampas Indians have nothing but water and beef, beef and water, from the cradle to the grave."

Veal, the flesh of a calf, "keepeth green wounds from swelling." So taught Robert Lovell (1661); whilst an Italian proverb runs to the effect that, "*Vitello, pollastro et pisce, crudo ingrassano i cemetrii*"; "Raw veal, pullet, or fish help to make the churchyard rich." Charles Lamb, in *Grace Before Meat*, avowed himself as shrinking instinctively from one who professes to like minced veal. But in England this meat is whiter and more bloodless than on the continent, where it finds better favour as a light, nourishing, digestible food. We kill it too young, and bleed it too much before killing; consequently we find it less digestible than beef or mutton. It contains a larger proportion of gelatine than beef. "The marrow of the calf," wrote Dr. Salmon, "softens hard tumours; the gall is very good against the leprosy, and kills nits and lice." Because

of its abundant gelatin in solution veal broth is very nutritious, by promoting gastric juice, and sparing the albumen, as Dr. Yeo teaches. It is given in France rather as a tisane, or invalid tea, than for nourishment. That "quey caufs (female calves) are dear veal," says an old Yorkshire proverb; whilst Fuller quotes another: "As wise as Waltham's calf that ran nine miles to suck a bull."

BEETLES.

THE use of Scarabs, or beetles, as amulets against sickness and misfortune, dates from the most ancient periods of Egyptian history. They were natural objects, or made of lapis lazuli, cornelian, or steatite, and were buried with mummies, having reference to the resurrection of the dead. Beetles were believed in old days to be generated by the sun; but Burton, in his *Anatomy of Melancholy*, speaks of them as "*E stercore orti, e stercore victus, in stercore delicias*"; and Macbeth talked of "the shard borne beetle, with his drowsy hums"—"sharn" being the common name of cow-dung in the north. They may be said to wear their bones outside (or, like Sidney Smith, "sit in their bones"), because they have no internal skeleton, or bony frame.

The Oil beetle, *Melœ majalis* or *Pro-scarabeus*, is common in England, being found frequently during the spring creeping slowly in our meadows and pastures, or feeding on the leaves of the violet, the anemone, and other species of *Ranunculus*. It emits, when handled, a yellow, acrid juice from the joints of its legs, of which or of the fresh insect, a medicinal tincture is made (H.). This orange-coloured, acrid, oily fluid is a powerful rubefacient, and was formerly famous as an embrocation for relieving chronic rheumatism. It has been likewise

commended as a diuretic in dropsies, and, by the Germans, as a remedy for hydrophobia. Frederick the Great purchased the secret of this nostrum from its discoverer for a valuable consideration, to cure that dire disease. Professor Christison, in his book on poisons, gives an account of four persons who took the insect powdered, from a quack, two of whom died within twenty-four hours with severe symptoms of choking, difficult breathing and vomiting. Nevertheless, Uncle Toby, in *Tristram Shandy*, "loved beetles and flies."

The Oil beetle is recognized by its dark violet sheen, and its oval elytra, which are so short that they do not cover more than one-third of its body. "The poor beetle that we tread upon," says Isabella to Claudio, "in corporal sufferance finds a pang as great as when a giant dies" (*Measure for Measure*).

Beetles were eaten by the Roman epicures in order to fatten their bodies; and the Turkish women, with the same object, have them served at table in butter. Many of the Ground beetles defend themselves by discharging an offensive fluid of a dark colour, which probably possesses remedial qualities allied to those of the Oil beetle. The Bombardier (*Brachinus crepitans*), when pursued by an enemy emits from the end of his abdomen a small quantity of a liquid so exceedingly volatile that it immediately vaporises with a slight explosion. Meal worms, familiar to everyone, are the larvæ of a small beetle (*Tenebrio*), which, again, the Turkish ladies devour in large quantities for the purpose of acquiring the plumpness of form their lords admire so much.

The Stag beetle (*Lucanus cervus*) feeds on the juices of plants, and though looking formidable is quite lamb-like in disposition, rarely using its great strength of

jaw for the injury of other insects. It may be often taken on the wing during the evening of a warm, fine day. The larva of this beetle was the famous *Cossus* of the ancient Romans—a delicacy diligently sought after by their epicures, who considered the grub “one of the most exquisite of luxuries.” The Stag beetle remains dormant in the earth during the winter.

Again, the common black Cocktail-ocypus (*Brachelytra*) or Devil's coach horse, has the power of throwing out a most disgusting odour, which is penetrating and persistent to a degree. Its medicinal character and uses invite experimental enquiry. Of the *Brachelytra*, tells Kirby, “one species which I have taken smelt precisely like a fine high scented pear; another like a water-lily; a third like water-cresses; and a fourth like saffron.” The food of the Stag beetle is always liquid, consisting mostly, if not wholly, of vegetable juices. “Sometimes the Oil beetle and other insects of its genus, especially the males, are used,” says Wood, “by unprincipled druggists to mix with the true blister fly, which they much resemble.”

Old writers told of another beetle, which proved fatal to cattle when swallowed by them in the grass, and which was called *Buprestis*. Thus Nicander is supposed to say :—

“When cows or calves are sick, and bellies swell,
They've ate *Buprestis* keepers know full well.”

Many farmers believe it causes cows to cast their calves, though the precise beetle has not been identified. Linnæus applied the name to the Skipjacks; but the *Buprestis*, in its larval state, feeds only on grasses, so this is wrong. There is a Pill beetle (*Byrrhus fasciatus*), with a round body like a bolus; but it is a carrion feeder, and has not been put to medicinal uses. The common Tiger beetle diffuses a strong odour like that of a

crushed verbena leaf. The Stag beetle, when in captivity, will eat sugar with eagerness. A medicinal tincture is made (H.) from the Colorado beetle, or Potato bug (*Doryphora Decimlineata*). The Bloodynosed beetle (*Timarcha lœvigata*), or "Black Bob," ejects a blood-red fluid when irritated, corresponding to that of the Oil beetle medicinally. Boys in Guernsey when they catch this Blood beetle invoke it thus: "*Pàn! Pàn! mourtre mé ten sang, et je te dourai de bouan vin blanc*"—first placing it in the palm of the left hand.

When a Donegal peasant's child is suffering from whooping cough the anxious mother will go out in the evening in the hope that a beetle may fly against her and be caught. If this turns out as she wishes (and the beetle must not have been looked for), it is put into a bottle and carried home: as it dies the cough will go.

The Rose chafer (*Cetonia aurata*), or Copper beetle, is green, handsome, and round, being of the Stag-beetle kind, and found nestling in roses. Dr. Laville writes, "Everyone knows that the powder of this animal has been employed with success for rabies." M. Mostchoulsky verified the fact, in 1846, in the case of one of his dogs bitten by a mad dog; and, in 1847, with respect to two children who were likewise bitten. He made some direct experiments with the beetle. A sparrow pricked with a lancet which had been plunged into the body of a Rose beetle caught in an ant-hill, died in six minutes, convulsed by epileptic rabies. A rabbit, treated in the same way, lived only thirty-five minutes. With the poison of a beetle taken from a rose bush, death occurred in half the time. A cat, after having bitten a sparrow killed with the beetle, uttered a shrill cry, leaped into the air, and was seized with epileptiform convulsions, in spite of which she kept running and writhing; she

became rabid, biting and tearing all before her. At last she grew calm, and slept for twenty hours. A tincture is made (H.) of this beetle, the dose of which, for rabies, is from four to six drops at frequent intervals until sleep follows: a less dose for epilepsy.

BEZOAR STONE.

IN the gall-bladder of the stag and other ruminants are occasionally found biliary concretions, or "bezoars," to which many virtues have been problematically ascribed. The name was given originally by our forefathers to the animal which produces one of these stones in its stomach; and a high value was formerly set on the stone, which was sold for a considerable figure. It was found at first likewise in the maw of goats which were wont to browse on a certain shrub in the kingdom of Golconda. The peasants, by feeling about the goat's belly, could tell whether or not it contained any Bezoar, and, if so, what was the size of the stone. Such productions occur also in the stomachs of cows. By the Jews this concretion was called "*Bel Z aard*," or the "overcomer of poisons." It used to be thought preservative against pestilential disorders, also curative of smallpox, measles, and other such infectious diseases; being given, too, for vertigo, epilepsy, palpitation of the heart, jaundice, colic, dysentery, gravel, to induce labour pains, and against poisons—the dose being from four to twelve grains. Lemery said, "it contains in it some small matter of volatile salt, that is sulphurous and oily, which is esteemed as a great cordial." The Indians do seek after this stone with much industry, using it as a great preservative against poison, infusing it for some time in wine or water, and then drinking the infusion before meals. Some have fastened these stones on gold chains

so as to suspend them for a while in any liquor; others have kept them in small golden boxes. The oriental, or occidental, Be(n)zoar was always in best repute. Badaga nursing women administer now-a-days to a flatulent baby asafœtida, mixed with a certain sacred confection taken from the entrails of a bull, and similar to the benzoar stone so famous in the middle ages. Pomet writes, "There is sometimes found in the bladder of oxen a stone of the shape and colour of the yelk of an egg, that is soft and of divers crusts like the Bezoar, for which reason it is called the 'Ox Bezoar,' or the 'Gall stone'; and it seems to exercise similar virtues. The horns, likewise, and the hoofs of the ox are named by some the English bezoar—a powder being rasped from the horn much exceeding the truest and best of the bezoars. It is of singular use in the falling sickness, fits of the mother (hysterics), convulsions, palsies, and lethargies." In *Precious Stones: Their History and Mystery* (William Jones, 1880), it is stated that the Bezoar, or Beza, was a stone procured from the kidneys of the Cervicabra—a wild animal of Arabia,—and was supposed to have been formed of the poison of serpents, in combination with a counteracting matter secreted by the animal itself. This bezoar was a reputed potential charm against the plague and poison, and hence came its name, from the Persian, "*Bad-Zahr*," "expelling poison."

Similar concretions of various kinds are still found in the stomachs of our grass-eating quadrupeds, usually having for their nucleus some small indigestible substance which has been swallowed at first. In a Royal Warrant (1623) to the Duke of Buckingham, mention is made of "one great bezar stone, sett in gould, which was Queene Elizabethes's," and "one other large Bezar

stone, broken in peeces, delivered to our owne hands by the Lord Brooke." Another medicament which was just as problematical, but was nevertheless practically used by our forefathers, was the horn of the unicorn.

This animal, though still taking a proud place on the Royal Arms of England, is now thought to be more or less fabulous. But James the First substituted the unicorn as one of the supporters of the Royal Arms of Scotland instead of the red dragon of Wales, introduced by Henry the Seventh.

Gesner, in his *History of Animals* (1565), wrote, "The unicorn and lion are always like cat and dog; and as soon as the lion sees his enemy he betakes him to a tree." Pomet, chief druggist to the French king (1712), states, "The Unicorn is an animal which our naturalists describe under the figure of a horse, having in the middle of his head a spiral horn of two or three feet long; but we know not the real truth of the matter to this day." In *Spenser* also we read of the "rebellious Unicorn."

The horn, from whatever source it may have been obtained, was formerly held in high esteem because of the great virtues attributed to it, especially against poisons.

That there was such an animal with one horn, most of the old writers agree. "It can scarcely be doubted" (*Mystery of Pharmacy*), "that most of the horn employed medicinally was procured from the narwhal, or Sea unicorn." It possessed, one would suppose, the same antacid cordial properties as our modern hartshorn, being given, chiefly in jelly, as a restorative. A familiar rhyme of remote nursery antiquity tells how:—

"The lion and the unicorn
Were fighting for the crown;
The lion beat the unicorn
All round about the town."

Quite right, too, and what was to be expected! But why, we wonder, did

“Some give them white bread,
And some give them brown?
Some gave them plum-cake
And sent them out of town.”

Perhaps even in those early days the British lion, flushed with victory, became too much elated and a bit of a nuisance!

Again, Culpeper says (1620), “If a beast be troubled with a cough, or have taken any poison, the country people bore a hole through the ear of the beast, and put a piece of the root of Green Hellebore (*veratrum viride*), therein, which helps him in twenty-four hours.”

BLACKBIRD (see MISCELLANEOUS).

BLOOD.

It is well known that Moses in the Levitical law forbade the Israelites to drink the blood of animals which they killed for sacrifice or food: “Ye shall eat no manner of blood, whether it be of fowl or of beast, in any of your dwellings. Whatsoever soul it be that eateth any manner of blood, even that soul shall be cut off from his people” (*Leviticus* vii. 26, 27). “Only be sure that thou eat not the blood: for the blood is the life; and thou mayest not eat the life with the flesh. Thou shalt not eat it; thou shalt pour it upon the earth as water” (*Deuteronomy* xii. 23).

But since the Mosaic times blood, human and animal, has found many medicinal prescribers. Even nowadays the aborigines of New South Wales feed those who are very ill, and prostrate, with blood drawn from the veins of their male friends. This is taken raw by the invalid, or sometimes slightly cooked by putting

hot ashes into it. The natives willingly bleed themselves till they are weak and faint, for the benefit of their sick neighbours. Leprosy is believed, in China, to be curable by drinking the blood of a healthy infant.

Dr. Macarthy and Staff-surgeon Rennie were present lately at an execution in Peking, when they saw the executioner soak up the blood of the decapitated criminal with large balls of pith, which he preserved. These would be dried, and sold to the druggists under the name of "*shue-man-tou*," or "blood bread," which is given for a disease supposed by Dr. Rennie to be pulmonary consumption. Human muscles are likewise thought there to be a useful medicine for the same disease, and cases are constantly recorded of children who mutilate themselves to administer their flesh to sick parents. Human blood, when drank fresh, has been long supposed to be anti-epileptic. Kerchiefs dipped in the blood of King Charles the Martyr were found to be as efficacious as his royal touch (when living) to cure the king's evil. "Was not a girl of fourteen or fifteen years of age, who lived at Deptford, cured thereby in 1649? All physicians had been in vain, and the girl had become quite blind; but at the touch of the kerchief stained with the kingly blood she at once regained her sight." Hundreds went to see this "miracle of miracles." In October, 1876, it was related by Dr. Francis Vacher, medical officer of health at Birkenhead, that patients then resorted every morning to slaughter-houses in Paris for drinking the still fuming blood of animals slaughtered for the table. He suggested a use of the serum (or thin part of the blood) in England as containing most of the curative and nutritive properties of the blood itself. He knew that such serum was held in high repute by the journeymen-

butchers as a tonic in scrofula, and almost a specific against intestinal worms (thread worms, and round worms, but not tape worms). He had supplied it in bottles to his professional friends, who employed the same as a vermifuge (worm-destroyer), and as a substitute for cod-liver oil, giving, in the former case, as a dose one tablespoonful or more to children whilst fasting, and similarly two tablespoonfuls to an adult. The serum was of necessity to be perfectly fresh and sound, since any decomposition would be quickly revealed by the smell. As medicinal food, from two to three tablespoonfuls might be taken twice or three times in the day.

A comparatively recent American publication contained the following information :—" Blood is becoming the fashionable beverage in Cincinnati, being a great remedial draught for invalids suffering from bloodlessness and general run down." The *Cincinnati Commercial* has described a place in John Street where, between two and four o'clock in the afternoon, ladies congregate and drink blood fresh from the slitten throats of bullocks. They seem to enjoy it, though this is said to be not altogether conducive to health! At the slaughter-houses in that city the East River consumptives may be seen almost any day drinking the life-blood of steers; but as yet the custom has not become so favoured with us as it is said to be in Cincinnati.

The blood of oxen contains not only albumen, fibrin, and other nutritive elements, but also urea, creatin, and other effete substances, more or less injurious, resulting from the disintegration of the tissues destined to be cast out of the system. Though, according to M. Boussingault, of all nutritive substances the blood of animals contains the greatest quantity of iron; and,

whilst varying in different animals, this is found as regards physiological conditions in certain fixed proportions in the blood. But experimentally the blood of snails contains as much iron as that of the ox or calf, though this is colourless blood, which goes to prove that the red colour of the blood is not due, as is generally supposed, to the presence of iron in that liquid.

When left to itself blood coagulates, forming a clot (*cruor*), which separates from the liquid yellow portion called *serum*. The clot consists of the fibrin which has become insoluble, and of the blood globules; whilst the liquid serum is chiefly a solution of albumen and salts. "Bullocks' blood is now (1872) in vogue among the Parisians for anæmia, and pulmonary consumption. It is a curious sight to view the number of patients of both sexes and of all ranks and ages who flock to the slaughter-house every morning. Young ladies take the blood eagerly, and I have heard them say they prefer it to cod-liver oil. I know personally of several cases of anæmia which have been cured, and some of lung consumption greatly benefited by this treatment. For the more fastidious a pharmacien has prepared an extract of blood which is given in the form of pills, each weighing about three grains, and said to represent half-an-ounce of pure blood." "Cakes of coagulated blood were sold openly in the Roman market as food a few years ago; and it is well known that in the steppes of South America the natives have for a long time used as food the blood of animals they killed in the chase, first coagulating this, and seasoning it with various condiments." An early writer says, "Among the parts of the body used as medicine in the seventeenth century, was human blood, on which some early physicians set great value for the cure of epilepsy and

diseases of the brain." Charus, in his *Royal Pharmacopœia*, orders, "In the month of May take a considerable quantity of healthy young men's blood (let blood in that season, who are not red-haired). This blood is to be distilled twice, or spread on plaster, and dried in the sun, or in an oven." All writers extol the volatile salt of man's blood for the cure of epilepsy, "it being also very proper to suppress vapours that arise from the stomach and spleen." The saline constituents of blood are phosphates of lime and magnesium, with chlorides, sulphates, and phosphates of potassium and sodium.

In 1850, Professor Mauthner, the well-known and able physician of the Children's Hospital at Vienna, recommended for the chronic bloodlessness of the young an extract of bullock's blood, prepared by straining the fresh blood through a horsehair sieve, and evaporating it to a complete dryness in a sand bath. This extract, when pounded in a mortar, forms a dark-brown powder, void of taste or smell, and of which from twenty to sixty grains are to be given for a dose. In scrofulous cases the "extract of ox-blood" proved superior to all other tonics. Nevertheless there was a story current in ancient times that Themistocles (449 B.C.) poisoned himself with bull's blood. At the present day we are aware that a hundred and fifty years ago prussic acid began to be prepared by chemists from blood; and (as Grote asks in his *History of Greece*) "is it not probable that in primitive physic it was known how to procure the same drug likewise therefrom, though perhaps in an impure and imperfect state, and that thus was extracted from blood the deadliest of all poisons? If such a mischievous agent had then no specific name, it may well have been called Ox blood."

During prolonged starvation from shipwreck sucking one's own blood has served to maintain life. In 1860, M. Anselmier submitted animals to small bleedings, and gave them the blood as aliment by "autophagy," finding that it served to bring up the bodily caloric again above starvation point. Excessive emaciation may be allowed to six-tenths of the weight in fat subjects, five-tenths in medium, and four-tenths in quite young persons. This artificial self-feeding will lengthen the hold upon life one-half longer a time than spontaneous self-existence which goes on unaided at the time of shipwreck, or other calamity of starvation.

The author of the *Survey of Inverness-shire* says, "Before the general culture of potatoes, I have known the farmers to bleed their cattle occasionally when the pittance of meat was exhausted, and having afterwards boiled this blood until it became solid they ate it for bread with the milk of the cows, so scarce was bread."

For all manner of falling evils," the *Pathway to Health* (1664) of Peter Levens directs to take blood from the little finger of the sick man, and with it to write the following lines, thenceforth to be worn as an amulet round his neck :—

"Jasper fert Mirrham, Thus Melchior, Balthazar aurum ;
Hæc quicunque secum portat-tria nomina regum,
Salvitur a morbo, Domini pietate, caduco."

In Cornwall the burning of blood drawn from an afflicted animal has been a very common mode of seeking to appease the spirit of disease ; and on the Biblical principle that a living sacrifice by fire would pacify the wrath of God, even within the last few years, a calf has been thus immolated.

A peculiar sanctity is attached, in Ireland, to the blood of the Keoghs. At Dublin the blood of a Keogh

is frequently put curatively into the molar of a sufferer from toothache. A friend in Belfast writes that his foreman knew a man named Keogh whose flesh had been punctured scores of times to procure his blood. The late Sir William Willis says that the blood of the Walches, Keoghs, and Cahills is considered in the West of Ireland an infallible remedy for erysipelas.

Nowadays chemists prepare from the blood of healthy animals a "*residuum rubrum*," or "dried residue," which contains all the active principles. It is given in those disorders which require blood salts in organic combination; also for scurvy, and its allied complaints. Likewise the "*sanguis bovinus exsiccatus*" (or desiccated bullocks' blood), is an American preparation made by freeing the blood from fibrin, and evaporating it to dryness. It occurs in blackish-red scales, which are soluble in cold water. They may be given powdered, or mixed, one part in eight, with tepid water, adding a little glycerine to preserve the mixture, whilst prescribing it in tablespoonful doses. Also this solution may be employed as a nutrient injection for the insane. The desiccated blood-powder gives water a magnificent red colour. It has been well tried at the Children's Hospital in Paris, and has proved most efficacious in cases where reconstituents were needed, such as iron, raw meat, and the phosphates. M. le Bon reduced bullocks' blood by simple evaporation to a solid which, when powdered, was insoluble, and indigestible even by pepsine; but by evaporation at a low temperature, not exceeding that of the body, a powder was produced which was readily soluble in water.

"There was," says Southey, "a water of man's blood which, in Queen Elizabeth's day, was a new invention, whereof some princes had very great estimation, and

used it for to remain thereby in their force, and, as they thought, to live long." They chose a strong young man of twenty-five, dieted him for a month on the best meats, wines, and spices, and at the month's end they bled him in both arms as much as he could "tolerate" and "abide." They added a handful of salt to six pounds of this blood and distilled it seven times, pouring water upon the residuum after every distillation. An ounce thereof was to be taken three or four times a year."

Burton tells us that Burgravius, a disciple of Paracelsus, specified a lamp to be made of man's blood, as "*lucerna vite et mortis index*," which "being chemically prepared for forty days and afterwards kept in a glasse should show all the accidents of life." "*Si lampas hic clarus, tunc homo hilaris, et sano corpore, et animo; si nebulosus, et depressus, male afficitur; et sic pro statu hominis variatur unde sumptus sanguis*"; and, which is most wonderful, it dies with the party, "*cum homine perit et eanescit*," "the lamp and the man from whom the blood was taken are extinguished together."

Chemically, besides the constituents already stated, the blood contains much hydrogen, some prussic acid, and empyreumatic oil. The serum includes sulphur.

Among civilized nations the pig is the only animal whose blood furnishes a distinct article of food; mixed with fat and spices, whilst enclosed in prepared intestines, it is made into black-puddings, *apex abo*. These are eagerly raffled for by the yard at Whitsuntide in Suffolk. "A Whitsun black pudden' is summat for a man to look forra'd to," say the cottagers. It will be remembered that one came bouncing down the chimney to Darby and Joan in the well-known old nursery tale.

An ancient charm used in Cornwall for the staunching of blood was to chant over the sufferer:—

“ Sanguis mane in te
 Sicut Christus fuit in se!
 Sanguis mane in tuâ venâ
 Sicut Christus in suâ pœnâ!
 Sanguis mane fixus
 Sicut Christus quando crucifixus!”

Quite recently (as shown in the *Lancet*, November 28th, 1896), the value of healthy ox-blood, both arterial and venous, against crippling rheumatic diseases of the joint-cartilages has been most conclusively shown. It is given on the principle of containing all the combined secretions of the ductless glands—that is, all the various animal organic substances which serve to maintain the sum total of health. And thus whatever deficiency is existing in this sum total because of an impairment of one or other internal function by disease becomes corrected. Ox-blood is evaporated *in vacuo* by the manufacturing chemist, and the residuum is supplied in tabloids as a medicine for this highly useful purpose.

We read in *Moquin Tandon*, “*A Rome le sang encore chaud des gladiateurs etait ordonné contre diverses affections. En Egypte pour guerir les rois atteints d'elephantiasis on leur faisait prendre des bains de sang humain.*”

BRAIN.

ON the principle of renewing blood-substances which have become defective through impairment by disease of this or that bodily organ, it is now on trial to amend a failure of nervous energy within the head by giving, medicinally, some of the grey matter of the brain from a healthy animal newly killed. Chemists regard this matter as a glycerophosphorised food, containing also the stimulating properties of nitrogenous sustenance. Thus the animal grey matter has been found to exercise undoubted curative powers in melancholy, sleeplessness,

epilepsy, and other infirmities indicative of a strengthless brain. And this modern theory bears out a very old empirical practice, which was nevertheless of fruitful results in times gone by. Dr. Salmon's *London Pharmacopœia*, in 1696, directed that "A ram's brain fried, and a cake made of it with sheep suet, cinnamon and nutmeg, is good against the Lethargie, and other drowsie diseases, chiefly such as are epidemical."

Cerebrin, or the grey matter of the sheep's brain, is being administered at present as a brain food, and a sedative to the nerves of sensation. Curative effects are attributed to it in hysteria, insomnia, and convulsive disorders. It is prepared by our leading druggists in tablets, each containing five grains; one or more tablets to be swallowed three times in the day. This grey brain-substance (cortical) from the sheep contains albumen and fatty matter, with eighty per cent. of water, the principal fat being cerebrie acid. "But" (Dr. Yeo says), "the large percentage of fat contained in the brain of animals renders it difficult of digestion as food by weak stomachs." We find in the *Ebers Papyrus*, bearing date fifteen hundred years before Christ, that human brains were prescribed of old by the Egyptians for a disease of the eyes. The *Schola Salernitana* (1608) said:—

"If any braines be good (which is a question),
Hen's braynes be best, and lightest of digestion."

Great thinkers have been, for the most part, liberal eaters. "Goethe was a vigorous performer at the table," says Lewes, his biographer, "his appetite was enormous, and he lived to see his eighty-third year." Peter the Great was an equally astonishing feeder. Dr. Samuel Johnson was a gormandizer. Charles Lamb's landlady always charged an extra sixpence when Wordsworth

dined with him, beyond the sum paid for any other of his friends. "I don't know nothing," said she, "about his being a great poet; but I do know he is a great eater." The benefits now attributed to preparations of brain-substance from animals are probably due to some phosphorous compound, which is lost by drying, seeing that brain matter contains over seventy per cent. of water. Therefore chemists say that the best form in which to give the unspoilt brain-substance is as a moist emulsion made with melted lard, and gum tragacanth, and water. Further, an element called "spermine" seems common to all the animal extracts recently prescribed for remedial purposes, and appears to give them their curative effect.

With regard to sleep, "A word of admonition is never out of place against working the young brain beyond its powers, or its endurance." "We have all at our bedsides," wrote Robert Stevenson, "the box of the Merchant Abudah, and, thank God! securely enough shut! But when a young man sacrifices sleep to labour, let him have a care! He is tampering rashly with the lock!"

BUG.

THE common bug is the *Cimex lectularius*, "Chinch," or Wall-louse. This, the Red bug of infamous notoriety, has been given, when powdered or made into a tincture, for special medicinal uses, as prescribed by American physicians. If the entire insect is thus prepared in either form, it proves potential for inducing the female monthly flow. In the *London Pharmacopœia* (1696), we read that "these insects are flat, red, and stinking; they suck man's blood greedily." Dioscorides ordered that seven of them should be taken internally for

quartan ague before the fit comes on. Schroder teaches that he has known them to be given with success for bringing away the birth, and the after-birth; their scent cures fits of the mother (hysterics). Charles Lamb in his essay, *The Old Margate Hoy*, speaks of fishes and quaint monsters, to which all that is terrible on earth

“Be but as buggs to frighten babes withal.”

In the vulgar saying, “As snug as a bug in a rug,” the word “rug” signifies (in the Danish) a rugged, shaggy dog. The “Bug Bible,” a former edition which was so called, rendered a passage in Psalm xci. 6, as “The bug that destroyeth at noonday.” Alston says about the Coriander, a common umbelliferous plant of our hedges, “the green herb, seeds, and all, stink intolerably of bugs.” But this creature was not common in the time of Elizabeth. The term “bug” occurs five or six times in Shakespeare’s plays, but as synonymous with bugbear, and not as applied to the Bed bug. In 1863 a family name “Bugg” was ludicrously changed into that of “Norfolk Howard.” Avicenna prescribed bugs (*les punaises*) for the quartan fever, and for hysterical affections: with him began the practice of gilding pills. John Southall wrote (1730), *A Book of Buggs*,—in which he pointed out that though not one seaport in England was then free from them, in inland towns buggs were hardly known. Their disgusting odour goes off completely after death. The “B flat” is of a deep rust-red, tinged with black here and there in the abdomen. The old Roman physicians gave crushed bugs to rouse patients from lethargy. The Harvest bug (which is called in France *Rouget*), burrows under the skin of its human victim, and raises a red pustule, with much irritation, likewise with pain if this be broken or

wounded. The troublesome insect prevails only in the hot months of summer. It is an *Acarus*, and must possess medicinal attributes which should be investigated. "When in swarms it reddens the nets of warreners," says Gilbert White, "and its bite throws the men into fevers."

BUTTER.

BUTTER, made in the churn from new milk and cream, is a complex mixture of fats, casein, milk-sugar, earthy salts, and water, with small quantities of an odorous principle. When it is kept some of the fats decompose, so that the liquid fatty acids are set free and the butter turns rancid. It contains a large measure of heat-giving properties, but the flesh-forming qualities are very small. Butter may be almost regarded as an animal oil. One pound of it contains fourteen ounces of fat, and one ounce of water, with an ounce of combined albuminoids, starch, sugar, and mineral matter. It consists, chemically, of the glycerides of stearic, palmitic, myristic, oleic, butyric, and some soluble fatty acids. The fat comprises volatile and non-volatile acids combined with glycerine. The volatile acids are butyric, caproic, and caprylic. The most ancient butter of which we have any real knowledge is that known as bog-butter, which is dug up from time to time in Irish peat bogs. Two or three crocks of this butter may be seen in the Dublin Academy Museum. It looks like chalk, but retains its fatty nature, and burns like oil. Perhaps it was hidden in troublous times; or it may have been buried as cream to become converted into butter. We read in Holy Writ that butter, in a lordly dish, was one of the delicacies which Jael set before Sisera. In the *Leech Book* (Lœce Boe), which probably belonged to the

Abbot of Glastonbury, and which gives an account of the state of medicine as practised in England before the Norman Conquest, it is ordered as a remedy against lice and crabs, that old butter and quicksilver are to be mingled together in a mortar, and the resulting salve to be applied to the body. This is precisely the mercurial ointment of modern pharmacy as used for the same purpose.

Fatty acids are set free in butter by exposure to heat as in cooking, and they are badly tolerated by the stomach; though bodily fat may be formed from butyric acid unless some of the digestive ferments are in fault. Even at the present day butter is made after a very primitive fashion in some parts of Ireland by churning unseparated milk, the temperature being raised by the addition of hot water. This leaves, of course, a large proportion of butter milk, which is eagerly sought by the peasantry to serve as sauce with their potatoes, or to put into cakes instead of yeast. It was said some sixty years ago by a wise and eminent physician, Dr. Hughes Bennett, that one of the causes of the great prevalence of Consumption in this country was the high price of butter. This is certain, that the introduction of a large amount of fat into the diet of the people is of essential moment: and with Consumptive persons fats, such as cod-liver oil, cream, and suet, are very beneficial. *Theophrastus Paracelsus*, translated by Dr. Hester (1633), ordered, "To make oyle of butter, take newe fresh butter as much as you will, and put it into a Retort of glasse well luted, and there will come forth three liquors which thou must separate. This oyle doth pearce marvellously, and taketh away the paines of the gout, if you annoint them therewith: likewise the hands and face, it will preserve them faire. It is

also good for those that are troubled with a catarrh if you give them thereof an ounce fasting, for presently it arriveth to the stomacke, and mollifieth the catarrh in such order as you shall spit it forth at the mouth." In the *Rich Storehouse of Medicines* (1630), is given as "A singular good medicine for the Yellow jaundise, take a great apple and cut off the top thereof (so as it may cover the place again) and take out the core; and then put into the same place some sweet butter, and a good quantity of Turmerick, and a good quantity of English saffron; and then close it up again with the piece that was cut off, and roste it very tender, and let the patient eat thereof three or four mornings together whilst fasting, or longer if necessity require it." Baker tells of an Arab sheik who had consumed daily throughout his life two pounds of melted butter, and when upwards of eighty was as erect as a dart—"a perfect Hercules." Again, as "A good preservative for such as are delicate, or tender, and that cannot away with taking of medicines, take a taste of white or wheaten bread, and sprinkle thereon a little powder of sinnamon, and eat it in the morning fasting; but if sinnamon be not to be had then you may eat bread and butter alone, for butter is not only a preservative against the plague, but also against all other venoms and poysons." For the cure of Hiccough the following rhyme had to be repeated secretly, in old times, as a charm:—

"Hickup, hickup, go away;
Come again another day.
Hickup, hickup, when I bake
I'll give to you a butter-cake."

Without doubt the immediate success of this charm depended on a bodily effect wrought by suggestion to the mind.

Burton tells, in the *Anatomy of Melancholy*, about a baker in Ferrara, otherwise sound of mind and body, who thought he was composed of butter, and durst not sit in the sun, or come near the fire, for fear of being melted.

In the North of France (Langue d'oc) butter is the chief factor used in frying and boiling; in the South (Langue d'oïl) the cooking agent is oil.

A simple plan for testing whether butter is genuine is to draw a cotton thread through a small cylinder of the butter so as to make a miniature candle: then set light to the cotton, and having let it burn a short time, blow it out. If there is no disagreeable smell left behind, the butter is pure: but if a tallowy odour is given off, it has been adulterated.

" Sic Semper !
Sic mihi de teneris spes infeliciter annis,
Et vota, et cupidæ præteriere preces !
Arbusta in silvis, in aprico flosculus horto,
Sed manibus pereunt omnia pulcra meis :
Si forte effusi mirantem fulgur ocelli,
Jam me surpuerat cara capella mihi,
Cum scire vocem, peteret mea basia, mecum
Luderet, ad certam mittitur illa necem ! "

" Oh ! ever thus from childhood's hour
I've seen my fondest hopes decay ;
I never loved a tree or flower,
But 'twas the first to fade away !

" I never loved a dear gazelle
To glad me with its soft dark eye,
But when it came to know me well,
And love me, it was sure to die."—*Moore*.

" I never had a piece of toast
Particularly long and wide,
But fell upon the sanded floor,
And always on its buttered side ! "

" Butter," said Charles Lamb, in *Grace before Meat*,
" ill melted—that commonest of kitchen failures—puts

me beside my tenor." The flavour of butter is due chiefly to the microbes developed during the ripening of the cream before it is churned, more than to the pastures on which the cattle are fed. "Soft words," says an old adage, "butter no parsnips." Dr. Pereira (*Food and Diet*) pronounces that cooked butter proves more obnoxious to the stomach than cooked olive oil because of the facility with which, under the influence of heat, the acrid volatile acids of butter are set free. Southey, quoting Shaw, has recorded the fact that the Arabs attempt to heal all simple and gunshot wounds by pouring fresh butter, almost boiling hot, into the part affected; and it is credibly alleged that numbers of persons have been cured by this method. "Butter," as Fuller tells (*Book of Worthies*), "is of a cordial, I may say antidotal, nature." The story is well known of a wife who, desiring to be a widow, incorporated poison with the butter whereon her husband had his principal repast. The poor man finding himself strangely affected repaired to a physician, who, by some symptoms suspecting poison, demanded of his patient which was his chief diet. The sick man told him that he fed most constantly on butter. "Eat butter still," returned the physician, "which hitherto hath saved your life; for it corrected the poison that neither the malignity thereof nor the malice of the wife could have their full operation." "About Suffolk, butter, in the quantity and quality of which this county dost excel, the child not yet come to, and the old man who is past, the use of teeth eateth no softer, the poor man no cheaper (in this shire), the rich man no wholesomer food. I mean in the morning. It was half of our Saviour's bill of fare in His infancy. 'Butter and honey shall He eat'" (*Isaiah* vii. 15).

For persons who cannot digest butter as an animal product, pure salad oil of the best quality makes a capital vegetable substitute.

CAT.

THE Cat, *Felis*, or *Catus domesticus*; the "harmless necessary Cat" of our households was revered by the ancient Egyptians as a sacred animal. They shaved their eyebrows as a mark of respectful sorrow whenever one of these creatures died. Peter Levens in this country, more than two centuries ago, ordered in his *Pathway to Health*, "For the lethargie in the head, in the hinder part, which maketh it for to shake: Take a pure black cat, and flea her, and pull out her bowels, and pick away the fat from the guts, and put them into the body again, and fill the body full of mustard seed well steeped in the juice of Nep (Ground Ivy), and sage, and then sew the body up, and roast it upon a spit till it be so dry that it drop no more moisture; then take the dripping that cometh thereof and put it in bladders, and when you will occupy it shave the patient in the neck, and annoint him by the fire in the joynt next to the head, and it shall help the grieved." Again, in the *Rich Storehouse of Medicines* (1650), is given "An experienced medicine for the sciatica. Take four or five great onions and roste them very soft, then pill them, and stamp them in a mortar, and put thereto half-a-pint of aquæ vitæ (a cordial water made of beer and aniseed), and three spoonfuls of Neat's Foot oyl, and boyl all these together untill such time as the same be thick; then strain it thorow a fine linnen cloth, and so with the same oyntment annoynt the place where the grief is, chafing it before the fire for the space of a quarter of an hour (both morning and evening), and

then lay a cat's skin thereto with the hairy side next the flesh ; and within fifteen dayes the party grieved shall find great ease thereby : *probatum est.*" Turner, (1560), noticed as "A common charm among old women for the shingles (*Herpes circinnatus*), that the blood of a black cat taken from the cat's tail should be smeared over the part affected."

Cats were at one time supposed to suck the breath of young children, and so to cause their death. In the *Annual Register* (January 25th, 1791), occurs the following paragraph: "A child eighteen months old was found dead near Plymouth, and it appeared at the coroner's inquest that the child died in consequence of a cat sucking its breath, thereby occasioning a strangulation."

Black cats are said to be specially charged with electricity, on account of the superabundance of which the animal is found useful to paralyzed patients, who encourage its approach, and derive benefit from the contact. Some persons have a great repugnance to cats, and become aware (by their feelings of distress the moment they enter the room) where one of these animals is present, even though not being able to see it. According to Conrad Gesner (1550), men have been known to lose their strength, to perspire violently, and even to faint at the sight of a cat. This creature has the reputation of being the familiar of witches. To rub a sty with a Tom cat's tail has been long practised in many an English and Scotch homestead for effecting a cure ; but in North Hants other requirements are imposed. It must be on the first night of the new moon ; the cat must be black, and only one hair pulled from his tail, and with its tip the pustule should be rubbed nine times. Others have advised to remove

warts by rubbing them in malt with the tail of a Tortoise-shell cat ; and in New England rheumatic sufferers are enjoined to take the Cat to bed with them. Three drops of blood from a Cat's tail have been strangely prescribed as a cure for epilepsy ; whilst the fat of the Wild cat (*Axungia Cati sylvestris*) has proved useful against the same trouble, also against lameness. The skin of a Wild cat worn as part of the clothing will "give strength to the limbs." A Cat has proved of the utmost service in the Cane-brake for staying exhaustive nose-bleeding. The patient was found bleeding actively from the nose, having lost blood all night ; and having tried in vain the usual remedies for stopping it, she was almost prostrated from loss of blood. This happened in one of our Cane-brake plantations, where the doctor cannot put his hand at the moment on everything he wants : so, "looking around the room, I discovered," said he, "an ordinary House cat. The head was cut off within a few moments, the abdomen was opened and the bowels removed. Some six or eight inches of the intestines were cut off and washed, and tied round at one end ; then with a common elastic catheter this ligatured end was pushed along the floor of the bleeding nostril into its hinder part, leaving the other open end out of the nose. The gut was then injected with cold water by a common syringe, and tied in front beyond the nose. The bleeding ceased immediately, and the patient came round, to the astonishment of the Cane-brakers."

There is a vulgar superstition that a cat left in a room with a dead body will fly at and disfigure the face of the corpse. In *Bleak House*, by Charles Dickens, it is related that when old Nemo, the law-writer, was found dead (with poison at the bedside), the green-eyed Cat,

which had followed Krook into the room, was carefully put out. "Don't leave it there," said the dark young surgeon, "that wont do." Mr. Krook therefore "drives her out before him, and she goes furtively downstairs, winding her lithe tail and licking her lips. Napoleon is said to have had a horror of cats.

There is no doubt that an attack of influenza beginning in a house with the domestic Cat will spread to the several human members throughout the household.

"Dr. Samuel Johnson," says Boswell, "used to go out and buy oysters for his cat 'Hodge,' lest the servants having that trouble should take a dislike to the poor creature."

Cats are very subject to vomiting: hence the vomit of a drunkard is called a "cat," and the act of rejecting it is described as "shooting the cat." To "grin like a Cheshire cat," according to a popular proverb, is curiously explained in this way: that Cheshire is a county palatine, and the Cats, when they think of it, are so tickled with the notion that they cannot help laughing. "Well! I've often seen a Cat without a grin," thought Alice (in *Wonderland*), "but a grin without a Cat is the strangest thing I ever saw." A Cat is said to live ten years.

" Kiss the black cat
An' 'twill make ye fat:
Kiss the white ane
'Twill make ye lean."

"Roast Cat," writes Sprengel, "with goose grease and spice, was Benedetto Veltori's great remedy for convulsions."

Horace shows by his fable of the Town and Country Mouse that there were no cats kept then in Rome. Cases are on authentic record of hydrophobia caused by the scratch of a cat, and not determined until from two

to six months afterwards. Dr. Jonathan Hutchinson tells of cats having become infected from mice with skin disease (*favus*), and subsequently communicating the same to children who nursed or fondled the cats. Peter Levens (*Student of Physick*, 1667), ordered, "For to take away hair, get hard cat's dung, dry it, and beat it to powder, and temper it with strong vinegar; then wash the place with the same where you would have no hair to grow. Also take the blood of a snail without a shell, and it hindereth greatly the growing up of hair." Shylock, the Jew, in Shakespeare's *Merchant of Venice*, thus delivers himself:—"Some men there are love not a gaping (roasted) pig; some that are mad if they behold a cat; and others, when the bag-pipe sings i' the nose cannot contain their urine."

Concerning "shingles," for the cure of which, as has been said, the blood from a Black cat's tail was ordered in the sixteenth century, a curious practice still prevails in Wales where the term for shingles means "the Eagle." We are told in the *Mystery of Pharmacy* (1897), that it was supposed in ancient times if a person should eat of eagles' flesh he would never suffer from shingles, and his direct descendants down to the ninth generation could not contract it. Cheese was formerly sold in Cheshire moulded into the form of a Cat: hence may have come the allusion to "grin like a Cheshire cat." Shakespeare, in *Macbeth*, refers to the "Cat i' the adage," that is, "*Catus amat pisces, sed non vult tingere plantas*": "letting—I dare not,—wait upon—I would."—

A tortoise-shell tom cat is thought to be of rare value. Tom Hood (1830), in the *Comic Annual*, called one a "Torture-shell Tomb cat, and a grate faverit that dyd." Cats are supposed to have been brought into England

from the Island of Cyprus by foreign merchants who came hither for tin.

Catgut strings are made from the intestines of sheep or lambs.

The African *Civet cat* is remarkable for the perfume which it produces, and which bears its name. The bag containing this scent is situated near the parts of generation. The animal is not really a cat, but closely resembles the fox, and is kept largely for its fragrant secretion in Northern Africa, being in a state of domestication there. Civet, as a medicinal substance, agrees with musk in its virtues; and is used (more formerly than now) against spasmodic diseases, such as epilepsy, hysteria, colic, and as a remedy for barrenness. But musk and ambergris have diminished its reputation. As a sexual stimulant it undoubtedly exercises positive effects.

The poet Cowper's lines in *Conversation* are familiar to all—

“I cannot talk with Civet in the room,
A fine puss-gentleman, that's all perfume.”

Dr. Salmon (1696) told about Civet: “In an ointment it is excellent against the vertigo, if anoynted on the temples, crown, and nostrils; the smell cures the epilepsie; put into the ear, dissolved in a little oyl of amber, it cures pains and deafnesse; in wine it stupefies and makes drunk.”

The sign of the Civet cat which used to be employed by perfumers all over Europe, has now become transferred in England to the toy shop and fancy warehouse.

CATERPILLARS.

MR. Vincent Holt published a remarkable little pamphlet in 1885, bearing the title, *Why not Eat*

Insects? He showed therein, for example, concerning some Caterpillars, certain striking facts in the following words: "I see every reason why cabbages should be served up surrounded with a delicately flavoured fringe of the Caterpillars which feed upon them. As things now are, the chance Caterpillar which, having escaped the careful eye of the scullery maid, is boiled among the close folds of the cabbage, quite spoils the appetite for dinner of the person who happens to receive it with his helping of vegetable; and its loathsome form is carefully concealed at the side of his plate, or sent straight out of the room so that its unwelcome presence may not further nauseate the diners at their table of choice food." Other nations are known to use these and allied insects, both at table and with curative views. Indeed, when medicine was first practised as an art, as early as two thousand five hundred years before Christ, in Egypt and China, most of the remedies given in those early times had been first tried as foods. And such of the same as specially influenced the bodily functions, or proved too strong for dietetic purposes, were regarded as medicines. Maspero says the Egyptians began by eating every kind of food which their country produced, and thus became acquainted with its therapeutic properties. The Hottentots take Caterpillars both cooked and raw, collecting and carrying them in large calabashes to their homes, where they fry the creatures in iron pots over a gentle fire, stirring them about the while, and then partaking of them without any flavouring or sauce. Travellers say the dish is delicate, nourishing, and wholesome, resembling in taste sugared cream or sweet almond paste. Caterpillars are, of course, vegetable feeders, and therefore of cleanly composition; they digest the cellulose of plants and convert it into sugar.

Of old they were supposed to be generated by dew. In 1542 a cloud of locusts invaded Germany, some of which were broiled on a gridiron and found to be wholesome, thus serving to save the lives which they had threatened to destroy. The Woolly bear (*Arctia coja*), which feeds on the common blind nettle, if gathered and carried in a handkerchief wherewith the bearer afterwards rubs his face, will produce thereupon an outbreak of nettlerash because of the irritation produced by the insect's hairs on the sensitive skin of the neck and face. The larva of the French Processional Caterpillar (*Bombyx processionea*), is much more intensely irritating. Various other Caterpillars possess the power of stinging like nettles, notably the Palmer worm, which is the Caterpillar of the gold-tailed moth.

The grub of the weevil, which for time out of mind has been styled "the fairies' coach maker," devours the kernels of nuts, and populates the sea biscuits of our Jack tars, being put by them to run races across plates for wagers. Vincent Holt pithily says, "Even the strong-stomached and hungry sailor will rap his sea biscuit on the table to shake out the worms before eating it. Let him shake out the worms by all means; but let him collect them, fry them in lard, and spread the dainty on his dry biscuit. He will not again throw meal worms away." Again, "He who by accident gets the well-boiled larva of the Cabbage caterpillar served up in the succulent leaves which are its own natural, clean food, should, instead of being pitied for having his meal spoilt, be, on the contrary, almost as much an object of envy as the guest who gets the liver-wing of a chicken." When children in Worcestershire see a large Caterpillar crawling on the ground, they call out, "A millad, a mollad, a ten o'clock schollad." In Gloucester-

shire the creature is named a "mole shag"; in Devon, a "mascal"; in Derbyshire, an "obeed." It was a large blue Caterpillar which Alice saw in *Wonderland*, "sitting on the top of a mushroom, smoking a long hookah, and with its arms folded." From the larval state the Caterpillar becomes a chrysalis, and then emerges as a gay butterfly or moth. "Jupiter is fabled to have turned Chrysalus, a Persian prince, all gaudy in golden attire, but an asse—him, and his proud followers, into butterflies, roving about in pied colours," says Burton; but "Chrysalides, still so called, golden outsides, deduco flies, grubs, things of no worth." With reference to Vincent Holt's brochure, *Why not Eat Insects?* the *Lancet* wrote at the time of its appearance (May, 1885), "'Let us prey,' is the text of the author; but the practices he advocates would be quite a mistake, as by passing through the bodies of birds, and becoming birds' flesh, insects are brought nearer our own standard of tissue. It would be as irrational as taking to eat grass ourselves instead of feeding on it by proxy in the shape of mutton and beef; this would put an end to intermediates, and we should take to living on elementary carbon, oxygen, hydrogen and nitrogen, with a little sulphur (and iron), instead of boiled eggs for breakfast." But by a parity of reasoning, if this were so, we ought not to eat the eggs until they have become developed into chickens!

In Lancashire, for a child with whooping cough, if a hairy Caterpillar can but be casually found crawling across the road, it is forthwith secured by the child's mother and tied round his neck; then as the Caterpillar dies the cough will depart. In the North a "Palmer worm" (of the gold-tailed moth) is "Devil's gold ring," which creepeth mostly on colewortes. Meal worms,

"*tenebrionide*," or "lovers of darkness," are the larvæ of two species of beetles, and are found, as well as the developed insects, in flour mills and bakehouses. The same larvæ are bred in large numbers by bird fanciers for singing birds, which is done by keeping them in bran. *Our Household Insects* admonishes us that these and other "corn-loving" beetles must often be ground up with the flour supplied to us for food, and that in this way we sometimes get our bread adulterated with pulverized beetles; whilst "possibly we may not really be any the worse for this slight admixture of animal matter with our farinaceous diet!" But, it adds, to the same section, *Heteromera*, belongs the Blister Beetle (see *Spanish Fly*), renowned in medicine, and no distant connection of the *Tenebrias*. "Now if our meal worms and their beetles have properties at all analogous to those of the Spanish Fly, this internal application of cantharides might not be altogether desirable."

CAUL (see MISCELLANEOUS).

CHARCOAL.

CHARCOAL, whether of animal or vegetable nature, exercises decided medicinal effects. It is with the former we have to do as an animal simple. This can be obtained by placing a thick piece of ox-hide leather on red hot coals, and leaving it there so long as it burns with a flame; as soon as the flame ceases the red-hot mass should be lifted off and extinguished by being put between two flat stones. It is to be prepared, by trituration, into powder; and may be likewise made from meat—beef, mutton, or veal.

If given in material doses, as moderate even as twenty grains, it produces positive symptoms and effects, such

as a deranged digestion, copper coloured eruptions of acne, and boils on the face, with hard swellings of the breast glands, and of those about the mouth which secrete the saliva. Such being the case, we may readily understand that small doses of this medicine, when sufficiently diluted, prove eminently useful for glandular enlargements, even when of a cancerous tendency, and for venereal boils. Evidence has accumulated to show that Animal charcoal, if administered in this way, exercises a remedial action in low states of the body, with putrescence of its fluids and secretions; also offensive female discharges may be effectually controlled thereby. The triturated powder should be attenuated to the third decimal strength (H.), having been honestly and reliably prepared, whilst eight or ten grains are given for a dose in water, or on bread, twice or three times in the day.

Animal charcoal consists chiefly of Charcoal with carbonate and phosphate of lime. As sold by the chemist it has been purified by admixture with spirit of salt. The *German Pharmacopœia* orders a Meat charcoal, which is prepared by cutting three parts of lean veal into small pieces, and mixing the same with one part of small bones, then roasting in a covered vessel until inflammable vapours cease to escape, the residue being powdered when cold. It destroys the fœtor of ulcers; and when it is mixed in due proportion with morphia, aconite, or strychnia, these poisonous alkaloids may be taken with impunity. Ormerod maintained that Charcoal serves to cleanse and heal foul sores by hastening decomposition, and not, as is generally thought, by exercising antiseptic effects.

About the Vegetable charcoal of charred bread or

toast, the old Salernitan School had a prohibitive maxim:— "*Non comedas crustum colorem que gignit adustam.*"

"And see that crusts thou do forbear to eat,
Because that angry choler they beget."

Animal charcoal made from bullock's blood is thought to be specially free from impurities.

Soot (*fuligo*), another form of burnt carbon-mineral, has been similarly triturated, and employed with great benefit in some forms of external cancer and for chronic ulcers, being used dry externally, and given medicinally as a tincture or extract. Chimney sweeps suffer from a particular kind of cancer caused by dry soot becoming collected in the folds of the skin, especially of the scrotum, this cancer being of a dry, ragged, warty nature. "Soot is in open cancer," says M. Dalreyne, "of all local applications the best, because detersive, plastic, and regenerative." Lard and soot may be mixed in equal parts as an ointment, or glycerine be used instead of lard; or the soot may be applied dry, when it will hasten the separation of sloughs.

The tusks of elephants, burnt as ivory and powdered, make another form of Animal charcoal. By Southey, in his *Common Place Book*, we are told that Mr. Newton's wife (1776) took tincture of soot; and in some districts the snuff of a candle is given for ague, as much as will lie on a sixpence, made into an electuary with honey, or mixed with ginger. By the Norfolk rustics this is esteemed a sovereign specific. It is a combination of animal and vegetable charcoal, the latter of which is likewise of extensive medicinal powers when triturated to a high dilution, though almost inert when crude. For the flatulence of acid indigestion, where gas distends the stomach, with much oppression after

every meal, the powder of vegetable charcoal reduced to the third potency is singularly useful, as well as for the chronic bronchitis of aged persons without power to expectorate their profuse mucus, whilst the extremities are cold and the nails blue.

CHEESE.

CHEESE, which varies much in its make, quality, and source, may be considered a food rather than in any strict sense a medicine. It contains twice as much nitrogenous substance, weight for weight, as butchers' meat; whilst "the richer and softer cheeses (says Dr. Yeo) in small quantity exercise a stimulant action on the stomach. Old Fuller writes, "Poor men do eat it for hunger, rich for digestion. Cheshire doth afford the best for quantity and quality; but I hear not the same commendation of the butter in this county, and perchance these two commodities are like stars of a different horizon, so that the elevation of the one to eminency is the depression of the other."

A Welsh line traces back the pedigree of cheese thus: "Ap curds, ap milk, ap cow, ap grass, ap earth." It is composed of the casein or curd of new milk, together with a variable amount of the fat, according to the manner in which it is made. About Suffolk cheese an old rhyme runs:—

"They that made me were uncivil,
For they made me harder than the devil;
Knives wont cut me, fire wont sweat me,
Dogs bark at me, but can't eat me!"

New cheese has an acid reaction; but by degrees, as the cheese ripens, this disappears. Thus some of the casein decomposes, and evolves ammonia, which neutralizes the acid of the Cheese. Likewise the fat

becomes partly decomposed, and the fatty acids also combine with the ammonia given off by the casein.

The utility of casein to aid digestion has been long known. In *Troilus and Cressida*, Shakespeare has made Ajax address Thersites with the exhortation, "Come, my cheese, my digestion." Casein is to milk what gluten is to bread. "Of all cheeses," says Burton in his *Anatomy of Melancholy*, "I take that kind which we call Banbury cheese to be the best; and, *ex vetustis pessimus*, the older, stronger, and harder, the worst, as Langius discourseth in his *Epistle to Melancthon*."

The vegetable moulds of Cheese are *Aspergillus glaucus*, blue and green; *Sporindonema casei*, red; whilst the Cheese mite is *Acarus domesticus*. If the fermentative ripening of Cheese goes on to actual putrefaction then poisonous ptomaines become developed, and their mischievous elements are taken up into the blood. "Cheese mites," Vincent Holt tells us, "are freely eaten by many persons, on the plea that 'they are only cheese'; and there is good ground for this assertion, seeing that these grubs do live entirely upon cheese. But what would any one of such epicures say if there was served up to him a cabbage boiled with its own grubs? Yet the argument that 'they are only cabbage' would be equally sound, and should be convincing!"

An old Welsh medical maxim was, "The cheese of sheep, the milk of goats, and the butter of cows are the best." But the Salernitan School said:—

"Caseus et panis bonus est cibus hic bene sanis;
Si non sunt sani, tunc hunc non jungito pani."

"Good bread and Cheese the sound and strong may use;
But bread without the cheese the sick must choose."

In the old nursery rhyme three children go a hunting
by the light of the moon :—

“ One said it was the moon,
Another said ‘ nay ’ ;
The third said it was a cheese,
And half o’ t cut away . ”

CLAM (*see* MISCELLANEOUS).

COCHINEAL.

THE *Coccus cacti* is a small insect (*Hemipteris*), brought in the dried state from Mexico and the West Indian islands. It is reared on the opuntia and different species of cacti, the female insect being nearly twice as big as the male. Two varieties are met with in commerce and medicine, the silver-grey and the black. A tincture is made for medicinal uses (H.) from the entire female insect, dried as imported. It is wrinkled, and when crushed makes a pure-coloured powder. The insects are killed either by throwing them into boiling water, or by exposing them in heaps to the sun, or by placing them in the ovens used for vapour baths. The Cochineal contains, in addition to fat, a small amount of volatile acid, and some mucilage, carminic acid (which when deposited with alumina is called “lake”), and tyrosin, which specifically affects the kidneys. For giving a complexion on the stage (and sometimes off it) to the face, the colouring matter known as rouge is made by mixing half-a-pound of prepared chalk with two ounces of freshly prepared carmine; so that this is quite harmless.

The Austrian Society of Experimentalists have proved Cochineal as a drug very exhaustively, and found that few of those who took it in toxic doses escaped without a spasmodic cough, often so violent as to provoke vomiting; also symptoms of much urinary

irritation were induced ; acting on a knowledge of which suggestive facts dropsies connected with the kidneys have been effectively cured by doses, reduced in potency, of this remedy ; and a cough occurring in severe paroxysms has been much relieved. The carmine is found in the insect combined with phosphate and carbonate of lime, muriate and phosphate of potass, and fatty matter.

All the insects of the genus *Coccus* contain a considerable amount of grease, from which stearine, the basis of wax candles, has been extracted. Until 1714 many naturalists supposed Cochineal to be the seed of a plant, though as early as in 1530 Acosta declared it to be an insect. An official tincture of the *Coccus cacti* is made with proof spirit of wine, which is used chiefly for colouring medicines, but has long been given in combination with carbonate of potash and water as a popular remedy for whooping cough. When preparing the modified tincture (H.) the dried insect is treated with spirit of wine ; or it is given as a powder, after trituration together with sugar of milk ; and when thus prescribed it acts with remarkable success for the relief of spasmodic whooping cough, as well as for colic from congestion of the kidneys ; it further affords speedy mitigation of pain in severe neuralgia. For mere colouring purposes the ordinary tincture is ordered authoritatively as an addition to tincture of cardamoms and to compound tincture of Cinchona bark ; this power of imparting a beautiful red hue being the only substantial title of Cochineal to a place in the official pharmacopœia. But medicinally, for the uses specified above, the tincture (H.) and the powder (H.) are effective and reliable remedies, as likewise for Bright's disease of the kidneys, with albuminuria, and dropsy.

Shell lac, a resinous exudation from certain East Indian trees, is produced by the puncture of *Coccus lacca*, another species of Cochineal. It contains four or five distinct resins, besides wax, fat and colouring matter. This substance, in combination with astringents, serves as a capital application to indolent, scrofulous ulcers. It is the basis of our ordinary sealing wax.

COCKLE.

THE Cockle (*Cardium edule*), is a common little bivalvular shell-fish found buried in the sand of our sea shores—abundantly at Sheringham on the Norfolk coast, also in the Teign, by Teignmouth. It makes a nutritious article of food largely consumed in many of our seaport towns; and in times of famine has saved populations from starving. The people of Burra, in the Hebrides, were thus preserved many years ago, when they got Cockles from the great expanse of sands at the northern end of the island.

The name *Cardium* is given to the Cockle, or “poor man’s oyster,” from the fact that if the shell is viewed “end on,” with the two curving beaks uppermost, it represents the shape of a heart (Greek, *kardia*). The cockle is found nearly all over the world; its flesh is good whether raw, pickled, boiled, or roasted, though very inconsiderable in quantity—a pound of meat to a bushel of shells! It possesses a long strong foot of brilliant colour, and is therefore often called “red nose,” digging therewith deeply and quickly to burrow in the wet sand. This large cylindrical foot, with a sub-conical end, bent elbow-like, is projected with an odd movement between a hop and a jump. “Many persons are aware,” says Mr. Gosse, “that the common Cockles can perform gymnastic feats of no mean

celebrity; their valves gape, and a foot like a red capsicum is suddenly thrust out sideways against any opposing object, thus enabling them to take a leap." In the *London Pharmacopœia* (1696), Cockles (*pectunculi*) were said to "strengthen the stomach, increase appetite, excite lust, provoke urine, help the cholic, and restore in consumptions." It is to be supposed they contain marine salts, and food constituents freely of a salutary sort, with medicinal virtues like those of the lobster.

Æsop tells in one of his Fables how the son of a husbandman was cooking cockles. And in Mr. Jorrocks's reminiscences of what he ought to have had for dinner on the day when he lost his way, being out for a by run with James Pigg, the menu was to have begun with "baked haddock and cockle sauce." Formerly "to cry cockles" signified hanging, as denoting the gurgling noise made by a person when strangled. Pilgrims whose chief places of devotion were beyond the sea or on the coasts, used to put cockle shells upon their hats to show their vocation of pilgrimage. Cockles are symbols of St. James, the patron saint of Spain. Being blest by the priests, they were considered amulets against spiritual foes.

What was meant to be signified by the familiar nursery rhyme (which Mr. Halliwell terms "scholastic") about Cockles is not clear:—

" Mistress Mary,
Quite contrary,
How does your garden grow?
With silver bells,
And cockle shells,
And mussels all of a row."

" O, Mea Maria,
Tota contraria,
Quid tibi crescit in horto?
Testæ, et crotali
Sunt mihi flosculi,
Cum mytileduli serto."

This may have been the fondling croon of a kind nurse over a sick or fretful child, whilst playfully designating, with appropriate endearments, the little ears as silver bells, the round eyes as pretty cockle-shells, and the regular teeth as mussels all in a row.

Again, the shell of the scallop (*Pecten opercularis*), which is also named "quin" or "queen," was likewise worn to distinguish the pilgrims of St. James. This bivalve, as *The Display of Heraldry* teaches, is "engendered solely of dew and air; it has not any blood at all. Yet there is no food eaten by man which turns so soon into life-blood as the scallop." Its shell was further employed formerly at baptisms as a receptacle for the holy water.

A marble ship bearing the headless body of St. James sailed over a knight who was in the waves, but who nevertheless was not drowned, but emerged afterwards from the sea covered with scallop shells :

" In sight of all the prince went down
Into the deep sea dells :
In sight of all the prince emerged
Covered with scallop shells."

" Cunctis mare cernentibus
Natus regis submergitur :
Sed a profundo ducitur
Totus plenus conchilibus."

On hearing about this miraculous salvation the lord of the village was baptized, together with his household, and Bonzes became a Christian church.

COCKROACH.

THE Cockroach (*Blatta orientalis*, *Bete noir*, *Panetièrè*, *Blatta purple*), is a native of Asia, but now found in most parts of the civilized world, being especially familiar as an unwelcome and disgusting intruder about

our kitchens and sculleries. It is nocturnal in its habits, giving off a disagreeable and sickening odour through a fetid fluid poured out from the mouth.

Medicinally it contains an active principle anti-hydropin. In Demerara a Cockroach boiled in oil and stuffed into the ear is a remedy for earache. This creature was employed in ancient medicine, an oily decoction made therefrom being prescribed for the cure of warts, boils, scaly eruptions, and indolent sores. "Internally it was given," says Pliny, "to relieve difficult breathing."

As an old Russian remedy for dropsy it was administered in powder, the dose being from two to eight grains; and its use for such a purpose, as well as for Bright's disease of the kidneys, has been lately revived. Dr. Bogomolow, of St. Petersburg, in 1877 treated nine cases of this disease (in some of whom there were complications of heart mischief and dropsy), with cockroaches, and in all the beneficial result was increase of urine and perspiration, with rapid subsidence of the dropsy, also with almost complete disappearance of albumen from the urine and of morbid kidney products. The dose given was from five to ten grains of the powdered insects within twenty-four hours; also a tincture and an infusion were sometimes substituted.

These creatures, unlike the Spanish fly (*Cantharis*), do not produce irritation of the kidneys. The crystalline body called anti-hydropin was extracted by Dr. Bogomolow.

Again, Dr. Anterberger furnished details of four cases of dropsy after scarlet fever in which the *Blatta orientalis* proved of great utility. His patients, including one of dropsy after measles, found the urine to increase

straightway in quantity, whilst the dropsical fluid and the albumen diminished proportionately, and no distress of the kidneys or intestines was occasioned.

During May, 1879, Dr. Constantine Paul reported that, in consequence of the great reputation which this medicine had acquired in Russia and Germany, he procured some of the powder from Mark, of Darmstadt, and made trials therewith, but his success was small. As the alkaloid anti-hydropin cannot be obtained in trade the powdered insects should be employed, prepared reliably and under trustworthy care. A brown powder will be the result, without disagreeable taste or smell, and which children take readily enough. It is only fair to state that Mr. William Martindale, the able manufacturing chemist, of 10, New Cavendish Street, London, has put himself to considerable pains for securing and supplying this powder of Cockroaches in a thoroughly reliable form.

The Cockroach is an enemy to the bug, and a house is seldom infested with both these noxious insects simultaneously. Again, where crickets abound Cockroaches rapidly disappear. It is generally believed that the one feeds on the other.

Popular names for the Cockroach are, "Straddle Bob" and "Warbot." In the French islands it is "Ravet," or "Kakerlaque." A foolish notion has been held by some that the sauce known as Soy (prepared by the Chinese from the oily fruit of the *Soja hispida*) is frequently made with a decoction of black beetles or Cockroaches. This is altogether untrue, though dark treacle and salt are sometimes employed in fabricating a spurious article. During classic times sauces were considered as necessary for most kinds of fish as at the present day, so that the Greeks and the

Romans were very particular about their *garum* and *alec*, the former of which was manufactured from a species of mackerel, with oil, wine, vinegar, and essences added. It was taken not only as a fish sauce, but likewise as a liqueur to stimulate the appetite:—

“Then all the topers to prepare 'em
Drank every man his glass of garum.”

Alec was a thicker sauce concocted from a fish known as the *halecula*, and corresponding to our anchovy.

Cockroaches sometimes attack sleeping persons, and will even gnaw the extremities of the dead: they are themselves gifted with extraordinary longevity, since their life extends over a period of at least five years. In this country we have also Field cockroaches, which live out in the open, and do not attach themselves to mankind.

Our House Cockroaches are gradually dislodging the familiar “Cricket on the hearth” (*Gryllus domesticus*), the “little inmate full of mirth, always harbinger of good, which does no harm to those who use it well, but eats holes in the worsted stockings of such members of the family as are disposed to kill it.” So says Lancashire folk lore. But probably the thirsty crickets find grateful moisture in damp stockings hung before the kitchen fire to dry. Cats eat hearth-crickets, and, playing with them as they do with mice, presently devour them.

COD.

THE common Cod (*Gadus morrhua*; genus, *acipenser*), is obtained principally from the coasts of Norway, Newfoundland, Labrador, France, and England. Medicinally it is valued because of the highly curative oil got from the fresh livers in a steam bath.

This Cod-liver oil was prescribed in 1782 by Dr. Percival for chronic rheumatism, and in 1807 it was in high repute about Lancashire. Iodine and bromine are constituents of the oil, together with glycerine, resin, margaric acid, oleic acid and salts of lime, potash and sodium; also phosphorus and sulphur, with gaduin—a derivative of bile. When the oil is rubbed into the shaven skin of dogs they become as fat as if they had taken it internally. *Par excellence* it is of great service both medicinally and as a food in pulmonary consumption, mitigating the fever, the sweating, the cough, and the expectoration, whilst maintaining the general vitality. Likewise in most scrofulous affections it is very valuable, such as caries of the bones, and abscesses in the neighbourhood of joints, also signally for lupus of the skin, impetigo, chronic eczema, and psoriasis: in fact, for all strumous impairments of the health, whether local or systemic. But it should not be continued oppressively when the stomach refuses to tolerate or retain it, eructations being produced with heartburn, troublesome indigestion, and diarrhoea. One of the best means for disguising the taste is to chew at the time a small piece of smoked herring; or it may be taken with catsup, or with Liebig's extract. In chronic rheumatism it exercises decided curative powers. The cases in which it is most useful are those of a tubercular disposition, where the tissues are rapidly consumed through a quick hectic circulation. In a teaspoonful of the oil there is a dose of iodine equal to one and a half drops of the tincture (H.), third decimal strength. An external application of this oil assists in curing several forms of skin disease.

None but absolutely fresh livers of the Cod ought to be used for extracting the oil; but a large quantity

of that in ordinary use is made from stale fish, or from those which have remained in the nets for several days.

Morrhool is an isolated form of the animal alkaloids from the Cod's liver in lieu of the crude oil. It is extracted by the chemist, and has marked powers for increasing the general nutrition, without being in combination with the fatty vehicle which so often disagrees. It is prepared by treating the oil with alcohol, then decanting and distilling this off. The *Morrhool* is an acrid, bitter, but aromatic liquid, containing phosphorus, iodine, and bromine; and may be given in capsules to be swallowed entire, one or two being equal to five grammes of the oil—about seventy-six grains,—less the fatty constituents.

In France the liver oil of the common Skate has been used instead of Cod-liver oil. Again, Palm oil which is employed as a flux when melting the tin at the works in Risca and Llanelly, South Wales, then becomes volatilized by the heat insomuch that the air of the chamber in which the men work is saturated with palm oil in the form of vapour, as well as their clothing; the result to those of feeble health, and especially to consumptives, being highly beneficial. Dr. Heffinger advocates the taking of crocodile oil for phthisis, which almost supersedes the use of Cod-liver oil in Peru, being more nourishing and palatable; but this latter as extracted by Norwegian fishermen from fresh-boiled livers to soften their hard, thin bread, is bland both in flavour and aroma. Cod-liver oil has been appreciated from the earliest times by the Lapps, the Esquimaux, the Finns, and other northern races.

Cods' sounds are used as a substitute for foreign isinglass, being brought in a dried state from Scotland for this purpose; but more commonly they are pre-

served soft by salting, and are supplied as food for the table. The first neck-bone of the Cod's spine has been powdered and used medicinally. In the Highlands seal oil and whisky are given as a sovereign specific.

As an article of food the Cod is at its best about Christmas time. One hundred ounces of it by weight yield fourteen ounces of fibrin, seven ounces of gelatine, and seventy-nine ounces of water. The Sole contains one ounce more fibrin, and one ounce less gelatine. Cod is of superior sustaining worth to the lordly salmon in the proportion of one hundred and seven to one hundred and six.

In France oil from the livers of the Ray and the Dog-fish is sometimes administered to ailing persons in lieu of Cod-liver oil. The former of these contains less iodine, less sulphur, and more phosphorus; that from the liver of the dog-fish contains more iodine and phosphorus than Cod-liver oil, but less bromine and sulphur. All the vital constituents of bile are comprised in Cod-liver oil; but the essential curative action of this oil is due to a subtle force residing, to speak metaphorically, in the very centre of the drug, "An inmost principle or factor of life."

CORAL.

CORAL is a zoophyte of the sea, which makes for itself a calcareous structure consisting of a skeleton with the fleshy portion: this skeleton being composed of carbonate of lime with from three to five per cent. of organic matter and very small quantities of silica, fluoride of calcium, fluoride of magnesium, phosphate of lime, alumina, and oxide of iron. The skeleton branches out like a shrub, and on the branches the individual animals are located in tube-like openings.

Two sorts of Coral are used medicinally, that of a milk white aspect, and that of a dull red, as containing about four per cent. of ferric oxide. Pliny and Dioscorides greatly esteemed the remedial properties of Coral; and Paracelsus (1525) advised that it should be worn round the necks of infants to keep away fits, sorcery, and charms, whilst serving as an antidote to poisons. The bells which have become suspended to the Coral were designed to frighten away evil spirits. Further, in olden days Coral was thought to preserve and tighten the teeth of men.

Sir John Harrington, in his *Schoole of Salerne* (1624), wrote, "Alwaies in your hands use either Corall, or yellow amber, or some like precious stone to be worn in a ring upon the little finger of the left hand; for in stones as also in herbes there is great efficacie and vertue, but they are not altogether perceived by us, for surely the vertue of an herbe is great, but much more the vertue of a precious stone, which is very likely that they are endued with occult and hidden vertues." Southey adds, "The use of Red coral for warding off the evil eye is at least as old as the times of the ancient Romans. About Italy, especially in the parts round Naples, Red coral charms in the shape of a partly-closed hand, or pieces of Coral in form like a tiny carrot (evidently phallic), are worn for the purpose of protecting the wearer from being bewitched by the *mal occhio*." In the *Jewel Home of Art and Nature* we read, "Coral is good to be hanged about children's necks, as well to rub their gums as to preserve them from the falling sickness; it hath also some special sympathy with nature, for the best coral being worn about the neck will turn pale and wan if the party that wears it be sick, and will come to its former colour again

as they recover health. You may say jet will take up a straw, amber will make one fat, coral will look pale when you be sick, and chrystal will stanch blood." Again, in the *Rich Storehouse of Medicines* (1650), it is stated: "All manner of corals beaten to powder are binding, and are very good against the flux." Likewise among the West Indian negroes it is affirmed that the colour of Coral is always affected by the state of the wearer's health, it becoming paler when the person is sick. In an old Latin work, dated 1536, it is stated: "Wytches tell that this stone withstandeth lightenyng. It putteth off lightenyng, whirlwynde, tempeste and stormes fro shyppes and houses that it is in." Lemnius (1566) made mention of carbuncle and Corall, "which drive away childish fears, devels, overcome sorrow, and, hung about the neck, repress troublesome dreams." The earliest English notice of Coral is that which occurs in the inventory of Alianore de Bohun, *viz.*, the paternoster of Coral (with the larger beads gilded) which belonged to Margaret de Bohun, daughter of Humphrey de Bohun, Earl of Hereford and Essex, killed March 16th, 1321, together with the three branches of Coral which Alianore possessed.

When powdered by trituration and taken in material doses Red coral has been found to excite a violent spasmodic cough, with suffocating irritation of the windpipe. Acting on which knowledge M. Teste and others have placed this medicine, if considerably reduced in strength, almost first among remedies for whooping cough, and against the spurious croup of children. "For a chronic convulsive cough," says M. Teste, "it is like water thrown upon fire."

The false croup of young children coming on at night

owes its origin frequently to some trouble connected with teething, being thus a form of reflected irritation; so that it is a piece of true wisdom to give as a christening present a Red coral pendent, mounted with silver bells and a whistle, in anticipation of tooth-cutting after a time, and its attendant risks. The sucking and mumbling of the protective medicament will be a constant safeguard.

Those small branched pieces which are striated, and often covered with a white calcareous substance, should be preferred for medicinal trituration. According to analysis of the outside portion of the solid stem, this contains all the remedial constituents particularized. For its special curative purposes a tincture of Coral is also made (H.). The lime furnished by the Madrepores (including the Corals) is very much superior to any that can be obtained from limestone, however pure. In France Madrepore is called *Char de Neptune*. The Honourable Richard Boyle, in his *Collection of Remedies*, enjoins, "To sweeten the blood and cure acidity, take Coral, the largest and reddest you can get; reduce it by grinding it on a marble stone to an impalpable powder, of which magistery made without acids give the patient once or twice a day, as needs shall require, a large dose, ordinarily about one dram at a time, and let him long continue the use of it."

When the Arabs bury their dead they always place in the hand of the corpse a chaplet of Coral.

Old Izaak Walton, in his *Compleat Angler*, makes Maudlin say to the fishers "with a merry heart":—

"A belt of straw and ivy buds,
With coral clasps, and amber studs;
And if these pleasures may thee move,
Come, live with me, and be my love!"

Coral was further credited in former times with the power of relieving stomach-ache—

“Umbras dæmoniacas, et Thessala monstra repellit;
Collo suspensus jactat de ventre dolorem.”

The red colour of Coral has been usually attributed to oxide of iron contained therein; but this is now disputed, and seems to be disproved because weak acids destroy it. Lemery believed Coral *à rejouir le cœur*.

Rabbi Benoni, in the fourteenth century, said to be one of the most profound alchemists of his time, affirmed, amongst a great variety of similar aphorisms, that “the Agate quenches thirst if held in the mouth, and soothes fever; the Amethyst banishes the desire for drink, and promotes chastity; the Garnet preserves health and joy; the Sapphire impels to all good things, like the diamond; *the red Coral is a cure for indigestion when worn constantly about the person*; Amber is curative of sore throat and glandular swellings; the Crystal promotes sweet sleep and good dreams; the Emerald strengthens friendship and constancy of mind; the Onyx is a demon imprisoned in stone, who wakes only of a night, causing terror and disturbance to sleepers who wear it; the Opal is fatal to love, and sows discord between the giver and receiver; the Topaz is favourable for all hemorrhages, and imparts strength, with good digestion; the Loadstone, Sapphire, and Diamond, are each capable of producing somnambulism, and when combined into a talisman attract such powerful planetary spirits as render the bearer almost invincible.”

“All precious stones when cut with smooth surfaces and intently gazed upon are able to produce somnambulism in the same degree as the Crystal; also to induce visions (just as hypnotism may be caused by gazing on any small shining substance); the Diamond will deprive

the Loadstone of its virtue, and is the most powerful of all stones to promote spiritual ecstasy."

J. Baptist van Helmont, London (1650), wrote that "a translucent piece of Amber, rubbed on the jugular artery, on the hand wrists, near the instep, and on the throne of the heart, and then hung about the neck, was a most certain preventative of the plague,"—the profound success of which was attributed by Van Helmont to its magnetic and sympathetic virtue.

In modern medicine its tincture is given for nervous headache; also its oil is employed as an embrocation against rheumatism, whilst forming the basis of Roach's liniment for whooping cough.

COW.

THE Cow, the female of *Bos taurus*; *Vacca*, besides supplying milk for the dairy, with butter and cheese as its invaluable contingencies, has been supposed from early times to exercise several medicinal virtues by her excretions. The *London Pharmacopœia* (1696) ordered an extract of cow dung to be made by taking of new cow dung three pounds, and a strong lixivium (Lye-water) of quicklime nine pounds; digest a day and a night, decant, and keep it for use. It will have all the virtues of tincture of cows' dung, with a much greater power to sweeten the blood, to take away acidities and cure the scurvy, insomuch that scarce any disease is able to stand before it, being continually used as a diet; the dose from three to five ounces in a glass of fair water sweetened with sugar." In *A Thousand Notable Things* it is said that culver-dung sodden in wine till the wine be consumed, and then emplaced hot to the gout healeth the same perfectly: use it morning and evening for four or five days together. Again, the

aqua omuium florum, in which cow dung was the chief ingredient—the *esprit de millefleurs* of a century ago—was commended for use in pulmonary consumption; the breath and smell of a Cow being also deemed good against this disease in Fifeshire, Flintshire, and other parts, as well as to sleep over a cowhouse. Likewise the *fresh* dung has been always thought curative when applied to erysipelalous surfaces and wounds, this being mixed with some unguent to prevent its drying. The perfume of new cow dung was also formerly ordered, from some collected during May.

In the south of Hampshire a plaster of cow dung is now commonly applied to open wounds. Nevertheless, Shakespeare pronounces Gloucester's son Edgar mad (in *King Lear*), as "Poor Tom that eats the swimming frog, the toad, the tadpole, the wall-newt, and the water; that in the fury of his heart eats cow dung for sallets; swallows the old rat, and the ditch-hog."

Dr. Jacoud, in his *Traitément de la Phthisie Pulmonaire*, makes a great point of consumptive patients who dwell in the country drinking plenty of milk, and this in the cows' stables, not only that they may thus get the milk perfectly fresh, but that they may breathe the atmosphere of the byre for a short period two or three times a day. He says he is very sure that this atmosphere has the effect of allaying bronchial and laryngeal irritation, and of relieving cough."

Dr. Forbes Watson, writing in *Flowers and Gardens* (concerning the cowslip), adds, "Its fine scent recalls the sweet breath of the Cow, an odour which breathes about cows as they sit at rest in the pasture, and which is believed by many, perhaps with truth, to be actually curative of disease." The urine of cows is called, in Lancashire, "all-flower water." About this secretion

M. Boussingault wrote (in the *Lancet*, August 23rd, 1845), "Cow's urine contains bicarbonate of potass, so that with the urea, the hippuric acid, and this salt, it curiously resembles an alkaline mineral water; and it may be employed as a medicine to dissolve uric acid calculi. I speak," said he, "more seriously than you will be disposed to believe when I say that I should have more confidence in the urine of one of my cows than in an alkaline solution prepared by many a celebrated chemist." "The sacrificial value," tells Captain Bourke, in *Scatological Rites*, "of cow dung and Cow urine throughout India and Thibet is very great; the most noted of all purifiers is the urine of a Cow: images are sprinkled with it; no man with any pretensions to piety or cleanliness would pass a Cow in the act of staling without receiving the whole stream in his hand, and sipping a few drops. If the animal be retentive a pious expectant will impatiently apply his finger, and by judicious tickling excite the grateful flow; or the superstitious Hindoo will catch it in the hollow of his hand to bedew his face and all his body." In the Sanskrit *Atharvaveda* Red cows are prescribed for curing blood diseases, Saffron and the Yellow-hammer for jaundice. In *A Thousand Notable Things* (1815) it is told that "The hoofs of the forefeet of a Cow dried and made into fine powder increaseth milk in nurses if they eat it in their pottage, or use it in their drink." In Boyle's *Collection of Medicines* (1696) it is directed, "To take out the marks of gunpowder shot into the skin of the face or elsewhere, collect fresh cow dung and having warmed it a little, apply it as a thin poultise to the part affected, renewing it from time to time as occasion shall require." And in like manner Robert Lovell (1661) noticed the dung of the Cow to be of a

drying faculty and drawing, "as appeareth when it is applied to the stings of bees or wasps. Some have cured the dropsy therewith, plastering it on the patient, and setting him to dry in the same."

But among all animals slaughtered for food the greatest sinner in the matter of liability to propagate tuberculous disease in those who eat its flesh, or drink its milk, is the dairy Cow, and this mainly because she is a domesticated animal subjected to artificial treatment as to feeding and housing.

CRAB.

THE marine Crab (*Cancer pagurus*) is so well known as not to need any detailed description. Its flesh is much esteemed as food, particularly about harvest time. During the summer it occurs in rocky pools on our coasts: but in the winter Crabs either burrow in the sand, or go further out to sea. "The whole Crab," says the *Pharmacopœia of London* (1656), "is excellent against consumptions, hecticks, phthisicks, and asthmas; the eyes take away all acidities, breaks the stone, dissolves the tartareous coagulations and congealed blood."

Crabs' eyes are prepared by levigation upon a marble slab, with fennel or rose-water. But the "Crabs' eyes" (*oculi crancrorum*), of old medicine were obtained rather from the river Crawfish (*Astacus fluviatilis*), being two rounded masses of carbonate of lime found stored for self repair on either side of its stomach. The crustaceous covering of the Sea Crab, and the tips of its claws, are used by this creature for like purposes. Thirty years ago large quantities of the common Shore Crab were eaten by the London poor. E. Step says he used to go as a boy to buy them all alive from an old woman in some small

alley where the Courts of Justice now stand, eight or ten for a penny; and he then thought them very toothsome and good.

The Crab is an omnivorous feeder, taking flesh, fish, or fowl. It is "An enemy to the oyster, for he liveth by fish thereof with a wonderful art. For, because that he may not open the hard shell of the oyster, he spieth, and awaiteth when the oyster openeth, and then the Crab that lieth in wait taketh a little stone, and putteth it between the shells that the oyster may not close himself; and when the closing is so let the Crab eateth and gnaweth the flesh of the oyster." Bartholomæus Anglicus (13th century) wrote: "For a strumous swelling, according to the Saxon leechdoms, the powder of a Crab mingled with honey and applied to the swelling would soon make all well." And again, "If there be a mist before the eyes, mingle together a Crab's gaul (*Corvi marini fel*), and a salmon's, and an eel's, and field bees' honey, then smear the eyes inwardly with the salve." Crabs also were prescribed as a remedy of very old date for increasing the flow of milk, being commended for this purpose by the author of *Gynæciorum*.

After the surreptitious supper in the bedroom by the boys at Mr. Crackles', on a supply of shell-fish brought by Mr. Peggotty, "Traddles was taken ill in the night; quite prostrate he was, in consequence of Crab" (*vide, David Copperfield*).

"Why," it is said, in the *Comic English Grammar*, "should the parish clerk in a country village be unable to pronounce proper names, and should say 'snatch a crab' for 'Sennacherib,' or 'leftenant' for 'leviathan?'" The story is now old about Cuvier, the naturalist, and the French academy who had adopted in their dictionary

as a definition of Crab : "A small red fish which walks backwards." "This," said he, "would be perfect, gentlemen, but for three exceptions. The Crab is not a fish, it is not red, and it does not walk backwards." When fairly caught the Crab is apt to feign death.

From the CRAYFISH, or CRAWFISH (*Cancer a lacus*), the "Crab's eyes" of old medicine were got, as has been already stated, and exercised an antacid effect because consisting mainly of lime. But Richter has said "these Crabs' eyes possess a diaphoretic virtue, and may even produce nettlerash, or excite bleedings; by no means are they to be thought mere carbonate of lime in common with mineral cretaceous preparations, such as chalk and the like." The Crab's eyes are about as large as peas, whitish and roundish, without odour or taste. Besides carbonate of lime they contain some phosphate of lime, and animal gelatin. They are procured in great abundance at Astracan, where the Crawfish are bruised with mallets and allowed to putrify, after which the stones are picked out and levigated. Their powder is given to correct acid indigestion with diarrhœa, the dose being from one to two drachms. The Honourable Richard Boyle (1696) ordered "for the heart burning, to take from twenty to forty grains of Crabs' eyes (known commonly in the shops as *lapides Cancrorum*), reduced to very fine powder, and either take it alone, or in any convenient conserve or syrup; 'tis for the most part best to take this medicine when the stomach is empty." Also, "To make a very nourishing aliment that hath recovered divers in consumption, take eight or ten Crawfishes, boil them (after the blackest gut or string is taken out) in barley water till they become very red, then take them out and beat them long, shells and all, in a marble mortar to a soft

mash; and in a press strongly squeeze out the juice, which may be given either alone, or mixt with about an equal part of chicken broth, or some such convenient alimental liquor." The Craw-fish thrives best in rivers, about the banks, in holes, or under stones, feeding on small molluses, fish, and larvæ of insects. The old writer, Jerome Curdan, said, "This animal is a sign of the goodness of the water in which it is boiled, for the best water turns it very red." But any heat will bring out the red colour, even on placing the shell before a fire; and spirit of wine has the same effect. As to diet it is not at all fastidious; the female will devour her own offspring, whilst the male will kill and eat his own spouse. These fish are very delicate food, and the power of the claws is extraordinary for so small a creature. The live crustacean, bruised to a pulp, has been employed in tincture. It is credited in Paris with aphrodisiac properties, and enters into the composition of Bisque soup. *Le bouillon d'ecrevisses* was a "*bouillon analeptique anciennement recommandé dans la phthisie pulmonaire, dans la lèpre, et dans les affections du système cutané.*"

Another little kindred creature which inhabits fresh-water streams, lying underneath, whilst credited of old with certain medicinal virtues, is the LOACH (*Cobitis barbatula*). This is a small, heavy fish, spending much of its time at rest on the bottom of the water. The Loach is slimy, having six barbules at the mouth. It may be caught by dragging a strong net along the bottom of the stream. By some it is named "Groundling," and the Germans call it "Smorle." Dr. Salmon (1696) declares the flesh to be "light and excellent nutriment, wholsom, and good for women with child." We read, in *Malone* (1800), "It was a practice of young gallants

to swallow Loaches in wine for the supposed property of communicating their prolific nature." In Farquhar's *Constant Couple* occurs the passage: "I have toasted your ladyship fifteen bumpers successively, and swallowed cupids like loaches in every glass." "He grows to be about a finger long," says Izaak Walton, "and no thicker than is suitable to that length. The fish is full of eggs, or spawn. By Gesner, and other learned physicians, it is commended for great nourishment, and to be most grateful both to the palate and the stomach of sick persons."

CROW (see MISCELLANEOUS).

CUCKOO ,, ,,

CUTTLE FISH.

THE Cuttle Fish (*Sepia officinalis*), a mollusc, is found in the Mediterranean and European seas. It furnishes the Cuttle-bone of the shops, which is used in powder for the teeth, and is given to correct acidities because containing so much lime as an alkali.

Among the ancients this and other of the Sepias were esteemed as food, being thought also aphrodisiac, and strengthening for athletes. The modern Greeks and Romans deem their eggs a great delicacy. The Cuttle shell is technically known as the "Sepiostaire." It is useful to the animal both as a shield, and as a float. Cornish fishermen call this creature "Cuddles." Other names for it are "Squid," and "Octopus." It lives in shallow water, the broad internal boneplate and the egg-clusters being often found on the beach. Fish are very fond of the Sepia, and when cut up it makes capital bait. The Cuttle carries under its throat a bladder, or receptacle, containing a humour which is

blackier than ink, the *Sepia succus*, which it discharges into the sea when pursued, so as to intercept the sight of the fishermen. Several medicinal properties are possessed by this fluid. Of old it was said to be "Detersive, aperitive, desiccative, and proper to take away freckles and spots on the face and skin"; the dose being from ten to thirty drops in water. At the same time it was alleged, "The eggs or spawn of the Cuttle Fish provoke urine, and the terms." The black humour may be spread on saucers around their inner surface and allowed to dry before it has time to putrefy. The bone when powdered is known as "pounce." The *succus*, or juice, is brought to this country in the bag wherein it has been dried. For medicinal use (H.) it is triturated with sugar of milk. Its primary and essential toxic action, when given in material doses, is to cause congestion in the veins, first about the liver and biliary organs, and then throughout the body. (Furthermore, the colouring matter is employed by artists as a pigment when dried. It appears to be similar in its nature to the black pigment of the eye in other animals, and is known to chemists as "Melaine," not being soluble in water, but remaining for a long while suspended therein.) As tending to lessen venous turgidity, when given medicinally of reduced strength and in diminished doses, *Sepia* has proved particularly serviceable in chronic diseases of women during their period of activity connected with the womb and the ovaries. It is especially suitable to females of dark complexion, and of fine delicate skin, with red or yellow tinting here and there, whilst highly sensitive to all impressions. The experimentalists found themselves troubled with "whites," with falling down of the womb, or its retro-

version, whilst its mouth became ulcerated ; and the curative powers of the diluted drug proceed on this plane. The discharge to which its remedial powers are adapted is greenish and thick, or profuse, watery, and offensive. This preparation is also very helpful in relieving such congestions as arise on the cessation of the monthly flow. "Altogether," says Dr. Richard Hughes, of Brighton, "no medicine, save Pulsatilla, is so useful to the weaker sex as Sepia." Fulness, likewise, of the veins within the middle trunk, as shown by constipation, piles, descent of the lower bow el, and turbidity of the urine, is materially benefited by Sepia ; which is reckoned, moreover, a specific in recent ringworm, and has a special power over the periodical headache known as "Migraine." Very emotional persons, who soon break out into a perspiration, with a peculiar odorous sweat of the armpits, and soles of the feet, are remarkably amenable to this medicine. For general torpidity and vital depression it is most useful, and where a sensitiveness of the skin to cold air exists. Either the trituration (H.), or a tincture diluted to third decimal strength, produces the best results. In token, as it were, of the frequent juxtaposition of disease in a place, and its remedy, the Cuttle Fish is found on the seaboard where torpidity of the liver, piles, and venous congestions most prevail.

Cuvier illustrated his studies of the Sepia, the Loligo, and other Cephalopods by drawings made with the natural ink of the creatures he was dissecting. But the Sepia of the painters must not be taken for medicinal purposes, as it has been acted upon by caustic potash. The ink bags of certain Cephalopods fossilized in the Lias beds have remained unaltered unto the present day. "In the lower Jura formations," says Humboldt,

“the ink bag of the Sepia has been so wonderfully preserved that the material which myriads of years ago might have served the animal to conceal itself from its enemies still yields the colour with which its image may be drawn.” This colouring matter, when dried, is made nowadays into cakes of Indian ink.

The ancient writer, Atheneus, taught how to concoct a Cuttle Fish sausage; and in the Neapolitan markets may be seen to-day the arms, or tentacles, of this fish cut up into portions and prepared for cooking. At the Chinese Restaurant of the Health Exhibition in London, 1884, its menu of September 11th contained, among other strange dishes, “*Visigo à la Tortue*,” an excellent soup made, in imitation of turtle, from the Cuttle fish or Octopus. This creature finds a place, too, in the fishermen’s baskets all along the sea coasts of France and Italy, being boiled in oil when cooked, and offered for sale in the streets to passers by, with the recommendation: “It is good! very good!” The Romans invariably took out the eyes of the Cuttle Fish before cooking it:—

“Age nunc jam

Jube oculos elidere, itidem ut sepiis faciunt coqui.”

This fish was esteemed by them a fitting sacrifice to the gods.

“Broths,” says M. Teste, “made from the same mollusc were used by the ancients in many of the affections of the generative organs, of the urine, and of the skin, in which modern medicine now finds the succus so beneficial.”

Among his *Collection of Medicines*, Boyle (1696) gave as “An experienced remedy to correct the humour in the king’s evil, to take half-an-ounce of Cuttle bone, dry’d till it may be finely powdered, and give this to the patient for one dose.”

In Greece a black broth is cooked by the poor and is found to be excellent, being composed of small Cuttle Fish (including their ink bags) boiled up with rice and other vegetables. That of old Lacedæmonia was in all probability a similar concoction.

DOG.

FORMER physicians attributed to the Dog (*Canis; Kuon*) and its whelps many curative virtues. "The gall of a black puppy," said Schroder, "mixt with vinegar cures the epilepsie to a wonder." In a papyrus, thought to have been written four thousand years B.C., the following prescription for promoting the growth of the hair was given: "Take the pad of a dog's foot, the fruit of the date palm one part, ass's hoof one part, and boil together in oil." In a *Receipt Book of Secretes* (1562), for the apothecaries of the time, the process of making the "oil of red dog" is given with elaborate detail. "By the means whereof (beside other infinit vertues that it hathe) I have healed a Fryer of Saint Onostres who had by the space of twelve years a lame and drye withered arme, like a styche, so that Nature gave it no more nourishment." Pliny prescribed against all kinds of pain a tick from a dog's left ear, to be worn as an amulet; but care must be taken that the dog is black. Whooping cough was in former times believed to be transmitted to a dog by giving him hairs of the affected patient between slices of bread and butter. More recently, as we read in *Notes and Queries*, "My nurse declared," says a correspondent, "that my brother and I were cured of the measles by having hair cut from the nape of each of our necks, and then separately placed between two slices of bread and butter. She proceeded to watch anxiously for a strange

dog to pass, and gave him the bread and butter, which he ate without loathing. Therefore she made sure we should be cured. The dog went off, and died, of course, from the measles, having travelled away with the disease of three infected children." In an old manuscript receipt book of medicine and cookery occurs the following: "Against the bite of a mad dog, write upon an apple, or on fine white bread, 'O, King of Glory! come in peace!' 'Pax, max, adinax! opera chudor.' Swallow this three mornings fasting." "Dogs' hair," says the *Scandinavian Edda*, "heals dog's bite."

Goldsmith tuned his lyre amusingly (1760) about:—
 "A dog and man who first were friends; but, when
 a pique began, the dog, to gain his private ends, went
 mad, and bit the man."

"The wound it seemed both sore and sad
 To every Christian eye;
 And while they swore the dog was mad,
 They swore the man would die.

"But soon a wonder came to light,
 That showed the rogues they lied:
 The man recovered of the bite,
 The dog it was that died."

"Si qua fides oculis avidæ sapientibus urbis
 Vulnere solliciti plena doloris erant;
 Delirare canem dum jurat quisque vicissim,
 Uno est consensu mors obeunda viro.

"Sed nova decurrens prodit miracula tempus,
 Et vulgo infidos arguit esse dolos;
 Incolumis noster superest, mirantur et omnes
 Unum ex ambobus deperiisse canem."

Cervantes writes in *La Gitanilla*: "A young man on approaching a gipsy camp by night was attacked and bitten by dogs. An old gipsy woman undertook to cure his wounds, and her mode of proceeding was to takesome of the dog's hairs and fry them in oil; and having first washed with wine the bites he had in his

left leg, she put the hairs and oil upon them, with a little chewed green Rosemary over them. She then bound the wounds up with clean cloths, and made the sign of the cross above them." In the *Lancet*, as far back as November 24th, 1877, is to be found a striking instance of cure by animal extract. It was noticed more than twenty years ago that dogs (of which there are many in Constantinople), become infested in summer by swarms of a species of tick which anchors itself firmly on the victim's body, preferring the head and ears. The dogs, to all appearance, do not suffer from their presence, and it is remarkable that hydrophobia is almost unknown there. It must be to the gentle influence of the ticks, as popularly ascribed, rightly or wrongly, that the Constantinople Dog enjoys an immunity, nearly complete, from rabies. Floyer says, too, that a rabid dog's liver will cure madness as a medicine. In the *Life of Sister Dora* it is related that she one day, at the hospital, came across a Dog bite, which had been plastered over with some hairs of the animal thought to be mad; this being literally on the principle of cure with "a hair of the Dog which has bitten you."

At a Congress held in Marseilles, 1874, Dr. Jacquême proved that the milk of women produced rickets in young dogs if they were fed therewith, and that in turn the milk of female dogs would cure sickly or rickety infants. This fact is due to the comparative composition of the respective milks: thus, in a thousand parts, the woman's milk contains, of butter 26.66, of casein 39.24, and of salts 1.38; whilst that of female dogs contains, of butter 97.20, of casein 117, and of salts, 13.50. Again, in the *Gazette Hebdomadale* (No. 11, 1876), it is stated that a lioness of the

Zoological Gardens was in the habit of throwing litter after litter of whelps with cleft palates until a more bony diet of whole rabbits was given to her during gestation, and this remedied the defect. The women of Montreux, in Dauphiné, after losing a nursing infant by death suckle a puppy to prevent pregnancy, and all such puppies suffer presently from rickets; but they will recover again under the renewed use of their own mother's milk. So M. Bernard subjected a female rickety child of twenty-six months to the Dog's Milk cure with striking success, as likewise in six other cases. The swelling of the joints (epiphyses), and the bending of the bones quickly diminished, the muscles became stronger, and the health of the little patients improved after two or three months. A powerful bitch was procured to act as wet nurse for the child particularized above.

To do away a dwarf, *i.e.*, epileptic fit or convulsion, "give to the troubled man to eat thost (dung) of a white hound, pounded to dust and mingled with meal, and baked to a cake, ere the hour of the *dwarf's* seizure, whether by day or by night it be; his access shall be terribly strong, and after that it diminisheth and departeth away. For savageness of hounds and contrariousness, he who hath a hound's heart with him, against him shall not hounds be keen. For all sores if thou, in the early part of summer, takest for food any whelp being then still blind, thou shalt not be sensible of any sore. If thou frequently smearest and toucest children's gums with bitch's milk the teeth wax without sore." (Sexus Placitus, in *Saxon Leechdoms*.) Also a Dog licking a wound or a running sore is thought in Scotland to effect a cure.

Folklore credits the Dog with seeing more than can be perceived by man. In Rabbi Bechai's *Exposition of the*

Five Books of Moses, a passage tells how "Our Rabbins of blessed memory have taught 'when the dogs howl then cometh the angel of death into the city.'"

" In the rabbinical book it saith
The dogs howl when, with icy breath,
Great Sammael, the angel of death
Takes through the town his flight."
(Longfellow, *Golden Legend*.)

It was formerly believed that dogs can discern the wraiths of dying or deceased persons. Without doubt many strange coincidences have occurred in which dogs, by their piteous and restless whining, seem to have foretold coming death. Virgil wrote, when alluding to the Roman misfortunes in the Pharsalic war:—

" Obscœnique canes, importunœque volucres
Signa dabant."

In his *Collection of Medicines* (1696), the Honourable Richard Boyle gives as "A homely but experienced medicine for a sore throat, to take about one drachm of album grœcum, or white dog's turd, burnt to perfect whiteness, and with about one ounce of honey of roses or clarify'd honey make thereof a Linctus to be very slowly let down the throat."

Bartholomœus Anglicus wrote in 1250, "Also the hound is envious and gathereth herbs privily, and is right sorry if any man know the virtue of those herbs; as is also evil afraid if any strange hounds and unknown come into the place where he dwelleth. And at the last the hound is violently drawn out of the dung-hill with a rope or with a whip bound about his neck, and is drowned in the river or in some other water; and so he endeth his wretched life, and his skin is not taken off, nor his flesh is not eaten, or buried, but left finally to flies and to other divers worms." Any such hound used to be called "Shackatory."

The Archbishop of Armagh's cure for the gout to Lord Burghley, Dublin, 1571, was to "Take two Spaniel whelps, of two days old, scald them, and cause the entrells be taken out, but wash them not. Take four ounces brimstone, four ounces torpentyne, one ounce parmacete, a handful nettles, and a quantity oyle of balme, and putt all the aforesayd in them stamped, and sowe them up, and rost them, and take the dropes and anoynt you where your greife is; and by God's grace your honour shall find helpe." Pliny declared that sucking puppies were worthy of being served as a supper for the gods. The quaint proverb, "As lazy as Ludlam's dog which laid him down to bark," runs in the same category as, "So queer as Dick's hat-band, which went nine times round his hat, and was fastened by a Rush at last."

"*Latrantem curatne alla Diana canem?*" "Doth the moon care for the barking of a dog?" asks Burton in his *Anatomy of Melancholy*. Also, "as a cur that goes through a village, if he clap his taile between his legs and run away every cur will insult over him; but if he bristle up himself, and stand to it, give but a counter snarle, there's not a dog dares meddle with him. Much is in a man's courage and discreet carriage of himself." "The Corsicans feed on Dogs, both domestic and wild, and are therefore doggish." A Thames bargee shows fight straightway if questioned as to "Who ate the puppy pie under Marlow bridge?" And when the Volunteer movement was in its early days, to ask a rifleman "Who shot the dog?" was a highly provocative piece of banter. "*Et canis in somnis leporis vestigia latrat*": "As a dog dreames of an hare, so do men on such subjects as they thought on last." It is a popular Scotch belief that the hair of a dog which has bitten a person will,

if applied to the bite, exercise a curative virtue and prevent hydrophobia. This dire disease has been overcome at times by profuse sweating. In a case where smothering by a feather bed was attempted, with a view to mercifully putting an end to the sufferer's existence, and where the man was left for dead, to the surprise and horror of all who saw it he crawled from beneath the feather bed; but relieved from his terrible malady. Likewise a man who, in despair, chose a hot bath as the readiest means of ending his life when victimized by hydrophobia, found to his astonishment his sensations becoming easier, and it proved the cause of restoring him to health. "A common cure in the country," says Burton, "for madness when bitten by a rabid dog, for such at least as dwell by the sea, is to duck them over head and ears in sea water. Some also use charms; every good wife can prescribe medicines."

DUCK (*see* MISCELLANEOUS).

EARWIG.

THE Earwig (*Auricularia*), has been named from the Saxon "*Ear wiega*," "Ear insect," because the hind wings resemble in appearance the human ear. (*Wiega* was a shorn bug, a beetle.) This well-known insect is called in Northamptonshire "arrawig," in Suffolk "arrawiggle," in the Eastern counties "narrow wriggle," in Leicestershire "wiggenear," in the West "yerriwig," and in the North "twitch bell." The Saxon leechdoms ordered: "For the synovia of the joints, if the synovia ooze out (*ut humore purulento, vel mucilento collecto aut viscoso generent poros quos nos transitus dicere poterimus*) take the netherward part of marche (smallage), and honey, and the smede (flour) of wheaten meal, and the

bowels of an earwig; rub them together and lay on." Robert Lovell (in 1661) told that "earwigge, being boiled in common ale, and then used to the arteries in the temples and wrists, they cause a feaver and so cure convulsions." These insects are vegetable feeders, and seek to hide themselves from the light. In the *London Pharmacopœia* (1696) it is stated that "Earwigs if dried, and finely powdered, and mixt with hare's urine, and so put into the ears evening and morning, they do cure deafness." Pliny made mention of the ear-wax (*cerumen*) being used in medicine; and Galen thought it efficacious against "hang-nails" or "nail springs." A Saxon remedy "for stroke of viper," was "to remove from thine ears the wax, and smear around therewith, and say thrice the prayer of St. John." "Jasper Belga, a Jesuit," says Burton, "cured a mad woman by hanging St. John's Gospel about her neck." The tingling of the ears is supposed by many to signify that someone is talking of the owner, a belief which dates back as far as Pliny's time. He wrote, "When our ears do glow and tingle, some do speak of us in our absence." Again—

"One ear tingles, some there be
That are snarling now at me."
—Herrick's *Hesperides*.

But it is quite a mistake to suppose that the insect will creep into the human ear, and can thence gain entrance to the brain. Dr. James Russell related, in 1879, the case of a person who became troubled with incessant sneezing, even to falling down, when the left ear was found to be blocked by an accumulation of wax in it. To be sent off "with a flea in the ear" signifies the infliction of a box or cuff on that part. Moquin Tandon said, "*Le cerumen guerissait la piqure des*

scorpions." In the South of Scotland the Earwig is a Coach-bell. For the amusement of young people the following riddle may not be out of place here:—

" My first if lost is a disgrace,
Unless misfortunes bear the blame;
My second, though it can't efface
The dreadful loss, yet hides the shame.
My whole has life, and breathes the air,
Delights in softness and repose;
Oft, when unseen, attends the fair,
And lives on honey and the rose."

In his *Tale of a Trumpet*, Hood describes Dame Eleanor Spearing as:—

" Deaf to even the definite article;
No verbal message was worth a pin
Though you hired an earwig to carry it in."

EEL.

NATURALISTS know but little of the Eel's history. (*Anguilla vulgaris.*) Very absurd notions prevailed of old as to how Eels were produced. They are oviparous (egg layers), have scales which are scarcely apparent, and they can live for a long time out of the water.

In the *Rich Storehouse of Medicines* (1650), as "a special remedy for the piles," it is ordered to "Take a great Silver eel, and slay it, and draw it, and let it touch neither water nor salt, but cut it in pieces, and roste it; then (the first dripping being cast away) take the next dripping, and, with a fine linen cloth being dipped therein, the same being hot, bathe well the place grieved twice or thrice a day, and this will cure the piles if that they be never so sore:—*probatum est.*" Also, as "An approved good medicine for one that cannot hear, take a good Silver eel (if possibly she may be gotten), or else some other bright Eel, and roste her

upon a spit, and let the dripping of her be kept very clean in some earthen vessel. When you do go to bed put the quantity of a quarter of a spoonful thereof at a time into your eare, and then stop it close with a little of the wooll that groweth between the two eares of a black sheep, and let him lie on the same side ; and the next night following use the contrary eare, and lie on the other side ; and so let him alter this course each night, and so continue this for the space of eight or nine days, and it will help you. In *A Thousand Notable Things*, "The grease of an Eel" is commended, "with the juice of singreen (house-leek) mixed together, of each a like quantity boiled a little, and a little thereof put into the deaf ear nine nights together." Robert Lovell (1661) declared : "Eels loosen the belly, but cause fluxes ; they open the windpipe, but stop the liver ; they clear the voice, but infect the lungs ; they increase sperme, but not good ; lastly, they cause agues, hurt the stomach and kidneys, engender gravel, cause the strangury, sharpen the gout, and fill the body with many diseases ; they are worst in summer, but never wholesome." "Though the Eel when dressed," writes Izaak Walton, "be excellent good, yet it is certain that physicians account it dangerous meat ; and let me add this, that the uncharitable Italian bids us "give Eels, and no Wine to our enemies." Also, Old Fuller told the same story : "Eels be found in all shires of England, yet are most properly related of throughout Cambridge as most, first and best, the Courts of the Kings of England being thence anciently supplied therewith. I know the Silver eels are generally preferred ; and I could wish they loved men but as well as men love them, that I myself might be comprised within the compass of that desire. The biggest Eels are ever

esteemed the best." "Eels," says Paulus Jovius, in *Burton*, "he abhorreth, in all places, and at all times; all physicians detest them, especially about the solstice."

"What have you ate to-day, Billy, my son?
What have you ate to-day, my only man?
I've ate an eel pie, Mother; make my bed soon,
For I'm sick at heart, and shall die before noon."

Eel blood contains a highly poisonous principle, as was discovered by the brothers Mosso, in Italy, twelve years ago; but this toxic poison is quite destroyed in the process of digestion after partaking of Eels as food. It can only assert its dangerous properties when inoculated beneath the skin, or injected into the blood: about a dozen drops thus inoculated will kill a dog (of about fourteen pounds weight) in less than ten minutes. The toxic substance contained in eel serum was originally called by the Mosso brothers "itio-tossina." Heat exposure to a temperature of 172° Fah. entirely destroys its virus. Diluted eel serum will serve, if injected into the blood, to protect an animal from viper venom; but eels are not of themselves endowed with any power which enables them to resist snake venom.

Scotch boys used to wear an Eel's skin round the leg whilst swimming, so as to get protection against cramp. To cure a sprain, an Eel's skin, wet and slimy as taken off the Eel, is said to be applied in Ulster. It is a custom in the north to rub warts with Eel's blood. Together with other matters, the Eel was reputed, of old, to cause hoarseness:—

"Nux, oleum, frigus capitis, anguilaque potens,
Ac pomum crudum faciunt hominem fore raucum."

The Conger-eel is credited with forming the chief ingredient often in turtle soup; but a special poison (or toxin) has been recently attributed to it, which at

certain times induces a choleraic attack, although at other times this soup may be taken with impunity. The Conger-eel is constantly served at foreign *tables d'hôte*; and Sir Henry Thompson has striven, amid a storm of opposition on the part of the pastrycooks, to prove that much of their choicest potage is made from the Conger-eel. Hot Eel soup was hawked in former days under the archway in Clement's Inn. This is the most glutinous fish there is; good to the navel, all below being bony, and forming the locomotive apparatus. For *Alice in Wonderland* an old Conger-eel was the drawling master who came once a week "to teach drawling, stretching, and fainting in coils." Monsieur Louis Eustache Ude, in his receipt for a *matelotte* of eels, says lightly: "Take one or two live eels and throw them into the fire; then, as they are twisting about on all sides, lay hold of them with a towel in your hand, and skin them from head to tail. This method is best, as it is the means of drawing out the oil. The blue skin and the oil which remain when they are skinned without being burnt are highly indigestible." Dr. Samuel Johnson, it is told in Boswell's Life, as he was passing by the shop of a fishmonger who was skinning an Eel alive, heard him curse it because it would not lie still. The Eel is proverbially tenacious of life; it is of little use for the angler who wants to kill it to knock it on the head; he should strike its *tail* two or three smart blows against something hard. In the neighbourhood of Ely (Eely?) marshes, where very large eels were formerly taken, it was a common superstition that these fish first came there through the transformation of the wives and children of certain recusant priests in the district into Eels. "How few cooks and fishermen know that, to

reduce the writhing creature to perfect stillness, it is only necessary to cut off the tip of the tail; stricken then with paralysis it is heedless even of music, and a child may handle it. Otherwise, so powerful is music over its species that Eels may be lured into nets by the melodies of fishermen." Frank Buckland speaks of an old Irish angler who used to set his Eel nets, and then beat a drum. The reason he gave was this: "Bedad, sorr, it's just to make them run; they think its a thundery night." The heart of the Eel is in its tail, probably to enable it to live long out of the water when migrating. Furthermore, the animal has spectacles of a transparent membrane to protect the eyes against mud, sand, and stones, which membrane it sheds with its skin. This is the case also with the common snake.

Reginald Scott gives a story of a priest who went out o' nights with his companions to steal the Eels from a miller's weir. The poor miller made his complaint, unwittingly, to the same priest, who undertook to denounce the thieves by bell, book, and candle. So, on the next Sunday at mass he chanted forth the following high-sounding lines:—

"All you that have stolen the miller's eels,
Laudate Dominum de cœlis!
And all they that have consented thereto,
Benedicamus Domino!"

"There," said he, "is a sauce for your Eels, my masters!"

In our juvenile days a jingling rhyme of Latin semblance taught two useful scraps of knowledge by running thus:—

"Infirtaris, inoaknonis;
Inmudeelis, inclanonis."

Says the Fool to King Lear, "Cry to it (your heart),

Nuncle, as the cockney did to the eels when she put them i' the paste alive." In the *Forme of Cury* is described "Ballock broth concocted from Eelys, with gynger, galyngale, canel, and peper." The Neapolitans make their Christmas fare, not of turkey, roast beef, and plum pudding, but of Eels. Formerly a large Eel was called a Fausen; and an old recipe for Eel pie was, to season the dish with sweetmeats, and a handful of currants; or sometimes the Eel was roasted. "To skin an Eel by the tail" signifies to do things the wrong way about.

An important variety of the Eel is the *gymnotus*, or Electrical eel, which may well be discussd as possessing curative powers capable of practical application to the human subject. This and the allied Torpedo were described by Professor Matteuci, of Pisa, in the *Lancet* of August 7th, 1847.

Faraday found that a shock given by the fish equals that of a battery of fifteen jars, or three thousand and five hundred inches of armed surface. Like the Torpedo (or Electric Ray, or Skate found in English seas), it owns a natural battery of cells, connected by large nerves with the brain, and kills small fish as its prey by the shocks which it generates, employing the artifice of curving itself round a fish so as to enclose it in the cavity formed by its body. The two opposite surfaces of the body are the poles, and a shock may be obtained by touching the back and the breast of the fish in salt water. Frogs distributed over many points of this (or the Torpedo's) surface give jumps at each discharge from the fish; but when often excited the discharge quickly becomes weaker, though it is soon restored again by repose. The head is the positive pole, and the tail the negative. Our common Jellyfish owns a similar

power, but in a far less degree; and its stinging properties have been employed with success for medical ends. The teeth of the Torpedo are exceedingly small; and the fish found within this animal, having been eaten as food, are without blemish, their death being evidently due to the electric force employed. The apparatus inside consists of a mass of soft structure resembling "size," with a series of white columns (or cells) divided by transverse plates, between which is a fluid containing albumen and common salt. The brain itself is very small.

Seeing that the jellyfish (which Sir Spencer Wells wrote about, *vide* "Jellyfish"), has been practically employed for the relief of neuralgia and rheumatism by its minor amount of electrical force exercised when handled, stronger arguments certainly hold good for applying the Electric eel, and the Torpedo, to similar uses on a somewhat larger scale.

In May, 1859, Dr. Routh explained that "Whiting soup (for increasing the flow of breast milk) had at that time a notoriety among women, but that its effects were somewhat exaggerated. As far as my own experience goes," said he, "I give very much the preference to Conger-eel soup, which is peculiarly nourishing, and signally improves both the appetite and the strength. Like lentil powder it will often be retained by the stomach when food of any other sort is rejected." "If eels and cheese you eat, they make you hoarse," was a Salernitan precept. "The eel," says Holt, "is the very scavenger of the water; there is no filth it will not swallow." An old Welsh maxim of the thirteenth century ran: "An eel in a pie, lampreys in salt." Ely was famous for its eels, and is said to have got its name from its rents being formerly paid in eels.

EGG.

THE Egg (*Ovum*) was in Anglo-Saxon *Aic=ey*. "*Quæ bona sunt ova, hæc candida, longa, nova;*" said the Salernitan School. The *London Pharmacopœia* (1696) spoke of "Eggs in their whole substancè" as "nutritive, the chief of all meats, and restorative in consumptions. The shells, either in fine powder or calcined, or made into a salt, breaks the stone, and expels it."

The white of an egg consists chiefly of albumen dissolved in water; it contains small portions of free soda and sulphur, whilst showing traces of benzoic acid. With some persons certainly, if not in all, the white of egg if taken uncooked in any considerable quantity will cause albumen to be passed in the urine; but ordinary cooking of the eggs will usually prevent this. A distinction, however, must be drawn between such form of apparent Bright's disease (systemic albumen), and actual serum albumen from true mischief of the kidneys. Any excess in albuminous food may produce the former condition, which is comparatively harmless. Abstinence from table-salt, by temporarily affecting the quality of the blood, is said to induce some systemic albuminuria for the time being, by increasing the oxidation of the albuminous food, and the excretion of urea.

The yolk of an egg contains oil, some albumen, gelatin, and water; its constituent vitellin (which is closely related to the casein of milk) forming from sixteen to eighteen per cent. of the whole. The yolk of the Egg, because of the amount of lethicin it affords, is considered unsuitable in any abundance for those liable to uric acid, gravel, or rheumatism. Eggs are forbidden also by many physicians in Bright's disease. Egg flip is valuable as a restorative in exhausted states

of the body. It is prepared by rubbing up (for each occasion) the yolk of an egg with a quarter of an ounce of fine white sugar, then adding two fluid ounces of brandy, and another of cinnamon water, and beating them all up together. Also, *lait de poule* for the debilitated or convalescent person is prepared by beating up the yolk of an egg in hot water, with sugar added, and some flavouring aromatic substance, cognac, rum, or orange-flower water. Eggs as a whole are rich in sodium, iron, and phosphoric acid. An *Esprit des œufs* was commended officially in 1878, similar to that described above, but which contained also the desiccated egg shells.

The contents of a raw egg, if swallowed at once, will effectually detach from the throat a fish bone which has stuck there; and to take straightway the white of two eggs will make an otherwise deadly dose of corrosive sublimate (perchloride of mercury) comparatively harmless. Eggs strengthen the consumptive, invigorate the feeble, and render persons who are susceptible to jaundice all but proof against it in its aggravated forms. The yolks of raw eggs are gently laxative, but hard-boiled eggs constipate. Patients have been frequently cured of obstinate jaundice by taking a raw egg on one or more mornings when fasting. Dr. Paris taught that a special oil may be extracted from (the yolks only of) hard-boiled eggs roasted in pieces in a frying-pan until the oil begins to exude, and then pressed hard. Old eggs furnish this oil most abundantly.

The composition of an egg-shell is estimated at ninety-one per cent. of carbonate of lime, six per cent. of phosphate of lime, and three per cent. of magnesia, with organic matter, and traces of sulphur and iron.

Its thin lining membrane was at one time thought efficacious in ague. Egg shells have served, when finely triturated, to cure by their potentialized lime some forms of cancer. In 1874 Dr. Grauvogl, of St. Petersburg, introduced a remedy (the nature of which was kept secret for a while) for certain kinds of cancer, giving this the name of Lapis albus. Several cases of true and incurable carcinoma (pronounced to be such by competent surgeons) were without doubt thoroughly and enduringly cured with this remedy. He then announced its character and source, *viz.*, as triturations of gneiss (primitive calcium, or lime), of the sixth or seventh potencies, decimal scale. This gneiss may be got from the mineral springs of Gastein in the valley of the Ache, which, starting from the foot of the Tauern mountains, flows in its precipitous course over formations of gneiss. The inhabitants of the valley along the river have thick necks and often goitres of immense size. Dr. Grauvogl found that the thermal springs, gushing out from the depths of the gneiss formations, seriously aggravated all carcinomatous (cancerous) growths. He therefore proved his attenuated dilutions on the sufferers, both men and women, with most astonishing curative results, though not as yet on open cancers. Indurations of the lymphatic glands were dispersed with wonderful success, provided always the patient's blood had not become seriously impaired by malarious disease.

In 1696 the Honourable Richard Boyle advised, "To make an easie diuretick, peel off the inner skin of an egg shell; then beat the shell to a very fine powder, and give about a scruple of it at a time in any convenient vehicle."

Theophrastus Paracelsus, as translated by Dr. Hester

(1633), ordered: "To make oil of eggs, take eggs, and seethe them hard; then take fourth the yelks, and stamp them in a mortar; then put them in a frying-panne and set them over the fire, and continually stirre them until you see them turne to oyle; then take them forth and put them into a canvas bagge, and presse it forth. This oyle helps wounds with great speed; it makes the hayre of the head, or beard, black; it takes away the paines of the emerodes (piles); it is excellent against burning with fire, or scalding with water. You shall understand this oyle may be made very perfect by the art of distillation without impression, as I have proved divers times." Scripture tells us (first book of *Samuel*) that the Philistines were smitten with emerods in their secret parts, and that they made golden emerods, *i.e.*, images of diseased veins, or hemorrhoids, in commemoration of delivery from this plague.

In the *Rich Storehouse of Medicines* (1650), "A very good remedy" is advised, "to cause one to make water that cannot. Take a newlaid eg, and make a hole in the greatest end of it, and take forth both the yolk and the white, and lay the hole of the eg downwards upon a hot brick stone, and let it remain so until it be so well purged that you may make powder thereof; then beat it to powder and drink it in white wine twice a day, first and last, and it will help you. This was much used by one Mr. Rose, who eased many therewith: also, it is marvellous good against the stone."

In the same *Storehouse* is given, "An experienced medicine for the procreation of nature if it be decayed (either in man or woman): Take half a nutmeg and grate it very fine, and then take a newlaid egge and set it to the fire and let it stand thus till it be blood warm, and then put therein a pretty quantity of fine

sugar, and a pretty portion of rose-water, and the grated nutmeg; and then blend all these together in the yoke of your egge, and so sup it off. Use this every morning fasting, and this will profit you very much."

When shaken up with alum the white of an egg coagulates, and makes a convenient, grateful poultice for bruises, burns, excoriations, bites and stings of insects, and local swellings. If confined in a thin muslin bag this is a popular and useful application for an inflamed eye. Also, the fresh yolk of an egg is sometimes employed with benefit as a dressing for burns, scalds, and abrasions; likewise to remove the hard crusts of skin eruptions, or to soften troublesome wax in the ear.

One condition in which eggs as food are of great service is that of cancer affecting the lower bowel, since, because they are entirely absorbed in the alimentary canal, disturbance of the lower bowel by the presence there of excrementitious matter to be voided is not incurred. A good mixture under these circumstances is that of three eggs (the whites), two eggs (the yolks), and a quarter of a pint of properly made beef tea, the eggs being first beaten up separately, and then all mixed together. After keeping the mixture in hot water until cooled enough to set, it may be given in two or three portions. Eggs are sometimes predigested with a little pancreatin, and injected as food into the lower bowel when wishing to save the stomach from use.

The ancient Welsh physician had for his medical guidance the following curious table of measurement:—

"Four grains of wheat make one pea:
Four peas make one acorn:
Four acorns make one pigeon's egg:
Four pigeon's eggs make one hen's egg:
Four hen's eggs make one goose's egg:
Four goose's eggs make one swan's egg."

Byron, in *Don Juan*, has declared :—

“ Eggs, oysters too, are amatory food ;
But who is their purveyor from above
Heaven knows ; it may be Neptune, Pan, or Jove.”

Dr. Stacey Jones, of Philadelphia, has commended, for abrasion of the feet and raw heels after long walking, “To apply white of egg, or wrap the sore foot in a soft greasy cloth, break an egg in the shoe, and march on.” Said the *Welsh Red Book*, in the thirteenth century, “One egg is economy, two are gentility, three greediness, and the fourth is wastefulness.”

Egg shells, first browned *in vacuo*, and triturated with sugar of milk to the third decimal strength, are highly extolled in America for the cure of “whites” (leucorrhœa) in women. Dr. Edsor tells of seventy cases treated consecutively in this way, and without a failure—especially when a feeling is complained of as if the back were being broken in two and tied up with a string.

In patients suffering from sore throat, when swallowing is difficult, but concentrated nourishment is necessary, the yolk of a raw egg may be turned whole into a teacup, whilst discarding the white ; now add to the yolk a pinch of salt, with a dash of vinegar or lemon-juice. It is to be swallowed entire like an oyster ; and as the yolk generally breaks at the moment of swallowing, in addition to the nutriment there is thus made a soothing emollient application to the throat. Ovid alludes to the ancient, and probably earliest method of cooking eggs—on live ashes :—

“Ovæque non acri leviter versata favillâ.”

Nowadays the peasant who bakes his egg in hot wood embers piled about the shell knows by a sure sign when

the inside is sufficiently cooked: as soon as a clear dewdrop exudes from the shell's top visible above the embers then the egg is done to the perfection of softness. Pope has put it on poetical record: "The vulgar boil, the learned roast an egg." And we are asked in *Job* (chap. vi., ver. 6): "Is there any taste in the white of an egg?" The shell of an egg is porous, and will absorb the smell or flavour of anything offensive placed near it. "An egg and to bed," is proverbial; but why a man should take an egg before going to bed, or should go to bed immediately after taking an egg, is a question yet to be answered. Lord Dundreary suggested, "Perhaps that he may hatch it." Eggs which are at all putrescent give special disgust to ourselves, and will sometimes provoke violent diarrhoea if eaten inadvertently. Yet the Chinese are credited with a fondness for eggs half rotten. But a really good, home-laid, fresh egg well merits the description here accorded to it.—

"In marble walls as white as milk,
Lined with a skin as soft as silk;
Within a fountain crystal clear
A golden apple doth appear.
No doors there are to this stronghold,
Yet thieves break in and steal the gold."

"Erbolat," says the *Forme of Cury* (1780), "was in old times a confection of herbs and eggs." Egg shells filled with scented water were used as missiles at Italian carnivals by sportive ladies who threw them about in the public ways. King John is related to have shut Maud Fitz-Walter the Fair in the highest, chilliest den of the Tower; and when neither cold, nor hunger, nor solitude broke her strength, when she still disdained his shameful suit, he foisted on her a poisoned egg, which she ate and died. Dr. King Chambers playfully alleges

that on the East coast the best plover's eggs are usually laid by gulls.

Liebig found cholesterin and iron in the yellow oil of the egg's yolk; about which still another old recipe may be given as, "A medicine for burning or scalding in any place wheresoever; take four eggs and rost them, and then take the yolks out of them, and fry them in a pan softly upon the embers till they be black; and thereof will come an oyl (which you must put in a gally-pot to be kept safe), and when you will use it take a feather and anoynt the sore therewith." The white of an Egg is a most efficacious modern remedy against burns.

It is told that once upon a time three Capuchin friars, when travelling, reached an inn which was so poorly furnished as to its larder that only a single egg and one pinch of salt could be produced for their refreshment. At first they disputed about this small meal, but at last agreed that it should become the prize of him who could quote from his breviary the most appropriate phrase. Accordingly the first friar took the egg, and struck off its top, saying: "*Sic conteret caput tuum*": "He shall bruise thy head." The second then took the decapitated egg, and putting in the salt, said: "*Accipe sal sapientie*": "Have salt in yourselves." It was then passed on to the third, who swallowed its contents, saying, "*Intra in gaudium Domini*": "Enter thou into the joy of thy Lord." Hasselquist writes that the women in Egypt put eggs under their armpits, and have the patience to keep them there till the eggs are hatched by the heat of the body.

Some persons are specially liable to egg-poisoning, particularly with respect to the eggs of certain birds, or eggs under extraordinary conditions of cookery or keeping.

ELEPHANT.

THE Elephant is *Elephas* (Asiatic and African), of which the well-known Eastern Elephant is a noble creature, with the highest intelligence among animals. Southey, quoting from oriental fragments, wrote: "There is a something in the half-reasoning Elephant, independent of its bulk, which distinguishes it from other quadrupeds. No person would commit any act of gross indelicacy or indecency in the presence of an Elephant more than in the presence of the wholly-reasoning being. Yet the same feeling would not prevail respecting the onlooking of a stupid rhinoceros, almost as bulky." It is of very slow growth, and goes with young till the third year, living the longest among mammals. "*Quod cito fit, cito perit.*"

Du Chaillu described a royal feast which was given to him by King Obindji in Equatorial Africa. The first course was boiled Elephant, which had been cooking since the day before to make it tender. This was served to the uproarious beating of drums by some of the king's wives; but it proved abominably tough. Robert Lovell (1661) wrote about the beast: "Only the trunk, lips, and marrow of their horns are edible; yet the Ethiopians feed on their hinder parts." But the foot is really the tit-bit.

The substance of the Elephant's tusks is ivory (*ebur*; "*è barrus*" from "the Elephant"). These grow frequently to the length of six or seven feet, being proportionately thick; and one will sometimes weigh a hundred and sixty pounds. The African ivory turns yellow by keeping, but that from Ceylon preserves its whiteness longer.

Its shavings are boiled in water to make a jelly, which resembles that from hartshorn (which *see*). The African

Ivory abounds most with oil and salt, the qualities of which do not differ from those possessed by harts-horn. When burnt to blackness the tusks make "Ivory black," or "Animal charcoal," with properties already described under that heading; and another name for which is "Spodium arabum" (*spodos* = ashes). In *Saxon Leechdoms*—we quote from Sextus Placitus (1538)—"For any ill spot to take it from the body, apply elephant bone, or ivory, pounded with honey; wonderfully it removes the disfiguring marks." Again, for blemishes, "To remove them from the face, if a woman with the same dust daily smeareth her face, she will purge away the spots."

Bartholomæus Anglicus (1250) remarked, "When the elephants be sick they gather good herbs, and ere they use the herbs they heave up the head, and look up toward heaven, and pray for help of God in a certain religion."

"Among the Ethiopians elephants be hunted in this wise. There go in the desert two maidens all naked and bare, with open hair of the head; and one of them beareth a vessel, and the other a sword; and these maidens begin to sing alone; and the beast hath liking when he heareth their song, and cometh to them, and licketh them (their teats), and falleth asleep anon on liking of the song; and then the one maid sticketh him in the throat or in the side with the sword, and the other taketh his blood in the vessel, and with that blood the people of the same country dye cloth, and do colour it therewith."

Early in the present century a quack medicine bearing the pretentious title of "Elephant's Milk" had a considerable sale in England, under the hand and seal of a Dr. Campbell. It was professedly "An

effectual cure, with the caveat of Government, for debility, faded complexions, grey hairs, nightly disturbances, spasmodic complaints, bald head, stiffness of joints, premature waste, etc., etc.; being obtained in the first instance by a cunning stratagem. Elephants giving suck were entrapped beneath trees, from which ropes were let down by a windlass. The animals were then fearlessly milked and afterwards set free to rejoin the herd, and the precious milk was imported at much cost!"

However, presently the matter-of-fact analysis of an educated expert disabused the public mind by showing that the alleged lacteal fluid from Africa was merely a solution of gum mastic in spirit of wine, which when water was added thereto became milky in appearance. The ten-shilling bottle was actually worth about two pence. Southey well pronounced man "a dupeable animal, as quacks know, and act on the knowledge." "There is scarcely any one," added he, "who may not, like a trout, be taken by tickling."

When Darwin's *Descent of Man* first appeared, it was held to teach that:—

"A very tall pig with a very long nose
Puts forth a proboscis right down to its toes,
And then by the name of an elephant goes."

EXCREMENTS.

THE medicine of former times, even down to the last few centuries, has attributed many curative virtues to the excrements of animals and reptiles.

Most of such supposed virtues have become exploded, chiefly because of the disgusting and nasty nature of the substances containing them. And recent pathologists have shown (Bouchard, for instance) that putrefactive

materials of an alkaloid character exist in the fæces, especially of man, which are more or less poisonous if the excrement undergo any decomposition, their toxicity being largely due to potash and ammonia, with other salts, as cadaveric products.

Captain Bourke has lately written in full concerning the Scatologic rites of all nations,—in other words, about their excrements, and the practices pursued with regard thereto. Likewise we read in *Brand's Popular Antiquities* concerning extravagancies habitual in old England amid the orgies and wild revelry of the Carnival on Shrove Tuesday:—

“ But others bear a torde that on a cushion soft they lay,
And one there is that with a flap doth keepe the flies away;
I would there might another be—an officer of those,
Whose roome might serve to take away the scent from every
nose.”

About human ordure it was said by James (1743),
“*Stercus emollit, maturat, et anodynum est.*”

In the seventeenth century the old pharmacies of Germany contained, as medicines, mouse dung; the urine of a child newborn; the dung of screech owls, prescribed for melancholy; also the dung of doves, and of calves boiled in urine; ox-dung, etc.; whilst dog dung and fleas boiled with sage were a remedy for gout, and death sweat was used as a cure for warts. The *Zebethum Occidentale* of Paracelsus was human dung, “of a good colour and consistence, dried slowly till it be pulverized.” “To distill oyle of a man's excrement,” said he, “take the dung of a young sanguine child, or man, as much as you will, and distill it twice in a Limbecke of glasse; this healeth the canker and molli-fieth fistulæ, comforting those that are troubled with allopecia (premature baldness).” Dioscorides devoted a chapter to the medicinal values of different ordures.

Human excrements, under the name of "bothyron," were commended by Æschines of Athens for the cure of quinsy ; and Pliny gave many medicines of cow's dung, goat's dung, camel's dung, horse's dung, mouse's dung, peacock's, dog's, pigeon's, and swallow's dung. "Pills," says Captain Bourke, "prepared from the dung of the grand Lama of Thibet, are employed as infallible antidotes to disease. This dung is offered by the Lama as a precious remedy, and provided by him with great and solemn ceremonies and many prayers. It is considered a symbolical excrement of miraculous virtue. Some of the pills made therefrom had been preserved in a silver reliquary, elaborately chased and ornamented, and came into the possession of Mr. Rockhill, Secretary to the Legation of the United States in Pekin, who sent them to Dr. Mew." From Pliny's time the dung of almost every kind of animal has been used in medicine ; dog's dung with honey was prescribed for a sore throat, and wolf's dung as anti-colic ; goat's dung was considered of great value in tumour of the spleen, and cat's dung for gout in the feet ; lion's dung was anti-epileptic, and mouse's dung excellent for the constipation of children. The Emperor Nero, being of a scrofulous tendency, drank the ashes of wild boar's dung in water to refresh himself. "But," said Hieronymus, "*Qui Christum curat, non multum curat quam de pretiosis cibus sterCUS conficiat*": "If only I be a Christian what care I of what stuffe my excrements be made?"

Human ordure is supposed to be, in a Chinaman's estimation, the only perfect fertilizer. With him stable-yard manure is at a discount. So the Chinese defecate in open, doorless latrines, with a solemnity which savours of an observed religious rite.

It was believed in former days to be peculiarly

requisite that the ordure or urine of those suffering from epilepsy, yellow jaundice, quartan fevers, etc., should be put into a pig's bladder, and hung up in the chimney; in other words, they were made into an excrement sausage: Galen makes mention of this. Human fæces were at one time called "pope"; cow dung in the North was "shard," and "sleet" in Yorkshire; sheep's dung, as pellets, in the East was "thrattles"; hare's dung in the South, "treddle"; goat's dung, "trindles," and "trinnet"; sheep's dung in Lincolnshire, "trottles"; and a badger's dung "warderebe." About Devon sheep's dung is called "buttons" or "cades," and in the North "daglings."

In 1862 Dr. John Hastings, of London, published *A Medical Enquiry into the Medicinal Value of the Excreta of Reptiles in Phthisis and some other Diseases*. He says, "Of the excreta of the Boa Constrictor (it being remembered that serpents, having no intestinal canal, do not pass ordure, but only solid excrementitious urine), a gallon of water will scarcely dissolve two grains; yet half-a-teaspoonful of this solution rubbed over the chest of a consumptive patient will afford instantaneous relief to his breathing."

Dr. Hastings gives a long list of nine snakes, five lizards, and two tortoises whose excrement he has administered as medicine, all of these proving extremely useful to consumptives, in singularly small doses. The so-called "dung" consists of urate of ammonia, plus some special animal matter which is thought to confer the virtue. Bromine increases the solubility of the excrement, and heightens its efficacy, the dose being grain $\frac{1}{2000}$, with about an equal quantity of bromine. A reviewer at the time added: "The excreta of reptiles comprises their urinary secretion, of which the

chief ingredient is urate of ammonia, with a certain quantity also of phosphate of lime, and some hair; perhaps also some infinitely small residue of fæcal matter which is of wonderful virtue."

Fossilized excrement is employed in jewellery under the name of "coprolite."

"By the several kinds of fowl," observes Izaak Walton in the *Compleat Angler*, "the curious palate of mankind is pleased by day; which with their very excrements afford him a soft lodging at night." Of late guano, which consists of the partially decomposed excrements of the penguin and other sea birds, chiefly off the coast of Peru, has been made into a syrup and given internally. Its principal constituents are uric acid, urate of ammonium, and various oxalates with phosphate of lime.

As a fact it cannot be doubted that the natural excrements of wild graminivorous creatures may be vindicated for possessing certain medicinal virtues. But when animals are domesticated, and acquire habits of preter-natural feeding, their fæcal excretions contain harmful products; as is likewise the case with human beings, especially those who eat freely of meats. Quoth old Burton in his *Anatomy of Melancholy*, "Sordes vitiant": "Nastiness defiles and dejects any man; it dulleth the spirits." Boswell says that some quack administered to James the First an elixir to preserve him from all sickness ever after, which he told Buckingham was "extracted out of a turd." Hutchinson writes: "I have seen about a quart of man's excrements, which had been some days discharged, when thinned with as much ale, poured into a horse stark mad in that violent distemper they call the "staggers," of which they commonly die in a few hours, and the distemper abated, and the horse recovered. Southey,

quoting from Batchelor, notes that Sir Edward Lyttleton, when a mad dog had bitten several of his foxhounds, was advised to turn a flock of geese into the kennel. His dogs lapt up the dung of the birds, which was thought to be a sure preventative, or cure for canine madness.

Before summarily rejecting with aversion or scorn the thought of including some of the Animal excrements among present medicinal remedies, it will be worth while to note that these vary, in no small degree, according to the nature of the food and the digestive powers of the individual creature. Such excrements contain useful ferments in many instances. Unless contaminated with preter-natural bacteria, they have no stinking or offensive odour. Even the faeces voided by the pig (an omnivorous, dirty animal), which are usually most loathsome, become comparatively odourless and sweet when he is fed exclusively on barley meal. We have seen above that the excrementitious urine of serpents certainly has its recognized curative uses.

FINGER.

FINGERS, and hands have from the earliest times been the subjects of superstition, and enjoyed a curative reputation. The touch of the third or ring finger has been long supposed to exercise a healing effect, and the ancient physicians mixed their medicines therewith. "The ring finger," says an old writer, "stroked along any sore or wound will soon heal it. All the other fingers are poisonous, especially the forefinger." In Lancashire the forefinger of the right hand is thought to be specially harmful.

For consumptive patients in the province of Moray, Scotland, the nails of the fingers and toes are pared, and the parings are put in a rag cut from the clothes of each sufferer, the hand holding this rag being next

waved three times round his head whilst crying, "Deas soil;" after which the rag is buried in some unknown place. This custom is similar to that which Pliny records as practised by the Druids and magicians of his time.

About Norfolk the fingers are popularly called "Tom thumbkin," Will wilkin," "Long gracious," "Betty bodkin," and "Little tit."

"The nails," it is alleged in the *London Pharmacopœia* (1696), "given powdered or infused will cause vomiting, with great sickness at stomach, and giddiness in the head. Also, note! some do cure consumption by taking the hair and the nails of the patient, cutting them small and putting them in a hole in the root of a cherry-tree, and then stopping it with clay." The dried hand of a criminal who had been hanged was at one time in especial request for its wonder-working power, and was known as the "hand of glory." This usage was probably a degraded survival of rites attached to blood sacrifices. Mizaldus teaches: "If one bleeds from the right side of the nose, press hard the party's right finger that bleeds; if from the left side, then press the left finger in like case, for therewith the bleeding will cease. This is a common and proved remedy." The old rhymed superstition about various times for cutting the finger nails, Tuesday being the best day, is pretty widely known:—

"Cut them on Monday, you cut them for health;
Cut them on Tuesday, you cut them for wealth;
Cut them on Wednesday, you cut them for news;
Cut them on Thursday, a new pair of shoes;
Cut them on Friday, you cut them for sorrow;
Cut them on Saturday, see your true love to-morrow;
Cut them on Sunday, you cut them for evil,
For all the next week you'll be ruled by the devil."

Nail springs, or loose, sore skin at the sides of the nails, go by several names, as, "hang nails," "thang nail" (in Northamptonshire), "step-mother's blessings"

(in Yorkshire), "wirt springs" (in Lincolushire), and "back friends" (in Staffordshire).

The Romans thought that a nerve runs from the second finger straight to the heart; hence they, and the Greeks, called it the medical finger, which nothing noxious could touch without giving warning forthwith to the heart. Says Shakespeare by the mouth of the second witch in *Macbeth*:—

" By the pricking of my thumbs,
Something wicked this way comes."

In Dorsetshire a mother cuts the children's nails over the open Bible, that they may remain honest as they grow up.

Scrofula was treated of old by the laying on of kingly hands in England and France. This ceremony was first performed by Edward the Confessor, in 1050; he being a saint as well as a monarch, and his royal touch being said to have often miraculously cured the king's evil and other complaints in Normandy. A special "office" for the healing of this kind was instituted by Henry the Eighth, in 1490, for the English Church, and continued to be printed in the *Book of Common Prayer* as late as 1715, after the accession of the House of Hanover. The practice was at its height in the reign of Charles the Second. Lord Braybrooke says: "In the first four years after his restoration, the king touched nearly twenty-four thousand persons."

It was argued in defence of the House of Lancaster against that of York that the crown could not descend to a female because the queen is not qualified by her form of anointing to cure the king's evil. But on July 18th, 1575, her Majesty Queen Elizabeth touched for the evil, and it was "a day of grace." "By her highnes' accustomed mercy and charitee

nyne were cured of the peynfull and dangerous disease called the king's evil; for that kings and queens of this realm without oother medsin (save only by handling and prayers) only doo cure it." In a letter from Lord Chancellor Hutton (September 11th, 1586), concerning an epidemic then prevailing in England, was enclosed a ring for Queen Elizabeth to wear between her breasts, which would have the "virtue to expell infectious airs." Andrew Boorde, in his *Introduction to Knowledge* (1547), wrote: "The kynges of England, by the power that God hath gyuen to them, dothe make sicke men whole of a sickeness called the kynges' euyll. The kynges of England doth halowe euery yere crampe rynges, the whyche rynges worne on one's fynger dothe helpe them the whyche hath the crampe." And concerning the king's evil, "For this matter, let euery man make frendes to the Kynges' Majestie, for it doth pertayne to a kyng to help this infirmitie by the grace the which is geuen to a kyng anoynted." In connection with the royal touching pieces of gold were given by the monarch to patients for being worn as amulets; these were called "touching pieces;" and, though they were not absolutely necessary for the cure, some persons declared that the disease would return if the coins were lost. Also, the money presented by the king when touching for the evil was called "healing gold." Malcolm asks, in *Macbeth* (Act iv. Sc. 2), with reference to this cure by the royal touch:—

"Comes the king forth, I pray you?

How he solicits heaven

Himself best knows; but strangely visited people
 All swol'n and ulcerous, pitiful to the eye,
 The mere despair of surgery, he cures;
 Hanging a golden stamp about their necks,
 Put on with holy prayers. And 'tis spoken
 To the succeeding royalty he leaves
 The healing benediction."

From a Register kept at Whitehall it would appear that Charles the Second had more patients than all the physicians of his realm. During that reign a gentleman, named Valentine Greatrakes, of good family and education, "Felt an impulse that the gift of curing the king's evil was bestowed upon him." He published an account of his cures of this and other diseases, such as ague and epilepsy, with various nervous disorders, in a letter to the Honourable Robert Boyle; and seems to have performed his cures "by the stroaking of the hands." Boswell records that Samuel Johnson, when thirty months old, was taken by his mother to London to be touched by Queen Anne, on the advice of Sir John Floyer, a physician of Lichfield.

Robert Herrick, about 1640, addressed some lines to the king (Charles the First):—

"And to thy hand, the branch of heaven's fair tree,
I kneel for help: O, lay that hand on me,
Adoréd Cæsar! And my faith is such
I shall be healed if that my king dost touch."

The practice of healing by Imperial touch dates from the Romans. Suetonius tells of miraculous cures performed in this way by Vespasian. Nepotianus relates that the right big toe of King Pyrrhus was curative of lumbago by its contact: "*Si cujus renes eo tetigisset*"—[an application remarkably suggestive of a modern personal indignity!]
—and when the king's body was burnt after his death the toe remained unconsumed; it was subsequently kept as a relic in Jupiter's Temple at Dodona.

William the Third, if he reluctantly touched a person suffering from the king's evil, said, "He hoped God would give the sufferer better health, and more sense." Queen Anne was the last English sovereign who exercised the royal touch.

Burton cites from Sallust: "*Sedem anime in extremis digitis habent*"—"With certain persons the seat of the soul lies in the ends of their fingers." About the nails there was formerly a Rabbinical saying: "*Ungues comburitur sanctus; justus sepelitur eos; impius vero spargit in publicum ut malefice iis abutantur*"—"By the saint his nail parings are burnt; by the just man they are buried; but by the wicked man they are scattered abroad in the highway for misuse by abandoned women."

In Cornwall, to place on the sick person the hand of a man who has died by his own act is thought to be a cure for many diseases. Hunt, in his *Romances of the West*, tells of a young man who had been afflicted with running tumours from his infancy. "When about seventeen years of age he had the hand of a man self-hanged passed over the wounds on his back, and, strange to say, he recovered from that time, being now comparatively robust and hearty." Another notion is that the touch is only effectual on one of the opposite sex. "I once saw," says this writer, "a young woman led on to the scaffold in the Old Bailey for the purpose of having a wen touched with the hand of a man who had just been executed." In 1650, "A present remedy for the hickop" was to "take thy finger ends, and stop both thine ears very hard, and the hickop will surcease immediately."—*Probatum est*. Similarly a trite old medical maxim of classic lore runs to the effect that: "*Ubi dolor, ibi digitus*."

Clean hands, said the *Salernitan School*, "are essential for the maintenance of good health":—

"Si fore vis sanus, ablue soepe manus;
Lotio post mensam tibi confert munera bina,
Mundificat palmas, et lumina reddit acuta."

"This precept conveys one of Nature's first laws,
—If you wish to be healthy wash often your paws;
A scrub after dinner will make you, oh, list!
Clean-handed for billiards, clear-sighted for whist.—"

Quoth Herrick to the housemaidens :—

“ Wash your hands, or else the fire
Will not tend to your desire;
Unwasht hands, ye maidens know,
Dead the fire, though much ye blow.”

Charles Lamb, when playing whist with a partner whose finger nails were in mourning, exclaimed :—
“ Ah, Jones! if dirt were trumps what hands you would hold.” In the Eastern dialect the hand or fist is “goll,” and in Suffolk “golls” signifies large, clumsy hands. “By goll,” or “By golly,” is a very old English adjuration, meaning “by the hand.”

“’Tis e’en so,” said Hamlet, “the hand of little employment hath the daintier sense.” It was told of the Isabella of Ariosto, who was courted by Rhodamant : “*O quales digitos, quas habet illa manus.*”

“To stop bleeding at the nose presently,” the direction is given in *A Thousand Notable Things*, “tie a piece of pack-thread about your little finger, just above the upper joint, as hard as you can bear it, or about both your little fingers.”

Formerly the thumb and the first two fingers were always held to be symbolical of the Three Persons of the blessed Trinity. Bishops, because they exercise ecclesiastical authority, and doctors, because they have authority to teach, should wear the ring on the third (ring) finger of the right hand. “Noble persons,” wrote Petronius Arbiter, “did wear rings of gold on the medicinall finger of the left hand, called by the Latines, ‘*digitus medicus*,’ as the little finger his neighbour ‘*auricularis*’; this finger on the left hand is rarely afflicted with the gout, for the sympathie and neighbourhood it hath with the heart (the first living and last dying), which conserveth the gouty. And this is the reason why, at sacring, the most Christian monarches of France (the

onely solemn act which they doe in all their life), the ring of gold is put on the fourth finger of the left hand in signe of a marriage that day between them and the kindome." In the sixteenth century it was often customary to speak of the gout as *par excellence*, "the enemy."

FISH.

ECCLESIASTICAL biography records that Roger Ascham (1560), urged a petition that he might be dispensed from eating Fish. "The Egyptian priests," he said, "were restricted from ever partaking of such food, no doubt for this only cause: '*ne ignea vis ingenii atque præstantia ullo frigido succo quem esus piscium ingeneraret, extingueretur*': 'lest the fire and brilliancy of intellect should be extinguished by any cold humor which the eating of fish would engender.'"

It has been commonly supposed that as food the substance of Fish generally is less nourishing than the flesh of mammals and birds; and it has been repeatedly noticed that leprous skin diseases prevail amongst those persons who live exclusively on Fish, especially of the poorer sorts. Except where it is known that unwholesome varieties of Fish are met with, and where also the wholesome kinds are liable to rapid decomposition, leprosy is rare in temperate regions. Pepsine (which see) if then given habitually, will help to prevent the formation of injurious putrid ferments, or ptomaines, from corrupt fish within the intestines. It will likewise promote a cure in cases which have become chronic.

But on the other hand, Fish has gained the reputation of imparting phosphorus to the brain, and of thus improving the intellectual powers. "Not that its use," writes Agassiz, "can turn an idiot into a wise or witty

man; but a Fish diet cannot be aught else than favourable to brain development." Again, Fish has the popular credit of renovating the sexual energies, and stimulating the sexual impulses. This effect is attributed to the phosphoric oil which many fish contain. "The founders of the religious Orders," said Montesquieu, "who aimed at enforcing the impracticable law of chastity on their members missed their end in prescribing for these unhappy victims an habitual diet of Fish."

The Hudson's Bay Company have capital opportunities for testing the comparative merits of animal food and fish on their employés every spring when the brigades of boats are on their way out with the furs. There are trials of strength then in rowing, and with the result that the fish-eating crews invariably have the advantage, especially when their efforts are long sustained. This is contrary to the usual belief that meat is the more nourishing and strength-giving. Salmon, eels, mackerel, and herrings, which abound in oily matter, afford more nutriment than other kinds of Fish, but are proportionately less digestible. The thirst and dyspepsia often experienced after using these richer sorts have led to the taking of spirituous liquor as a condiment therewith; so that a common proverb has come into vogue that, "Brandy is the Latin for fish." The punch which flanks the fish at Billingsgate dinners has thus gained a widespread notoriety.

About fish a maxim of the Salernitan School pronounced, —

"Si pisces molles sunt, magno corpore tolles;
Si pisces duri, parvi sunt plus valituri."

"The increase," wrote Izaak Walton, "of those creatures that are bred and fed in the water is more

advantageous to man, not only for the lengthening of his life, but for the preventing of sickness; for 'tis observed by the most learned physicians that the casting off of Lent and other fish days has doubtless been the cause of those many putrid, shaking, intermitting agues unto which this nation of ours is now more subject than those wiser countries that feed on herbs, sallads, and plenty of fish; and it may be fit to remember that Moses (*Leviticus* xi. 9; *Deuteronomy* xiv. 9) appointed Fish to be the chief diet for the best commonwealth that ever yet was."

Fresh-water Fish, such as are bred in muddy and stagnant waters, and have a taste of mud should be rejected: "*Nam pisces omnes qui stagna lacusque frequentant semper plus succi deterioris habent.*"

"All fish that standing pools and lakes frequent
Do ever yield bad juice and nourishment."

The flesh of fish is always at its best during the period of the ripening of the milt and the roe. After the fish has deposited its spawn the flesh becomes soft and loses much of its characteristic flavour; this is owing to the disappearance of the oil or fat from the fibre, it having been expended in the function of reproduction.

Persons who had faith in the signs of the Zodiac as affecting human health, formerly believed "the fish with glittering scales" to exercise an influence on man's footsteps:—

"*Et femur Arcitenens, genera et Capricornus amavit,
Cruraque defendit Juvenis, vestigia Pisces.*"

Marcilius Ficinus advised all prudent persons to consult an astrologer every seven years, and in particular to respect and to use properly the means of the three holy kings—Gold, Frankincense, and Myrrh. As a

curious instance of the weight formerly attached to such astrological influences, Culpeper said: "People usually boil Fennel with fish, and know not why they do it, but only for custom, when indeed the original of it was founded upon reason, because fennel consumes the phlegmatick quality of fish which is obnoxious to the body of man, fennel being an herb of Mercury, and he so great an enemy to the sign Pisces."

Some persons find that Fish as a food is soporific and sedative.

In the flesh of fish putrefaction follows on death more immediately than in animal flesh, for water-breathing creatures have no reserve store of conservative tissue which tends to delay this. "It is not always necessary," tells a proverb, "to cry stinking fish." Putridity may be active without the generation of fetid effluvia.

The most salutary way (Dr. King Chambers has taught), of cooking such oily fish as sprats, pilchards, or herrings, is to bake them in a deep dish in layers, with a layer of bread-crumbs between each.

Sea Anemones have been tried as food, the beadlet, the opelet, the big dahlia, and others; but the entire quantity of solid matter in an anemone is very small. A dish called "rastegna," which is much favoured in Provence, is prepared chiefly from the opelet.

Frank Buckland said the eggs of the Barbel are poisonous, and produce the same symptoms as Belladonna.

From the scales of the Bleak (*Alburnus lucidus*) is formed, by friction and washing, an essence of Orient, used for making artificial pearls by lining therewith the inner surface of small glass balls.

"Physicians find," says Izaak Walton, "the galls and stones in the heads of Carps to be very medicinale;

and it is not to be doubted but in Italy they can earn great profit of the spawn of carps by selling it to the Jews, who make it into red caviare: the Jews not being permitted by law to eat of caviare prepared from the sturgeon, that being a fish that wants scales, and, as would appear in *Leviticus xi.*, by them reputed to be unclean."

Again, "I have known of one that saw, on a hot day in summer, a large carp swim near the top of the water with a frog upon its head; and of seventy or eighty carps which had been put into the said pond (which he caused to be let dry), he only found five or six, and those very sick and lean, with every one a frog sticking so fast on the head of these carps that the frog would not be got off without extreme force or killing. And a person of honour in Worcestershire assured me he had seen a necklace or collar of tadpoles hang like a chain or necklace of beads about a pike's neck to kill him; whether for meat or malice, must be to me a question."

The Chub, or Chavender, is esteemed by the French so mean that they call him "*un villain.*" "Nevertheless," says Walton, "he may be so dressed as to make him very good meat; but remember the rule that, a Chub newly taken and newly dressed is so much better than a Chub of a few days' keeping after he is dead, that I can compare him to nothing so fitly as to cherries newly gathered from a tree, and others that have been bruised and lain a day or two in water. You shall read in Seneca that the Ancients were so curious as to the newness of their fish that it seemed not new enough which was not put alive into the guest's hand; to which end they did usually keep the living fish in glass bottles in their dining rooms; and they did

glory much in their entertaining of friends to have that fish taken from under their table alive that was instantly to be fed upon. And," he says, "they took great pleasure to see their mullets change to several colours when they were dying."

In Chatham there is a reputed cure for whooping cough: to, "Cut a live dab in two, drain out the blood, and soak lumps of sugar in the same, giving the gory morsels to the ailing child."

"The Grayling and Umber differ nothing (to quote Izaak Walton) in England, but in their names. The French value this fish so highly that they say he feeds on gold, and that out of his belly, from the River Loire, grains of gold have been often taken; and some think that he feeds on water-thyme, and smells of it at his first taking out of the water, and with as good reason as we do that our smelts smell like violets at their first being caught, which I think is a truth. 'Tis certain all that write of the umber declare him to be very medicinal. And Gesner (1545) says that 'the fat of an umber or grayling being set with a little honey a day or two in the sun, in a little glass, is very excellent against redness or swarthinness, or anything that breeds in the eyes.' Saint Ambrose, the glorious Bishop of Milan, who lived when the Church kept fasting days, called him the 'flower fish,' or 'flower of fishes.'"

A professor of the State Agricultural College, Connecticut, when lately investigating the comparative values as food of meat and other matters of our daily sustenance, found that the climax of nutrition is reached in the much despised, but eminently popular Red Herring. This, the "bonnie fish and halesome farin" of Scotland, is also known as "Cape Cod Turkey," "Yarmouth capon," "Tow bowen" (in Suffolk), and,

when dried, "Kipper," or "Bloater." To "bloat," in old provincial English, is to "dry by smoke."

What patriotic Scotchman does not know and love the same highly sustaining fish? And a capital pick-me-up the Kipper is to the dry throat and sated palate next morning after a booze overnight:—

"The Doctor was drunk as the deuce, we said,
And we managed a shutter to borrow;
We raised him, and sighed at the thought how his head
Would consumedly ache on the morrow.
We bore him home, and we put him to bed,
And we told his wife and his daughter
To give him next morning a couple of red
Herrings, and Soda-water."

Fresh, or dried, they are the staple food of the people in the Isle of Man. The *Rich Storehouse* contains an old recipe: "For the swelling of the legs that comes on by cold or otherwise, take white herrings out of their pickle, and open them, and then lay the insides of the same herrings to the soles of your feet when you go to bed, and so let them remain all night; in the morning apply new ones again. Use this five or six times and the same will help you, *probatum est.*" Again, as an approved medicine for ague, "Take a herring that is well pickled, and split it on the belly side, and warm the same very hot, and lay it to both soles of the feet of the party grieved, and this will help immediately." For ague, in Queen Elizabeth's time, the old apothecaries' remedy was a well-salted herring split open and applied as above.

In Russia currant jelly is taken as a condiment with red herrings. Alphonse Karr tells most amusingly (in *Tour Round my Garden*), of a midnight mass at Lille, where "some old women were praying and preparing a supper called, a *reveillon* or *medianoche*: from time to time they drew from under their petticoats a small chafing dish, upon which were cooking two or three

herrings ; they turned the herrings, put the chafing dish back *in its place*, and resumed their prayers."

The Ling (*lota malva*) has a very large liver from which oil is freely extracted, and used by poor fishing folk to burn in their lamps. This has been found effectual in severe cases of rheumatism when mixed with small beer in doses of from half an ounce to an ounce and a half. Buckland thought the liver a dainty dish.

In the early dispensatories and herbals many of the remedies prescribed had to be taken in "white wine, ale, or beer," which beverages were of a simpler and less spirituous sort than our modern drinks. Tinctures such as we use for embodying the concentrated virtues of remedial substances in a small quantity of spirit were then unknown; they can be so freely diluted with water as to be altogether non-intoxicating. Moreover, we administer medicines in barley-water, or skimmed milk, or claret and water. Polydor Vergil described the ale of our forefathers (in Henry the Eighth's reign) as "A most wholesome and pleasant drink, with an especial virtue against the melancholy, as our herbalists confess."

There is in Somersetshire a common saying that, "Mackerel is in season when Balaam's ass speaks in church," *i.e.*, when *Numbers* xxiii. and xxiv. are read as the lessons for the day. Robert Lovell tells (1661): "Mackerel are naught for those that are troubled with the epilepsy ; they are not to be used except by young, strong men."

"For mist of the eyes," it is taught by another old writer, "let him take live Periwinkles burnt to ashes, and let him mix the ashes with dumbledore honey—*melle attico*—(that of the *apis bombinatrix*)."

It was observed by Gesner that the jawbones, and galls, and hearts of Pikes are very medicinale for

several diseases, or to stop blood, to abate fevers, to cure agues, to oppose or expel the infection of the plague, and to be many ways medicinable and useful for the good of mankind; but the biting of a pike is venomous and hard to be cured."

A curious Cornish saying refers to "eating fair maids (fermades or fumadoes), Pilchards, and drinking mahogany (gin and treacle)." When there has been a large catch of these fish, and when they are packed in rows, alternately of heads and tails, the air-bladders burst, and a squeaking sound is produced which is called "crying for more"; it is understood to signify that more fish of the sort may be soon expected. The cry, "Heva, heva," is then shouted from the hills by the "huer," and a watch kept therefrom for the approach of pilchards. But to whistle by night is an unpardonable sin among the fishermen of St. Ives; (and no miner will allow of whistling underground). "Perhaps they feel that whistling indicates thoughtlessness, and they know their labour to be a serious matter involving danger."

A legend says that the devil never came into Cornwall. When he crossed the Tamar to Tor Point he could not but observe that everything, animal or vegetable, was put by the Cornish people into a pie. He saw and heard of "fishy pie," "star-gazy pie," "conger pie," and, indeed, pies of all the fishes in the sea; of "parsley pie," and "herby pie," of "camy pie," and "piggy pie," and pies without number. Therefore, fearing they might take a fancy to a "devily" pie, he hied him back again into Devonshire.

"In case a man be lunatic," it was directed in *Saxon Leechdoms*, "take skin of a mere swine, or Porpoise, work it into a whip, and swinge the man therewith; soon he will be well. Amen."

In the old Welsh *Red Book*, a prescription of the thirteenth century advised, "A salmon and a sermon in Lent." This was the Latin *Salmo*, or leaping fish: "Daintie and wholesome," wrote Fuller, "and a double riddle in nature: first, for its invisible feeding, no man alive having ever found any meat in the maw thereof; secondly, for its strange leaping, or flying rather, so that some will have them termed 'salmons' *a saliendo*—being both bow and arrow it will shoot itself out of the water an incredible height and length. Whereas in other countries they are seasonable only in summer, in Herefordshire they are in season all the year long. This county may say, '*Salmo non æstate norus nec frigore desit.*' The river of Wy affords brumal salmons fat and sound, when they are sick and spent in other places."

Shrimps, in the opinion of Robert Lovell (1661), "were held to be good for sick people, and of few excrements, being of the best juyce."

From the Starfish (*asterias rubens* or *uraster rubens*) a tincture of the living animal cut in pieces is made (H.). This creature goes by the name of "slab" in the north.

By the ancient Romans the Sturgeon (or royal fish) was esteemed to be such a delicacy that the servants bringing it to table were crowned with wreaths of flowers. In firmness and dark-red colour a sturgeon steak resembles beef, and is almost as savoury. It has been said that out of sturgeon a good cook can make beef or mutton, pork or poultry—in other words, fish, flesh, or fowl. "Oh flesh, flesh! How art thou fishified!" Robert Lovell declared, "the flesh cleareth the voice." Caviare is prepared from the sturgeon's roe. It should be as fresh as can be got, exhibiting such freshness by its softness and light colour. The black,

hard sort of fish jam which is sometimes served up is really unfit for human consumption. Pepys, in his diary, May 22nd, 1567, wrote: "This day, coming from Westminster, we saw at Whitehall Stairs a fisher-boat, with a Sturgeon that he had newly caught in the river, which I saw, but it was but a little one, but big enough to prevent my mistake of that for a colt if ever I became Mayor of Huntingdon." "Something had been seen floating in the meadows between Huntingdon and Godmanchester during a high flood. This the Huntingdon folk declared was a Sturgeon; but when rescued it proved to be a young donkey. Whence had come the derisive term 'Huntingdon Sturgeons.'"

"The Tench is the physician of fishes," says Izaak Walton, "for the pike especially; and the pike, being sick or hurt, is cured by the touch of the tench; and it is observed that the tyrant pike will not be a wolf to his physician, but forbears to devour him though he be never so hungry; that not only does the tench carry with him a natural balsam to cure both himself and others, but in his head there are two little stones which foreign physicians make great use of in the cure of their patients, and that Rondeletius says that at his being at Rome he saw a great cure done by applying tench to the feet of a very sick man. This was considered a Jewish secret handed down by tradition from the days of Solomon, who knew the nature of all things."

In the *Rich Storehouse* (1650), a good medicine is commended, "To increase milk in a woman's breasts, take some of the broth that Whitings are sodden in, and give to the woman that wanteth milk in her breasts to drink often, and this will increase her milk very much." "Whiting are so called" (*Alice in Wonderland*), said the Gryphon, "here because they do the boots and

shoes; on the land these are done with blacking, but beneath the sea they're done with Whiting."

Under the name of "Ichthyol" (fish product), a remedy of great value for the cure of many skin diseases has obtained the comparatively recent esteem of doctors. It is got from a bituminous quartz in the Tyrol, which consists chiefly of the decomposed remains of Fish, the substance being treated chemically with sulphuric acid and then neutralized with ammonia, so that practically it is a sulpho-ichthyolate of ammonium. This medicament occurs as a viscous, brownish, almost black matter, with a disagreeable, tarry, benzene odour, being a powerful bactericide or destroyer of bacterial germs. Locally likewise it lulls pain and promotes absorption; being used externally for the most part, but also given in daily quantities of from ten to thirty grains. Dr. Stacey Jones said, in 1894: "During twenty-seven years' practice, having treated over sixty thousand cases, I have never seen such magical cures as those effected with ichthyol." He has quoted instances of chronic eczema of eight or nine years' standing, and even ulcerated severely, as cured within a month. Ichthyol is again an admirable application to inflamed piles, it constricts the turgid veins at once, eases the pain and acts with healing power as a beneficial germicide. By the external and internal use of Ichthyol medicine is now armed with the most efficient means yet devised for the treatment of blood and skin diseases, including eczema in all forms and varieties, acute and chronic. A very useful ointment is to be made containing from twenty to fifty per cent of the Ichthyol, with Lanoline (sheep's wool fat), which is most excellent for skin diseases arising through faulty nervous energies, also for neuralgia and chronic rheumatism; this can

be combined with alkaline salts of lithium and soda. Capsules of Ichthyol are given internally, each containing about four grains, and the dose being one or two. Further, the remedy is capital for relieving some forms of chronic constipation.

At Dieppe, Brighton, and Hastings is caught the Kingston or Monk fish, or Angel fish (*Squatina angelus*), which has large, flexible side fins or wings like those of a depicted angel, and which smells strongly of ammonia. Its eggs were formerly ordered in the official pharmacopœia, dried and powdered. The skin also was prepared in like manner, and given for scaly skin diseases.

Another nostrum for delicate children is supplied, at Chatham and elsewhere, by a long, eel-like fish caught in the river, and which is hung up entire to dry, with its tail put into the mouth. When quite hard, a small quantity is scraped off each day and given to the child.

Again, a certain preserved fish, known in South Africa as "Snoek," causes the face to swell as though with mumps. This property is believed to be got by the fish being put to become dry in the moonlight; and although any such lunar influence is discredited by scientists, yet in the present case it appears to be an allowed fact.

The effects of Moonlight on animal matters are well known to the inhabitants of warm climates. Observant naval officers have testified that in the tropics when there is no moon the fresh meat is hung over the ship's side at night for coolness; but if this is done when the moon shines the meat becomes unfit to eat. Bright moonlight will also develop in some persons a temporary loss of sight.

It may be added about herrings that: "They have,"

said Lovell (1661), "a fair and soft flesh, whilst very delicate, and much desired by the Hollanders. Some use them—the backbone being taken out—with onions, apples, vinegar, and oile; their pickle cleaneth fetid ulcers, and helps gangrenous quinsies and botches." Herring pies were regarded as rare delicacies by our forefathers during Lent. The herring dies directly it is taken out of the water, so that, "As dead as a shotten herring" is proverbial.

Zetlanders will keep their fish for some days until it begins to putrify, the taste then being far from disagreeable, though not so the odour. They call such fish "blawn"; its ptomaines, or mortified products, must be deleterious when taken into the blood from the stomach and intestines.

With reference to the quick decomposition of fish out of the water, natural death in the sea seems to occur more rarely among fishes than in any other part of the animal kingdom. This is a most happy circumstance, because in water all vegetation, which is the great means of correcting animal putrefaction, exists in a very minor and subordinate degree. The salts of the ocean must be a great preservative and protection in this respect, else dead fish would soon diffuse abroad dreadful pestilential effluvia.

Considered altogether, an exclusively fish diet is certainly calmative, and likely to prolong life in excitable persons of vivaciously nervous temperament, though it has been shown to favour ailments of the skin.

In ancient times certain people fed entirely on fish, and were known as Ichthyophagi. Herodotus says there were three such tribes of Babylon.

The skin of fishes is a gelatinous integument, forming in the turbot (which is the *Rhombus* of the Romans), and

the ling, rich and valuable sustenance. Oily fishes are always more difficult of digestion than those of white flesh void of fat. The whiting is often termed "the chicken of the sea," being pre-eminent for its easy digestibility.

Falstaff talked slightly of, "Demure boys who, by making many fish meals, fall into a kind of male green sickness, and then when they marry they get wenches; they are generally fools and cowards (which some of us would be too, but for inflammation)."

The roes of fishes have a similar composition and bear a striking analogy to the eggs of birds, that of the pike and the barbel being purgative. The milt (testicle) is the soft roe, and the ovary is the hard roe. Hufeland and others have recommended the soft roe of the herring as a remedy for obstinate cough and hoarseness, also for consumptive disease affecting the windpipe. It is to be taken in the morning whilst fasting. In the *British Medical Journal*, at Christmas, 1897, a case of poisoning of mother and child by herring roe was recorded. "P. Forestus," says Burton, "in his medicinal observations relates that Carthusian friars, whose living is most part fish, are more subject to melancholy than any other order; and this he found by positive experience, being sometimes their physician in ordinary."

Dr. Mortimer Granville, in a letter to the *Times*, some while ago, declared that, having made a somewhat extensive trial of fish as almost the sole food of persons suffering from mental distress, weakness of mind, and mental excitement, he met with results so startling that possibly he may have been led to take an exaggerated view of its value. Even while cutting off meat entirely, as well as milk, eggs, and butter, from the diet of an

excited maniac who was well supplied with fish, quietude was established, without any loss of weight, of nervous power, or of bodily strength. The mental confusion subsided, the temper improved, sleep became natural without any recourse to sedatives, and the general health was speedily benefited. Dr. Granville warmly advocates, not only for those who are ill, but also for general use, the substitution of a fish diet frequently instead of the highly nitrogenous elements of an ordinary mixed meat menu. Sir Benjamin Richardson taught that pollack holds all the necessary qualities of fish as food most equally balanced; but that the strongest and most nutritive fish is sturgeon, which equals in all the essentials the best flesh meats.

To enquire jocularly of a St. Ives fisherman, "Who whipped the hake?" angers him exceedingly. Some while ago hakes frequented the Cornish coast in excessive abundance, insomuch that the seiners (or net fishers) tried to drive them off; one of these fish was flogged and flung back into the sea, "Upon which all the hakes left that coast and kept away for years." Also, in Cornwall St. Leven entertained his sister, Breeze, and her two children with some Bream he had caught. The hungry children ate so greedily that they gorged themselves to death; and this fish now goes among fishermen by the name of "Choke-children." The Carpe gets its name from "*carpo*," Latin, "to snatch" (at bait); and the Tench has its title from "*tincta*," "tinted." Izaak Walton says of this latter, as physician to the pike:—

"Close to his scales the kind physician glides,
And sweats the healing balsam from his sides."

Old Fuller writes: "It is very pleasant in taste, and is called by some the 'Physician of fishes'; though in

my opinion it may better be styled the 'Surgeon,' for it is not so much a disease as a wound that he cureth; nor is it any potion but a playster which he affordeth, viz., his natural, unctuous glutinousness which quickly consolidateth any green gash in any fish. Some have observed that the pike, though never so hungry, forbearth to eat this fish which is his physician; not that pikes are capable (which many men are not) of gratitude, but that they are endued with a natural policy not to destroy that which they know not how soon they may stand in need of." Frank Buckland denied this fishy friendship, saying you cannot put a better bait for a pike on a trimmer than a young tench. He speaks amusingly, too, of a fine old sailor who yarned of it as "a curious thing as any fish will eat boiled cabbage, or boiled onions, for which rubbish they comes about the ships at Spithead."

Mackerel are caught on the Essex coast in large fixed nets called "kettlenets." Hence the phrase is thought to have been derived of "a pretty kettle of fish": though it is also referred to the apparatus of pulleys used in hoisting an anchor when the same gets out of order and confusion arises.

Counters used at games of cards are often made in the shape of fish from a misapprehension of the French word "*fiche*," "a five-sous piece." The two points given for the rub at whist are called "*la fiche de consolation*."

Theodore Hook enjoyed his soup and his fish served so liberally that at last he playfully declined another plate of turtle on the plea that he was not a "soup or fish all" person.

"Fish," says a proverb, "must swim thrice"—once in the water, then in sauce, and next in wine (after

reaching the stomach). "*Poisson, goret, et cochon vit en Veau, et meurt en vin.*"

"Fish and swine
Live in water, and die in wine."

The mullet was for the Romans *the fish par excellence*, It was costly and cooked on the table to please the guests. In a glass vessel filled with clear brine and mackerel's blood, the live mullet stripped of its scales was enclosed, and as its fine pink colour passed through many a dying gradation the guests looked on admiringly. From its liver the best and most expensive Roman *garum* was concocted.

The old Latin *botargo*, or *botargum* was a kind of salt cake or sausage made from mullet roe, with eggs, blood, and salt. It was eaten with oil and vinegar, being thought to strengthen the stomach, help the appetite, increase seed, and as good against consumptions; it also created a thirst for wine. Robert Lovell (1661) wrote: "The flesh of the sea-mullet's head with honey helps vices of the fundament."

From the mackerel or scomber, pickled, the Romans made their ordinary *garum*, a favourite sauce, which was also used by them medicinally in clysters.

"Exspirantis adhuc scombri de sanguine primo,
Accipe fastosum, munera cara, garum."

"Of brine, and blood fresh from the dying fish,
Take *garum*, my fond gift, a sumptuous dish!
'Twill doubly serve—your appetite to mend
And clear, by clyster, at the other end."

The curd or fatty substance which is found between the flakes of Salmon flesh is wholesome only for twelve hours after the death of the fish.

"Folkestone beef," said Frank Buckland, "is a local name given to the 'Rig' or common 'Tope'; the 'Huss,'

or 'Robin huss,' a small dog-fish; the 'Bull huss,' or large spotted dog-fish; the 'Fiddler' or 'Shark-ray,' and 'Uncle Owl,' a species of skate." Freshly caught Rigs at the bottom of the boat are savage: "They all goes mad, sir, and its like being among a lot of wild beasts." When cut up or split into halves the dog-fish are salted and dried, being taken by the poorer class as food, and tasting when broiled "like veal chops." The livers are cleaned, and boiled for oil. There is a great amount of gelatine in the heads and fins.

These fish are viviparous, and produce their young ones alive, each in a loose, membranous bag. Their name, "dog-fish," is a happy one, seeing that they hunt after a submarine quarry in packs, somewhat as dogs do on land. "Old Neptune doubtless has fine sport mackerel-hunting on the Warne Bank off Folkestone with his 'spotted dog' pack."

"The huss has only one bone" (the vertebral column), say the fishermen, and can be readily cut up into "filleted sole"; for which purpose considerable numbers of this fish find their way eventually to Brighton. The Rig shuts its eyes when asleep. Cod-fish are caught, also, largely in the same waters. The dried heads of Cods are used in Norway as fodder for cattle, being taken by these animals with much fondness.

Conrad Gesner (1550) says: "The river Pearch are so wholesome that physicians allow them to be eaten by wounded men, by men in fevers, or by women in child-bed. These fish have in their brain a stone which is in foreign parts sold by apothecaries, being there noted to be very medicinable against the gravel in the reins." They are of the genus "Perca," and, says the delightful Book hunter, "The use of a Greek derivative gives notice that you are scientific. If you speak of an

acanthopterygian it is plain you are not discussing Perch in reference to its roasting, or boiling merits; and if you make an allusion to *monomyarian malacology* it will not naturally be supposed to have reference to the cooking of Oyster-sauce."

About applying the pickled Halec, or Herring, to the feet as a cataplasm in fevers for drawing the humours downwards, and thereby relieving the head, Dr. Quincy (1728) pertinently says: "Such a property seems more likely to arise from the salt which is used in the pickle than the virtues of the fish."

FLEA.

THE common Flea is the classic *Pulex*. It is remarkable that fleas and other parasitic insects never infest a person who is near death, insomuch that to notice this has become a popular sign of approaching dissolution. "The fact is, in all probability," says Timbs, "caused by an alteration then in the state of the fluids beneath the skin, either in quality or in quantity. This "little sable beast, called a flea, if thirsting much after blood argues rain," as we learn from *Nature's Secrets*. The Flea whilst in its larval state feeds on the half-digested blood which forms the excrement of its parents: "thus demonstrating the tendency on Nature's part," writes Mr. Gosse, "to save all material possible, so that every fragment may be picked up." Among Water fleas the male is a puny, insignificant creature compared with the female, and living on her as a parasite. Lord Beaconsfield, when he was Mr. Disraeli, spoke of the national debt as "a mere flea-bite."

When it happens, as told above, that fleas leave the members of a moribund body as soon as it begins to lack vital heat and energy, they draw first to that other

part of the body where the same heat tarries longest, which is in the hole of the neck under the chin. "That's a valiant flea," says the Duke of Orleans in *Henry V.*, "that dare eat his breakfast on the lip of a lion." In folk-lore the first of March is intimately associated with fleas; and it is still a practice in Kent to keep the doors shut on that day, thus securing immunity from fleas for a twelvemonth.

It is far from unlikely that fleas, which infest only persons in health, may possess certain medicinal virtues, and may sometimes do general good even when causing local irritation. The subject is worth experimental enquiry. Dr. Francis, U.S.A., supposed the *cui bono* of the Mosquito, an allied insect, is to drive man from malarial districts. If he won't go, then the Mosquito by its bite injects beneath the skin a minute quantity of a liquid which exercises the antidotal powers of quinine.

With a view to banish the persistent little fleas from premises where they abound, according to old Tusser (1562), Wormwood is a sure appliance:—

"While Wormwood hath seed, get a handful, or twaine,
To save against March, to make flea to refraine:
Where chamber is swept, and Wormwood is strewn,
No flea for his life dare abide to be known."

FLY.

It is found that by general consent most persons think the common House fly (*Musca*) a great nuisance, and the Blue-bottle, or Blow fly, a disgusting pest. But the instinct of the latter for carrion can be turned to a useful purpose. In the *Lancet* (July 31st, 1886), it is related that certain offensive smells becoming obnoxious in one of the rooms within the town house of an American citizen, the exact source of which could

nohow be ascertained, though carpets were taken up and floors carefully examined, an appeal was made to the well-known tastes of the Fly. Two Blue-bottles were brought from a neighbouring stable, and the doors and windows of the contaminated house were closed; the flies soon settled down on one of the cracks in the floor, and when the boards were raised at this spot a decomposed rat was discovered.

Franklin, when visiting France, found in some old Madeira from America a few dead flies which he exposed to a warm sun during the month of July, and in less than three hours these apparently dead creatures recovered life which had been so long dormant. The acute philosopher reasoned within himself that since by such a complete suspension of all internal as well as external consumption it was thus possible to produce a pause of life, and at the same time to conserve the vital principle, might not such a process be employed with regard to man; and, "If this be the case," added he, "I can imagine no greater pleasure than to cause myself to be immersed along with a few good friends in Madeira wine, and to be recalled into existence at the end of fifty or more years by the genial solar rays of my own country, if only that I might see what improvements the State has made, and what changes time has brought about by then." Flies, especially the blue-bottle, are able to pipe like the wind.

The Spanish fly (*Cantharis vesicatoria*), or Blistering fly, is really a beetle, which is found, though rarely, in England (on the lilac, the privet, and other shrubs), but is collected chiefly in Hungary and Southern Russia. It also sometimes frequents our ash, elder, and honeysuckle; belonging to the order Coleoptera, and having two shining, metallic, green wings, under which

are two transparent, membranous wings ; its odour is strong and disagreeable ; and the flies, when dried and powdered, are greyish-brown in colour containing shining green particles. A blistering principle, which is used in medicine and bears the name of Cantharidin, resides mainly in the soft parts of the insect.

For blistering the skin, according to the old-fashioned way, with the view of relieving deeper-seated pain and inflammation, vesication is produced by applying the Spanish fly externally in liquid or plaster. But it is now known that if a blister be thus employed too immediately over a serous, or water-secreting membrane below, then a corresponding redness and soreness of this underlying membrane are mischievously excited, particularly if it lines a cavity, as of the chest or abdomen, or of a joint ; so that the said method has become a good deal exploded in favour of specific medicines (H.). Several of these are now understood as having internally a curative affinity for the particular seat of congestive inflammation, or for the nerves and their branches which are aching, on the outside.

When swallowed the Spanish fly acts as a violent acrid poison, exciting angry inflammation within the stomach and bowels, affecting also the nervous system profoundly, and setting up ardent pain in the bladder, with difficult, bloody urine, and straining. The throat becomes constricted, and swallowing is difficult ; griping and great tenderness of the belly are caused, with giddiness ; in severe cases convulsions, delirium, insensibility, and death. The lining membranes, too, of the kidneys and of the urinary passages are inflamed, the urine being scanty and high-coloured, whilst most difficult to be passed. Acting on a thoughtful knowledge of all these toxical effects, the physician (H.) has prepared

a tincture of the *Cantharis* which, if given in doses of a single drop, with water, every two, three, or four hours, will signally relieve all the severe symptoms which have been recited, when they occur morbidly from other causes. It will at once serve to diminish irritability of the bladder from cold, and of the urinary ducts, as well as strangury; will lighten oppression of the brain from watery effusion within its cavities, and will be effective to relieve such blistering of the external skin as occurs from burns, scalds, erysipelas, or shingles. For like reasons the diluted tincture is admirably useful as a chief remedy for pleurisy with watery effusion poured out within the walls of the chest, and for some forms of albuminous urine (Bright's disease). Also a lotion may be employed externally to the injured or eruptive skin surface, one part of the tincture to twenty parts of cold fresh water. The active blistering principle, *Canthardin*, of the Fly is obtained by the chemist in small white crystals, which are soluble in ether, or boiling spirit of wine. But another property of the insect to powerfully stimulate the sexual organs depends upon some distinct oily element yet unknown.

In *A Thousand Notable Things* (1815), we read that a certain citizen of Padua having *Cantharides*, that is to say Spanish flies, applied to one of his knees, did pass from the bladder above five ounces of blood; and the like happened to one to whose great toe the same was applied. It is conjectured that Sir Thomas Overbury, on whom the *Rochesters* practised poisonous arts, was subjected to *Cantharides*.

Water in the brain occurring in scrofulous children, or as the secondary consequence of brain fever, will yield effectively to the tincture of Spanish fly sufficiently

diluted; and the form of diabetes in which an inordinate quantity of watery urine is continually excreted, but without containing any sugar, may be cured thereby.

Galen, Pliny, and Dioscorides held that the poison of the Spanish fly exists in its body, whilst the head and wings contain an antidote. In the summer of 1837, this insect, which is comparatively so rare in England, appeared in great numbers about Suffolk, Essex, and the Isle of Wight.

The nervous system is not usually affected by it in small doses, but large doses cause headache, with hurried breathing and quickened pulse. Liebrich has shown that the Spanish fly, by administration of its active principle, will heal that destructive ulceration of the skin of the face which doctors call "lupus," and without any formation of unsightly scars; also when applied for leprosy eruptions on the skin the diluted tincture has been remarkably useful, as well as in other scaly, cutaneous affections.

"*Cantharus pilulum*" was a Latin proverb which signified that the *Cantharis* insect of the ancients rolled pieces of asses' dung backwards into the shape of pills.

A vinegar of *Cantharides* is dispensed by druggists, of which if one part be mixed with four parts of rose-water and a tablespoonful of spirit of wine, five fluid ounces in all, this will make an excellent wash for strengthening the hair, also to prevent its falling off. The head should be sponged with tepid water after applying such wash a few times, to prevent the *Cantharidin* from accumulating, particularly if any oily combination is also employed. Vinegar of Spanish fly if applied with a brush in several successive coats will speedily blister the skin. Its modified use in this way can alleviate severe neuralgia or local rheumatism if the vinegar be diluted

so as merely to stimulate redness of the skin, helping chilblains likewise by such an application. For premature baldness, or falling off of the hair, an excellent lotion may be also made with eau de Cologne, one ounce, tincture of Spanish fly, one and a half drachms, tinctures of rosemary and lavender, of each ten drops. The scalp should be gently rubbed every day with some of this lotion applied on a small sponge, or a piece of flannel.

Cantharidin is found, further, in the potato beetle. It is to be remembered that the reduced tincture (H.) of Spanish fly, third decimal strength, in a dose of six or eight drops with water three times in the day will medicinally cure skin diseases signalized by watery blisters, as well as burns. Given in this way it does not favour blistering, but disperses the same if occurring as disease, or by accident.

Reverting to the Blue-bottle or Flesh fly (*Musca vomitoria*), it must be said that this insect, so generally detested because of its loathsome maggots, is most useful to man as rapidly dispelling putrefactive matters. Linnæus taught that three Flesh flies will consume a dead horse as quickly as a lion could do.

"*Aquila non captat muscas*," is the armorial motto of the Graves' barony: "The lordly eagle does not deign to catch flies, any more than the large-minded man occupies himself with empty frivolities." "*On attrape plus de mouches avec le miel qu'avec le vinaigre*," says a French proverb. In *Alice Through the Looking Glass*, three remarkable flies are described with charming humour; the "Rocking Horse fly made entirely of wood, which lives on sap and sawdust, being very bright and sticky." Also, "the Snap-Dragon fly with a body made of plum-pudding, wings of holly leaves, and the head of which

is a raisin burning in brandy:” this creature is said to “live on frumenty and mince pie,” whilst making its nest in a Christmas box; and the “Bread and Butter fly, with a crust for a body, thin slices of bread and butter for wings, and its head a lump of sugar;” the diet of which odd creature is “weak tea with cream in it.”

FOWL.

THE Fowl is in Latin, *Gallus domesticus*. Barndoor fowls, with which we are all so closely familiar, lend themselves, cock and hen, to medicinal uses.

In the primitive Saxon leechdoms it was ordered: “For asthma, to take chicken meat and seethe it in wine, then add oil which is made of French nuts, and let the man drink this.” Pillows for the sick, and bolsters stuffed with the feathers of fowls were also then in vogue, though feather beds are of more modern date. The old Latin word for “pillow,” or “cushion,” was *pulvinar*, showing that in classic times it was stuffed with (*pulvis*) dust. In the *Rich Storehouse of Medicines* (1650), “a good medicament” was advised, “for an extream heat in the face: take a penyworth of capon’s grease, and melt it and strain it through a fine linnen cloth, and let it stand to cool a quarter of an hour; then put into it a penyworth of brimstone finely bruised, and a penyworth of ginger beaten to powder, and mingle them with the capon’s grease and make an oyntment thereof, and with the same let the patient anynt his face when he goeth to bed; and in the morning let him wash his face with rosewater, lukewarm, but in any case let him take heed that he pick not his nose with his fingers, for if he do it will greatly hurt him.”

Also, as a quaint and “experienced medicine for the

plague: take a cock, a chicken, or a pullet, and pull the feathers clean off the tail so that the rump may be bare; and then hold the rump or bare place to the sore, and immediately you shall see the cock, chicken, or pullet gape and labour for life, and in the end it will dy. Then take another cock, chicken, or pullet again and do the like, and if the same dy likewise then take another, and so do as aforesaid; and let the party grieved be applyed therewith as aforesaid as long as any of them do dy."

Similarly to the above, Dr. Stacey Jones, of Philadelphia, wrote as lately as 1894: "For snake bite (and perhaps our best hope in case of a mad dog's bite) is to procure half-a-dozen fowls, pluck the feathers from the fleshy part of one and tear off the skin from that part, applying the raw surface to the bite. The first fowl will die in ten seconds, the second in two minutes, the third in six minutes, the fourth in ten minutes, the fifth will become giddy but will not die; the poison is extracted, the patient saved."

Idem, "An approved good medicine to break the stone: take a cock of a year old and open him, and you shall find in his maw small white stones which, when you have found, wash them very clean so that there remain no filth at all amongst them; then take them and beat them in a brazen mortar to a very fine powder, and then put it into the best white wine that may be had; and then let the party grieved drink thereof every morning fasting, and this will break the stone and cause it to avoid in shivers" (acting, it may be well supposed, by the alkaline lime and other earthy salts of which these concretions have become composed).

In the *London Pharmacopœia* (1696), it was ordered that a jelly made of an old cock, sheeps' feet, and

bullocks' feet, "boyled eight or ten hours in a close vessel, will be excellent against consumption." Also, "Cock broth made of an old cock, tired till he fall down, and boyled with analeptics (medicines which cherish the nerves) till the flesh falls off, and then strained, this cures consumptions, colicks, coughs, the bloody flux, ulcers, and stoppage in the lungs." "If persons knew how good a hen is in January," runs an old Welsh medical maxim, "none would be left on the roost."

Burns describes Dr. Hornbrook as having among his stock of medicines:—

"Forbye some new uncommon weapons,
 Urinus, spiritus of capons:
 Or mite-horn shavings, filings, scrapings,
 Distilled *per se*."

Henri the Fourth, of France, gained popular applause for expressing a wish that every Frenchman should have a fowl for his *pot a feu*; concerning which some one else added: "*c'est la soupe qui fait le soldat*."

"Poultry," says Brillat Savarin, "is to a sick man who has been floating over an uncertain and uneasy sea like the first odour or sight of land to the storm-beaten mariner; and the domestic fowl lends itself to so many metamorphoses of cookery that it is to the cook what canvas is to the painter." Nevertheless, M. Pluquet, in his book on the superstitions of Bayeux, remarks: "*Une poule qui chante le coq, et une fille qui siffle, portent malheur dans la maison*:"—a maxim repeated in the folk-rhyme of most of our English counties: "A whistling woman and a crowing hen will frighten the devil out of his den" (or, "are liked by neither God nor men").

Former doctors in the United States of America would treat certain throat affections with a lochoch

applied by the end of a long feather from a cock's tail. This application became developed into a gargle, and was presently known as a cocktail. Then the gargle gave place to a tonic dose concocted of bitters, vermouth, and liqueur, such as is now in familiar demand as an appetiser.

Cocks were largely employed for divination in ancient Greece and Rome; not only were auguries deduced from an inspection of their entrails, but the birds were supposed to predict events by pecking grain from certain cards of significance placed before them. It is said the priests craftily compelled fate by putting wax imitations of grain on those cards which they did not wish to be chosen; and the birds were wise enough to prefer real grain before that which was a sham.

The Christian Poet Keble writes, in *Lyra Apostolica* (1836), of the weather Cock on a church steeple as:—

“Celestial raised in other days to tell
How, when they tired of prayer, apostles fell.”

Burton moralized in his *Anatomy of Melancholy* that, “The hen feeds on the dunghill all his daies, but is served up at last to his lord's table; the falcon is fed with partridge and pigeons, and carried on his master's fist; but when he dies is flung to the muck-hill, and there he lies.”

The dung of the hen was supposed to have all the virtues of pigeons' dung, but in a lesser degree. A dose thereof was from half a drachm to a drachm each night and morning for from four to six days. Concerning any starveling, gawky child there is a Cornish saying: “Like Nanny Painter's hens, very high upon the legs.” And among popular superstitions in Cornwall is one widely believed—that no person can die easy on a bed made of fowls' feathers, or the feathers of wild birds.

Chicken flesh contains chemically but little osmazome, and is the least stimulating of all animal foods; its broth, when simply made, is well adapted for irritable stomachs. In New England the wise men declare that the blood of a perfectly black hen will cure rheumatism if applied externally.

When required "for the table," as Dr. King Chambers teaches, "a young and tender fowl may be known before plucking by the largeness of the feet and of the leg-joints; also when a fowl appears at dinner with a thin neck and violet thighs, it will be wise to decline being helped to a leg." Quoth the *Comic Latin Grammar*: "*Pectoribus inhians, molles en deserit alas,*" which means, as translated by an eminently practical schoolboy, "Intent upon the breast, lo! he deserts the tender wings." An old almanack of 1615 gives warning:—

"Do thou not eat foule, I entreat,
That moorish* is, and raw;
And milke, though pure, do not endure;
† Of phisicke stand in awe."

It was a proverb of Peter the Martyr that, "White hens lay lucky eggs." The great Lord Bacon did not think it beneath him to write a cookery book. In its pages are minute directions for preparing "Chicken in beer," this being the "China ale" of subsequent writers.

FOX.

THE Fox (*Canis Vulpes*), is a crafty, lively, libidinous animal, of nocturnal predatory habits, whose puppies are born blind, and the smell of whose urine is exceedingly strong. Bartholomæus Anglicus wrote in 1250, "A fox is called *Vulpes*, and hath that name as it were for

* "Moorish," strong-tasted.

† "*Livida me macies sumpto medicamine carpit.*"

wallowing feet aside, and goeth never forth straight, but always aslant, and with fraud. The fox feigneth himself tame in time of need, but by night he waiteth his time, and doeth shrewd deeds: and though he be right guileful in himself, and malicious, yet he is good and profitable in the use of medicine."

Among the Saxons a tooth drawn from a living fox was thought to be an excellent cure for inflammation of the leg, if it were wrapped in a fawn's skin, and carried as an amulet.

In the *Medicina de Quadrupedibus* of Sextus Placitus (1538) it may be seen that many other virtues were ascribed to different parts of this animal. By the *Rich Storehouse of Medicines* it was directed "for one that is taken with the palsie, though not the shaking palsie, take the blood of a fox as warm as it may be taken from him, and the blood about the heart is best, but all the rest is good, and with some of the same blood chafe the place that is taken, and then take the skin of the fox and put the raw side to the place where the palsie is: and so let it remain for the space of twelve hours at the least, for it hath been truly proved." Again, "take the lungs of a fox and dry them well, and beat them to powder, and then put a quarter of a spoonful thereof into a little new almond milk, or else into some other thin broth made of veal or mutton, and let the patient eat it: and this will preserve the lungs wonderful greatly. *Probatum est.*"

Pliny advised that if any man have a white spot as cataract in his eye, to catch a fox alive, cut his tongue out, and let him go; then dry the tongue and tie it up in a red rag, to be hung round the patient's neck. He further commends bits of old sailcloth from a shipwrecked vessel to be worn for epilepsy, the heart of a lark

to be taken for colic, and hairs from a goat's chin for quartan ague;—admitting that he has no personal faith in such things, but orders them for imaginative, fastidious and rich patients who decline to pursue a more rational treatment.

At a village in Oxfordshire, within recent years, children were required to go, for the cure of whooping cough, the first thing in the morning to a hovel, at a little distance from their house, where a fox was kept, carrying with them a large can of milk. This they set down before the fox, and when he had taken as much as he cared to drink, the children were to share among them what was left. For a fellow (*felon*, little thief; *furunculus*, whitlow) it was told in *Saxon Leechdoms* "catch a fox, strike off from him whilst quick, that is, alive, the tusk or canine tooth; let the fox run away; bind the tooth in a fawn's skin, and have it upon thee." Also, in the same book we learn, "for hard drawn breathing which is oppressive, a fox's lung sodden and put into sweetened wine and administered, wonderfully healeth." That such a remedy should have been given from a healthy animal for disease in the corresponding human organ as long ago as in primitive Saxon times, remarkably illustrates the intuitive anticipation by our unlettered forefathers of a practice now extolled as of recent scientific research and discovery, *viz.*, that of cure by animal extracts.

So sensitive was Tycho Brahé that he always fainted at the sight (or smell?) of a fox.

About the human race in general, Man has been severely summed up thus:—

"As foolish as monkeys till twenty or more,
As bold as a lion till forty and four,
As cunning as foxes till three score and ten,
We then become asses, and are no more men."

Dr. King Chambers, in his admirable *Manual of Diet in Health and Disease*, has said, "to the curious gourmet affected with diabetes it may be told that Professor Bouchardat especially commends the flesh of carnivorous animals, and advises their trying cat, dog, and fox. The liver, however, of either animal should not be eaten; and by removing the fat a great deal of the rank flavour of these carnivora is avoided." If gnawing hunger troubles the patient it may be appeased by his chewing cocoa beans.

Southey has quoted Wirzung concerning an old remedy for palsy—"Take a fox, uncase (skin) him, and the bowels being removed, seethe him in a sufficient quantity of water, and bathe the sick person therein; but yet not before that the body be purged, it is not otherwise permitted."

FROG.

THE Frog (*Rana temporaria*) was formerly known as "Frosch" and "Frosk." This is the common brown frog; or red, as the French call him, for distinction from their green frog, which is much esteemed in France, Germany and Italy as an article of food. It is found generally on land in the summer season, whereas the green frog rarely leaves the water. This latter is larger than our ordinary brown frog, and of an olive green colour, with black spots, and three strongly marked longitudinal lines on the back. The red frog is very commonly used as food in the central parts of France, and its hindquarters are said to be as good in fricasee as those of the green frog (*Rana esculenta*). The ancient heraldic device of the Parisians was three frogs (or toads), and their city was Lutetia (a land of mud).

The Romans do not seem to have made much use of

frogs as food; and the physicians of the middle ages attributed to them deleterious properties. In the sixteenth century, on the Continent, frogs were served at the best tables. One Perdix is ridiculed, in 1550, by the author of *Devis sur la Vigné*—"quand on lui apporta de grenouilles en facon de poulets fricassés."

Dr. Salmon wrote, in 1696, "The French eat the hinder part of the green frog, of which the flesh is good against coughs, and such as are hectick. Water and land frogs have one and the same virtues."

Continental physicians have long employed the flesh of these amphibiee, variously prepared, in the treatment of several diseases. Broths made therefrom have been considered restorative, diluent, analeptic, and antiscorbutic, being prescribed in chest affections, pulmonary consumption, skin disorders, and other maladies.

Some of the earlier doctors adopted very absurd notions and practices in this respect. Timotheus placed frogs cut in two over the kidneys of dropsical patients, with a view to attract the accumulated serous fluid. "We have heard," said Dr. Stephenson (1838), "of applying a brickbat in certain cases to a particular part of the human body, and we presume that its curative efficacy would be fully equal to that of the animal cataplasm here advised." Dioscorides presaged that the flesh of the frog, when cooked with salt and oil, would be an antidote to the poison of serpents; and Arnold said the heart of this creature taken every morning in the form of a pill, cured a fistula in the region over the stomach, which had resisted many other remedies.

Other mediciners recommended in epilepsy the liver of a frog calcined in an oven, on a cabbage leaf, between two plates, and to be swallowed in peony water.

Concerning grenouilles, in *La Cuisiniere de la Campagne*

et de la Ville, Paris, 1846, to make Cuisses de Grenouilles frites, "vous les mettez mariner crues pendant une heure avec vinaigre, persil, ciboules entieres, une feuille de laurier thym; ensuite vous les mettez egoutter, et les farinez pour les faire frire; servez garni de persil frit."

In *A Thousand Notable Things* we read "The virtue of frogs used physically is wonderful and scarcely known; all parts of him are good and profitable for mankind; the lungs are preservative against the falling sickness, and so is the liver. This latter, dried and mixed with honey, if applied to the toothache is a present cure; the gall dissolved in honey cures the flux called the dysentery; the blood is good against growing of hairs; their fat dropped into the ears cures deafness; the spawn of them put into a linen cloth applied to the hemroides or piles, is excellent. The same kills the itch of the hands, and redness of the face, and is good against burnings. One who was troubled with a fistula of the lower region of the stomach was perfectly cured by swallowing, on four or five mornings, the hearts of frogs."

Respecting Dr. Thos. Willis (Christ Church College, Oxford, and Sidley Professor there) it has been well said he was the first to reform the *Materia Medica*, and to adopt something like scientific methods; yet he ordered for colick to take of the oil of earthworms, or of frogs, as much as will suffice, and anoint the pained part, after first fomenting it with a pulstess of bruised herbs made hot in a pan over hot coals, with the oyl of earthworms, or of frogs; then lay upon the part a thin sheet of brown paper dipt in the oyl. Felix Platter, says old Burton, tells of one who thought he had some of Aristophanes' frogs in his belly, crying "brecc-ekex-coax-ooop-ooop," and who for that cause studied physick

seven years, and travelled over most part of Europe to ease himself.

The French habitually eat green frogs, taking only the hind legs, skinned, and with the claws twisted together. In this form the creatures resemble delicate little lamb cutlets, and are very palatable. About many parts of France, and at Vienna, they are fattened up in froggeries (*grenouilleries*) constructed for the purpose; they are first caught with lines baited with small pieces of scarlet cloth, or in nets, or are raked from the mud. *The English Dancing Master* (1651) contains a quaint rhyme:—

"The rose is red, the grass is green;
Serve Queen Bess, our noble Queen!
Kitty the spinner
Will sit down to dinner
And eat the leg of a frog."

In the North of Lincolnshire the sore mouth with which babies are often troubled is called the "frog."

Sir John Poley, who served in the Low Countries under Christian, King of Denmark, adopted a golden frog as his device. Most probably reference is made to his name in the curious homely ballad, "Froggy would a wooing go; 'Heigh ho,' says Roley; With a Roley, Poley, gammon and spinach; 'Heigh ho,' says Roley." This well-known song seems to have been borrowed from *Melismata*, London (1611), or from *Pills to purge Melancholy* (1719). "In 1580 was licensed a most strange weddinge of the frogge and the mouse," as appears from the books of the Stationers' Company, quoted in Warton's *History of the English Poets* (1840).

It is in the autumn, just when they plunge into the water where they would pass the winter, that the frogs are most esteemed, being now fatter and more delicate than at other times; and in France epicures

restrict themselves to the hind quarters, which are dressed with wine, like fish, or with white sauce; sometimes they are fried or spitted.

The French are not really peculiar in thus eating frogs, since the city of New York stands also pre-eminent for its frog eating propensities through a season lasting from the first of June to the end of August. Frogs can then be had at nearly every first-class restaurant; the Americans, like the French, eating only the legs.

At one time within the last few years Messrs. Keene and Ashwell, of London, made considerable quantities of frog oil, by crushing the creatures and boiling them in oil, which was to be used as an outward application in cancer. By the old pharmacopœias this oil was much prescribed. Likewise the *Sperma ranarum*, or spawn of frogs, obtained a place in our old dispensatories. "Frog spawn," says that of 1696, "is cooling and anodyne; it kills the itch, tetters, ringworm; helps burns, scalds, inflammations, erysipelas, red faces, and the gout; stops the flux of the hemorrhoids, terms, whites, and gonorrhœa." "Frog's spawn," tells *Folk Lore*, "out of the dykes, buried for three months in a crock, with a slate on the top of it, then taken up, and found to be pure water, was used successfully for the cure of chronic rheumatism by being perseveringly rubbed in where the pains were felt." Also, "anyone who is desirous of curing sore eyes is taught (in Aberdeenshire) to catch a live frog and lick its eyes with his tongue, after this he has only to lick any diseased eye, and the cure thereof will be effected."

The Indians of the Pacific Coast envenom their arrows with a secretion which exudes from the skin of a small frog, and which, by a certain process of

decomposition, they convert into a powerful blood poison. It is said that when these tribes concoct the baneful stuff for use in time of war, it has been their practice to test its deadly efficacy, not on the lower animals, but on the old women of their community.

After a fashion the frog sings, though we call the song a croak. "I wonder," says Mr. Wood, "what name the frog would give to much of our singing?" When it makes this music it sinks itself under the water with the exception of its head, opens its mouth, lays its lower jaw flat on the water, and sets to work as if he means to make the best use of his time. If a fly passes that way, and sufficiently near, the insect disappears as if by magic, for the long tongue of the frog has whisked it off to its destruction; this elongated tongue is covered with a gummy fluid, and is thrust forth so rapidly as almost to defy the closest observation.

In 1881 Dr. Harley resuscitated a frog one hundred hours after what seemed to be death (as far as could anyhow be ascertained, even from inspecting the circulation of blood under the microscope) caused by the strong poison woorara, and when all signs of actual life had ceased. It takes thirty hours to kill a frog with such a dose of snake venom as would infallibly destroy a rabbit in ten minutes.

The mucus (spawn) which envelops the eggs of frogs swells to an enormous volume when it has free access to water. It has been found on wet ground in the spring, and mistaken for a species of fungus, but this being really some of the said spawn which had been swallowed by large crows or other such birds, and afterwards vomited, from its peculiar property of swelling to an enormous size in their bodies. Country persons have thought it the substance of shooting stars.

Zwelfer a déclaré que les trochisques de crapaud l'avaient préservé de la peste ainsi que ses domestiques, et ses amis, et avaient soulagé, même guéri des pestifères. On sait que Van Helmont faisait appliquer sur le peau ce singulier remède. "The epicures of King Charles the First's London ate frog pies with infinite gusto," says Jeaffreson.

GALL.

THE Gall (*Fel*) of an animal is none other than its bile as secreted by the liver, and stored in the gall bladder for use during the digestion of food within the intestines after this has left the stomach. Such gall, or bile, is a viscid, dark, greenish-coloured secretion, of the consistence of thin black treacle, and proverbially most bitter of taste. It serves to saponify fats in the food, to prevent putrefactive changes therein, and to stimulate a proper activity of the bowels. Bile does not find its way into the stomach proper except as a symptom of upset.

Ox-gall, *Fel bovis tauri*, is prescribed remedially in cases where a deficiency of the natural bile seems to be indicated, and in some forms of chronic constipation, but too large a dose will bring on diarrhoea. As the drug would lose its character by first passing artificially through the acid stomach, mediciners protect its preparations by covering them with a horny coating of keratin, on which the gastric juice of the stomach does not act, and in this way the gall given remedially is not dissolved until it reaches its proper sphere within the highest intestines, of which the secretions are alkaline. The gall consists chemically of biliary matter, mucus, alimentary extract, chloride of sodium (*i.e.*, common salt), lactate, and phosphate of soda, and phosphate of lime.

It contains an excess of the sodium salts over

other mineral matters, being virtually sodium glycolate and taurocholate. To give thus the natural bile of a healthy animal so as to restore the balance of organic health in a patient whose own biliary functions are impaired by disease, is another instance of the treatment by animal substances now in modern scientific vogue. Its use was known, however, as far back as in Saxon days, when the *Leechdoms* ordered "for sore and ache of ears, if the ears have a tendency to grow deaf, or if the hearing be ill, take boar's gall, bull's gall, buck's gall, and mix equal quantities of gall with honey; dress this on the ear." In the *Rich Storehouse of Medicines* (1650) it was ordered as "excellent good for the hearing, to take an ox-gall, and the urine of a male goat, and mingle them together, and put some of the same into the patient's deaf ear, and incontinently he shall be holpen." Again, Dr. Salmon said (1696) "Ox-gall cures noises and pain in the ears, mixt with breast milk, and dropt in, stopping them with cotton dipt in the same. The gall of a bull is hotter than that of an ox, and therefore more effectual to the same purposes; in plasters and balsams it is an excellent vulnerary."

When there is a continuous discharge of fetid matter from the ear, or where hard waxy concretion exists, ox-gall may be usefully dropped in to soften this wax; or mixed with balsam of Peru as a stimulating antiseptic, three drachms of ox-gall with one drachm of balsam of Peru. Taken in doses of from twenty to thirty drops fresh ox-gall promotes the female monthly flow.

At Paris, in 1858, Dr. Bonorden found the external application of ox-gall highly useful for reducing tumours, and hypertrophied enlargements, particularly of the

female breast. He contended that it has a special effect on the bloodvessels of the skin, and a surprisingly rapid reducing action on the size of the swelling, doing away, in many cases, with necessity for the knife. It was combined by him with olive oil, adding some extract of hemlock if there was pain, or some liquid ammonia if there was torpidity: three drachms of the thickened ox-gall, one drachm of hemlock extract, two drachms of soap (natronat), and one ounce of olive oil, mixed all together, and rubbed in four times a day; also, for enlarged tonsils the gall was rubbed up with water to a proper consistence, and applied with a brush twice a day, the patient soon becoming used to this.

In thickening of the outer coat of the eye (cornea) or for an outgrowth therefrom, a drop or two of the fresh gall was to be dropped into the eye twice or three times a day. Medicinally it has been likewise suggested for hypertrophy of the heart, because exercising a remarkable power in lessening the action of that organ.

For indurations of the womb this is an equally efficient remedy. Ox-gall has been further found of service to expel round worms from the intestines. There is an officinal preparation of the purified and thickened bile, *Fel bovis inspissat*, of which from three to six grains are given for a dose.

Experiments have recently shown (1897) that bile can prevent death through a fresh lethal snake bite; and there has now been separated from the bile of the ox a constituent which possesses anti-venomous qualities in a more powerful degree than the original bile; only very small quantities of this need be used.

Drs. Clay and Allnutt employed bile in open cancer of the breast, with fungous ulceration; both the pain

and the fœtor of the discharge abated after the gall was taken. This has proved equally useful to overcome obstinate constipation because of deficient natural bile, or in diarrhœa, with clay-coloured stools, from a like lack of such bile.

Snake venom, and the bile from another snake, when mixed together and injected beneath the skin are found to render the former innocuous, and the bile is so powerful an agent in doing this that a quantity smaller than the quantity of venom proves sufficient for the purpose. It has been similarly discovered that the gall or bile of the ox is able to antagonise the poisonous action of serpents' venom.

When injected under the skin or into a blood-vessel, the bile salts and bile pigments act as poisons; therefore it is of evident importance to maintain free excretion of bile by the liver. Again, many poisonous matters (called "toxins") find a way harmfully into the intestines, but probably at once lose their noxious power by coming into contact there with the fresh bile. For which reason, again, it is essential that the liver should form a sufficient quantity of healthy gall.

The bile of a grazing ox is more watery than that of a man; the bile of a growing boy (who could digest any amount of meat) has been found to contain nearly double the amount of solids contained in that of an old woman, whose age would for this reason much limit her carnivorous powers.

Because of the known antagonism between the bile and the bacillary germ of tuberculous disease, it has been advised in pulmonary consumption to rub the chest systematically with fresh ox-gall. (That of the pig is supposed to be more analagous to human bile than the ox-gall.) This is also a very efficient remedy for

habitual constipation depending on atony of the intestines, with distension of the large bowel by flatulence; such as should never be restrained from escape merely because of doing outrage to the laws of good breeding; at least so thought the teachers of the Salernitan school (1608):—

“Quatuor ex vento veniunt in ventre retento;
Spasmus, hydrops, colicā, vertigo; quatuor ista.”

“So cramps, and dropsies, colicks, have their breeding,
And mazèd braines—for want of vent behind!
Besides, we find in stories worth the reading,
A certain Roman Emperor was so kind,
—Claudius, by name—he made a proclamation
‘A scape to be no loss of reputation.’”

It is quite certain that, in doses of from half an ounce to an ounce, fresh ox-gall acts as a laxative; but that if persistence be made in its use it is very apt to excite a burning sensation in the lower bowel, and to induce piles. Equally familiar is the fact that, when from any casual cause bile gets into the stomach from the intestine, it occasions nausea, or even vomiting, with loss of appetite, mainly because, being alkaline, it neutralises the gastric juice of the stomach. “Some men,” wrote Bartholomæus Anglicus, in the thirteenth century, “ween that the spleen is cause of laughing. For by the spleen we are moved to laugh; by the gall we are wroth; by the heart we are wise; by the brain we feel; by the liver we love.”

French physicians have found ox-gall of service for patients with digestions impaired by the abuse of alcoholic drinks. It must be a medicine of ancient date. Plantus, the Latin comic dramatist (150 B.C.), wrote concerning love, “*Amor melle et felle est fecundissimus; gustum dat dulcem, et amarum.*”

“Of honey mix’t with gall in fullest share
Love is a ‘bitter-sweet’ beyond compare.”

GELATINE (*see* ISINGLASS).**GIZZARD.**

THE Gizzard of our domestic fowl (*Ventriculus callosus gallinaceus*) or the strong muscular third stomach in grain-eating birds, affords a medicinal remedy which has received considerable attention from physicians, and which has been named Ingluvin. It acts as a substitute for pepsin, the digestive principle secreted by the stomach proper, and was originally found to be a specific remedy for the intractable sickness of pregnancy; in which respect it still serves most usefully. This Ingluvin is prepared as a yellowish grey powder, and is administered in a dose of from three to ten grains, dry, or on bread and butter, or in some simple liquid. Likewise for the wasting and sickness of children from mesenteric disease, this powder has proved signally beneficial; giving three grains, with the same quantity of sugar of milk, three or four times in the twenty-four hours. Pregnant women, to prevent sickness, should take the Ingluvin half-an-hour or so before a meal. Ostrich pepsin is ordered by doctors for like purposes in the Argentine Republic, being known there as "*Pepsina nostra*."

Anything which a man cannot stomach is said to stick in his gizzard (French "*quense*," throat). Hudibras tells of "fretting the gizzard," or, being vexed.

GLOWWORM (*see* MISCELLANEOUS).**GLYCERINE** (*see* OIL).**GOAT.**

THE Goat (*Capra hircus*) has been from early times associated more or less with medicine in the public

mind: and its general appearance has seemed uncanny to the superstitious. It was thought by our forefathers to be cunning in Simples, and the herbalist among quadrupeds, taking rank as the physician of its kind. A Billy, or Nanny, is still maintained in many a modern farm-yard, not for any real use, but because its odour is supposed to be good for the animals of the homestead generally. In the choice of wholesome herbs it is exceptionally wise.

Old Fuller in his *Book of Worthies* tells that "goats are called *capri*, a *carpendo* from cropping: their milk is accounted cordiall against consumption: yea! their very stench is used for a perfume in Arabia the Happy: and yea! if that ornamentall excrement which groweth beneath the chin be the standard of wisdom, they carry it from Aristotle himself."

Sextus Placitus, in *Saxon Leechdoms*, attributes various curative virtues to this animal; thus, "for blood running from the nose dry some goat's blood, and rub it down to dust, apply that to the nostril: it withstandeth! Also against the evil humour have him drink goat's blood; that will heal him. For cancer a goat's turd mingled with honey and applied to the wound; quickly it healeth. For sore of ears apply goat's nue (urine) to the ear, it relieveth the sore. If a man may not discharge his bowels, see the together, and give him to drink goat's milk and honey, and salt. Also for cancer take goat's gall and honey, mingled together of both equal quantities, and apply to the wound: or burn a fresh hound's head to ashes, and apply to the wound. If the wound will not give way to that, take a man's dung, dry it thoroughly, rub it to dust, apply it. If with this thou art not able to cure him thou mayest never do it by any means." "To

get sleep a goat's horn laid under the head turneth waking into sleep." This must have been by the force of what is known to-day as hypnotic suggestion.

Likewise as exemplifying a rude practical acquaintance in former times with the healing power to a sick organ of the same organ taken from a healthy animal as medicine, it is given as an old recipe in *A Thousand Notable Things*, "To dry a goat, sheep, or neat's bladder, and make powder thereof, and let them drink thereof with vinegar and water when they go to bed that cannot hold their water, and it will help them."

In the *London Pharmacopœia* (1696), goats' milk was held to be cleansing, "It nourisheth much, and is good in consumptions, and hecticks, and strengthens the stomach, but is nothing near so fat as cows' milk. The marrow is accounted the strongest of all marrows; dissolved into an oyl, and mixt with oyl of amber it cures deafness." Gall of goat was an evil charm put into the cauldron of hellbroth by the third Witch in *Macbeth*. Goats' flesh formed a staple article of food among the Jews, and is now eaten in Italy; whilst from the milk is made a kind of cream cheese, ricotta, which is sold in the streets, and being sweet and palatable, is much appreciated. Vendors carry it on their heads like our muffin sellers, and retail it, at so much a centime, to poor purchasers. Goats' milk is richer in solids than that of the woman, the cow, or the ass, containing the largest proportions of nitrogenous (casein) and fatty constituents, as well as of salts, but it is comparatively poor in sugar. It also affords a peculiar smelling acid, hircin, or hircic.

This is the most highly nutritious of the several milks, but not the most digestible. It often proves of use in checking obstinate diarrhœa. Whey made from

goats' milk is curative of scrofulous affections; an account of the treatment by this whey was given by Dr. Lee in the *American Medical Times*. He tells that it first came into vogue now more than ninety years ago (1863) in Switzerland because some high personage recovered under its use; and the cure was chiefly carried on at Gais, one of the highest of the Apenzell Alps. The goats' milk is heated to 86° F., and then rennet is added, whilst agitating it constantly; next the serum is pressed out from the curds, and carried away while yet warm to the different establishments. It has a greenish tint, being sweetish, balsamic and agreeable, consisting of a solution of sugar, lactic acid, and animal extractive matter which is made up of osmazome and different salts. These comprise the chlorides of potassium and sodium, sulphate of soda, and phosphate and carbonate of lime. Its sensible properties are very different from those of the goats' whey which is offered for sale in London and Paris. The whey is drunk warm between six and eight in the morning, pure, and to the extent of seven or eight tumblersful, the patients walking about for several minutes between each cup. Generally between the third and fourth glassful a serous diarrhœa comes on, accompanied with borborygmi (flatulent rumblings), but no colic, or griping: some farinaceous soup is then given, and very rarely are there any more discharges from the bowels for the next twenty-four hours. After a few days the tongue becomes white, and the mouth clammy, with more or less constipation, for which a mixture containing equal parts of sugar, rhubarb, and cream of tartar is given, this acting as a gentle laxative. Some of the patients take, moreover, baths of goats' or cows' milk, which are said to have a very beneficial effect, when the skin is hot and dry, the

pulse frequent, and the nervous system irritable. In scrofulous affections, particularly of children, the effects of this goats' whey cure are found to be simply wonderful: it is specially commended for diseases of the chest, and for those of the bowels; considerable help being given in the former by the restorative atmospheric and climatic influences which are brought to bear.

Again, in habitual torpor and constipation of the bowels this treatment effects admirable results, the viscera becoming energised and disgorged, whilst the appetite is increased. The average length of cure is three or four weeks: and the best time for pursuing it is at the beginning of summer, by which season the sun has sufficiently developed in the herbage those juices, and peculiar proximate principles which give the milk its curative properties: hence it is that the whey must be made from milk derived from animals which range and browse on the high mountains of Switzerland.

The establishments of Germany are not so favourably situated: Meren in the Tyrol is especially famous for this cure.

A goat thrives on shipboard better than any other animal, and is of much value there for its milk.

But Kirby, *Entomology*, tells of a Lady Penruddock, who swarmed from head to foot with maggots (*Acari lactis*), supposed to have become engendered from her drinking goats' milk too copiously. These terrible mites consumed all the flesh off her body.

Satirists say that the grave dignity of our Law Courts—Bench and Bar—is mainly attributable to goats' hair, the person who wears a legal wig being a very different looking man when he puts it off.

Of old this animal was regarded as the favourite steed of witches, wizards, and demons: and the devil

was thought to assume its form when visiting the earth. It is found to be figured beneath Church Stalls as a thing of abhorrence, especially to priests taking a vow of chastity.

The life of a goat lasts about eight years. It appears to prefer before every other kind of green food the leaves of the white bryony, which no other animal will touch; and it eats with impunity the poisonous tops of the yew. An old proverb puts it that "a piece of a kid is worth two of a cat." Reverting to some of its ancient uses, the Southern Irish peasantry have long looked upon the goat's dung as a sovereign remedy in scarlet fever, and measles: whilst in the *Pathway to Health* (Peter Levens, 1664) it is ordered to "take the hot lights of the goat, and clap it to the head of a patient that is vexed with the frenzie, and it taketh it away presently." The ancients believed, says Sprengel, that goats will operate upon themselves for a cataract by pressing a thorn into the eye: and that men learnt the proceeding from them.

In the case of stables on fire a goat will face the flames to make good its escape: and then the horses will follow.

GOLD (*see* ASS).

As "a good medicine to be used by one that is in a consumption," asses' milk (which *see*) has been ordered of old (1650) to be concocted with rosewater, and hen-eggs: being presently drunk warm with a cake or two of *mannus Christi* made of Gold, or pearls. This precious metal has played so important a part in curative medicine from the most ancient times, and continues to be so highly remedial in its present uses, that some length of consideration may fairly be given it

here in alliance with *Animal Simples*. Gold was used medicinally by the Chinese two thousand five hundred years before Christ.

Paracelsus employed it as a universal panacea, and called it a solution of the sun. He tells how to prepare his *Sal Philosophorum*, or "*Sapientia*," from powdered gold, "calcined most carefully with washing, boyling, and vinegar, the salt to be kept in a close glasse vessel, for it is a most excellent medicine against all diseases of the body: for it will leave nothing in a man that shall hurt him, but it doth drive it forth by sweat, and maketh the patient as sound and whole as ever he was in his life: it healeth all outward sores, as the Canker, the Wolfe, *Fistulæ*, and such like. Ye shall take a phial full of wine, and put therein two or three graines of that salt, for it is sufficient for any sicke person for any kind of diseases. Then stop that phial, and set it on warme water until the salt be dissolved; then give the sicke person to drink thereof warme, and let him down to sweat, for it will cause him to sweat wonderfully; the sweat will bring him to health again although he were a leaper; other sicknesses although they were never so evill, or sore it will helpe them; when thou wilt helpe any outward sore thou shalt lay thereon a wound plaister, and let him drinke the said salt with wine morning and evening as said before, and in short space they shall be holpen: and you shall lay upon the sore a cool leafe, or lint, and you shall see what abundance of foule and rotten blood, and such like come forth. The which is scant to be believed; and then those holes, or sores will incarnat and heal of themselves without fault."

The first known trituration of gold was made by Moses out of the remains of the golden calf of the

Israelites, and he compelled the children of Israel to drink it in water.

Bartholomæus Anglicus (1250) wrote, "and among metals there is none fairer in sight than gold; and therefore among painters gold is chief, and fairest in sight, and so it embellisheth colour and shape, and colour of other metals: also among metals nothing is so effectual in virtue as gold; Plato describeth the virtue thereof, and saith that it is more temperate and pure than other metals: for it hath virtue to comfort, and cleanse superfluities gathered in bodies, and therefore it helpeth against leprosy, and meselry (measles). The peelings of gold taken in meat, or in drink, or in medicine preserve and let breeding of leperhood, or namely hideth it, and maketh it unknown."

In the *Rich Storehouse of Medicines* (1650), was given "a sovereign drink for any infected person": "Take a piece of fine gold, or the leaves of pure beaten gold, and put it into the juyce of lemmons, and let it ly therein for the space of twenty-four hours, then take the same juyce, and put to it powder of angelica root; and then mingle them with white wine, and let the patient drink a good draught thereof. This is a most pretious drink, and it is greatly to be wondered at what help and remedy some that have used this drink have had thereby, although it hath been supposed by many learned physicians that the sick persons were past all hope of remedy, yet by God's Providence they have recovered again."

The New London Dispensatory (1695), ordered Gold, or "Sol" in several forms, such as Thundering gold, Sweating gold, Potable gold, Flowers of gold, Salt of gold, Transparent glasse of gold, Faber's tincture of

gold, and Dye of gold. Evidently much curative value and importance were attached to this leading metal at that time.

Dr. Salmon, who compiled this Dispensatory, authoritatively ascribed superlative virtues to Gold as a universal remedy against all diseases, as a sudorifick, and counterpoyson, restorative in consumption, curing the plague, all sorts of fevers, epilepsies, apoplexies, palsies, megrims, leprosy, scabs, itch, ulcers, fistulas, and old virulent sores which are hard to heal, reviving such as are almost dead; given in Canary it will revive such as are senseless, and stupid (how excellent for pedagogues!); it takes away the malignity of cancers, causing their speedy healing. "It exceeds," says Horstius, "all other secrets in strengthening the hart, brain, liver, and all other parts of the humane body which serve for the conservation of life: it keeps back old age, and renews the radical moisture. It may be taken at any time in cinnamon-water, or broth, or milk, upon any occasion, or in any disease; *cujus virtutes infinite sunt, nec libro integro comprehendendi possunt: beatissimus est medicus qui eo uti potest, ut honoris culmen acquirat, et oculos omnium, et linguas, laudes, et encomia predicantes, in se convertat.*" Again, "*materia lætificans, et in juventute corpus conservans.*" So Prince Henry is made by Shakespeare to speak of gold as "preserving life in medicine potable," because of the opinion which anciently prevailed that the incorruptibility of gold might be communicated to the body impregnated therewith.

As far back as in the eighth century Arabian physicians were given to use a fine powder of metallic gold: and in 1811 Chretien revived its administration in Paris, especially for syphilis, serofula, and cancer of the womb. "*Das gold hat grosse unersetzlich arznei*

kräfte." "Gold has great curative powers such as no other can confer," wrote Hahnemann (1805): "*aurum medicina catholica in senibus et juvenibus.*"

Proving of the metal when given experimentally to healthy persons in varying doses have shown that its toxic effects are: burning, and boring pains in the bones, sometimes accompanied with redness, and swelling (especially in the face and feet), sometimes as on the head with bony knots (nodes): producing also often a marked action on the nose, which becomes inflamed externally, whilst the nostrils are blocked with ulcers and internal crusts, the smell being putrid to the patient.

Careful observation of these particular effects has led to the highly successful use of gold in much reduced doses for curing syphilis (tertiary), scrofulous or venereal ulceration inside the nose, disease of the nasal bones, with concomitant suicidal melancholy, and obstructed liver. It has further shown itself an admirable medicine for constitutions broken down by mercury. Dr. Hughes (Brighton) once gave to a poor fellow thus afflicted a trituration of gold with powdered sugar of milk, one part of the metal in a hundred. This patient came back in a week's time looking quite another man, and exclaimed "Surely you have given me the elixir of life!" And in chronic jaundice the same remedy has been found equally useful.

Rushes of blood to the head, and giddiness were also experienced by the provers of gold, together with confusion of sight: the testicles were made painful and swollen: profuse nightly perspirations were found to be induced. In man full doses of the metal cause sexual excitations, and in woman an immoderate monthly flow. Furthermore, gold in toxic quantities makes the gums

sore and the teeth loose : and one noted dentist, zealous for the usages of his craft, has claimed that its attenuated dosings from wearing false sets fixed with, or largely composed of the metal (which would be chemically acted on more or less by the sulpho-cyanogen of the saliva) far from hurting the teeth, make them firm again when loose, and may tend to build up the general health.

Large harmful doses of gold have been followed by tightness of the chest, with difficult constrictive breathing, and the symptoms of breast pang. Erastus said, as quoted by Burton, about gold: "it maketh the heart merry, though in no other sense than as it is in a miser's chest." *Simul ac nummos contemtor in arcâ.* The chloride of gold is prescribed medicinally in the present day, besides the powdered leaf (H.) made of the finest metal. This chloride, when exceedingly diminished in strength, is injected beneath the skin for ulceration of the face, if of the scrofulous sort, and destructive in its ravages.

Again, the bromide of gold is frequently found to completely control epilepsy : and a combination of gold with soda (the auro-terchloride of sodium) is doing marvellous things as a drink cure, producing a harmless repugnance to alcohol which no other treatment has yet achieved. This salt is made according to a formula of Dr. Clarke, University of Michigan, and being given in doses at first of a quarter of a grain can shortly be reduced to a twenty-fourth of a grain.

As Chaucer saith :—

"For gold in physic is a cordiall
Therefore he loved gold in special."

"Pharmaca das œgroto : aurum tibi porrigit œger
Tu morbum curas illius ; iste tuum."

Dr. J. C. Burnett (*Gold as a Remedy in Disease*) says : "Having used it in practice for many years I cannot do without it : to my mind there are varieties of disease that gold, and gold only, will cure ; and others that gold, and gold only will alleviate to the full extent of the possible, and not a few of these varieties of disease are of the greatest nature. "As a heart remedy alone it claims the most earnest attention of every doctor." Dr. Burnett highly commends gold leaf triturated to a second or third centesimal dilution, and given in four grain doses, for the laboured breathing, and troubled heart action of old age.

It is a well known popular custom for a sty in the eyelids to rub it with a gold ring first wetted with fasting spittle : and as long ago as in Pliny's day gold was declared to be a cure for warts by applying it thereto. In 1854 the chloride of gold and sodium was introduced as of a special value for reducing enlarged glands of children's necks, or their scrofulous mesenteric glands, one twenty-fourth of a grain being mixed with orris root, and rubbed on the tongue by a piece of wood covered with wash leather : as also for disease of the hip, being rubbed on the tongue in the same manner twice a day. Again, gold is thought to possess a special elective affinity for glandular tumours.

Nevertheless we are admonished in classic lines :—

"Non domus, et fundus, non œris acervus, et auri,
Ægroto possunt domino deducere febres."

It has been recently alleged that in America the transmutation of silver into gold by continued hammering, with the use of cold, has been at last accomplished, and, so to speak, the philosopher's stone of alchemical research realised : but as yet the process is laborious, and costs half the value of the gold produced.

In the fabled Seven Champions of Christendom the Golden Fountain would convert any base metal into gold within twenty-four hours.

Pious George Herbert in "*The Church*" quaintly sings that the true *elixir* is to "see God in all things."

"This is the famous stone
That turneth all to gold;
For that which God doth touch and own
Cannot for lesse be told.
A servant with this clause
Makes drudgerie divine:
Who sweeps a room as for Thy laws,
Makes that, and th' action fine."

Poor Thomas Hood, of lifelong sickness and domestic straits, knew but little, we must fear, about the curative virtues of gold in any respect: thus plaintively does he sing on the subject:—

"Gold may soothe Adversity's smart,
Nay, help to repair a broken heart:
But to try it on any other part
Were as certain a disappointment
As to try and rub the dish and plate
Taken out of a Staffordshire crate—
In the hope of a Golden Service of State—
With Singleton's Golden Ointment."

Dr. Quincy wrote (1728): "Many tinctures of a yellow colour are now-a-days the "golden tincture" of something or other: this name being used to enhance the price of worthless preparations: for there are still *Juglers*, and *Quacks*, who amuse, and impose upon weak people with their *Golden Medicaments*."

GOOSE.

CÆSAR wrote (in his *Commentaries*) that the ancient Britons did not think it lawful to eat the hare, the cock, or the Goose (*Anser*), these animals being held sacred; and among the Romans Geese, having saved the Capitol, were set apart and kept for sacrifice. Artificial means

were employed in those days for enlarging the livers, which were as highly esteemed then as they now are by lovers of *paté de foie gras*. Horace describes how—

“ The slaves behind in mighty charger bore
A Crane, in pieces torn, and powdered o'er
With salt and flour; whilst a white Gander's liver
Stuff'd fat with figs, bespoke the curious giver.”

A yearly Roman festival was held with the Goose carried in procession to commemorate its vigilant services. Also the learned German, Noek, sees in our Michaelmas bird traces of the goose offered of old to Prosperina, the infernal goddess of death; on which account the figure of this homely creature is so often seen on modern monumental remains.

As to its medicinal attributes, John Taylor, the Water Poet (1620), said:—

“ Her lungs and liver into powder dried,
And fasting in an ass's milk applied,
Is an experienced cordial for the spleen.”

And again:—

“ Her brains with salt and pepper if you blend
And eat, they will the understanding mend.”

The flesh of this bird, declared the *London Pharmacopœia* (1696), is exceedingly hard of digestion, but being digested nourishes well; the liver is of great nutriment; the grease is exceeding hot and of thin parts, piercing and dissolving. It cures baldness, chaps in the lips and other parts, helps deafness, and pain, and noise in the ears, and loosens the bowels. The dung is excellent against the scurvy, gout, jaundice, and green sickness. You may give from one to two drachms in Rhenish wine; it provokes urine and the terms powerfully.

Much curative importance seems to have been attached to goose-dung by all our early writers on

medicinal remedies, though modern critical ridicule makes a jocular tilt against "the green end of a goose-dropping as given in times past for the falling sickness." In *Saxon Leechdoms* it was directed: "If a thorn or a reed prick a man in the foot, and will not be gone, let him take a fresh goose tord and green yarrow; let him pound them thoroughly together, paste them on the wound, soon it will be well." "For a canker," said the *Rich Storehouse of Medicines*, "take goose dung and celandine, bray them well together, and lay it on the canker two nights."

Again, "As an excellent good oyntment for the gout, take a fat goose, and pluck her, and dress her as if she should be eaten; then stuff the belly of her with three or four young cats well chopped into small pieces (which in these days the society for preventing cruelty to animals would quickly make a subject for prosecution), with a handful of bay salt and twenty snails, and then sew up her belly again and roste her at a small fire, and save all the dripping of her; and keep it for a pretious oyntment, as well as for the gout, as also for all other kind of diseases in the joynts, *probatum est.*"

And, "An excellent good remedy for the black jaundise: take wheat straw, and lay it abroad upon a fair floor in a close house, and put geese into the place where the straw is, and watch when they do dung and take it up whole, and with a knife scrape off the white that is about it, and keep the same white until you have a good quantity thereof; then dry it in an oven and make it into powder, and let the patient drink it in ale or beer, both first and last, warm; and it will cure both the black and yellow jaundise." Also, as: "A very good remedy for any burning or scalding, either with a hand gun or otherwise, take a good

quantity of the dung of geese (which is of one night's making), and a good quantity of butter unsalted, and else sheeps' suet clarified, and fry them in a fryingpan until the butter or suet be almost consumed; then put the same stuff in a coarse linnen cloth that is clean, and strain it into a gallypot; then take a feather and dip it in the liquor, and anoynt the place therewith that is burned or scalded; and when you have so done, take a fine linnen cloth and wet it well in the same liquor, and lay it upon the place grieved to cover it withall. Do this twice every day until it be whole, which (by God's help) will be in a short space."

But Dr. Quincy pronounced (1728) as to Goose dung, *Stercus Anseris*, that "though reckoned useful as a detergent for distempers of the Head, it had been introduced more from Fancy than good Reason.

"There were three days in the year called 'Ægyptiaci,' that is, in our tongue, 'Dangerous days,' in which by no means, on no occasion, neither beasts' nor man's blood should be diminished, that is the last Monday in April, the first Monday in August, and the first Monday in January (curiously resembling our modern bank holidays as to the dates). If any man drinks any medicinal drinks on these three days he will end his life within fifteen days; and whosoever on these three days tastes flesh of *goose* will end his life within forty days' time."

Theophrastus gave comfort by assuring his countrymen: "He that keeps geese about his house need not fear thieves, and hath always those that will tell him assuredly what weather will ensue; for the goose, by watchfulness and clamour, will give the alarm against thieves, or by their eagerness of feeding and fluttering in the water they do presage a storm at hand." The

Goose is said to be the only bird prescient of approaching earthquakes.

An old receipt for the web, or spot in the eye, was to: "Take the great bone of the goose wing, the older the better, for, though it be a year old, it is not the worse; break it and take out the marrow that is within it, then put some of this upon the web or spot, and it will break it and save the sight."

Goose grease (*Adeps anseris*), obtained from a roasted goose, is highly emollient, and very useful in clysters; it readily proves emetic. "The Puritans," says Butler, in *Hudibras*, "opposed fat goose as bitterly as they did fat pig; and the Italians, from time-honoured respect, still deny themselves the luxury of roast goose."

At the luncheon partaken of by George the Fourth, when a king's messenger boarded the royal yacht in Kingstown harbour to tell him that Queen Caroline was dead, a goose pie was the staple dish, with Dublin whiskey. "Is she? by Jove!" exclaimed the amiable monarch, and went on eating his goose pie.

In Manchester a favourite tit-bit at table is that spongy lining of a Stubble goose's brain known to epicures as "the soul." But through eating a stuffed goose kept too long, a dozen persons met their death of late because of the developed products of corruption (ptomaines); whilst from one of the victims an alkaloid liquid was extracted after death which "smelt like the urine of mice, and resembled the poisonous alkaloid of hemlock; at the same time, the presence of similar cadaveric products were found in the *débris* of the goose.

To "cry 'Boh' to a goose" refers to a noted Gothic general, Odin's invincible son, once terrible to warriors and women, a dread captain who commanded the

Persian hosts. His fearsome name after serving as a rallying cry to armies whose foes it filled with fright, became a menace to fractious children, and presently a jest of nurses, losing its alarming significance altogether; the child was as foolish as a goose if "boh" could alarm him! Likewise, when crying "Peep-boh" in play to the babe in her arms, the nurse really utters the name of this doughty general.

"A triphthong," says the *Comic English Grammar*, "is a union of three vowels in one sound, as *eau* in the word *beau*,—a term applied to a dandy, and addressed to geese, probably because they are both birds of a feather."

In the year 1661 Surat was pillaged and burnt by a certain robber named Bogie. He was the original of another mythical being who has for many years served to terrorise unruly children in the nursery.

Ferrara geese were famous for the large size of their livers, one of which is said to have weighed more than two pounds. "With this food," tells Smollett, in *Peregrine Pickle*, "exquisite as it was, did Heliogabalus regale his hounds." Modern poetry leads us in pleasant fancy to look for *paté de foie gras* as a natural product about the realms of Romance:—

"In the sweetly impossible land of Cocaigne,
That Elysium of everything happy and nice,
Where for hail they have bon-bons, and Claret for rain,
And the skaters in winter show off on cream ice.

"Where so ready all nature its cookery yields,
Macaroni au Parmesan grows in the fields;
Little birds fly about with the true pheasant taint,
And the geese are all born with a liver complaint."

Gerarde believed in the Barnacle goose as a metamorphosis of the barnacle shell produced by a fructifying tree. In his famous *Herbal* he gives an account, which he could personally vouch for, of the fruit of the goose-tree, when ripe, falling into the water as an

embryo bird, and duly obtaining its feathers. But this was founded altogether on a mistake, and must have originated in the fact that "the sea barnacle (*Lepas cirripede*) possesses, when its shell is open, a plume-like cluster of curling limbs, and owes its specific name, '*anatifera*': 'goose-bearing,' to this feathery adjunct."

Galen commended only the giblets, stomach, and liver of a goose sodden in broth. The Polish method of showing a suitor that a maiden rejects him is to serve at dinner a goose with black gravy. "To get goose" is, in Northamptonshire, to be well scolded; and a quaint old proverb runs: "Full of fun and fooster, like Mooney's goose":—

- "Lady St. Ubbs, a proud, patrician dame,
Of ancient family and haughty name,
Grown fat, and fidgety, and forty-five,
Began with sickness which was strange to strive.
- "At once her head, her heart, her eyes, her ears,
Her spine, and limbs suggested fretful fears;
But yet in appetite she little ailed,
Nor strength, nor stoutness of her sinews failed.
- "Anon the doctor came, and went and came,
A rough practitioner, of rural fame,
Who, soon discerning nothing grave amiss
Save stress of years, abruptly told her this.
- "Whereat her ladyship, no more content
With such plain skill, demanded to be sent
In stately fuss to London, there to see
A Court physician for a costly fee.
- "But first suspecting something kept behind
Of dread forebodings in the doctor's mind,
She bade him write a statement of her case,
Which she before the titled sage might place.
- "The note was penned, marked 'private;' but the dame,
Inquisitive beyond all sense of shame,
Burning to know what things it might reveal
Forgot her dignity, and broke the seal.
- "With eager eyes she scanned the scribbled page,
When great her wrath, though impotent her rage,
These were the only words it served to tell:
'A plump old goose I send you, pluck her well.'"

GRASSHOPPER.

THE Grasshopper (*Cicada*) is a well known, happy, summer insect, of the Hemipterous classified order, "than which," says Kirby, "none has made more noise in the world." From the time of Homer, the *Cicada* (Grasshopper tribe) formed the theme of every Greek poet in regard to both tunefulness of their note, and their delicate flavour when brought to table.

Anacreon inscribed to them a beautiful little Ode. Homer compared the simple garrulity of old age to their chirping. Aristotle says they were eaten by the polished Greeks, and were found very delicious. Likewise, other classic authors, Aristophanes, Cælian, and Pliny, mention their being eaten as a favourite food.

Moses (*Leviticus* xi., 21, 22) conveyed to the children of Israel the Divine permission: "Ye may eat of every flying creeping thing that goeth upon all four, which have legs above their feet, to leap withal upon the earth; even these of them ye may eat, the locust after his kind, the bald locust after his kind, and the beetle after his kind, and the grasshopper after his kind."

Allied to grasshoppers are locusts, as thus mentioned by Moses; and on which, with wild honey, John the Baptist is recorded to have lived long afterwards in the desert. "Our English grasshoppers," says Vincent Holt in his little book on edible insects, "quite fairly represent Eastern locusts, which are cooked and eaten in many ways throughout Arabia and Persia, Africa and India, being exposed for sale in regular locust shops; and among the Moors they appear at the best tables." It has been aptly suggested that their very name, "Gryllus," is an invitation to cook them. The method of doing so is to pluck off the head, wings, and

legs, to boil for half-an-hour, to flavour them with pepper and salt, and fry in butter. At other times they are powdered and baked into cakes; or again, they may be boiled, turning red like lobsters in the process. Indian cooks curry these insects.

Vincent Holt further tells us he can bear personal witness that our English grasshoppers when treated in either of the above fashions are most tasty morsels. "I foresee the day," says he, "when a dish of grasshoppers fried in butter will be as much relished by the English peasant as a similarly treated dish of locusts is by an Arab, or a Hottentot. I have eaten grasshoppers raw, and I have eaten them cooked; raw they are pleasant to the taste, cooked they are delicious." He suggests to the epicure, "*Grasshoppers au gratin*," or "*Acridæ sautés à la maitre d'Hotel*."

The Africans, far from dreading invasions of locusts (which formed one of the plagues in Egypt when sent in hordes as a punishment), look upon a dense cloud of these insects as we should on so much bread and butter in the air. They smoke them, salt them, boil them, or stew them, or grind them down as corn and get fat on the provender. St. Francis de Sales says they who discouraged the Israelites from going into the promised land, told them that the natives were such giants (sons of Anak), that they "ate up other men like grasshoppers." Nevertheless, Joshua and Caleb protested that the land was good and beautiful; also, that the acquisition of it would be easy and pleasant. Turning the tables, we may, with benefit, "eat grasshoppers like men" throughout sunny England, which gives a delightful promise in this respect. "Socrates told fair Phœdrus," says Burton, "at noon when it was hot, and the grasshoppers made a noise, the sweet tale

how these grasshoppers were once scholars, musicians, poets, etc., before the muses were born; and they lived without meat or drink, and for that cause were turned by Jupiter into grasshoppers." Incidentally may be quoted in this regard what Hufeland, when writing on longevity, has said about mankind as to eating and drinking: "Nourishment includes not only meat and drink, but much rather that influx from the atmosphere of subtle, spiritual, vital nourishment which seems in a particular manner to contribute towards the support of the vital power. In a word, not that alone which passes through the mouth and the stomach serves to sustain life, since our lungs and skin receive from without an abundance of vital nourishment, and for spiritual support are of much greater importance than the stomach."

The aborigines of New South Wales eat grasshoppers raw, and call the sounds made by the males "galang, galang." This chirping is produced by the insect drawing its springy legs over the rigid, resonant wing covers, just as a bow is drawn over tight violin strings; but the females are said to make no noise. So Lenarchus wittily sang:—

"Happy the Cicada lives,
Since they all have voiceless wives."

Medicinally the powder of dried grasshoppers, given to six grains with pepper, "helps the cholick and difficulty of urine." The *London Pharmacopœia* (1696) tells of the *Cicada* as "A creature having no mouth, only a pipe in the breast, by which it sucks dew, on which it lives." "It is reported," as we read in Izaak Walton's *Compleat Angler*, "that grasshoppers and some fish have no mouths, but are nourished and take breath by the porousness of their gills, man knows not

how ; and the same may be believed of the Fordidge trout (in Kent, near to Canterbury), none of which has been known to be caught with an angle, unless it were one that was caught by Sir George Hastings, an excellent angler, and now with God, which feeds in the sea nine months in the year, and fasts three in the river of Fordidge." "Grasshoppers," wrote Robert Lovell (1661), "are begotten of putrefaction, love men, and live not long." The grasshopper, as the sign of a grocer, was the crest of Sir Thomas Gresham, the merchant of that calling. Before the fires in London of 1666 and 1838 the Royal Gresham Exchange used to be profusely decorated with grasshoppers, and now the brass one still displays itself there. But winter comes, alas, at length to the merry improvident insect: as La Fontaine pathetically puts it :—

" La cigale ayant chanté
 Tout l'été,
 Se trouva fort depourvue
 Quand la bise fut venue."

And so with ourselves when the winter of life draws on, "Fears shall be in the way, and the almond tree shall flourish, and the grasshopper shall be a burden, and desire shall fail" (*Ecclesiastes* xii., 5). Dr. Richard Mead, in *Medica Sacra* (1749), *de morbis insignioribus qui in Bibliis memorantur*, says of old age, or *Senectus morbus*: the grasshopper shall be a burden, shall grow big, "*pinguescet locusta*" (signifying that old age shall bring about a hernia or rupture, or descent of some of the bowel through its confines into the scrotum); "*in scrotum devolutus intestinus, et hic morbus infestus cum locustâ comparatus; deforme autem animalculum est locusta, ex solo fere abdomine constans, quam imprimis cum oculis suis gravescit; scrotum herniâ tumefactum cum parte virili referre quodam modo dici potest.*"

GUINEA PIG (see MISCELLANEOUS).

HARE.

MARTIAL wrote of the Hare (*Lepus*): "*Inter quadrupedes gloria prima lepus.*" "Thus much," told Cogan, in the *Haven of Health* (1589), "will I say as to the commendation of the Hare, and of the defence of hunters' toyle, that no one beast, be it ever so great, is profitable to so many and so diverse uses in physicke as the Hare and partes thereof, as Matthiolus showeth. For the liver of the hare dryed and made in powder is good for those that be liver-sick (e.g., an animal substance according to modern practice!), and the whole hare, skinne and all, put into an earthen pot close stopped and baked in an oven so drie that it may be made into powder, being given in white wine is wonderful good for the stone." Again, "Whilst epicures devour the animal with keen relish, physicians have found it of singular efficacy for the cure of several diseases: thus, by one who attended Maximilian the Second, its liver, dried and powdered, was given as a specific for bilious disorders."

The Hare was used in divination by the ancient Britons, and was never killed for the table. When their queen, Boadicea, harangued her soldiers to inspirit them against the Romans, she opened her bosom and let go a hare which she had concealed there, so that the Augurs might proceed to divine; and the frightened creature, by the course it took, prognosticated a happy success; which was straightway realized through the ardour of the warriors, though a proverb was current at the time to the effect that, "*Inauspicatum dat iter oblatu lepus.*"

It has always been thought unlucky for a hare to cross one's path, because witches were reported to

change themselves into hares. "If a hare cross the highway," said Sir Thomas Browne, "there are few above three score years that are not perplexed thereat."

"Some prefer," writes Fuller, "their sport in hunting the hare before its flesh for eating, as accounting it melancholick meat and hard to be digested; though others think all the hardness is how to come by it. All the might of this silly creature is in the flight thereof. "I remember," says he, "the answer which a schoolboy returned in a Latine distick,—being demanded the reason why hares are so fearfull:—

'Cur metuunt lepores? Terrestris, nempe marinus,
Æthereus quod sit, Tartareusque canis.'

'Why are hares frightened? Lest on land and sea,
In heaven and hell the dog should alway be.'

"The Egyptians," says Burton, "in their hieroglyphicks expressed a melancholy man by a hare sitting in her form, each being a timorous and solitary creature."

Quoth Mercutio in *Romeo and Juliet*:—

"An old hare hoar
And an old hare hoar
Is very good meat in Lent."

Sextus Placitus, in *Saxon Lecchdoms*, advised, "For falling hair, to seethe or dress on a pan in good oil a hare's wamb; smear the hair and the head, then the hair holdeth on, and the salve compels that it shall grow." "For blood-running, hare's liver burnt, and rubbed, and spread on quickly stilleth it." Cato taught that a man would go comfortably to sleep after eating hare; "And," says Plinius, "there must be something in the general persuasion that after hare a man is good looking for nine days."

The Honourable Richard Boyle (1696), commended as: "A successful medicine for hysterical and convulsive

fits, take the liver of a hare (if it hath been hunted it may be the better), and hang it up in a dry place till it be somewhat fryable, having a care that it putrifie not. Of this reduced to powder let the patient take two or three scruples at a time in any convenient vehicle." "For incontinence of urine," told Sextus Placitus, "a hare's brain in wine given for a drink wonderfully it amendeth." "But hare," thought Burton, "is a black meat, melancholy, and hard of digestion; it breeds incubus often eaten, and causeth fearful dreams; so doth all venison, and is condemned by a jury of physicians; though Mizaldus and some others say that hare is a merry meat and that it will make one fair, as Martial's epigram to Gellia testifies; but this is, *per accidens*, because of the good sport it makes, the merry company and good discourse that is commonly at the eating of it, and not otherwise to be understood. Truly its, '*Illandubiles succi nauseam provocant.*'"

Dr. Salmon avers, in the *New London Dispensatory* (1696), "The hare lives six or seven years, and hears well and sleeps with its eyes open, but shut their eyes when awake; they never drink, but refresh themselves with dew. For pain of wamb, take heels of hare, bear them on thy frock, wonderfully it healeth." Baptista Porta taught: "If a great-bellied (pregnant) woman see a hare, her child will often have a hare-lip, as we call it: '*Si mater impregnata leporem imagnetur infans editur supremo labello et dissecto.*'"

In Browne's *Britannia's Pastorals* (1615) we read:—

"'Tis supper time with all: and we had need
Make haste away,—unless we mean to speed
With them that keep the Hare's foot; Rheums are bred,
Some say, by going supperless to bed."

To "kiss the hare's foot" was—to come too late;—*post festum venisti.*

In Cornwall the appearance of a white hare at night on the quays is believed to predict a storm.

Cogan, *tempore* Elizabeth, used to bake the whole hare, skin and all, in an oven till it was so completely deprived of moisture that the pestle and mortar could grind the charred flesh to a fine powder, which was deemed a sovereign remedy for troubles of the bladder and urinary organs. "The gaule of hare," says he, "doth take away flewness of the eye, and helpeth dimness of sight."

The stronger hairs of the animal's skin served when burnt to staunch hemorrhage from open wounds: and a person bleeding from the nose was admonished to sniff up into the nostrils some soft down plucked from the belly of a leveret. So late as in the middle of the last century *Pulvis leporis* was advised by our writers on pharmacy. "Had Napoleon the third, says Jeaffreson, languished in Elizabethan times of the renal and bladder disorder which killed him in Victorian England he would have been dieted on raw kidneys of the hare, with a porridge of barley meal, and hares' blood."

In *A Thousand Notable Things* (1815), it was stated: "The blood of a hare dried doth help, and stay the bloody flux, or any other lax though it be never so sore, or extreme: so doth the bones of a man or woman made into fine powder and taken in red wine."

A well-known lullaby of the English nursery from primitive times, as Halliwell tells, runs thus:—

"Bye baby Bunting,
Daddy's gone a hunting
To get a little hare's skin
To wrap baby Bunting in."

This perhaps implies some soporific virtues in the skin of the hare beyond its use for retaining warmth in the wearer. Curiously enough "bunting" (as employed

for flags) is a thin woollen stuff which would make only cold clothing.

“Venando pater est intentus: parve, quiesce!
Vult vellus tenerum quod tua membra tegat.”

Mrs. Hannah Glasse (habit maker, of West London, as was confidently stated by George Augustus Sala;) in the *Art of Cookery* (1747), wrote about roasting this animal: “Take your hare when it is cased, and make a pudding, etc.” *i.e.*, skin it, the old writers often calling an animal’s skin its case. So some ignorant reader must have thought the word *cased* a misprint for *catched*, and made the correction in error, giving rise to the phrase which has become a popular proverb, “First catch your hare.”

But Dilly Edward, bookseller, of the Poultry, told Dr. Johnson at table before several other guests, that *Mrs. Glasse’s Cookery* was written by Dr. John Hill (1716–1775); and that “half the trade know this”:—also that Mrs. Ashburn, who then kept a flourishing glass and china shop, agreed to sell the book over her counter for a small commission. It bore on its title page, “The art of Cookery made plain and easy: which far exceeds anything yet published.” Printed for the author, and sold at Mrs. Glasse’s china shop, the corner of Fleet Ditch:” (*tempore* George the Second.)—Replying to which, Dr. Johnson said to Dilly, “I doubt if the book be written by Dr. Hill, for in *Mrs. Glasse’s Cookery* Saltpetre and Sal prunella are spoken of as different substances, whereas Sal prunella is only Saltpetre burnt on charcoal; and Hill could not be ignorant of this.”

The right fore foot of a hare worn constantly in the pocket is considered in Northamptonshire a fine preventive of “rheumatics.”

In the *Rich Storehouse of Medicines* (1650) a very good remedy is advised for the cramp, and for the sounding and shaking of the heart which cometh thereby, "To take the little bone that is in the knee-joint of the hinder part of an hare, and touch the grieved place therewith, and it will speedily help the cramp."

"If thou wilt eat a bad thing eat roast hare," was an old Welsh maxim in the Red book.

Hares have their rutting season about March, during which month they are unusually excitable, wild and shy, insomuch that to be "as mad as a March hare" is a common saying! For a most charming illustration of this *vide* the mad tea party of *Alice in Wonderland*. Burton has somewhere gathered it as recorded of the hares that with a general consent they went to drown themselves out of a feeling of their misery: but when they saw a company of frogs more fearful than they were they began to take courage and comfort again. None the less, as Lucretius found:—

"Medio de fonte leporum
Surgit amari aliquid quod in ipsis floribus angat."

Even in the midst of laughing there is sorrow.

Izaak Walton observed "There be many country people that believe hares change sexes every year: and there be very many learned men think so too, for in dissecting them they find many reasons to incline them to that belief!" A sportsman's former name for a hare was *Wat*: so, on the old market cross at Walton, Norfolk, were a wat, and a tun. Also the animal was known as "old Sarah," or "old Sally."

Pope wrote:—

"Happy the man whose only care
A few paternal acres bound,
Content to shoot his native hare
On his own ground."

It is to be remarked that the fur of the Irish hare is of no practical use to the hatter. In America hares and prairie-hens sometimes become poisonous through eating certain foods which are then in season.

The hare when hunted has the peculiar power of doubling, of turning sharp round with the utmost swiftness, whilst its pursuing animal cannot do so with equal adroitness. That the early Romans were fond of hares we gather from *Martial's Epigram*, written in the reign of Domitian.

"In aves turdus, si quis me iudice certet,
Inter quadrupedes gloria prima lepus.
Of all the birds the thrush I deem the best:
'Mong quadrupeds the hare beats all the rest."

In the Isle of Man local folk lore says that the women are turned into hares and can only be shot with a silver sixpence. "Hares," quotes Southey, "in Norway catch mice, and pursue them under the snow: whether our own likewise catch field mice, and are thence called "Puss," we submit to our sportsmen."

HART, or STAG.

FORMERLY, Andrea Gratz, a physician of Jena, wrote a treatise upon the Hart (*Cervus elaphus*), entitled *Elaphographia, sive Cervi descriptio Physico, Medico, Chymica*. He inferred from the supposed longevity of the Stag that nature had stored it with a balsamic preservative salt in a greater proportion than most other creatures, and that therefore all its parts, even the excrementitious one, were endued with medical virtues. The "Podagric unguent of the much famed *Franciscus Borghi* was made up of almost all the parts of a stag."

But though useful generally as food, the Hart, or Stag, is mainly medicinal by its horns. Fuller wrote in his *Book of Worthies* (1650), "The flesh of the stag may well

be good whose very horns are accounted cordial (besides there is a concave in the neck of a green-headed stag when above his first crossings, wherein are many horns, some two inches in length, very useful in physick, and therefore put up by many skilled physicians)."

The horns of a stag consist principally of gelatine and phosphate of lime, giving off when exposed to heat in closed vessels a large quantity of fused carbonate of ammonia, together with an empyreumatic oil. This liquid ammonia goes by the name of Spirit of Hartshorn, and was used formerly much more than it is at the present time. When mixed in proper proportions with olive oil, or with soap liniment, it makes a capital stimulating embrocation for relieving congestions, or to be rubbed in for rheumatism. The empyreumatic oil if purified by repeated distillations forms the *Oleum animale* of the old dispensatories: (which see).

By the Indians, the Norwegians, and other Northern nations the hoof of the Elk is used as a cure for epilepsy. The patient must apply it to his heart, hold it in his left hand, and rub his ear with it. Pettigrew notices (in *Medical Superstitions*) that the foot of the Elk is regarded in the Congo as a certain remedy against epilepsy. "Knock the beast down," enjoins a learned medical author, "when he will immediately lift up that leg which is most efficacious, to scratch his ears. Then you must be ready with a sharp scymitar to lop off the medicinal limb, and you shall find an infallible remedy against the falling sickness treasured upon his claws."

A stag's horn is thought in Spain to be a safeguard against the evil eye: so that a small horn, silver-tipped, is often hung for this reason on the neck of a child: if an evil eye is then cast on the child, this enters the horn, which it bursts asunder.

A decoction of hartshorn is nutritive, emollient, and soothing, being used for such purposes against irritated states of the intestines and of the pulmonary passages, after having been flavoured with sugar, lemon, or orange juice. For hartshorn jelly Dr. King Chambers orders:—"Boil half a pound of hartshorn shavings (not raspings, which are adulterated with bone dust,) in three pints of water down to a pint: strain, and add three ounces of white sugar candy, and an ounce of lemon juice. An equal quantity of ivory turnings may be used instead of the hartshorn shavings, if more readily procured: heat again up to the boiling point. The gelatine thus obtained is more soluble and digestible than that of the shops, which is manufactured from old bones, probably after maceration in acid.

A "white drink" of hartshorn is likewise useful when composed of burnt hartshorn powdered two ounces, gum arabic an ounce and a half, and water three pints. Boil down to a pint: strain and add sugar.

It may be stated incidentally about gum arabic that if a teaspoonful of it powdered be taken after meals for indigestion with heartburn, it will famously prevent acidity of the stomach: and for sore nipples there is nothing better than pulverised gum acacia, applied as often as convenient. Howard Paul tells a story that Henry J. Byron and he, when sitting at the Savage Club saw a singular old man come in, with a flowing white beard, a parchment skin, and a general Oriental aspect, who mumbled when talking, as if he had no teeth. "What language is he speaking?" said Howard Paul, *sotto voce*, to Byron, "I can't make head or tail of it." Byron listened, shook his head portentously, and replied: "It's too much for me, dear boy: unless it's *Gum Arabic!*"

Theophrastus Paracelsus ordered, "to make oyle of a hartshorne, yee shall take hartshorne in the moneth of August, and file it to powder: then boyl it in water until it be sufficient; then draw away the water *in balneo*, and take that which remaineth in the bottome, and put it in a glasse with little pieces of the tiles, and distill it; and thou shalt have a faire oyle, the which serveth for sundry purposes."

In *Saxon Leechdoms*, Sextus Placitus teaches that "against wagging of the teeth, hartshorn burnt and pounded steadyeth the teeth if one wisely useth it." "For difficulties of women, hight by the Greeks usterikee pnix, use the smallest dust of hartshorn for three days in a drink of wine: if she be feverish, then let her drink it in warm water. That is a good leech craft." "Against kernels or swollen glands, if thou hast with thee a hart's grinder tooth, the kernels will not arise, and those that before arose, at the touch of it will depart away." *Ut coitus appetitus exciletur sume cervi testiculos* (an adapted "animal substance," as is taught at the present advanced and enlightened time), *siccatos ad pulverem redige, partemque in poculum vini indito: ita appetitum ad congressum cum muliere excitabis.*" This was an early form of to-day's *didymin*! Also for the flux of a woman let her drink in wine hartshorn beaten to a dust: soon she shall be well." For loathly weals, and flecks (perniones = chilblains) hartsgrease melted, and pounded with oyster shells, and mixed up, and reduced to a salve, and applied: wonderfully it healeth."

A modern recipe for making excellent hartshorn jelly, such as will be grateful, and of service as light sustenance for invalids and convalescents, runs as follows:—"Half a pound of the shavings are to be boiled down in three

quarts of water to one quart, adding to the strained liquor one ounce of Seville orange juice, or of lemon juice: a quarter of a pint of Mountain wine, and half a pound of fine sugar: then boil down to a proper consistence."

"Hartshorn shavings" (*Rasura*), as Dr. Quincy relates (1728), "are chiefly in esteem amongst family doctresses, and for the jelly which it is easily boiled into, in common water, and is accounted very strengthening."

The domestic liniment known as hartshorn and oil is to be made with three parts of spirit of hartshorn to four parts of oil of sweet almond, mixed together until thoroughly blended, and shaken before use. It is said a stag, or buck, will live over a hundred years.

IVORY closely resembles hartshorn in its composition and qualities, being put medicinally to the same uses. Formerly when calcined to whiteness it was regarded as absorbent, astringent, and worm expelling; some pharmacists calling this spodium, whilst others knew it as *caput mortuum*. Also until latterly artificial teeth were made of elephants' ivory, before porcelain and the various hard imperishable enamels now employed were introduced. Pomet (1712), druggist to the French king, wrote: "There is a spirit and volatile salt prepared from ivory by the retort, which is highly esteemed in diseases of the heart and brain; it is a pestilential antidote, moderately binding, and strengthening the bowels." The spodium (white calcined ivory) is made into troches (lozenges) which exercise the same virtues as coral, and other alkalies, being antacid, and useful against gout. From the distilled blood of the hart or deer there was collected by order of the *London Pharmacopœia* (1695) a "Balsamum sanguinis cervi," a noble balsam! Dr Salmon gives its

formula of distillation. "This cures the gout in a very wonderful manner, being used three or four times a day for a week together, making the pain, redness, and tumor (swelling) vanish." The stag was reverently supposed of old to symbolise our Saviour, because of the superstition that it draws serpents from their holes by its breath, and then tramples on them.

When the mighty Prime Minister Pitt lay dying at Putney, a Mr. South arrived in a post-chaise from London bringing with him a bottle of oil of hartshorn which he declared would revive the rapidly sinking patient. Sir Walter Farquhar permitted that a dose should be given to the moribund Premier, who was, however, too far gone for its virtues, whatever they might have been, to do any good. Robert Herrick (1640) has made reference to an odd little domestic proceeding with regard to this animal product.

"Ralph pares his nails, his warts, his cornes; and Ralph
In severall tills and boxes keeps 'em safe.
Instead of hartshorne, if he speaks the troth,
To make a lustie gellie for his broth."

HEDGEHOG.

THE Hedgehog (*Erinaceus Europæus*), formerly called the Hedgepig, or Urchin, is now popularly known as Furzeman-pig in Gloucestershire, and as Pochin, or Porpin, in Somersetshire. It is a small animal familiar in country districts throughout England, being of nocturnal habits, feeding by night, and sleeping by day under dead leaves, and similar herbage. On the approach of danger it usually rolls itself into a ball, presenting at every point numerous sharp spines of defence. The animal is proof against poisons of every description, such as the venom of the adder (from the effects of which it has a complete immunity), prussic

acid, arsenic, opium, corrosive sublimate, and other such deadly drugs; these when administered producing no sort of effect. The sound of the Hedgehog's voice is similar to the voice of a person snoring, or breathing very hard, and might be supposed in the silence of night by a superstitious person to be the moaning of a perturbed spirit.

Nothing is relished more by a hungry gypsy than a fine fresh Hedgehog baked in a coating of clay, which defends the little creature's body from ill-favoured empyreumatic products of charring, as being a slow conductor of the hot fire, whilst the fat and the gravy which ooze out within the clay assist the cooking. The prickles come away with the baked clay, and the flesh is said to be very savoury. The Romany name for a Hedgehog is "Hotchiwitchi." We read, in *Aylwin* (1899), of Sinf, the Gypsy, saying about Winnie Winn: "She looks at me as skeared as the eyes of a Hotchiwitchi, as knows he's a bein uncurled for the knife." Hedgehog pie is a dish which is much relished on the Continent. The Hedgehog if fed occasionally with flesh will speedily clear the kitchen of beetles, cockroaches, mice, and even rats.

Albertus Magnus gravely asserted that the oil in which the eyes of a Hedgehog have been fried will, when kept in a brass vessel, enable a person to see by night as well as by day. In the *Rich Storehouse of Medicines* there is given as "a present remedy for one that cannot hear: To take an hedgehog, and slay him, and rost him, and let the patient put some of the grease, or fat which cometh from him into his ears, with a little liquid storax mingled therewith, and he shall recover his hearing in a short space. This hath holpen some that could not hear almost anything at all, and have been troubled with such

impediment for the space of twenty years, and yet were holpen with the medicine."

Again in *Leven's Pathway to Health* (1664), it is directed for deafness in the head, "Take a Hedgehog, and rost it, and take the drippings thereof, and put it to the patient's ears so grieved, and stop it with black wool." *Et fiet.*

Hertfordshire hedgehogs are proverbial, says Fuller, "plenty being found in this highly woodland country, where too often they suck the kine, though the dairy-maid conne them small thanks for sparing her pains in milking them." Gellius writes that the Hedgehog makes the mouth of his hole, cabin, or cove always contrary to the wind.

In the *London Pharmacopœia* (1696), it is said: "The flesh roasted some commend as pleasant meat; the ashes of the body burnt are digestive, strengthen the stomach, and cure dropsies, as well as the bed wetting, or not holding the water."

The second witch in *Macbeth*, as part of her weird incantation croons: "Twice the brindled cat hath mewed; and once the hedgepig whined."

Speaking of the excellent method which gypsies practise of roasting the delicate hedgehog in a ball of clay, as stated above, Dr. King Chambers has said: "In the same way the Cornish pasty is the most perfect dinner a labourer or sportsman can have brought to him at midday, meat, and fish, and potatoes being enveloped in a thick solid crust baked slowly; if then packed in several layers of some woollen fabric, it will keep hot for hours, and is the *ne plus ultra* of outdoor refreshments." During all winter time the hedgehog hibernates, having first rolled itself among dead leaves which its prickles embrace, so that it becomes a big ball of dry foliage,

the entrance to this burrow being closed. It occasionally eats the eggs of game, but is wrongly accused of milking the kine. From the character of the dung which these animals drop on the turf it appears that beetles form no inconsiderable part of their food.

At one time the Hedgehog was represented on our signboards, and with "apples stuck on his quills, through his wallowing in them when they be fallen down." In some parts of the country, the thorn-studded skin of the Hedgehog is used for weaning calves, this being fixed on the calf's muzzle so that when it goes to suck, the mother will not permit its prickly approaches.

HERRING (*see* FISH).

HOG (*see* PIG).

HOGLOUSE, or PILL MILLIPEDE.

THE Hoglouse (*Common Armadillo*), is very well known throughout Europe, and has long been employed as a popular medicine. It is technically called *Glomeris marginata*, being found as a familiar object under old wood and dry stones in almost every country garden, and certainly in every field, throughout the greater part of England.

When touched it rolls itself up into a ball, and frequently remains in the same state for a considerable time. This Hoglouse, or Millipede, was the primitive medicinal pill. It must not be confounded, as is often done, especially by the former writers, with the Woodlouse (*quod vide*); a similar insect which inhabits rotten wood and old walls, being somewhat larger than the Hoglouse, but the body whereof does not contract itself into a ball, whilst its tail is seen to be furnished with two prominent lateral styles. By these

characters it may be readily distinguished. Millipedes abound with a nitrous salt which has made them of much reputed use for curing scrofulous diseases, and inveterate struma, as also for some kinds of stone in the bladder. The London College of Physicians in early days directed that these creatures should be dried, and suspended in a thin canvas bag placed within a covered vessel over the steam of hot spirit of wine, so that being killed by the spirit they might become friable. They were prescribed both fresh and dry in obstructions of the liver, and of the digestive organs, as well as for the other conditions just named. Dr. Salmon (1696) said: "They dissolve the stone in both reins and bladder; they open obstructions, and cure the jaundice, help the cholick and asthma, restore the appetite, and are most admirable things." Dr. Quincy wrote (1730), "They abound with a nitrous salt which they seem to derive from what they live on; they are good in palsies, and all nervous distempers: likewise because of their asperities they cut their way through any obstructions; they are good in struma, scrophulous tumors, and inveterate ulcers, being much best taken in substance, or bruised in white wine, the liquor being swallowed without settling fine, else a great deal of the saline matter will fall to the bottom." Nevertheless Dr. Willis (1662), who tried to reform the ignorant, and merely empirical medicine of his day, pronounced, "It is a vulgar, and ill-considered remedy for our countrymen to take (for the jaundice) nine hoglice alive in the morning for five or six days together: by doing which I have heard that many have been cured when other things did no good; and these certainly can give relief in no other way than by restoring the volatile salt which had become depressed in the blood."

Millipedes have a faint disagreeable smell, and a somewhat pungent sweetish taste. On analysis they afford an alkaliescent fluid, and an oil seemingly inert. Given in modern days by Dr. Lewis they have been found considerably active; whilst Dr. Cullen tells us he has known a hundred of the little creatures taken twice a day without producing any sensible action. Perhaps the difference of experience may have been partly due to a confusion between the kinds of insects administered, whether the millipede, or its simulator, the woodlouse.

In Scotland the *Porcellio Scaber* (allied to the Hoglouse,) which is called there "Selater," has been for some while in rustic medicinal vogue. Various names are commonly given in this country to the millipede, such as Thrush louse, Tiggyhog, Cheslip, Kitchenball, Chiselbob, Lugdor, and Palmer, also Cudworm, because it is sometimes put down the throat of a Cow, like a pill, to promote the restoration of her Cud.

In the Eastern counties it is known as Old Sow, or Saint Anthony's Hog; whilst the Welsh call the small creature Grammar Sow, the little old Woman of the wood, and the little Grey Hog; their word "gurach," like grammar, or gammar, meaning a dried up old dame. Millipedes may be still found among the obsolete stock of some druggists' shops, being supposed by those who notice them to have been used in former medicine more on account of their resemblance in shape to pills than because of any inherent curative virtues, or properties they could boast. In reality their earth salts and characteristic oil must be the remedial principles which they actually possess.

These creatures, as Dr. Salmon put it, are so much in the acquaintance of the common people that folk seem

to be masters of their medicinal virtues, and use them in many cases without any other direction: the Hoglice are by all experience very diuretick, and abstersive, not only for disorders of the reins, but also in obstructions of the viscera, and in the jaundice particularly. Dioscorides wrote: "The loops, or the worm with many feet, drunk in wine cureth the jaundice: these loops lightly bruised, and bound in a thinner piece of linen, adding thereto wine, and being pressed, are given thereof to the sicke (of jaundice,) in the morning as he lieth in his bedde, and for some daies together; and for the taste's sake a little cinnamon and sugar may be added."

In *A Thousand Notable Things* (1815), we read, as "a perfect sure proved remedy, and a rare secret for helping of women's breasts that are swol'n, and full of pain," "stamp or bruise nine little worms, of some called swine lice (which commonly would be found between the bark and the wood of old dry trees, and which have many feet, and being touched become round as a button), in eight or nine spoonfuls of drink; let them remain therein all night, and the eighth morning strain the same drink; and let the diseased woman drink the same a little warm at one draught, and then let her lay on her breast a two or threefold linen cloth warmed; the next morning let her take eight of the same little worms in drink in such order as before; and the third morning seven, and the fourth morning six, and so every morning following one less, until nine mornings be ended, on which ninth morning she must take but one of them, as it will fall out by decreasing one every day; and if she be not then thoroughly whole of her breast, let her increase every morning one immediately following until she hath received nine at one time, according to the order before appointed.

Again, in 1695, the Hon. Richard Boyle in his *Collection of Medicines*, directed as "a choice external remedy for sore throats, to take mellepedes, sows, or hoglice alive, and sew them up between the foldings of a piece of linnen, and apply them to the throat in the form of a stay, which is to be kept on all night." Small beds of lemon thyme (*Thymus Citriodorus*) are cultivated at Penzance in which to rear millipedes or hoglice, for administration as pills in scrofulous disease of various forms. From three to twelve were formerly given, either whole, or in Rhenish wine for a hundred days together to cure all kinds of cancer.

Swamerdam relates an amusing mistake of a servant maid who, finding in the garden a good many millipedes rolled up, thought she had discovered some choice materials for a necklace, and betook herself to string them with much care; but on suddenly seeing them unroll themselves she was terrified, and ran screaming into the house.

In *The Pharmacopœia of London* (1696), all the wonderful qualities then supposed to be inherent in hoglice, or millipedes, were summed up thus: they dissolve the stone in both reins and bladder to a slime, and bring it away; they open obstructions, cure the jaundice, all obstructions of the urine, help the cholick and asthma, restore lost appetite, and are most excellent things, being given for a hundred days together, or more, for the curing of all sorts of cancers and scirrhous tumours in what part of the body soever, the king's evil, old sordid and rebellious ulcers, convulsions, the rickets in children, and dimness of sight, yea blindness itself; outwardly the powder of them is good against diseases of the eyes and ears, and the quinsy, being mixt with honey, and applied.

"I can personally vouch," says a present practitioner of medicine, "for undeniable success in treating cases of obstinate catarrhal jaundice by pills made entirely from the pounded bodies of these small creatures freshly killed, when the ordinary treatment by hot stupes, alterative medicines, and gentle mercurials had signally failed." In France Dr. de Haen has recorded that in certain forms of impaired vision the patients have taken hoglice on bread as a remedy, and that without doubt the odd medicine proved efficacious.

M. Adanson "*a vu des etudiants en medicine en croquer quelques douzaines dans ses herborisations à la campagne, et s'en trouver tres bien.*"

Dr. Quincy (1728) directs for "*A Simple Expression of Millipedes*: Take live Millipedes, and white sugar, of each three ounces: beat them well together in a marble Mortar, and pour upon them one pound of *white wine*, which strain out again by hard squeezing":—

"Laudatur vinum simplex: cerevisia duplex:
Est bona duplicitas: optima simplicitas."

"Wine which is Simply pure we praise: but Double Stout,
Like double dealings, we regard with doubt."

Dr. Fuller declared that "too much cannot be well said in commendation of Millipedes; and that the above way of managing them does most surely retain their full virtues. It may be given for some time together, about three ounces every morning." "But they seem not convenient for a hot thin blood; and 'tis reported that taken in large quantities overnight they will cause a scalding of urine." Instances are quoted of wonders performed by them for inveterate strumas, and ulcers.

HONEY.

HONEY (*Mel apis*) is essentially of Animal produce, with medicinal powers, and claims consideration here

succinctly in this respect. Its folklore and vegetable bearings have been fully treated of in *Herbal Simples*.

Theophrastus Paracelsus, translated by Dr. Hester (1633), said: "To make the quintessence of Honey, you shall understand that Honey is a liquor rather divine than humane, because it falleth from heaven upon the hearbs, and is such a sweet thing that the like cannot bee found upon the earth; and this Raymond Lullie calleth the 'Flower of Flowers,' because bees gather it upon the flowers in the field. And truly it is a most strange thing if we would consider well the qualitie of honey and waxe; and therefore the wise Baruch Arabica, in the Academie of Avicene, did write this sentence, '*Mel dentro, et olio di fuori*,' satisfying us by this that honey and oyle were the first two liquors in the world; and truly it is so if we consider well, as it may well bee proved by Holy Scripture. The order to make this quintessence is thus: take two pounds of perfect pure honey, and put it into a great glasse that foure parts of five may remaine emptie. Lute it well with a head and receiver, and give it fire untill there appeare certain white fumes which you shall turn into water with wetting of cloths in cold water, and laying them on the receiver and head, and they will turn into water of a redd colour like blood. When it is all distilled keepe the glasse close shut, and let it stand till it bee cleare and in the colour of a rubine. Then distill it, in balneo Mariae, at least sixe or seven times, and so it will lose this redd colour and remaine in the colour of golde, having a great smell, and so pleasant that the like cannot bee found in the world. This quintessence dissolveth gold and maketh it potable, and likewise any sort of jewell that is put therein. It is of such vertue that if any bee a dying and drinke

two or three drammes thereof, presently hee will recover, as the quintessence of wine will doe. If you wash any wound therewith, or other sore, it will heale quickly. It is also good against the cough, catarre, and paines of the milt, and many other diseases which I will not speake of, for but few, and they very hardly, wil beleeve the great vertue and operation thereof. I gave this six and fortie dayes unto one that had the palsie, and hee was holpen. It helpeth also the falling sicknesse, and preserveth the bodie from putrefaction; so that by these you may perceive that it is a celestiall medicine. If, therefore, anie vertuous man would take a little paine in the experience hereof, he shall doe wonderfull things, as many times I have, so that the peoples deemed that I wrought by enchantment, when as indeed I did it by vertue of this liquor, ministering the same so privily that they could not see it, which fell out to my great honour and benefit of the sicke, as you shall reade in my *Theesauro della Vita Humana*"; and therefore I would wish them that professe physicke and chirurgerie to use such experience, whereby cometh honour and gaine to the physician, and profite to the patient."

Our German ancestors attributed their length of life and prowess to the Mead, or honey-beer, which they commonly drank.

Pure honey consists largely of glucose (identical with the sugar of grapes) and levulose (answering to the brown syrup of the sugar cane), together with a volatile oil, and some yellow colouring matter which becomes bleached on exposure to sunlight; also a small quantity of an animal acid is present. Honey is a heat former, and a producer of vital force; moreover it goes directly into the blood, and straightway supplies bodily warmth

and energy without having to be acted upon by the saliva somewhat slowly before it can generate heat or furnish fat to the system. The superiority of Honey over cane sugar is thus manifest, because this latter must be converted deliberately into honey sugar before it can be utilised for the wants of the body. On the contrary, the Honey sugar or glucose will relieve fatigue forthwith, and renew the vital heat by immediately contributing power and caloric. Honey further contains, in addition to the glucose and the thinner syrup, some pollen granules of various forms, and so perfect as to often determine from what flowers the nectar has been derived.

Unless the digestion of honey and the sugars is very active as in children (who constantly expend much bodily heat in growth), and adult persons of robust digestive powers, it is better to take some modified combination thereof,—as with bread, or with milk. Very wise was her Majesty the Queen in the old nursery rhyme of a “*Song for Sixpence*,” to sit in her parlour eating bread and honey :—

“*Mel mandit, panemque, morans regina culina,
Dulcia plebeiâ non comedenda nuru.*”

The Honey wine of the old Teutons was drank for the first month of thirty days after marriage, this being therefore called the Honeymoon.

As a heat-producer one pound of honey is equal to two pounds of butter; and when cod-liver oil is prescribed, and cannot be well tolerated by the weakly digestion, Honey may sometimes be most beneficially substituted.

In former times it was employed largely as a medicine, and applied externally for the healing of sores. When mixed with flour, and spread on linen or leather, it has

long been a popular remedy for ripening boils. It becomes a serviceable addition to expectorant medicines, whilst acting at the same time as a useful laxative. For a sore throat it makes a helpful ingredient in gargles, and when combined with vinegar it forms oxymel, always a favourite remedy for relieving coughs which are chronic. The Bee propolis, or glutinous resin, with which the combs are fixed to their foundations, contains also benzoic acid, and when burnt slowly will relieve asthma by its fumes.

Honey when old engenders an excess of lactic acid in the stomach, and sometimes an ulcerated condition within the mouth. If the latter unhealthy state comes on spontaneously as "thrush" from health otherwise deranged, then honey with borax (alkaline) will remedy this affection. A plain cake made (as on the Continent) with honey instead of cane sugar, to be eaten after luncheon, or at afternoon tea, will prove preventive of constipation.

Cane sugar is in itself a muscular food of great value, though of slower elaboration than honey. It becomes stored up in the liver as glycogen, to be employed during muscular efforts by conversion into force. When the muscles are set into action the sugar is called into use, and it accumulates again in them whilst they repose. Taken early in the evening sugar is capable of decreasing the daily fall in muscle power which occurs towards night, and it increases the resistance to fatigue. But when there is any constitutional tendency to gout, the sugar must not be had in combination with fruit acids, or with butter (soon changing into butyric acid), lest fermentation should ensue, and should charge the blood with acid, gouty products.

Formerly all food otherwise insipid was sweetened

with honey before men betook themselves to sugar. It is medicinally emollient, nutritive, and a regulator of the bowels. The oxymel may be employed for flavouring fever drinks, and for mixing with water as a gargle, some sage leaves being added.

Honey dew is found excreted as a sweet, viscid, glossy coating on the leaves of lime trees and other plants. It is an animal excretion from the aphid insect, whose belly is sometimes beaten by the ant with its antennæ so as to expel therefrom the limpid luscious drops of which ants and bees are remarkably fond. Old Fuller admonishes in his *Book of Worthies* that, "Honey dew is very sweet, but causeth an atrophy in the grain!" "Oh, how luscious and noxious is flattery!" said St. Francis de Sales. All kinds of precious stones cast into Honey become more brilliant thereby, each one according to its colour.

An allied product to Honey is Manna, which is a medicinal food caused by the punctures of a small insect (*Coccus maniparus*) to flow from the bark of the *Tamaris mannifera* in Calabria and Sicily, where the tree is cultivated for the purpose. Manna may also be obtained from the sap of our ash tree. It occurs in sugar sticks, or cakes, flattened and friable, of which the larger and better kinds are called flake Manna, and consist chiefly of mannite together with common sugar, and extractive matter. It is nutritious when freshly obtained, and a gentle laxative very suitable for young children or delicate persons. From a quarter of an ounce to an ounce may be given as an agreeable sweetmeat mildly preventive of constipation, and which causes no stomach-ache or griping.

Dr. Schenk, of Vienna, has lately advanced the theory that when the saccharine element prevails in a parturient

woman's system there occurs a predominance of female offspring, and that when by a strict dietary this element becomes eliminated the offspring is male.

Honey collected from the linden tree is superlatively good because the bees are restricted to a period of three days for gathering it; for by that time the saccharine material comes to an end. In Russia a delicious liquor called "Leepetz" is made from this honey. It possesses the valuable property of keeping those who drink it entirely free from gout.

HORSE.

THE Horse is technically *Equus Caballus*—a hoofed quadruped. In the *Rich Storehouse of Medicines* (1650) is given: "A very good medicine for an ague, to take the grease or fat that is under the manes of horses, and melt the same in a new earthen pot, and strain it into a gallypot or some such thing, and when the patient feeleth the ague coming let the chine of his back be anoynted therewith; and within nine days he shall be whole, keeping in the mean space a reasonable diet."

In the *Saxon Leechdoms* it is written: "*Si muliebria nimis fluunt*, take a fresh horse's tord, lay it on hot glebes, make it reek strongly between the thighs up under the raiment that the woman may sweat much." Also, "If thou be not able to staunch a blood-letting incision, take a new horse's tord, dry it in the sun, rub it to dust thoroughly well; lay the dust very thick on a linen cloth, wrap up the wound with that." If importance be not attached to the newness and freshness of the turd this would be altogether the reverse of modern *antiseptic* surgery, to which so much attention is rightly directed nowadays.

The urine of the horse contains as one of its constituents hippuric acid (from *hippos*, a horse), which, when in chemical combination with an alkali such as lithium or sodium, is a capital solvent for gouty deposits, or gravel and stone, so that the chemist dispenses these salts for such a purpose; they react on gouty urates in solution, and after a time no trace of the gouty or rheumatic acid can be found.

Bartholomæus Anglicus (1250) alleged: "That horses do weep for sorrow as a man doth, and so the kind of horse and of man is medlied." Also: "Oft men that shall fight take evidence, and divine, and guess what shall befall, by sorrow or by the joy that the horse maketh." The horseshoe has been always thought a protection against witches and misfortune. Lord Nelson had one nailed to the mast of the ship *Victory*. If a horseshoe be found in the road and be fastened on the threshold of the house door it is commonly believed to bring good luck.

"Generally," says Folk Lore, "over England and Scotland it is believed that any directions given by a man riding a piebald horse, as to the treatment of whooping-cough, will, if carried into effect, be followed by good results." Dr. Jamieson tells of a friend after whom the rustics would call: "Man, with the piety horse, what's gude for the kinck horse?" The reply he always made was to "give the bairn plenty of sugar candy."

In the Boyle *Collection of Medicines* it is written: "For a cancer in the breast, take of the warts that grow on the hinder leg of a Stone horse, dry them gently till you can reduce them to a powder, of which you may give half a drachm for a dose every second or third day in any convenient vehicle." Again, as "An excellent

medicine for one that is in a consumption, take a gallon or two of strong ale, and put into it the dung of a Stone horse, and let it steep a day and a night, and strain it ; and drink that mornings and evenings."

In James's *Medical Dictionary* the excreta of horses are recommended, especially of a Stone horse, for floodings from the womb, and bleedings from other parts. Concerning the same Dr. James, it was said by Dr. Samuel Johnson: "No man brings more mind to his profession."

Quincy (1730) was of opinion that, "New horse dung is of great efficacy in pleurisies, and asthmas, and in obstructions of the breathing. It is best given in decoctions more or less warm and detersive; white wine seems to be effectual in taking off its nauseousness, but may not be so suitable or agreeable in some instances as softer or more oily vehicles;" and concerning the *Stercus Equi non Castrati*, or dung of a Stone Horse, "in asthmas, and difficulties of breathing, it sometimes prevails where the most powerful Balsams and Pectorals have been tried in vain."

Horsehair has a reputation for destroying warts (probably by mere strangulation), when tied round their necks. In Gloucestershire an ornamental necklace made of plaited hair from a horse's tail is thought to be of use in removing wens.

The flesh of the Horse is said to be richer in valuable nitrogenous matters than that of the ox. Burton, in his *Anatomy of Melancholy*, tells that, "Young foals are as commonly eaten in Spain as red deer, and are frequently used to furnish the navies, especially about Malaga; but such meats ask long baking, or seething, to qualifye them." He adds: "The Tartars devour raw meat, and most commonly horseflesh, drink milk and blood as the

Nomades of old; *et lac concretum cum sanguine potant equino*; and in divers places (Patagones) some do eat man's flesh raw or roasted; there be those of them too that familiarly drink seawater all their lives, eat grass (and with delight), also serpents, fish, and spiders; even the Empirour, Metazuma himself; *victus eorum, butyro, lacte, caseo, consistit; pisces loco panis habent; potus aqua, aut serum; sic vivunt sine medicinâ multi ad annos centum duos.*"

During the French revolution the populace were fed for six months on the flesh of horses, and no injuries resulted, though loud complaints were made against it. In Persia horseflesh and camel's flesh are the great dishes. At Cleckheaton, West Yorkshire, a practice is said to have formerly prevailed of eating "kicker," or horseflesh. The natives of that locality who come to live at Leeds are still subject to the opprobrium of being "kicker-eaters."

During 1841 horseflesh was openly sold at Wurtemberg, and since that time it has increased in popularity both in Paris and Germany. The pretty unanimous result of experimental banquets which have been held is that to distinguish between roast horse and roast beef is often difficult, and that horse soup is preferable to beef soup. A banquet of horseflesh was given at Paris, in 1865, at the Grand Hotel, with a hundred and thirty-five guests; the soup was good; the boiled horse and cabbage (*horse à la mode*) were pronounced excellent; but the *haches de cheval à la menagère*, the *filet de cheval roti*, and the *paté de foie de cheval* did not give the same satisfaction. M. Quatrefages was in the chair."

Again, at the Langham Hotel, London, in February, 1868, when a similar banquet of horse-flesh took place, it

was said: "The flesh (a roasted joint) leaves a pungency on the palate, as likewise the horse tea, which was proposed instead of beef tea for the hospitals." Baron Larry, the eminent French surgeon to Napoleon the First, had great faith in bouillon made from horse beef, and he gave this to the wounded in all his campaigns.

Our German and Scandinavian forefathers delighted in *la viande de cheval*. They kept large herds of white horses which they sacrificed to Odin, and each sacrifice was followed by a dainty feast of cooked horse.

The average natural life of a horse is from thirty to forty years. Of the many thousand horses which are killed annually in England, and of which the carcasses are sent mostly to the kennels, very few would be fit for human food.

It has just of late become a scientific practice to cultivate antitoxin serum in the blood of a superannuated but healthy horse—both the serum preventive of diphtheria, and that which protects against snake venoms. The animal is injected from the first with gradually stronger doses of the poison, beginning with one that is readily overcome by the resisting principle inherent in the horse's blood. This principle asserts itself more and more resistingly as the poison doses are made stronger, until the serum of the horse's blood has become so protective that if some of it is used for injection into the blood of a sufferer recently overtaken with diphtheria, or bitten by a snake, it fortifies the patient against further mischief. It will act so quickly in its beneficent speed that venom may be injected into a rabbit which would certainly kill it within two hours, and the antitoxin serum, though withheld until after an hour and a half, will yet, at this late stage, overtake the poison and preserve the life of the victim.

During Queen Elizabeth's reign General Doissel, commanding the French army in Scotland, set powdered horse before the English captains at a ceremonial dinner, salted war horse being the only flesh-meat of which the host could avail himself.

Chemically, the sarco-lactic acid of fresh horseflesh is almost identical with the lactic acid of the gastric juice in the human subject. The animal is herbivorous, and a clean, wholesome feeder.

It is still believed in the midland counties a sign of bad luck to meet a white horse unless the person spits at it three times and follows the spittle, which action is said to avert any ill consequences.

"Very dreadful expressions are used by draymen and others," quoth the *Comic English Grammar*, "in addressing their horses. What can possibly induce a human being to say 'Gee woot,' 'Mather way,' and 'K'mither woa'?" This vernacular of the carters in Derbyshire signifies by "gee," to go straight forward; "height," to the right; "hau," to the left; "com'ither," towards the driver; "woep," to halt.

The milk of a mare is poor in solids as compared with that of a woman, a cow, an ass, or a goat; but proportionately rich in sugar, and on this account, in Tartary, it is fermented and converted into an alcoholic drink known as "Koumiss," which is a valuable form of food in consumption and severe indigestion. The sugar of milk becomes chemically converted into alcohol and carbonic acid, so that this beverage effervesces when bottled, and thus suits a qualmish stomach. For home-made koumiss in England, using the milk of the cow instead of mare's milk, "Boil," says Dr. Yeo, fresh milk and put it, when nearly cold, into quart bottles, leaving room to shake, add half an ounce of crushed lump sugar, and about

twenty grains of Vienna yeast, cork with new corks, tie down the bottles and keep them cool whilst placed horizontally; they must be shaken twice daily. The koumiss prepared in this way will be ready to drink on the sixth day, perhaps earlier in hot weather, or later if it be cold. A thinner and lighter sort may be made by using skimmed milk."

Russian koumiss is obtained from animals kept at liberty and not worked. Mare's milk, owing to the large amount of lactose (sugar of milk) which it contains, readily undergoes fermentation, the result of which is the production of a sour, highly gaseous fluid which contains alcohol, carbonic acid, and lactic acid. Koumiss is to be regarded as a food intermediate in character between milk and alcohol,—more stimulating than the former, more restorative than the latter. By the leading Dairy Companies two kinds of koumiss are provided for supply to invalids, the one light and slightly fermented, the other substantial and highly fermented. By taking either, patients gain proportionately in weight, and give evidence of improved blood formation. Tent life and much exercise in the open air are, as we may suppose, important adjuncts to the native cure. Nevertheless, the original Tartar plan was for the patient to hibernate throughout several winter months in a dark, close, underground hut, coming out therefrom at the end of the time sleek, and fat, and with the disease much ameliorated. Some observers have noticed that the dietetic use of koumiss causes sexual excitement.

"If a physician were known to take to eating horseflesh," said Dr. Johnson to Boswell, "nobody would employ him; though one may eat horseflesh, and be a very skilful physician."

INSECTS.

INSECTS other than those specially described herein, and which exercise certain subordinate remedial virtues, whether in pill, powder, potion or plaster, should receive some notice when treating at large on the subject of Animal Simples. Moreover, whilst taken by way of food, several of such insects promote the health of those persons who select them, in a sure though scarcely medicinal manner. Arnoldus gives us a wise aphorism to this effect, when he says "a discreet and godly physician doth first endeavour to expel a disease by medicinall diet; then by pure medicine. He that may be cured by diet must not meddle with physick." The flesh of most insects is chemically composed of the same substances as are found in that of the higher animals; and the great majority of insects live entirely upon vegetable matter in one form or another, so that they are eminently well fitted for human food. Not a few of them further possess salubrious qualities, more or less occult, which are healing as well as wholesome. If we take, for instance, the Woodlouse (*oniscus*), akin to the Hoglouse already discussed in these pages, and which is, as Vincent Holt shows, a kind of land shrimp, to be found in every garden, this insect develops a flavour when chewed closely resembling that so much appreciated in its marine cousin.

The following is Mr. Holt's recipe for cooking a dish of such small, semi-medicinal creatures (it being more than probable they share the curative belongings of their congeners, the Hoglice): Collect a quantity of the finest woodlice to be found,—no difficult task, as they swarm under the bark of every rotten tree,—and drop them into boiling water, which will kill them instantly, but not turn them red as might be expected. At the

same time put into a saucepan a quarter of a pound of fresh butter, a teaspoonful of flour, a small glass of water, a little milk, some pepper and salt, and place it on the stove; as soon as the sauce is thick, take it off, and put in the woodlice. This is an excellent sauce for fish. The Woodlouse may be known from the Hoglouse, or Millipede, by not rolling itself into a ball when touched, and by the two prominent lateral styles with which its tail is furnished. It inhabits also old walls throughout Europe, and is somewhat larger than the Hoglouse. Other names for this Woodlouse are Maggy Manyfeet, Churchbug, Churchlouse, and Carpenter. Bonnet relates that a young woman who had swallowed many of these little animals alive, threw up a prodigious number of them, of all sizes, which must have bred in her stomach.

In the same way, the various Caterpillars of our kitchen gardens offer palatable and salutary Simples, as food, and preventive medicine; only needing to be known to gain immediate appreciation; such as the caterpillar (one and a half inches long) of the large, white Cabbage Butterfly, which is of a greenish colour upon the back, yellow underneath, striped with yellow along the back and sides, spotted all over with black, and covered more or less with small hairs; likewise the caterpillar of the small, white Cabbage Butterfly, this being of a green colour, and velvety, with a stripe of yellow along the back, and spots of the same colour along the sides; again, that of the Cabbage Moth, coming so often to table as an unwelcome guest among the leaves of the cooked cabbage; it varies in colour from dirty flesh to green, and is a smooth, naked-looking larva. Next may be mentioned the caterpillar of the large, yellow, Underwing Moth, seen so generally feeding

on turnip and cabbage leaves; and that of the common Bufftip Moth, yellow striped and ringed with black, as frequently observed crawling along the street pavement. "These Bufftip Caterpillars," says Holt, "swarm so thickly upon the trees in favourable seasons, that many a dish of them can be obtained with a little trouble, which is amply repaid, not only by their flavour, but also by the saving of the tender foliage of the limes."

Each sort of caterpillar now particularized feeds upon the wholesome vegetables we cultivate for our own eating, and may therefore be supposed to imbibe and concentrate in its person the peculiar principles which are sublimated therein; but on this very account it is necessary to discriminate between caterpillars living on poisonous and non-poisonous plants, about which distinction very little difficulty need be feared. "Afterwards," as Miss Ormerod writes (*Manual of Injurious Insects*), "when the first brood of caterpillars has grown up and disappeared from the cabbages in early summer, the larvæ are to be found, now turned into chrysalids, lying sheltered about the corners and eaves of out-houses, potting sheds, and such places, so numerously that they may be easily collected in large numbers." And seeing that the Chinese regale themselves with benefit and satisfaction on the chrysalids of silkworms, there is ample reason for our taking culinary delight in these caterpillar chrysalids, temptingly fried in butter, with yolk of eggs, and seasoning *à la Chinoise*.

Another insect of most promising endowments for our palates, and for the recruitment of our energies, is the common Cockchafer, *Melolontha vulgaris*, whereof the large, white grub spends three years in the ground, as a small beast of prey among the roots of our clover and grasses, before turning into a beetle. Erasmus Darwin, in his

Phytologia, shrewdly remarked, "I have observed the house sparrow destroy the May Chafer, eating out its middle, and I am told that turkeys and rooks do the same; whence I conclude this might be grateful food if properly cooked, as the locusts are in the East; and probably the large grub or larva of this Cockchafer, which the rooks pick up in following the plough, is as delicious as the Grugru, and the Palm caterpillar, which are roasted and eaten in the West Indies."

Once again, Wire worms make a capital dish, such as should find favour with the farmer, seeing that these, the larvæ of Skipjack beetles, are among the worst of their insect tormentors. "I know, personally," declares Mr. Holt, "that wire worms are an excellent substitute for shrimps."

And similarly, as to the Saw-fly, that very familiar insect whose grub plays such sad havoc with the gooseberry bushes, stripping them bare of leaves, and thus spoiling the prospects of fruit, the myriads of this grub can afford a most profitable harvest of choice food to be had for the gathering." When people have grown wise enough to realize the lesson, it will be a race between the cook and the gardener's wife who shall first reach the gooseberry bush.

Concerning the Cockchafer mentioned just now, it may be added, as writes Miss Buckland in *Our Viands*, "We have seen boys in Germany greedily devour this chafer alive, first depriving it of its legs and wings, and declaring it to be just like a nut." In the West it is popularly called "Oakweb;" in Somersetshire "Occul;" in Sussex "Sharn-bug;" in Cornwall, "Spinning Drone;" in the North "Brown Clock;" and in Devonshire "Hum-bug." Its grub, when of full size, measures nearly two inches in length.

Being large insects, the Cockchafers, or Maybugs, can be readily collected, often in considerable numbers, so that oil may be extracted from them by boiling. In the spring of 1868, thirty thousand hundredweight were gathered in the Province of Saxony alone. When procured thus in bags, they may be killed by being plunged into boiling water; and, if afterwards dried, they can be profitably added to food for pigs and poultry. "Greek boys," says White of Selbourne, "were wont to amuse themselves with Cockchafers chained by a thread." Aristophanes advised his disciples to "set your meditation free into the air, fastened with a strong thread to its foot, like a Cockchafer;" and in his *Wasps* (1342) he calls a young glee maiden "a little golden Cockchafer."

These beetles seldom abound more often than once in three or four years. Southey, in his *Common Place Book*, quotes from *La Perouse*: "We found millions of cockroaches in the breadroom of the vessel. These pests had so much infested the ship that the holy father who officiated as chaplain was obliged to exorcise them more than once."

It may be remarked here that Martin Lister has advised the experimental use of another bug besides this Maybug: a Cimex of the largest size, red in colour, with black spots, which is to be found in great abundance on the common Henbane (*Hyoscyamus niger*). "It is observable," he says, "that the horrid and strong smell with which the leaves of this plant affect our nostrils, is very much qualified in the said insect, and is in some measure aromatic and agreeable; so that we may expect that the strongly marked narcotic properties of such plant may be usefully tempered in the insect, which we refer to trial." A promise of mild, sedative effects therefrom is certainly held out.

To say a word or two more about the Saw-fly (*Tenthredo*), which is the smallest of our summer insects, and which deposits its eggs on the branches of the gooseberry bush, the rose tree, etc., in a groove made by its tiny saw; these are quickly hatched, and the grubs are to be seen hanging down, or coiled into a circle so as to attack the leaf. But the fly if alarmed folds up its saws, stretches itself out as if dead, and remains perfectly motionless.

Another insect must be passingly noticed, the House Cricket (*Acheta domestica*), immortalised "*On the Hearth*," by Dickens, and called by Cowper "the harbinger of good." "Crickets," said Dr. Salmon, in the *New London Dispensatory* (1696), are of the nature of Cantharides (blistering flies); the powder of them provokes urine, and will strengthen the sight; their juice has the same effect; their ashes are excellent against fluxes, and help the stone and dysury. The whole fly, hung about the neck as an amulet, helps quartans." Most persons know and are fond of the merry little cricket, with its silent wife. It is of a sooty brown colour, about three quarters of an inch long, loving a warm proximity to fires; but, as White remarked, of a thirsty race, showing a great propensity for liquors, and being often found drowned in a pan. Yet the primitive Christians were known as "Crickets of the night" because of their ejaculatory prayers, uttered aloud whenever happening to wake. In Devon, the presence of the Cricket is considered to predicate misfortune.

Squilla, the sea shrimp, was thought in former days to be highly restorative; dissolved in chicken broth these were declared to be as renovating to the strength as the best crabs or lobsters, and were given to cure consumption. The red shrimp "carries a sword in his

head," and boils almost the colour of a prawn; the "bunting" shrimp boils brown.

In the *Swiss Family Robinson*, that well-remembered delight of our boyhood, second only in its fascination to dear old *Robinson Crusoe*, we revert with fondness to the passage wherein the shrewd, adventurous father narrates how on finding a Sago Palm in the woods, when wrecked on an island with his family, he saw in its pith some fat worms or maggots, and recollected he had heard of such maggots being eaten in the West Indies as a delicacy; whereupon, after kindling a fire, he placed some half dozen of them, sprinkled with salt, on a little wooden spit, and set them to roast. Very soon rich fat began to drop from them, and they smelt so temptingly good that all repugnance to the idea of eating worms vanished; and putting one, like a pat of butter, on a baked potato, he boldly swallowed it, and relished it amazingly.

The Migratory locust (*Pachytylus*), is of a pale brown colour, with large, powerful wings which have a slight greenish tinge. The insect is very destructive. It is rare in this country, but a few specimens annually find their way to our shores. During the Russo-Turkish war the advance of a large army was stopped by a vast flight of locusts; and railway trains have become arrested in their progress by these creatures, chiefly on account of the oil flowing from their crushed bodies upon the line, so that the wheels would not hold the rails. Travellers differ in their estimation of locusts as food; one says that their flavour can only be compared to a mixture of linseed cake with burnt feathers, whilst another declares they can scarcely be distinguished in taste from shrimps. They are intolerant of cold, and after a snowstorm lie dead in banks three or four feet high and fifty miles long. It surely would be worth

someone's while to utilise all their animal oil, whether medicinally, or commercially.

Dean Pigou tells of a Parish Clerk averse to Ritualism who, when asked by the Bishop what fresh innovations had been made since his last visit, replied, "Oh, my lord, the Vicar has now taken to burning *Insects*."

ISINGLASS.

ISINGLASS (*Ichthyocolla*), or fish glue (*ichthus*, a fish; *kolla*, glue) was noticed of old by Dioscorides and Pliny. It is got from the air-bag and the swimming bladder or sound, picked and cut, of various fishes. Russian kinds are the best, but Brazilian are cheaper. When dried and unfolded, it is leaf and honeycomb; when folded, staple and book; or when rolled out, ribbon Isinglass.

The title is a corruption of the Dutch *hyzenblas* (an air-bladder), because this substance is prepared from the bladder and sounds of the sturgeon. Isinglass is a very pure form of gelatine, which when taken with other kinds of food assists to nourish the body. Gelatinous preparations, if given in a suitable form of sustenance, serve to economise the vital forces. The great Isinglass Sturgeon, *Acipenser Huso*, inhabits the Northern, the Caspian, and Mediterranean seas; from its sound, or air-bladder the isinglass is prepared. The sounds are split, washed, rolled into long or short staple, and dried in the open air.

From the roe, salted and dried, of the common Sturgeon, is prepared Caviare.

"Gelatine," says Yeo, "cannot replace the albuminates in the repair and maintenance of the bodily tissues, as it undergoes rapid and total disintegration within the system, and is discharged from it chiefly as urea. It is therefore of no direct value as a constructive food. But

we may not conclude, as was at one time done, that gelatine is for such reasons worthless, and that it answers no nutritive purpose. It is a food which economises the albumen, and can, to some limited extent, take the place of its elements except for building up and repairing the bodily structures.

Sometimes Cods' sounds, from Scotland, are taken as a substitute wherewith to make isinglass; and for domestic use a patent gelatine is employed, as got from bones and sheep's glue. Isinglass when good contains osmazome, gelatine, and some salts of potash, soda, and lime. It is emollient and demulcent, and is given helpfully as subsidiary nutriment to the invalid, whether added to tea, broth, or milk, or made into a jelly with sugar and lemon juice. A solution of it in water, with a small quantity of tincture of benzoin (Friar's balsam), when spread on black silk makes Court plaster.

Isinglass plaster was introduced by Mr. Liston, the famous surgeon, and consists of oiled silk coated with the isinglass, having been first made by a Mrs. Puckeridge.

It enables a wound to be seen without disturbing the plaster, and occupies such a small space that a supply can be carried in a card case or purse; but nowadays it is rejected unless also rendered antiseptic. Likewise, isinglass is required for making gold-beater's skin. It is not soluble in cold water. Fifteen grains of isinglass to an ounce of glycerine form a very welcome protective appliance for the raw sore skin in some diseases affecting it. By furnishing gelatine in isinglass with the food a considerable measure of the albumen can be spared, and devoted to other reparative purposes in the body, leading to an increase of weight and strength. Dr. King Chambers has given a capital

receipt for making isinglass jelly. Boil an ounce of isinglass and a dozen cloves (unless disliked) in a quart of water, down to a pint; strain hot through a flannel bag on to two ounces of sugar candy, and flavour with a little angelica, or with two or three teaspoonfuls of liqueur de la grande Chartreuse.

For isinglass jelly to be given with port wine in dysentery or chronic diarrhoea, dissolve one ounce of the isinglass in a pint of water over the fire; add an ounce of white sugar and one pint of port wine. Strain through muslin and allow it to set.

If prescribed for solution in a bath, to render the skin soft and pliable, or to remove crusts therefrom when it is diseased, about a pound of gelatine, dissolved by boiling it in water, should be added to the bath before use.

Agar Agar is Japanese isinglass, consisting of the dried jelly of a seaweed (*gelidium corneum*), and supplied in strips of membrane. It may be sometimes substituted in making jellies for invalids.

Said Dr. Salmon (1695), of isinglass glew "it is used in gellies and broths, with sugar candy; is good against nightwheals, and serves to seal letters; it is reported to help the lethargie, but I scarcely believe this."

The Caviare of Sturgeon roe contains many of the fish oil principles, and, if it can be digested, may be dietetically given to patients who need cod-liver oil. It should be as fresh as can be got, and should exhibit the eggs of the roe quite distinct. If old and black, and homogeneous in texture, it is out of season and rancid, and upsets the digestion, besides sending noxious matters into the blood. When sent to table it should be kept hot on a toasted cheese dish, unless purposely taken cold by way of a *hors-d'œuvre*.

ITCH INSECT.

THE Itch insect is *Acarus scabiei*, and furnishes a toxic principle—*Psoricum*. The loathsome itch outbreak on the skin (incurred, as is generally supposed, through dirt and uncleanly habits), is characterized by many pimples containing at first a thin watery fluid, and then becoming pustular. At the base of each may be sometimes found by exploration with a needle, the Itch insect, or *Acarus*, which causes by its presence the irritation and itching known as the leading symptoms of this disgusting affection. So contagious, however, is the itch that it may be occasionally taken even by anyone who is scrupulously clean and particular. The strange fact obtains that in some cases, if the eruption of itch is repressed or thrown in, an epileptic seizure will ensue; observation of which has led to the giving *Psoricum*, or the Itch insect element, medicinally as a cure for the falling sickness.

This psoricum is prepared by collecting the clear fluid from thirty of the pimples opened at the bottom, whilst at the same time scraping out the insect, if it can be discerned, from each pimple. The quantity of liquid thus procured constitutes, with two hundred drops of alcohol, a mother tincture of psoricum. Animals are liable to psoric epilepsy; and in order to treat each kind, whether horses, sheep, goats, or dogs, the special *Acarus* of its particular genus must be selected. This Itch insect is not the only one which predisposes to epilepsy; for instance, the mite (*Acarus ciro*) in flour, with which caged nightingales have been fed, gave them epileptic fits, always terminating fatally. *Psoricum* for treating epilepsy may be likewise prepared from this insect by taking some of the flour containing the *acarus*, to the number thereof of about two hundred, macerating

them in sixty grammes (five drachms) of alcohol, and then administering this tincture in a second or third decimal dilution, five drops for a dose twice or three times a day with a spoonful of water. The same remedy is specifically curative of certain skin diseases dependent on a constitutional liability thereto, these being characterized by pustules without fever (such as ecthyma, and impetigo).

It was an Italian, Redi, in the sixteenth century, who first taught that the itch was caused by a small insect or acarus; and his view, as well as his representation of the insect, have been admitted until the present day; but some attentive observers have believed, and others still believe, that the acarus is a morbid product of the disease, and not its cause. They hold, as Hahnemann did, that to suppress or repel the disease psora, or itch, cannot be done in most cases without injury to the patient, seeing that it is an outward demonstration of a strong, morbid, constitutional bias within. The late Mr. Hunter always acknowledged that he could never discover the Itch insect; and some think to this very hour its existence in the itch pustule problematical. Likewise Drs. Heberden, Bateman, and Adams, were at no time able to meet with the insect (even by the help of a good magnifier) in this country, whether in, or near the pustules, nor within the red streaks, and furrows. "From which fact it may be inferred," says Baker, "that the Itch Acarus is not invariably the cause of scabies, and that the disease produced by the insect is specifically distinct from that in which it cannot be found." "It is true," says Hempel, "that the Itch insect will transmit the itch from one individual to another, but it is equally true that this transmission would be impossible but for the constitutional receptivity; which may be made in

some persons who become infected by contact an internal disease, whilst in others the external eruption remains as such, and can be readily cured by local means, such as sulphur ointment, oil of lavender, or Poplar twigs in the patient's bed.

JAY (*see* MISCELLANEOUS).

JELLY-FISH.

THE Jelly-fish (*Acalephæ*, Sea Nettles, or *Medusæ*), some specimens of which are familiar to visitors at the seaside, become more or less broken and lifeless in the common forms drifted upon the beach, and not able to get off it. They are almost entirely composed of water, and having no muscular tissue are soft and flabby to the touch. Moreover, when handled they have the unpleasant trick of stinging slightly, this power being acquired with a view to paralysing the small creatures which they secure as food. Only two or three of our native species have such a power, the same being known of old as Sea Nettles, Stingers, and Stangers. When fully expanded and pulsating with life at a short distance from the shore, these frail creatures possess much beauty and elegance. Professor Owen has told us that if the fluid part of a jelly-fish, which may weigh two pounds when recently removed from the sea, be let drain from the solid parts of the body, such parts when dried will dwindle to a membrane weighing not more than thirty grains.

Many of the jelly-fish contribute to the phosphorescent appearance of the sea by night. The *Aurelia aurita*, a common English jelly-fish, is a disc or bell-shaped animal, of soft gelatinous texture, from the centre of which a tube hangs down bearing the mouth ;

and the margin is often fringed with thin delicate tentacles, all the tissues and organs being so distended with water that they readily float. The sting which this creature causes is produced by a number of very minute sacs, which shoot out a long, pointed thread when they are touched, to penetrate the skin (if tender) and convey a certain modicum of irritating venom. All the *Meduse*, the sea anemones, and the sea corals have these sacs, though in most cases the thread is too feeble to penetrate the human skin. But some of our *Meduse*, though they may be handled with impunity, can sting quite severely the more delicate skin which covers the back and arms of a heedless bather.

This special endowment has been brought to bear for curative ends, in a limited way, and might probably be put to more extended uses in the treatment of rheumatism, paralysis, and allied affections. In September, 1882, Sir Spencer Wells related some experiences which interested him much on this subject. Whilst holiday-making at a health resort, Sandifjord, in Norway (where, at an Establishment founded by Dr. Thurlow, different kinds of baths and frictions were to be had): "One quite novel appliance," wrote Sir Spencer, "is a sort of local irritation or blistering by means of the Sea anemone (*sic*) *Medusa aurita*, which abounds in the fjord, and is a very active irritant, reputed to have proved extremely useful for quite a large number of rheumatic and neuralgic patients. In many cases neuralgic pains of long duration are said to have entirely ceased after only one application of a medusa. Dr. Thurlow first adopted this practice in 1837, through having seen a man who whilst bathing had been accidentally stung by a medusa on the shoulder, near the seat of neuralgia of some years' endurance, and who never

suffered afterwards. "I stayed at Sandifjord," added Sir Spencer, "and watched the mode of using the medicine. An attendant holds the medusa by the upper smooth surface (which is not an irritant) and does little more than touch the parts where the irritation is required, for a second or two with the under surface of the creature. The electric fluid, or whatever the agent is, must be very active, for a smarting or burning sensation immediately follows, then redness and swelling, which last for some hours, and frequently a persistent blush, which may not pass off for several days. Soon after the applications the patients often feel shocks, described as galvanic, in different parts of the body; also head symptoms varying in character and duration are not uncommon."

Jelly-fish may be frequently seen in varying quantities on the surface of the water in our bays and estuaries, sometimes in a mass, at other times as a few isolated individuals. Certain species of the sea anemone are used as food for man, and when boiled in sea water, have both the smell and taste of lobster. They are of the order *Helianthoid*, as resembling a sunflower:—

"Seas have
As well as Earth, vines, roses, nettles, melons,
Mushrooms, pinks, gilliflowers, and many millions
Of other plants, more rare, more strange than these."

A peculiarly noxious scourge (of the sea nettle tribe) frequents our shores, when the wind is from the westward, inflicting a severe sting upon the unwary bather, with immediate sharp pain. This is the venomous *Cyanœa*, of which the poison presently affects the whole nervous system, producing, it may be, spasm of the heart, and difficult breathing. These effects last more or less for ten or twelve hours; and some shooting pains may be felt for three months afterwards.

KIDNEY.

By the Jews the kidneys were supposed to locate the affections; and hence the phrase "A man of another kidney."

The main function of the human kidney, broadly stated, is to carry off used up products, especially in the form of urea from the blood, as waste after muscular effects, and as functional *débris*, flushed with water, from the body. But physiologists now know that the kidneys also secrete some important matters which they pour from themselves into the blood, and which are essential for keeping up the balance of health; so that, although the kidneys may remain well able to carry off the excreted urine, yet if their other particular secretive powers fail through impairment, then a speedy wasting of the blood ensues. Moreover, unless arrested, it leads to a fatal issue.

Under these circumstances, however, we have learnt from modern medical science, that the administration of kidney substance got from a healthy animal recently killed, will serve to restore the sum of vitality; quite small doses at infrequent times seeming to be sufficiently effectual. For which highly important purposes our leading manufacturing chemists now supply the renal (kidney) substance of animals, whether in dry powder, or in tabloid form, most carefully and reliably prepared. Some of the earliest mediciners, in their merely empirical way, gave the donkey's kidneys for diseases of the same organs in their patients. Recently, in thirty-five sick persons suffering from various diseased conditions of the kidneys, an administration of fresh, healthy animal kidney, or of an extract prepared from it, has proved of much authentically recorded value.

Hot kidney puddings used to be a favourite commodity

at stalls in the New Cut; whilst early South African travellers have related that among the Bushmen, when a sheep is killed for a feast, the bones are crushed, and, together with the raw kidneys, are distributed amongst the children, who seemed at the time to enjoy the delicacy as much as ours do cakes.

KINGFISHER.

THE Kingfisher is the *Alcedo hispida*, or *Halkuōn*. This handsome, diminutive bird, of gorgeous plumage, blue and white, orange and green, frequents (or did frequent, for it is becoming scarce throughout England, except in Oxfordshire) our many rivulets with woody banks, darting rapidly up stream beneath the branches, whilst snatching insects or feeding on fish. The marvellous Halcyon of the ancients is believed to have been identical with this Kingfisher of modern times. It was supposed that the waters were becalmed by the kingfishers whilst building their nests on the surface of the sea. Hence a halcyon time came to signify happy, tranquil days. The parent bird was represented as brooding for seven days over its floating cradle, which was thought to possess valuable medicinal properties. Likewise, up to the present time, the bird has been regarded, whether living or dead, as exercising remarkable powers.

Marlow, in his *Jew of Malta* (1633), says:—

“ But how now stands the wind?
Into what corner peers my halcyon's bill?”

A rustic superstitious belief has long prevailed that a Kingfisher suspended within doors by a thread will distinguish the quarter from which the wind blows, and will point towards the same with its bill turned thitherward.

Shakespeare (1 *Henry VI.*, Act i., Sc. 1), recognizes this notion when making Kent say about time-servers:—

“And turn their halcyon beaks
With every gale, and vary of their masters,
As knowing nought, like dogs, but following.”

Its technical name is from the Greek words “*als*,” “*sea*,” and “*kuo*,” “to conceive,” in allusion to the hatching of her eggs by the female birds on the quiet waters. The seven days before and the seven days after the shortest day were called by the ancients the “Halcyon days,” those of the winter solstice. Dryden spoke to this effect when he said:—

“Amidst our arms as quiet you shall be
As halcyons brooding on a winter’s sea.”

In confirmation of the idea that this bird told the way of the wind, we read in Southey’s *Commonplace Book*, from du Pratz: “It is well known the Kingfisher goes always against the wind; but perhaps few people are aware that it preserves the same property when it is dead. I myself hung a dead one by a silk thread directly over a sea compass, and I can declare it is a fact that the bill was always turned towards the wind.”

To the Kingfisher was also ascribed the power of enriching its owner, of preserving peace and harmony in families, and of imparting to a lady who should wear its feathers additional grace and beauty. When De Quincey was a lad, the sight of a Kingfisher with a broken wing put him into a passion of poignant grief.

Robert Lovell (1661) wrote: “Some affirme that being rosted and eaten the flesh (of the Kingfisher) helps those that are demoniack, which seemeth to be fabulous.”

Dr. Salmon, in the *London Pharmacopœia* (1695), notes: “The flesh roasted and eaten is affirmed by some to help those that are possessed; the heart dried and hung about the neck of a child cures the epilepsie.”

Kingfishers possess the faculty of reproducing the contents of the stomach at will and pleasure, so as to reject the indigestible parts of what they eat. Their nests are found in slimy holes of banks near water, and are composed of ejected fish bones. Having this resemblance in character to the modern medicinal remedy Ichthyol, (which *see*), the nests probably were justly credited of old with some of the same remedial virtues. The round eggs are of a deep pink colour until the yolk has been blown out. The dried body stuffed with spices was placed in former times with woollen clothing as a protection from moths. A kingfisher's bill is remarkably long, and formed like a pair of pincers for catching small fish and reptiles. "The bird," says Wood, "is greatly susceptible of music, provided that it be played in a slow and solemn strain, like the old ecclesiastical chants." When viewed against fallen snow it strangely loses all the gorgeous appearance of its brilliant plumage.

LADYBIRD.

THE small familiar Ladybird is the *Coccionella septempunctata*. This well-known and favourite little red-coated insect, with its black spots and friendly habits, is associated in all our minds with fine weather and thoughts of good luck. It goes by various popular names: "Mary's beetle," "Lady calf," "Cushy cow," "Dowdy cow," "Lady clock," "Fly golding," "Golden bug," and (in Germany) "Mary fowl." In Suffolk it is known as "Bishop's Burnaby," and in Norfolk "Burnabee" or "Burney bee."

"Beeshy, Beeshy, Burnaby,
Tell me when your wedding will be:
If to be to-morrow day
Take your wings, and fly away."

In Denmark the words used when sending away a Ladybird at liberty are, "Fly, fly, our Lord's own hen." In France ladybirds are regarded as sacred to the Virgin, being called "*Vaches à Dieu*," and "*Betes de la Vierge*"; whilst our English little folk always take pity on the poor mother with a nursery rhyme:—

"Ladybird, Ladybird, fly away home,
Thy house is on fire, thy children will burn."

"Parva rubens scarabœa domum cito confuge pennis!
Ardet enim domus hæc, ardebit parvula proles."

When captured it secretes from its legs an acrid, yellow fluid, which has a disagreeable odour, but possesses the property of curing a toothache, however violent, from a hollow tooth. If the insect be placed alive in the cavity, ease will be presently obtained. Kirby says that a finger once imbued with the juices of the *Coccionella septempunctata* will retain its power of curing the toothache for a twelvemonth.

A medicinal tincture is made from the entire insect when crushed. The powder of its body is a deep purple, which serves to dye water, wine, or spirit of wine, being not inferior to saffron. Dr. Salmon in the *New London Dispensatory* describes, "The delicate little fly with hard red wings, and black spots thereon," as "a wonderful cordial, sudorifick, alexipharmick, and antifebritick, curing all fevers how poysonous or malignant so ever, and therefore often given in the plague, spotted fever, smallpox, and the like with wonderful great success. The dose of it powdered is five grains to fifteen or twenty grains."

"Its larva, a large, flat worm, dirty grey in colour, is a destructive creature, eating aphides," says Mr. Wood, "as ruthlessly as Polyphemus impaled and devoured the captured sailors." With this view,

considerable numbers of the insect are now being imported into Victoria and New South Wales, that they may be distributed under Government supervision about various parts of the country.

The hop grower has no better insect friend than the Ladybird, which slays what is known to him as "the fly" by thousands. "Therefore," write Kirby and Spence, "it is fortunate that in most countries children have taken these friendly *Coccinellæ* under their protection." Charles Lamb, in the *Essays of Elia*, when discoursing about "distant correspondents," tells of "Four poor Elms in Hare Court (Temple), from whose smoke-dried barks—the theme of jesting ruralists—I picked my first Ladybirds." If it be crushed against the gums the contact of the insect causes a sensation of coldness before exercising its curative effects. The tincture (H.), when taken medicinally, acts like a mild dose of opium, but with much less stupefying results. It determines blood in a measure to the head, and increases the flow of saliva.

This insect is thought to be the speckled beetle which was superstitiously flung by the Egyptians into hot water to avert storms.

LAMB (see MUTTON).

LAMPREY.

THIS "cyclostomatous" fish is technically named "*Petromyzon*," or "Stone-sucker." It is found principally in the Severn, the Thames, and Scotch waters, being either marine, or a river (*fluvialilis*) fish, then called "Lampern." Its mouth is like the large end of a funnel, dotted all over with small hook-like teeth. Instead of gills as breathing apparatus, it has tiny sacs, seven on each side

of the body near the head, each sac communicating externally with the water by a separate orifice. It fastens itself firmly to large stones, or rocks by its sucker-like mouth, and is said by some writers to fix itself also on the bodies of other fish and devour them alive. The Lamprey is a quick swimmer, and has an extraordinary vitality when taken out of the water. Both it and Lamperns are edible fish; but the latter are more valuable as bait, especially for the Cod. They are sent alive to Great Grimsby and other ports, though a man has to go with them and to keep stirring them all the time. Their fishery lasts from August until March. At Worcester lampreys are cooked thus: After cleaning them thoroughly in salt and water, rub them over lightly with mixed white spices, and let them stand for twenty-four hours. Then put them to stew gently until quite tender with the moisture that has run from them, and, if this is not sufficient to cover them, add a little beef gravy without seasoning, and a glass of port wine when nearly done. Lamperns are to be stewed in the same way, after being cleaned in salt and boiling water.

The Lamprey goes also by the names, "Lickstone," "Swice," "Birling" in the North; and "Lamper eel" in the East. Old Fuller (1650) writes of them as, "In Latine, '*Lampetra*, a *lambendo petras*,' from licking the rocks; a deformed fish which for the many holes therein one would conceive nature intended rather for an instrument of musick than for man's food. Others do adde that the meat (when dressed in Malmsey, with nutmegs and cloves, oyle, spices, and bread) will rather be delicious than wholesome, the eating whereof cost King Henry the First his life. But by their favour that king did not dye of Lampreys, but of excess in eating them; and

I am confident the Jews might surfeit of Manna itself if eating thereof above due proportion."

"Paulus Jovius," on the authority of Burton, "highly magnifies Lampreys; and saith none speak against them but '*inepti et scrupulosi*,' the 'empty-headed and fastidious'; but the Roman, Veditius Pollio, could not relish one of these fish unless he imagined it had been fattened on human flesh." Dr. Salmon relates that, "The Italians beat Lampreys on the tail till almost dead, then gagge them with a whole nutmeg, and stop every oylet hole with a clove; then cast them into oyl and malmsey with crumbs of bread, and a few almonds blancht and minced to correct and better their flesh. They do eat flesh and when taken are said to fly at the fishers; and they are an enemy to the conger." Robert Lovell declared that Lampreys are evil even for strong stomachs, and quickly cause surfeits.

In the imperial fish-ponds at Rome there were several Lampreys (*Murænæ*) which had attained to their sixtieth year, and had at length become so well acquainted and familiar with man that Crassus, the orator, "*unam ex illis defleverit*," shed tears for one of them when it died. Formerly at civic feasts in England the Lamprey formed an important dish.

In Germany they are marinated like Pilchards, that is, potted in earthen jars with vinegar and spices. At Gloucester they are made into excellent pies, one of which is sent to Windsor every year for her Majesty's table. In the reign of Edward the Third Lampreys were sold at tenpence apiece.

"The flesh," writes an old medical author, "is sweet and good and of much nourishment; it increases lust, and by reason of its lusciousness easily causes surfeits if much eaten, and is on that account bad even for strong

stomachs, especially such as are paralytick, gouty, aguish, and old. Chironides saith that eaten with broth they help the stone, leprosie, and scabbiness; the teeth worn about the neck help the breeding of teeth."

The truth is that, containing an abundance of fish oil, Lampreys especially, and Lamperns, are best digested by, and most profitable for persons of vivacious hectic temperaments needing much caloric, because of its rapid expenditure in their bodies, who would benefit equally by cod-liver oil, and who often betray consumptive tendencies. These individuals, and others with a digestion like that of the ostrich, so robust are they, may enjoy the rich fish to their stomach's content. Pliny has related that Marc Antony's daughter, Antonia, had a pet lamprey, and adorned it with ear-rings: so odd a fancy that many persons went to see it.

The derivation of the name "Lamprey," from "*Lambere petras*," to suck stones, is a specimen of etymological ingenuity.

LEATHER (see OX).

LEECH.

THE ordinary Leech (*Hirudo provincialis*, *Sanguisuga officinalis*), as supplied by druggists when ordered by a doctor for application to relieve congested or inflamed parts, is so well known as to need no detailed description; and it may scarcely be considered as ranking among Animal Simples for medicinal use. Though indeed the case was reported not many years ago (June 23rd, 1883), of a Breton peasant who was told by the surgeon to apply half-a-dozen leeches for

some local trouble, they being sent to him for the purpose. His wife being in doubt what to do with the creatures asked a neighbour how to cook them; so they were fried and given to the poor man, who, though he disliked the bitter taste, was induced to eat all the number as a duty. He was afterwards seized with a severe and fatal illness.

This blood-sucking, invertebrate sort of slug comes now from Sweden, Hungary, or America, having been employed in Asia from time immemorial, and particularly in Bengal, as the best means for a local abstraction of blood. It can be conveniently applied to parts which are awkward of access, such as the eye, the mouth, the fundament, and the neck of the womb, the object being gained of relieving the turgid vessels by only a small loss of blood topically sustained. In order to make a Leech bite readily the part should be first sponged thoroughly with hot water, or sometimes with sugared water, or milk, or rubbed with a piece of raw meat; or the part may be pricked with a fine needle, and some of the blood which exudes be smeared over the skin.

Small Leeches are sometimes taken by accident with drinking water, and attach themselves to the throat during swallowing. A strong solution of salt and water will usually make them quit their hold, or vinegar may be used for the same purpose. Bibœna showed that Leeches cannot live in wine, and that a glassful of this taken every half-hour for two or three consecutive times will certainly kill the aggressor.

Sometimes after a leech has fallen off gorged with blood there is a difficulty in stopping the flow from the bite. To effect this a strong solution of alum in hot water should be applied on lint, or an astringent

solution of tannin, or of tincture of iron (which will cause some smarting); at the same time firm pressure with a finger should be made over the bleeding orifice.

In Greek Medicine Leeches were not known until a late date, the first mention of them being made by Themison in the century before the Christian era; but their uses were described by all the Latin and Arabian medical writers, as well as the modes of keeping them, applying them, and meeting casualties which might occur when employing them.

It seems pretty certain that some salutary action attends the application of Leeches over and above the mere loss of the small quantity of blood which they abstract. Burton speaks of Horse leeches being much used in melancholy, especially as applied to the hæmroids (piles); "for you can open no place better than the hæmroids, which if by Horse leeches they be made to flow there may be a most excellent remedy, as Plato holds. Salvius will admit of no other phlebotomy but this; and by his experience in an hospitall which he kept he found all mad and melancholy men worse for other blood letting." In *A Thousand Notable Things* it is ordered to: "Take Horse leeches and burn them to powder, and mix them with eyesel; then use to rub the place therewith where you would have the hair grow no more, and there will no hair grow in that place." In the *British Medical Journal* (March 10th, 1898), it was lately remarked that: "Leeches, on which the older physicians placed such reliance, seem to be coming again into fashion. But we have known the ordering of a few leeches in a leading London hospital, not so many years ago, cause consternation among the dressers; a consultation had to be held as to which was the 'business end' of the Leech, and the combined

intelligence of the Staff was brought to bear on the problem 'how to make him bite.'" In Northamptonshire the Leech is "Lap loach." Erskine's fondness for his two leeches is a matter of history.

Horace applied to a begging parson the line:—

" Non missura cutem, nisi plena cruoris, hirudo."

"When parsons have a crochet, into laymen's ears they din it;
And never leave a pocket till they know there's nothing in it!"

Said Dolly Winthrop, the village nurse, in *Silas Marner*: "The men are awk'ard and contrairy mostly, God help 'em! But when the drink 's out of 'em they aren't unsensible, though they're bad for leeching and bandaging—so fiery and unpatient!"

The Medicinal leech is now becoming rare in England. It is met with in the lakes of Cumberland. Its name is from the Anglo-Saxon verb, "*læce*," to heal; and this name became applied to the Anglo-Saxon Leechdoms, or methods of cure. They embraced other means besides those of medicines given internally; for instance, against fever, that a man shall write the following lines on Sacramental paper, and wash it off into the patient's drink with holy water; then sing over it:—

" Inde salutiferis incedens gressibus urbes,
Oppida, rura, casas, vicos, castella peragrans
Omnia depulsis sanabat corpora morbis."

And let the Leech and the sick presently sip thrice of the water so prepared.

LIVER.

EVERYONE knows that it is the main office of the Liver (*Hepar, Jecur*) to make bile, and to stock it in the gall-bladder for use as required. But further than this the Liver also is a storehouse for sugar (*glycogen*), in the formation of which both it and the intestines are

concerned. This sugar goes to the muscles as fuel for them to work upon; so that idle inactivity surfeits them with sweetness which should be converted into force. Again, if, on the one hand, the liver cannot make bile through weakness, its crude biliary elements are detained in the general circulation, causing jaundice; or if, on the other hand, bile is formed by the liver but cannot get into the gall-bladder because the neck of that receptacle is obstructed by catarrh, then, also, jaundice ensues by a reflux of the bile into the blood; or, once more, if the Liver can furnish bile but cannot assimilate sugar, then the saccharine elements are retained in the blood as diabetes, and are excreted from the body as sugar by the kidneys. Our early mediciners knew these matters only roughly and by guess work, yet they were shrewd enough to discover that the administration of liver substance from healthy animals sufficed in many instances to overcome the diseased conditions which arose, as described above, in the livers of sick persons. And within only the last few years the same practice is revived of giving liver substance from healthy animals medicinally to human patients; but this method is now reasoned out and advocated on scientific grounds.

"The liver of the ox," wrote Dr. Salmon, by authority, (1696), "strengthens the liver in man. You may make an extract of it, as of the spleen." Again: "For obstructions of the liver and spleen in a sick person, the liver of a fox should be given in extract, for which purpose Marcellus and Sextus commend it."

Likewise, Pomet, mediciner to the French King, 1712, tells that the liver and bowels of the wolf dry'd were then prescribed for the cure of all diseases arising from the liver and bowels, particularly the colick. *Is Life Worth Living?* stands as the title of a lately

popular book; to which Mr. Punch replied, "That depends altogether on the liver;"—a truism which denotes how much this organ affects the health and happiness of everyone. Forty years ago calves' liver was given internally for snow blindness in the Eye Hospitals of Austria and Bavaria, half-a-pound being eaten by the patient each night and morning. Dr. Hildidge, who related this, suggested that the darkened room, *ad interim*, may have had much to do with the cure; but when shrewd, observant physicians were looking on, such a thing was hardly probable.

Dr. Kane, during his Arctic explorations in 1853 and 1854, found that frozen Walrus liver cut into slices, and with smaller slices of fat, formed for his party delicious meals. This food indeed constituted, in his opinion, a condensed heat-making and anti-scorbutic diet that had no rival; but the bear, said he, "is stronger travel than all," though its liver seems often to disagree with Europeans, causing giddiness, diarrhoea, and other symptoms of animal poisoning. Fatted livers (*foie gras*) artificially produced were highly esteemed by gourmets in the time of Pliny; they contain a surplus of phosphoric acid which makes them difficult to be digested. Dr. Prout hints that indolent and dyspeptic individuals who partake of these morbidly fat productions run considerable risk of converting their own livers into similar masses of disease. The luxurious *paté de foie gras* now made by foreign confectioners with the fat liver of geese, truffles, and condiments, was first concocted at Strasbourg, in 1792, by a pastrycook named Doyen, as an improvement on a secret recipe possessed by the *cordons bleus* of one of the old nobility. The business of this Doyen, handed down from father to son through successive generations, still flourishes.

Constant heat, and to be kept without water, or exercise, enormously develop the fatness and size of the Goose liver; of which the light palatable fat may serve as a substitute for cod-liver oil or butter, with delicate, ill-nourished, atrophied children lacking appetite, or having fastidious tastes. It is a curious and instructive fact that charcoal powder helps materially towards producing excessive growth of the goose's liver in size, and fatty deposits, insomuch that at Alsace a trough in front of the geese under treatment for fattening their livers is always kept full of water in which some pieces of wood charcoal are left to steep. Liebig taught it as an established axiom that charcoal powder so hypertrophies the liver of the goose as to cause at length the death of the bird; by fatty degeneration the liver becomes surcharged with a phosphoric oil.

Inferentially we may conclude that Vegetable Charcoal, properly prepared, and diluted in strength, will be an efficient remedy for fatty degeneration and enlargement of a human patient's liver, short of incurable mischief, whilst at the same time the diet is duly restricted as to fatty and sweet constituents. The Greeks and Romans before a battle consulted by their Augurs the livers of sacrificed animals; if healthy and blood-red, these organs predicted favourably, but if pale, they foreboded defeat. Hence came the phrase, "white-livered," and "lily-livered," implying cowardice. Says Rosalind (in *As You Like It*), "And this way (with love) will I take upon me to wash your liver as clear as a sound sheep's heart."

Seeing that the liver of a healthy animal, even when cooked, exercises a corrective power, though eaten in only small quantities, on the sluggish or deranged human liver, it commends itself that when a chicken or other

bird comes to table this organ should accompany it. In which way, occasionally, as at the usual cold collation on a Sunday evening, when boiled or roasted fowls make part of the meal, a pleasant and beneficial "little liver pill" taken thus would help to put the biliary apparatus in good working order for the coming week. But poulterers nowadays, when trussing fowls, confiscate the gizzard, and the liver. To the former organs they are quite welcome, especially if their parturient wives are sick and sorry (*see* "Gizzard"); but in all honesty they ought to spare us the livers.

In Lancashire there is a superstition that a man or woman who survives several mates in wedlock has a white liver.

Seeing that the human liver has much to do with the formation of sugar in the body, an extract of animal liver has been tried in diabetes by injection under the skin, as well as by use for a medicinal food, and with the effect of materially decreasing the quantity of sugar contained in the urine. Three or four ounces of the fresh Animal liver are to be given in the day. This is likewise of service for arresting hemorrhages.

LIZARD (*see* MISCELLANEOUS).

LOACH (*see* page 113).

LOBSTER.

THE Lobster is *Astacus marinus*; whilst the Craw-fish is *Astacus fluviatilis*, *l'ecrevisse de riviere*. No description is needed of the Lobster, so familiar is it to everyone. Its coat of mail, which is black, or nearly so, in the natural state, turns red when boiled, or when exposed to a degree of heat, 70° Centigrade. The colouring matter is of a fatty kind resembling that which can be extracted from

LOBSTER.

the legs and beaks of certain geese and pigeons; but chemists have not learnt its composition. This colour is contained in the membrane of the shell. It gives a particular odour and taste to the lobster broth, which is stimulating because of the resinous substance, (brownish green of aspect), which is the seat of the colour. The flesh of a Lobster contains much soluble gelatine. Its mouth opens the long way of the body, not crosswise as in man; it is furnished with two teeth, and there are three more in the stomach. These latter were formerly much used in medicine under the pompous name of "*Oculi cancrorum*," the "*Yeux d'ecrevisses*" of the French, instead of carbonate of magnesia.

They are formed at moulting time towards the end of Spring, two stony bodies in the lateral pouches within the stomach, because of an excess just at that time of calcareous matters in the blood. Afterwards they gradually disappear again. To their shape and the round grooves on their face they owe the name "*Yeux d'ecrevisses*." When plunged into boiling water they acquire a rose-red colour. These used to be much given for troubles of the digestion with acidity, being powdered and made into a paste with water, or administered as lozenges. Dentists also prepared tooth powder with them. The same concretions are obtained in Russia by allowing the creatures to putrefy, and then washing the mass with water. They contain carbonate and phosphate of lime, some animal matter, and small quantities of salts.

Dr. Quincy (1730) prescribed, to produce sweating in fevers, or catarrhs, the "*Gascoigne's powder*," made from Crabs' Claws; and the "*Countess of Kent's powder*," prepared from the "black tips of Crabs' Claws gathered

in June." These were mixed with spirit of vitriol, so that the acid joined to the alkali might form a *tertium quid*. "They," said he, "who would in earnest set a value on a medicine for its real worth, will easily be brought into the interest of this." Our modern *Mindererus Spirit* is a very similar preparation.

The brilliantly-red coral of the Lobster is its ovary, or egg sac full of eggs. There is a popular notion that the part of the lobster's body called popularly "the old lady in the arm chair" proves injurious when eaten. This part is the bony teeth of the stomach, the bag containing the "old lady" being the stomach itself, which really is unwholesome. Indeed, as a rule, the Lobster being of difficult digestibility, does not make a fit food for dyspeptics or invalids. It is a foul feeder, though consumed in incredible quantities, and served at all the best tables in the land. For its sure capture the experienced fisherman baits his lobster pots with putrid flesh; or with fish too far gone even to attract a crab; "And yet" (says Mr. Holt), "if at one of those tables there appeared a well-cooked dish of clean-feeding slugs, the hardiest of the guests would shrink from tasting the same." "The Lobster," Dr. Yeo pronounces (of which the flesh contains twenty per cent. of meat, and two per cent. of fat), "is, as its composition shows, highly nutritious; but it often gives rise to nausea, vomiting, diarrhoea, giddiness, and outbreaks of an erythematous eruption on the skin, especially in rheumatic and gouty persons." So Robert Lovell spoke (1661) to the effect that: "Lobsters are for strong stomachs; they are best in the full of the moon; they give a strong nourishment and an indifferent stomach."

Dr. Dobell (*Diet and Regimen*) suggests that invalids fond of Lobster, but who are not able to digest it, may

have their taste pleased, and their appetite promoted, by substituting cold Turbot, with pepper, and vinegar. Likewise a Lobster salad may be well imitated by cutting strips of Turbot, and colouring their outside with beetroot.

Any violent shock to the nervous system of a Lobster will cause it to throw off one or more of its claws, which grow again, but are never so large as those they replace. Likewise, lobsters cast their claws if put into boiling water, or into spirit of wine; so also, as Pennant observed, during a loud clap of thunder, or from the noise of a big cannon when discharged. If a man-of-war meets with a lobster boat and does business, a jocular threat is thrown out that if the master does not sell them good fish the ship's crew will salute him with a broadside.

To be cooked, the Lobster is thrown straightway into boiling water, and probably dies at once; but not so the Crab, which has to be immersed in water cold at first, and boiled slowly, else it will cast off its legs. This seems a ruthless and cruel proceeding! With regard to the lobsters when thus treated, as Tom Tallack the Devonshire crabber expressed it, "You never sees a move in 'em." But the crabs? "Yes, fay," said Tom, "they shows much sufferin', I du well believe. They will try all they can du to rise the cover off the copper and get out when they du feel the water too hot for 'em and they be goin' to die. But," he added, "us takes no note o' that."

Words of warning must be said against tinned lobster, which generally develops poisonous "ptomaines," or corrupt, cadaveric products such as may cause serious and even fatal injury to the eater.

Old names for the Lobster were, "*Locusta marina*,"

and "*Gammarus*"; in the Eastern counties to-day a small crustacean of this sort is "Nancy."

The amiable but lunatic French genius, Gerard de Norval, tried to lead a live lobster round the Palais Royal by a blue ribbon. "I have a fancy," quoth he, "for lobsters, which are easy-going and serious, know the secrets of the sea, and don't bark." Alice, in *Wonderland*, under the Gryphon's whimsical influence, felt strangely compelled to pervert the famous hymn of Dr. Watts about sluggards:—

" 'Tis the voice of the lobster, I heard him declare
You have baked me too brown, I must sugar my hair;
As a duck with his eyelids, so he with his nose
Trims his belt and his buttons, and turns out his toes."

If fishermen find a wounded lobster which has just lost one of its claws, they save the creature from quickly bleeding to death by twisting off the entire stump, so that a membrane may become speedily formed over the wound, when the further loss of blood will be stayed thereby.

LOUSE.

THREE species of this offensive insect are known to infest human beings. The *Pediculus capitis*, Head louse; the *Pediculus vestimenti*, Body louse; and the *Phthirus inguinalis*, Crab louse. It is a disgusting occupant of the heads, eyebrows, armpits, and other hairy parts in man and woman, causing local itching, and attaching its nits to the bottom of the hairs.

Individuals of great note are reported to have died in ancient times from a multitude of these pediculi; among them Scylla, the Dictator, the two Herods, and Plato. In some old persons, notwithstanding every attention to cleanliness, and in young highly strumous consumptive patients, they will swarm abundantly, so

much so that the aged subjects endure extreme distress from the perpetual irritation ; and the junior victims are haunted most pertinaciously.

The oil of Spike (or essential oil of Lavender) mixed with oil of turpentine is one of the most efficacious means for destroying these offensive parasites, or "active citizens" as they are called in cant phraseology. The old Salernitan school had a maxim with respect to figs :

"Pediculos, veneremque facit ; sed cuilibet obstat."

"Both Lice and Lust by Figges engendered are :
Yet the same fruit destroys the filthy pair."

Here is a noteworthy old instance of homœopathic action. It has been observed that these parasites never infest a person who is near death, because of a repellent change in the quality or quantity of the fluids immediately beneath the skin ; and it must be on the same principle that women and children are always more attacked by fleas, or infected with the bed bug, than old or emaciated persons, whose humors are scanty, the skin being in consequence more rigid, and dry.

The London Dispensatory (1695), says about lice : "They are eaten by rusticks for the jaundice and consumption ; put alive into the meatus they provoke urine: *Vivis in penis organum inimissis ad ciendam urinam.*"

Felix Platerus, professor of medicine at Basle, about the end of the sixteenth century, declared, if eleven lice, or so, be eaten by a person in the jaundice, they will be of benefit to him, and the certainty of the remedy is proved by experience. In *Rare Secrets of Physicke*, collected by the Countess of Kent, London (1654), may be found "For the cure of sore eyes take two or three lice out of one's head, and put them under the lid." Against lice, said the *Saxon Leechdoms*: "Pound in ale, oakrind and a little wormwood, and give the

lousy one to drink ; again, give the man to eat sodden colewort (cabbage) at night frequently, when fasting" ; the evoked sulphuretted hydrogen would probably banish the lice to good effect.

An old name for the Crab louse was Morpion. In *Hudibras* occur lines which run thus :—

" And stole his talismanic louse,
His flea, and morpion, and punese." (III. i. 47).

Sir Hugh Evans, in the *Merry Wives of Windsor*, thinks the Louse "a familiar beast to man, and signifying love." Robert Lovell wrote (1661), "Lice if breeding in the heads of those that have been long sick, they prognosticate health.

The Louse is administered medicinally in Morocco for ague, by a slice of bread and butter, on which is spread a layer *pediculorum capitis*: this is an infallible specific, but requiring more than common courage to take it. In Dorsetshire there is a reputed cure for jaundice, as generally known there, and practised, to make the patient eat nine lice on bread and butter. It so happened in a case recorded (July 2, 1859) that there was a difficulty in obtaining the medicine: but eventually the zealous village doctor procured them from the head of the schoolmistress, and they were administered with complete success. But this remedy, said *Notes and Queries*, is not peculiar to Dorsetshire. The learned Frederick Hoffman of Halle made, in 1675, a note to the same effect in his *Clavis Pharmaceutica Schroderiana*: "*Pediculi contra icterum devorantur à rusticis, numero novem: et in atrophîâ nonnullis probantur.*" Izaak Walton in the *Complete Angler*, has written: "It is thought that the Jews, or some spirit worse than they, first told us that lice swallowed alive are a certain cure for the yellow jaundice. This and many other medicines were

discovered by them, or by revelation ; for doubtless we attained them not by study ; and it is observed that many of these people have many secrets yet unknown to Christians, secrets that have never yet been written, but have been since the days of their Solomon, who knew the nature of things from the cedar to the shrub ; to communicate them to any other nation or tribe they account profane." Lard is useful externally for destroying lice ; but mercurial ointment (*Unguentum hydrargyri*) is more sure, though with a certain risk of the mercury being slightly absorbed into the system. "Blue butter" this application is familiarly called by sailors when they ask for some from the doctor.

"There was a young woman named Margery,
Whose head was a perfect menagerie ;
When they told her to wash,
She only said ' Bosh ' ;
I shall use some *Unguentum hydrargyri*."

At Hardenberg in Sweden, when a Burgomaster had to be chosen, the candidates sat around with their beards upon the table, in the centre of which was placed a louse ; and the one in whose beard it took cover was thus made their magistrate for the ensuing year. After the ceremony the company supped upon ducks, and sang like larks.

Hunt in his *Romances of West Cornwall*, tells that to find a single louse on one's linen is a sign of sickness ; to find two indicates a severe illness ; and if three lice are discovered together within a month, it is a "token to prepare."

Kirby and Spence in their *Entomology of Insects*, suppose that "in the case of man, if not going so far as Linné to give the louse the credit of preserving full fed boys from cough, epilepsy, and other disorders, this creature may be safely regarded as of no small good because of the

stimulus to bodily cleanliness and purity incited by its loathsome presence on those who are dirty and vicious. Lice, say these writers, are eaten by the Hottentots, and natives of the Western Coast of Africa, who, from their love of such game, which they not only collect themselves from head quarters, but likewise employ their wives in the chase, have been sometimes called Phthirophagi."

In the *Lancet*, October 2nd, 1880, was related the instance of a soldier who came as an out-patient to one of the hospitals because of much buzzing in the ear, and vertigo, which made him turn round and round distressingly. One syringe-ful of lukewarm water brought out the offending cause, a louse of rather large size, and dark. The soldier left the hospital intensely grateful.

In Beaumont and Fletcher's *Thierry*, occurs the passage: "Die of the jaundice, yet have the cure about you: lice, large lice, begot of your own dust, and the heat of the brick-kilns."

Wurtzung, says Southey, has noticed concerning lice, and persons afflicted with them: "yet have they this commodity thereby that they who have most lice be wholly freed from the headache." "Forty years long have I been grieved with this generation," read the parson, whilst inadvertently scratching his head.

MAGPIE.

ACTUALLY the Magpie is a simple Pie, with a prefix to this of the abbreviated familiar name "Margaret," "Madge," or "Mag." It is the *Pica major*, or greater Pie, as distinguished from *Pica minor*, the lesser Pie; and "Magot"; being also called "Melanoleuca," black and white. The bird, says the *Encyclopædia Britannica*, "is no longer the merry, saucy hanger-on of the home-stead, but has become a suspicious thief which shuns the

gaze of man, and fears that danger is working in every bush." This handsome bird always seen with a passing thought of superstitious lore, is remarkably cunning; its colours are perfect black, and pure white, the tail and wings reflecting purple and green. Ovid tells that magpies were originally old women given to chatter, and to ill-natured scandal of perpetual talk; for which they were metamorphosed into this form—

“And still their tongues wagged on, though changed to birds,
In endless clack, and vast desire of words.”

The bird has no objection to a stray chicken if it can be got on the sly; and it does not hesitate to pluck wool from a sheep's back with which to line its nest. Older mediciners named it Kitta, and Raham. In the *London Pharmacopœia* (1696), it was stated: “the flesh eaten helps dimness of sight, vertigo, epilepsies, melancholy, and madness. Magpies are of a very hot temper, as may appear by their salacity. The whole bird beaten in a mortar, and applied, strengthens weak joints, and takes away penal cankers.”

In the *British Medical Journal* (1880), appeared a statement that “the dust of dried and powdered flesh of magpies, on the authority of no less exalted a personage than the Princess Bismarck, is reported to be an infallible cure for epilepsy, or the falling sickness.” The following Circular was addressed January 22nd, 1880, by the President of the Eckenfoerd Shooting Club to the members of that Association: “Her Highness the Princess Bismarck wishes to receive before the 18th inst. as many Magpies as possible; from the burnt remains of which an antiepileptic powder may be manufactured. I permit myself therefore, high and well-born sir, to express to you the entreaty that you will forthwith shoot as many magpies as you can in your

preserves, and forward the same either to the chief Forester Lange, at Friederichlohe, or hither, without paying for their carriage, down to the 18th of this month. Teeming with exalted respect, I am etc., etc., J. L. L."

The Magpie is generally regarded as a mysterious bird; and various popular rhymes have for their motive the significance attached to what particular number of them is seen at a time by passers along the road:

"One for sorrow, two for mirth,
Three a wedding, four a birth,
Five a christening, six a dearth;
Seven for heaven, eight for hell,
And nine for the deil's ain sel."

To avert ill luck a Devon peasant spits over his right shoulder, and says:—

"Clean birds by sevens,
Unclean by twos,
The dove in the heavens
Is the one I choose."

In Cornwall eggs of the game cock breed are hatched under a Magpie, because a "magety pie is a desperate bird": also a scolding woman is styled a Magpie; and it is widely the custom for a man on seeing one of these birds to salute it by raising his hat, thus averting anger. If a Magpie finds human hair about, and should use it in nest building, the person to whom the hair belonged is sure to die within a year and a day, as many poor country people believe. In Kent the Magpie is called Haggister. Shakespeare has made Macbeth declare that the Augurs

"By magot piss, and choughs, and rooks, brought forth
The secretest man's blood."

MAN.

MAN is classically the *Homo*; and it is remarkable that all the older medical writers were unanimous in

commending certain medicines got from man himself, especially from his skull for epilepsy, or the falling sickness.

Galen, A.D. 165, saith that he knew many men in his lifetime to be cured of the falling sickness by drinking of the powder of dead men's skulls burnt. Also in another place, that the skull of a dead man whereon moss groweth, being taken, and washed very clean, and dried in an oven, and then beaten to powder, will cure the infirmity, although the party grieved have been troubled therewith many years before. But the skull must be the skull of one that hath been slain, or of one that was hanged, or came to a sudden death, and not the skull of one that dyed of any sickness, or else by other maladies growing of long continuance in the head. So likewise Theophrastus Bombastus Paracelsus (1493-1541) wrote, whom Browning, in his noble poem *Paracelsus*, styles *The Reformer of Medicine*, *Luther Alter*, *The Wondrous Paracelsus*, *Life's Dispenser*; and who died at the age of forty-eight, a martyr of science. "To make oyle of the skull of a man, take the skull of a man that was never buried, and beate it into powder; then distill away the flegme with a gentle fire, and put it on againe, and distill it againe, and this you shall doe three times upon the feces, and at the last give it strong fire until the oyle bee come forth; the which ye shall separate by Balneo, and keep it close shut in a glasse. The dose is three graines against the falling sicknesse. Yee shall understand that there is also a salt to bee drawne forth of the feces, the which is of great virtue against the aforesaid disease, being drunke with wine as is aforesaid." In Lincolnshire during the seventeenth century a portion of a human skull taken from the grave was grated and given to epileptics for

the cure of their fits. "How many things" asks Burton in the *Anatomy of Melancholy* "are related of a man's skull, what severall vertues of cornes in a horse's legge; of a wolfe's liver; of divers extrements of beasts, all good against severall diseases? *Quæ cæcâ vi et specificâ qualitate morbos futuros arcent.*"

Pliny mentions the use of the human sperma as a medicine, and Avicenna prescribed it for gout. In the *New Dispensatory* (seventeenth century) it was ordered against the imbecility of the instruments of generation; and now close upon the twentieth century this secretion is approved, on the most advanced therapeutic authority, as "didymin," for the various phases of perverted sexual functions.

By the former mediciners human hair was distilled for an oyl with which bald places were anoynted to make the hair grow again upon them; and the fasting spittle was rubbed on pimples, and stings. Stone taken from the bladder was given in powder to dissolve and expel the stone and gravel; the stercus (fœcal excrement) was thought emollient, anodyne, and maturative, especially the *Zebethum occidentale*, being "nothing but the true essence of man's dung"; the fresh urine was declared to be discussive, abstersive and resisting putrefaction; and many singular preparations were made of it, such as the spirit, the volatile salt, the essence, the magistery, and the oyl. Dr. Quincy (1728) wrote: "Some have got a notion of this being good for the *Scurvy*, and drink their own *Water* for that end. Others commend it boiled into the consistence of Honey for Rheumatic pains, rubbing it into the part affected: in which case it may do good, because it cannot but be very penetrating." Also from Man's blood a balsam was prepared against the gout, and an antiepileptick spirit; lastly the mummy

was employed with immense faith against many diseases, being either Arabian and embalmed, or artificial, and made at the time.

Virtues were attributed to these mummies for "piercing all parts, and restoring wasted limbs, for curing consumptions, hecticks, all ulcers, and corruptions; they were thought to stop fluxes of the belly, of rheum, of the terms, and to astringe. In order to prepare an artificial mummy, according to Crollius, the directions were: to take the carcase of a young man (some say red hair'd) not dying of a disease, but killed; let it lie twenty-four hours in clean water in the air; cut the flesh in pieces, to which add powder of myrrh, and a little aloes; imbibe it twenty-four hours in the spirit of wine and turpentine, take it out, hang it up twelve hours; imbibe it again twenty-four hours in fresh spirit; then hang up the pieces in a dry air, and a shadowy place, so will they dry and not stink." If this lively process were attempted nowadays the irate Inspector of Anatomy would quickly bring into effect certain penalties of our outraged laws, and the offending doctor would soon find himself in a very uncomfortable position. The *Essentia cranii humani* was pronounced by Brendelius to be "prevalent against the falling sickness beyond all things whatsoever."

In *Humboldt's Travels* the statement is made that tribes which devour human flesh are by no means the most cruel, or the most degraded specimens of humanity. It is related on good authority that in Egypt during the thirteenth century at a time of great scarcity the practice of eating human flesh spread through all classes. "At first it caused amazement and horror; but the proceeding gradually spread until persons of wealth and position got to regard human flesh as a treat, and

secreted it in stock against hard times ; it was cooked in various ways. Large numbers of the poorer classes were victimised in this way, and physicians were in especial demand ; they were sent for on pretence of consultation, and were then seized, and devoured."

On the subject of physicians Hufeland has observed that they who so abundantly dispense to their fellows the means of health and life do not as a rule attain a great age. It may be said of them in general, *aliis inserviando consumuntur, aliis medendo moriuntur*. They have the least opportunities for observing those rules and precautions for preserving health which their knowledge enjoins on others.

In *Old and Modern Poison Lore* (1884), Sir Benjamin Richardson gave it as his conclusion that somnambulism is produced in man by the formation in his body of a peculiar substance which is derivable from its starchy parts, and which has the same chemical effect as amylose. He alleged his ability to produce artificial somnambulism by the use of that substance ; afterwards, when its effect passes off, the patient becomes all right again. "I have no doubt," added he, "that the day will come when it will be proved that many forms of mental perversion are due to substances resulting from impaired assimilation, and made within our own bodies."

MARROW.

MARROW is to be got from the vertebral column, or the long bones of animals. It is a fatty matter, beef marrow consisting of ninety-six parts of medullary fat in a hundred parts of the marrow. As to its dietetical properties marrow has been always supposed to resemble other animal fats, but recently additional virtues have been attached to it as a healthy animal substance with

special reparative powers for the ailing and weakly. In old days the marrows given medicinally were thought emollient, and good against scrofulous tumours. Deer's marrow was accounted the best, that of the goat being sharper and dryer.

"From all marrows it was taught, especially that of the back bone and the brains, you may draw chymically oyls of excellent use to comfort the nerves, strengthen the head and brain, fortify the senses, and cure apoplexees, epilepsies, etc. In the *Rich Storehouse of Medicines* (1650), it was ordered "to comfort the back, take a quart of goat's milk if it can be gotten; if not, then take a quart of red cow's milk that is new, and a handful of oatmeal and a good deal of the pith of an ox back, and stamp them together and seethe them well; and when it is sodden strain it through a fine linnen cloth, and let the patient drink it first and last (morning and evening) and it will help him." *Probatum est!* The same is also good against a consumption. "From the pith marrow (spinal marrow) of animals some make caudles with yolks of new caw eggs to restore nature, and recover the weaknesse of the loines." This was another illustration of giving healthy animal substances for the recuperation of sufferers from an impaired state of the corresponding substance (and its functions) within themselves.

Advanced physiologists now teach that the red marrow inside the long bones is undeniably the birth-place of the red blood corpuscles; and isopathy (or, the giving a similar animal extract to that which is deficient in the human patient) makes use of this marrow in bloodless subjects to stimulate fresh blood formation." It has been found of undoubted value in conditions where cod-liver oil is indicated but cannot be

taken, and as a regular food continued for some while to ailing children who refuse fats. Also for the bloodlessness of adults, as well as for rheumatism of the joints, with swelling, and thickness, it renders admirable service, especially when the bones are involved.

Our wholesale druggists supply red bone marrow of the best kind (from newly killed animals) prepared in tabloids, each containing about five grains, so that a dose ranges from one to six, taken with water, or milk, or crushed and mixed with beef tea. Glycerine is the only medium for preserving the product in an unaltered condition, and when mixed with this it can be taken in bulk as a medical food.

The marrow given curatively does good because it contains some iron in a natural state, and fat in an easily assimilated form. It furnishes for the blood red colouring matters, and albumen. The appearance of wasting, and general faulty nutrition which follows any extensive inflammation of bone has been attributed to a loss of the active material formed inside marrow cavities; so that rapid improvement has been gained from giving red bone marrow in rickets, in spinal curvature, and in children's diseases of the bones. Its administration should be continued for some length of time.

In past times "Vaunt" was a favourite pancake made with marrow, plums, and eggs.

Moreover, the ancient Cavedwellers in Britain seem to have esteemed Marrow as a special delicacy, because among the bones found since in their primitive kitchens all the marrow bones are seen to have been broken, and the marrow (no doubt) devoured.

In Labrador the natives have much faith in the virtues for lung diseases of a decoction made from boiling crushed bones and marrow. (Furthermore, they

have long practised a rude antiseptic treatment of wounds and ulcers by keeping them scrupulously washed with a decoction of juniper-tree bark, whilst a soft pulp of the beaten bark is kept applied, being frequently renewed.)

Sheep's marrow contains less solid fat (stearin) and more liquid fat (olein) than beef marrow, which will remain fluid at a much lower temperature nevertheless.

“Taffius in Cimbris natus, fur Taffius: idem
Accessitque fores nostras, carnemque bovillum
Surripuit: frustra pulsabam limine Taffi;
Ille aberat: rediique meos, velut ante, Penates:
Osque medullosum malus abstulit. Ipse reversus,
Invenisse domi furem, lectoque reclinem
Lætor, et osse caput raptò sine iudice cædo.”

“Taffy was a Welshman, Taffy was a thief:
Taffy came to my house, and stole a bit of beef:
I went to Taffy's house, Taffy wasn't at home:
Taffy came to my house and stole a marrow bone:
I went to Taffy's house, Taffy was in bed;
I took up the marrow bone, and beat about his head.”

Dr. Diamond discovered that the distinguishing virtues of marrow on toast are delicately sustained, and emphasized by adding a few drops of the best anchovy sauce.

The leg bone is the marrow bone of beef or mutton.

The phrase “Down on your marrow bones,” means “Down on your knees.”

George Wither, the satirist (1650) said with gusto:—

“I have a dish prepared for the nones,
A rich Potatoe Pie, and Marrow-bones.”

MILK.

Dr. Salmon in the seventeenth century described Milk (*Lac*) as refined blood, elaborated by the teats for the nourishment of the Fœtus: it is temperate, emollient, anodyne, and allays sharpness. “All milk wonderfully

helps swellings, and nodes in the joynts; and of all liquid things that man useth milk is most nourishing; first woman's milk, then sheep's, then goat's, then cow's milk. As being appointed by God Almighty for the first nourishment of living creatures, it is excellent good in dysenteries, diarrhœas, asthmas, consumptions, etc., as for sore eyes, and headaches. It is not good in fevers because the unnatural heat does easily corrupt it."

In 1695, Boyle said of milk, it is "An excellent medicine for clammy humors of the eyes. Take new milk and let it stand till it hath gotten a little cream upon it: then let the patient when he is in bed take up with the forefinger a little of the cream (and not of milk) and shutting his eyelids besmear his eyes with it, having a care that very little or none get into his eyes, because it would make them smart. Let the cream lye on till the next morning; and in case the person chance to wake in the night he may if he finds cause lay on a little more, and wash all off in the morning."

Milk in its modern bearings occupies a supreme dietetic position, to consider which in full would take a small volume. But as an Animal Simple it further exercises important influences on the health for preventing, or curing, disease, which entitle it to some detailed notice in these pages. The milk of the ass and the goat have been already discussed. Cow's milk, human milk, and sheep's milk have still to be medicinally examined.

Broadly speaking all milk consists of solids and a liquid portion, the solids being held in solution as long as the milk is cold and fresh.

The chemical result brought about by boiling milk is to kill all the living cells, and to coagulate all the albuminous constituents, so that it now becomes thicker

than before ; but (says Yeo), there is a distinct loss of utility entailed by doing this, as the living cells can no longer serve for direct reparation of the bodily tissues. Furthermore, the sugar of milk is converted into caramel, so that the milk itself acquires a cooked taste. Other methods than boiling are now efficiently practised for sterilizing milk, or destroying any injurious germs which it may contain.

For sterilizing milk at home, some clear glass bottles, cleansed by thorough boiling, should be filled with milk to within an inch of the top. Place these in a large saucepan filled with cold water, and the water should then be brought to the boiling point. After boiling for ten minutes the bottles must be tightly plugged with a pledget of cotton-wool previously baked for a few minutes in the oven. When thus cooked the bottles should stand for fifteen minutes more in boiling water ; and at the expiration of this time every microbe will have met with an ignominious and certain death.

The chief constituents of milk which become solidified by heat are its casein (cheese), and its albumen. The several salts and the sugar of milk are held dissolved in the serum, or liquid portion. The oily and fatty parts rise to the top in cream when new milk is allowed to stand.

Buttermilk is made by skimming the milk free from the cream when ready to churn, this being of first quality ; it is quite acid, because of the lactic acid, which serves, nevertheless, to make it more digestible. Second and third qualities of buttermilk may be made from the residual milks. In buttermilk all the fat is excluded, so that weakly children profit by its use who cannot digest stronger and richer milk. The sugar of milk is lactose, which becomes lactic acid

on exposure to the air, causing the milk to presently turn sour. Salts of soda, and potash, and phosphate of lime are contained in new milk. Buttermilk does not hinder, but rather helps digestion. it soothes and quiets the nerves, being an excellent soporific for those who are troubled with sleeplessness, and being gratefully cooling in warm weather. The taste for it at first is an acquired one, but becomes so enthralling that they who use it are never tired of sounding its praises. The lactic acid, which serves to allay nervous excitement, may be given separately as a medicine, if so preferred, from one to two teaspoonfuls for a dose in some lemonade. Dr. King Chambers, late physician to the Prince of Wales, commends (*Diet for Health and Disease*) the following harmless sleeping draught for nervous wakefulness: "To a tumblerful of curds and whey add a full teaspoonful of carbonate of soda, or as much more as is required to neutralise the acid. Sweeten it with treacle or sugar, and grate some nutmeg on the top. It may be taken cold, but is best hot." Here the lactic acid no longer remains sour to the taste.

The whey of milk which remains after the solids have been coagulated (by rennet or lemon juice), contains some soluble albumen, with fat, and a great proportion of the salts as well as the sugar of milk. Though not very nutritious, it is a most useful food in febrile diseases, and for ailing persons who cannot digest entire milk. Health resorts for whey cure are frequent in Germany and Switzerland, this treatment being especially efficacious for benefiting chronic chest complaints, and being materially assisted by the mountain air.

Skimmed milk, "the sky blue," as Hood called it, "of cheerful thrift," from which all the cream has been

skimmed off, is more easily digested, as a rule, than unskimmed milk. "Bristol milk" is proverbial; "by which metaphoric milk," as Fuller puts it, "Xeres or Sherry sack is intended. Some will have it called milk because such wine is the first moisture given to infants in this City."

Quoth Mrs. Poyser to Adam Bede "But you'd like a drink of whey, perhaps? I know you're fond of whey, as most folks is when they han'na got to crush it out. The smell of bread 's sweet to everybody but the baker!" In Derbyshire butter milk is called "whig and whirl-te-woo." It can be readily made at home in small quantities by putting a quart of new milk into a bottle which will hold a gallon, then corking the bottle and covering it with a towel in such a manner that by drawing alternately each end of the towel, the bottle can be rolled upon a table. This movement should be continued until such time as all the butter is separated, which is known by its appearing in clots or masses swimming in the milk. During the rolling it is necessary to open the bottle occasionally for admitting some fresh air, which is essential for the formation of butter. When the process is finished, all the butter should be separated carefully from the buttermilk, which may be then drank *ad libitum*. In the *Rich Storehouse of Medicines* (1650), it is directed as "a good preservative against the plague or pestilence, to take buttermilk, and eat thereof every day during the time of sicknesse, and it will do you much good." Buttermilk has been recently found of essential use in typhoid fever, the fatty matters of whole milk, which are commonly disposed to be laxative, having been removed; the stools become lessened in frequency, and the mild acidity of the buttermilk renders it grateful to patients

thirsty in fever. It contains all the protein nutrient matter of the milk in solution.

In cow's milk, for an infant, the proportion of casein (curd) compared to that in human milk is considerably too large, whilst the quantity of contained fat is too small, there being also a serious deficiency of albumen and milk sugar. In order to make cow's milk really digestible by an infant it should be "humanised," or identified with the natural milk of the mother in constitution, colour, taste, density, and chemical reaction. In fact it should become of the precise composition of breastmilk as to the soluble quality of the curd, or cheesy part, also as to the amount of fat, and of milk sugar, and as to proper alkalinity. If, further, the milk is raised to boiling point, all bacteria are destroyed, and practically throughout the next twenty-four hours the milk remains sterilized. Nevertheless, by thus *boiling* the milk its living cells are killed, whilst its albumen is coagulated.

Junket, made by coagulating new milk with rennet (from the fourth stomach of the cow), or lemon juice, so that curds and whey are formed separately, is a wholesome and beneficial form of milk for an invalid. The original *giuncata* was in Italy a cream brought to market on mats of fresh rushes; and in the ancient French tongue *joncande* meant a sweetmeat composed of curds and whey sweetened and flavoured.

In the North, a calf's stomach, from which its gastric juice or rennet is extracted, goes by the name of "Earing-bag-skin." The Junket is called in the Isle of Man "Pinjane." "How Fairy Mab the junkets eat," wrote Milton. Punch terms soft sawder "the milk of human kindness churned into butter."

“ Little Miss Muffet
Sat on a tuffet
Eating curds and whey ;
There came a large spider
Which sat down beside her,
And frightened Miss Muffet away.”

Buttermilk forms a considerable share of the common beverage of the poor in populous cities such as Manchester, and to its use may be mainly attributed their good health and freedom from putrid disorders.

“Perhaps,” says Dr. Ferris, “in the treatment of all inflammatory diseases without exception, either buttermilk or whey would prove a most excellent remedy.” “I have seen,” he adds, “patients sink and die through mere inanition when the probable means of restoring them to health were readier at hand than the medicines which were prescribed to be given them.” Aged persons may drink freely of buttermilk with benefit, which will tend to prolong life by preventing incrustations on the heart valves, and ossification of the arteries. It is one of the best remedies that can be employed in acute (and even chronic) dysentery. Also during diabetes buttermilk proves a valuable dietetic support, and subsidises the function of the liver which is now unable to furnish lactic acid.

A wineglassful of this, or of skimmed milk, taken on going to bed is a capital remedy against night sweating. In *A Thousand Notable Things* (1815), we find it stated “Whosoever uses to drink buttermilk they will become laxative although they be very much bound, and cannot go to stool.” Pliny described the mode of preparing whey, commending its uses in epilepsy, melancholy, paralysis, and diseases of the skin. For making modern whey, *petit lait*, take of fresh cow's milk two hundred parts, and of rennet wine one part, mix and warm to

95°-104° Fahrenheit; and after coagulation strain off from the curd. Likewise for "tamarind whey," a gentle and refreshing laxative, coagulate a hundred parts of milk with four parts of tamarinds, and strain; the whey will then have a brownish colour. This was taken in Sydenham's day as a favourite drink to promote perspiration, and allay a feverish cold. When the years are advanced, and when "the grinders cease because they are few," milk (especially if associated with good wine) is a most salutary food. It involves but a small amount of waste and of digestive power, whilst the fœcal residue is inconsiderable. "*Lacte mero veteres usi memorantur, et herbis.*"

In simple ulcer of the stomach milk is the one remedial means to be relied on; also for cancer of the stomach or bowels it is infinitely the best palliative. In not a few cases albuminuria has been cured by the exclusive adoption of a milk diet. The salts contained in whey (or milk-serum) are chiefly potassic chloride and free potash, with traces of iron, lime, and magnesia. Whey furnishes seven per cent. of solids, and its watery solution four and a half per cent. of milk sugar.

Condensed milk is sometimes given to children who cannot digest cow's milk in a diluted form; but here the proportion of fat is still less than in that of the cow, whilst in the human breast-milk there is more butter and more sugar than in cow's milk. Moreover, to the condensed milk objectionable cane sugar has been frequently added.

"It is pretty well known that one half of mankind," said Dr. Ferris, "die under eight years of age, and chiefly among the children of those mothers who neglect the first duty of suckling them." Dr. Hunter believed

that a very considerable proportion of those unhappy women who are afflicted with cancer of the breast are such as refuse to nurse their own children.

Milk is liable to acquire various flavours in consequence of the cow feeding on certain plants. It becomes very distasteful through her eating wild garlic, or horsemint, or treacle mustard, or lovage, or turnips. Observation has shown that the milk of cows which have partaken of spurge is apt to induce a dangerous vomiting and diarrhœa in those who use it; and that the hedge hyssop when eaten by cows imparts its purgative quality to their milk.

The richer consistence and inferior laxative quality of goat's milk (compared to that which the ass affords), has been attributed to the goat feeding on the leaves and green boughs of trees, and on balsamic herbs, each containing a quantity of resin; "and hence," says Huller, "it has been esteemed useful in the cure of the cœliac passion (chronic chylous diarrhœa)." An acquaintance with these facts led some of the ancients to conclude that milk may be rendered an excellent remedy against certain diseases by feeding cows purposely on those herbs which are esteemed specific in the cure of such diseases. And this shrewd suggestion is well worth further consideration, and perhaps to be put into practice by competent advisers now-a-days. Roesner tells about the beneficial use in dropsy, of milk taken from cows which eat of the pellitory of the wall; in rickets, of those which are fed with madder; in piles, of those which browse upon the lesser nettle; and in costiveness, of those to which are given lettuce and purslane. Hoffmann says likewise he has ordered with success different kinds of plants to be mixed with the common fodder of cows according to the medical

intention which he sought to answer by the employment of their milk.

In the human subject, after the internal use of milk-wort, a woman's milk becomes bitter; and foetid from her partaking of treacle mustard, whilst the odour of thyme, or of saffron is communicated to her milk when she has eaten of either herb. The saffron will impart a yellow colour to her milk, madder a red colour, and indigo a bluish cast. It is likewise a well authenticated fact that purgative medicines when taken by a woman often produce their specific effect on the infant whom she nurses at the breast; and when these medicines have been of a drastic sort the effects which ensue are apt to be violent and dangerous. Furthermore, a woman by drinking strong spirits has been known to induce convulsions in her sucking child; whilst it is beyond doubt that infants will become intoxicated through their nurse having drunk wine or spirituous liquors. Moreover, instances have been recorded where a nurse "by eating of cabbage or other flatulent vegetables, always gave the child under nurture the windy gripes." Sudden passion, too, in a nurse will arouse such a change in her milk as to extremely disorder her suckling, causing sometimes green stools and colicky pains, at other times constipation, flatulency and convulsions, nay, even epilepsy and death. Thus it is that from the same medium infants may derive their very constitution for the future, as well as their mental disposition deduced from the nurse.

The most ferocious animals will become gentle if nurtured on human milk by reason of its benevolent quality; and men, on the contrary, if nourished by the milk of brute beasts, will acquire their fierceness and ferocity, as did Romulus and Remus of old.

"Geraldus Cambrensis," writes Burton (*Anatomy of Melancholy*), "proves that there is the same quality in the mother's milk as *in semine paterno*. A sow pig by chance sucked a beach (bitch), which when she was grown would miraculously hunt all kind of deer, and that as well, or rather better, than any ordinary hound." His conclusion was that men and beasts participate of the nature and conditions of her by whose milk they are fed. Certainly, medicines taken by wet nurses will through the milk produce subordinately their toxic effects on the infant being suckled, so that in this way milk thoughtfully and carefully medicated may be brought to bear on an ailing babe with the happiest results.

The use of whey and of milk for the cure of dysentery is of very ancient date; it was well understood by Hippocrates, who particularly recommended this reparative agent. Boglivi asserted that he had very often cured dysenteric affections with the whey of milk alone, and he remarked that many kept this remedy against dysentery as a very great secret. Sir George Baker, in his learned treatise on the dysentery which prevailed in London 1762, says that the different preparations of milk were found to be the most suitable articles of any diet, and that the whey of milk proved more serviceable than any composition of medicines. "*Proderat (ut loquar cum Sydenhamo) hoc lenissimo liquore morbum tanquam diluvio submergere.*"

Injections of whey or of milk into the lower bowel stand recommended on high authority as proper for overcoming feverish constipation, as well as for relieving the gripes to which infants are so frequently liable. Incidentally we may quote what Culpeper has told with remarkable suggestiveness about curing dysentery or "the bloody flux" with certain beneficent herbs:

“Not long since there was a raging disease called the bloody flux. The Colledge of Physicians, not knowing what to make of it, called it the ‘plague in the guts,’ for their wits were at a *ne plus ultra* about it. My son was taken with the same disease, and the excoriation of his bowels was exceeding great. Myself being in the country was sent for up. The only thing I gave him was mallows bruysed and boyled, both in his milk and drink ; in two days (the blessing of God being upon it) it cured him, and I have to show my thankfulness to God in communicating it to his creatures.”

A proper use of milk has always been considered one of the best means for preventing and curing the gout. Animal food, in this affection, disposes to a plethoric and inflammatory state, whilst vegetable aliment alone does not afford sufficient sustenance ; therefore, a diet of a middle nature should now be chosea, and milk is precisely what is needed, as containing both animal and vegetable matter. Many instances have been known of gouty persons keeping free from an attack for years by making milk their chief article of food. But more especially have numerous cures of gout been effected by a long continued use of the sugar of milk, even to an extent bordering almost on the marvellous. This sweet, saccharine substance is to be obtained from new milk by evaporation. “*Lac evaporando ad pulverem siccum, dein nunc pulvrem in aquâ frigidâ solvendo, et filtrando, denique liquorem filtratum itidem evaporando ad siccitatem.*” Its discovery has been attributed to Ludovicus Testi, formerly an eminent physician of Venice. When taken as a medicine, it produces evidently laxative and diuretic effects. It can be obtained in a crystallized form, being entirely soluble in water ; or it may be administered in a powdered state, the general dose

being from half a drachm (thirty grains) to two drachms (a hundred and twenty grains) twice a day, in a spoonful or two of water, or of milk.

If the cures which have been related are indeed faithful histories of true cases, this sugar of milk must be deemed a remedy well-nigh invaluable. Anyhow, it is a safe medicine, the operation of which is unattended by any violent or dangerous effects, even if it be long continued. Aloysius A Fabra, doctor of physic and philosophy at Ferrara, particularized to Ludovicus Testi the case of a painter at Bologna, one John Denzies, thirty-six years old, who was afflicted for ten years, his joints becoming at length full of knobs. His feet at last grew so contracted and inflexible that he lost all power of motion, and had to keep his bed continually. He suffered likewise an exacerbation of fever every night. After bleeding and many remedies had been tried in vain, the doctor recommended him to take the sugar of milk. He began this on June 10th, observing at the same time a proper and regular diet. By pursuing such means he found so much relief that his feet and hands were rendered pliable again, and presently he could walk briskly about, and follow his trade as he had done before he was ill. What was still more wonderful, about the middle of July there began to run from a chalk stone, and a knob in the left hand, a liquid chalky matter, as if it were the whitest pus, with something like corrupted blood, in which were little crumbs, very small and few in number, like unto the hardness of lime; this discharge continued for twenty-four days. The rest of the chalk stones and knobs went away as well from the right as from the left hand. The histories of other like cures were also reported to Ludovicus Testi. A certain Rev. Father F.

Bernard de Montefalchio, in a Monastery of the Holy Mount, had been confined to his bed for ten years by the gout, but after taking the sugar of milk for three months, he received so much benefit that he recovered the use of his limbs ; and all the chalk stones with which his hands were laden, with one on the right elbow as big as an egg, were dissolved in the same manner as A Fabra related of the painter.

There is a large amount of this sugar (lactose) in the milk of mares, making it specially prone to alcoholic fermentation. The milk of sheep is particularly rich in albumen. The first milk of a cow after calving is "beestings," which, "unless it be delaid with some water," said Pliny, "will soon turne to be as hard as punick stone." Asses' milk acts generally as a mild aperient ; this and human milk are the richest in sugar. The maxim of the Salernitan school ran as follows :—

"Lac ethicis sanum, caprinum post camelinum,
Ac nutritivum plus omnibus est asininum:
Plus nutritivum vaccinum sit, lac sed ovium
Si febriat caput, et doleat, non est bene sanum."

"Goats' Milk, and Camels', will the morals cure:
Whilst Asses' Milk for strength we chiefly choose:
Cows' Milk for nourishment: lest we endure
Headache, and fever, we Sheep's Milk refuse."

The technical term for water in dairymdom is "Simpson."

At Naples there are no milk carts, but the cow is brought to the door, and milked on the spot to the quantity required. "*Passa la vacca*" is said on a blank morning, "Pass on! Can't afford milk to-day;" which has become a homely proverb.

About Lancashire a rhyme runs :

"Little lad, little lad! where wast thou born?
Far off in Lancashire under a thorn,
Where they sup sour milk in a ram's horn."

And of Leicestershire it is said :

“ Higham on the hill,
Stoke in the vale,
Wykin for buttermilk,
Hinckley for ale.”

Authorities tell that the elephant's milk is the richest known. Professor Doremus analysed some from a dam which had suckled her calf for a year; it was like cream in composition, though not in consistency, being superior to the milk of a goat, and fully equal to cow's milk.

Lactic acid makes a useful soporific in insanity, especially in its excitable forms. It may then be best given as an injection into the lower bowel, having been first neutralised with carbonate of soda. From twenty-five to a hundred grains, or drops, are to be mixed in water (with the same measured quantity of carbonate of soda) only sufficient to fill a small enema syringe. Lactic acid, if applied topically, will destroy the membranous growths which obstruct the throat in diphtheria; and if given internally, combined with lime and iron, it is a most useful tonic, especially in diabetes. If used as a spray to the throat, one part is to be mixed with eight or ten of water. It is got as a syrupy inodorous liquid, very sour, and of a pale wine colour.

A practice prevails of late in some dairies, in order to preserve milk during hot weather, of adding some salicylic acid to it. But this should be condemned because the salicylic acid materially impedes digestion, and is harmful. Moreover, to drink milk which has passed through various hands is risky: there is no article of food which more readily absorbs dangerous microcosms, or germs. It should therefore be sterilized

and bottled, so as to be opened as required, when it will be found as fresh and as pure as when it left the cow. Sand filtration of milk on its arrival by road or rail will do much to free milk from dirt, and will reduce the number of bacteria to one third, but without sterilizing it. Milk is rendered safe from tuberculous matters by being boiled, if it should happen to have been derived from a tuberculous cow, in which case it is certain the milk will contain more germs of the disease than the blood or the flesh; indeed, so highly receptive of such noxious elements is milk, that if a closely fastened vessel thereof is carried through a fever ward of a hospital, invariably the bacillus of the particular fever under treatment in the ward will be discoverable in the milk.

About South America is to be found the Cow tree, by making incisions in the trunk of which a good milk is freely obtained, rich, of a balmy smell, and free from all acidity. The tree is milked every morning like an ordinary cow. Then the negroes and natives are to be seen hastening from all quarters, whilst carrying large bowls to receive the milk, which soon grows yellow and thick on its surface, an amber cream rising to the top, and a substance being formed resembling cheese, and called so by the natives.

Perfect sterilization of milk has to be obtained by submitting it to the action of continuous steaming for two hours at a temperature of 248° Fahrenheit, but this produces changes which injure it as food; therefore recourse is had to Pasteurization, in which the milk is long exposed to the comparatively low temperature of 140° Fahrenheit; though the spores are not destroyed, yet fermentation is temporarily arrested, and the bacteria most likely to be present are extinguished. New milk is

thus prepared and supplied by the large Dairy Companies which are now carried on.

One pint of new milk is said to equal a mutton chop nutritively. For patients who cannot swallow, or are prevented by disease from digesting food in the stomach and upper intestines, nourishing suppositories of milk, partly predigested, may be had from the leading druggists; and will sustain as food, so as to prolong life, by being introduced into the lower bowel, and remaining there for slow absorption.

Koumiss, a fermented beverage made from mare's milk in Tartary, and imitated here for weakly persons and invalids, has been already described. (See "Horse.")

Humanized cow's milk, which has been scientifically brought to chemical identity with the healthy mother's breast milk, can be regularly and reliably had from the principal dairies. It is the best substitute hitherto discovered, and may well supersede that of the wet nurse. More sugar (not cane), and more butter have to be introduced in this process, whilst the proportion of casein, or cheesy, clotting elements, has to be lessened.

In whey, the curd and much of the fat have been abstracted. If the curd be broken up and pressed, and added again, the nutritive properties of the whey are increased. It contains less phosphates and more chlorides than whole milk, being therefore valuable for persons whose blood is of poor quality. The whey is diuretic, good in cases of intestinal catarrh, chronic consumption, and chronic Bright's disease of the kidneys. Establishments for cure by its means exist in Germany at Ems, Ischl, and other places; but such cure should not be continued too long at a time.

MISCELLANEOUS ANIMAL SIMPLES.

CERTAIN minor curative properties have been attributed to several Animals, or are known to be attached thereto, which can be briefly expressed without assigning to each of these Animals a separate section. "Peace be with the soul," says Shaftesbury, of that charitable and ingenious author who, for the common benefit of his fellow creatures, first introduced the mode of miscellaneous writing.

THE BEAR (*Ursus*), a large, heavy animal, chiefly inhabiting forests, is not much given to eating the flesh of other creatures, being omnivorous, with teeth fitted to bruise grain. It regularly consumes vegetables, and robs bees of their honey. The liver of the bear is declared by travellers to be poisonous, no other part of a quadruped having the same evil reputation. A wounded bear will apply snow with its paws to the wound, as if conscious of the powers of cold to arrest bleeding.

In the folk-lore of Lancashire it is held that whooping cough will never be taken by any child who has ridden on a bear. When bear-baiting was in fashion, a great part of the owner's profits arose from the money given by parents whose children were brought for this reason to have a ride.

"The grease of the bear," said Dr. Salmon, in the seventeenth century, "cures baldness, but often used makes the hair white. It is excellent against gout, swellings, and contracted sinews. Bear's hair burnt to ashes and mixt with the grease is admirable against the falling off of the human hair." "The testicles are famous against the falling sickness, concerning which affliction," taught St. Augustine, "all children begotten

at an unclean season, on the eve of the Lord's-day, or any holy day, are born epileptic, leprous, or possessed."

The Brown Bear is a devourer of ants. In the autumn it becomes very fat, what with sweets from bees' nests, and other such matters; then presently it grows lethargic, and remains so during all the winter. Its stomach has contracted, with the intestines, which are empty, into a small space, whilst a mechanical obstruction called the "tappen" blocks up the passage, and remains in this position until the spring. It is composed almost entirely of pine leaves and substances scratched out of ants' nests by the bear.

THE BLACKBIRD (*Merula nigretta*), is so familiar and well-known as not to need any description. Medicinally its flesh is said to increase melancholy if eaten at all freely. Dr. Salmon pronounced it (1696), as "not of a very pleasant taste and smell, but with a certain kind of acrimony." This bird was prescribed much by the Salernitan school of physicians (1608). The head, together with a hare's feet, was formerly worn as an amulet to make the person courageous.

The "amulet," derived from Arabic *hamalet*, a pendant, was anything hung round the neck, or attached to some other part of the body, and worn as a supposed protection against disease, witchcraft, accidents, or other evils. It was sometimes called a periapt.

In Yorkshire the blackbird is known as the Uzzle, a corruption probably of owzel or woosel; its ancient name was Merle, because of its solitary habits. As a great devourer of snails it may well possess medicinal flesh good for consumptive persons.

In the play of *Twelfth Night* (Shakespeare), Sir Toby Belch, when saying "Come on, there's sixpence for you,

let's have a song," is supposed to have made reference to the old nursery rhyme :

"Sing a song of sixpence,
A bag full of rye :
Four and twenty blackbirds
Baked in a pie.
When the pie was opened
The birds began to sing :
Was not that a dainty dish
To set before the king?"

Incipe cum titulo "Denarius," incipe cantum ;
Huic tumido loculo massa secalis inest :
Sex quater in patinâ merularum corpora, crustum
Queis superimpositum pista farina fuit ;
Procubuere simul : sed quando adaperta farina est
Concordes merulis insonuere modi :—
Mirum opus harmoniæ ! nonne inter fercula posset
Hæc vel regificæ lanx placuisse gulæ ?

"Beaumont and Fletcher (1600)," as Halliwell relates, "quote the first line of this nursery song." In the *Italian Banquet* (1589) is a "receipt to make pies so that the birds may be alive in them, and flie out when it is cut up." But this was a mere device, as live birds were introduced after the pie had been baked. Some persons think the rhymed blackbirds are intended to signify the twenty-four hours of the clock, or even the letters of the alphabet. The Blackbird is carnivorous, and will on occasion devour a mouse.

THE CAUL, or *Amnion*, bears in some districts a popular name—"Silly hood," and came originally from the East. There are several Arabic words for the same article. It is the membrane in which a child lies invested during foetal life, and which by chance still covers his head and face loosely when born. The Caul is always regarded as ominous of good fortune, and is preserved with great care, being esteemed valuable to anyone who may become possessed of it because

enabling such a person to avoid serious dangers of drowning, fire, and shipwreck. Moreover, it has been supposed to make advocates eloquent of speech. In Durham it is known as the "Silly how"; and unless it be taken care of the child will grow up a wanderer. The Germans carefully treasure a Caul in which the head of a child is enveloped when born, and sometimes they hang it round the babe's neck as an amulet.

Among English seafaring persons the membrane is in great request, and may often be seen advertised for disposal at a considerable price. "*Il est né coiffé*," is a French proverb applied to a lucky person. Icelanders think that a child's guardian spirit resides in the Caul, and the midwives carefully bury it under the threshold to retain this good influence. "David Copperfield" (Dickens) was born with a Caul, "which was advertised in the newspapers at the low price of fifteen guineas. Only one bidding was made, and that by an attorney connected with the bill-broking business, who offered two pounds in cash and the balance in sherry." By the will of Sir John Offley, Knight, in 1658, was devised to his, "Loving daughter, the Lady Elizabeth Jenny, so long as she shall live, one jewell done all in gold, enamelled, wherein there is a caul that covered my face and shoulders when I first came into the world."

THE CLAM is a kind of Cockle found on the West coasts of Scotland and Ireland, also in Devonshire, Cornwall, and some parts of Wales. This bivalve is not used in England as much as its good qualities warrant; but it figures largely in American cooking, being generally stewed. Its bouillon, or juice, is a murky, opalescent liquid of saline taste, but possessing an agreeable, delicate flavour calling much to mind that of lobster.

Analysis shows that this juice contains a somewhat higher proportion of proteids (or albuminates), which are soluble, and not spoiled by heat, than milk does. Its supplied mineral matters are useful phosphates, and common salt. "Clam juice," therefore, which is an article of American commerce, and supplied in England, is of distinct nourishing efficacy for weakly and scrofulous patients. Soyer said that Clams are superior in flavour to the oyster, and when eaten raw should be of about the same size; if larger, they should be made into soup, such as may be likewise concocted from our Cockles and Whelks. Its flavour will be improved, and its nutritive qualities increased by adding Celery.

In order to make American Clam Broth (so admirable for strumous invalids and consumptive persons), "Take one part of Clam juice, one part of fresh milk, a little fresh butter, and ground white pepper (never use black pepper). Heat quickly, but it must not boil, and serve hot with toasted dice of bread. An enamelled saucepan should be used, and the broth sent up in a breakfast cup or small bowl. The Clam juice can be got from the Messrs. Fuller, in London. It must be had in glass bottles, not in metal tins. There is also a huge Giant Clam, formerly rare, but now quite familiar, which has to be cut away from the rock by hatchets, and the contents of which are "equivalent (says Wood) to a large round of beef, very well flavoured, but rather tough and stringy."

THE CROW (*Corvus, Corone*), well known by appearance as a common frequenter of English ploughed land, is scarcely a favourite bird, being coarse in its habits and unsavoury in its general character. Moreover, here, and in other countries, it is considered a bird of

ill omen. Virgil said, in Roman days, "*Sæpe sinistra cavâ prædixit ab ilice corvus*"; "Often croaked the Crow evil forebodings from a hollow oak." "She is a creature of long life, and diviners tell that she taketh heed of spyings (or awaitings), and teacheth and showeth ways, and warneth what shall fall." Crows are said to owe their black dress to Æsculapius, its original colour having been white. Coronus, the mother of Æsculapius, having quarrelled with Apollo, the latter killed Coronus in his anger, and afterwards growing sorry changed the Crow's plumage into black in mournful remembrance of the slaughter.

Barcellus conjectures that Crows often hover about sick men's chambers because they smell a corpse, "*Morientium fœditatem sentiunt, et ideo super tectum infirmorum crocitant*;" or "that God permits the devil to appear in the form of Crows so as to scare those that live wickedly."

Robert Lovell wrote (1661): "The crow's braine with vervaine water helps the epilepsy." The bird is a gross flesh feeder, preferring carrion, and is very pugnacious. Its note, though hard and deep, is somewhat gleeful and exulting. Bailey attributes this glee to its knowing that its life will not be sought after for the sake of the flesh:—

" The great black Crow
Who all his life says Ho! Ho! Ho!
For no one will eat him he well doth know!"

To "pick a crow" with anyone refers to the fact that Greek and Roman children had birds for their amusement, and when quarrelling would pick or pull the feathers out of each other's pets. The Crow has been observed on the sea coast gathering shell fish, and carrying them to a height, then dropping them down

on the rocks to shatter the shells, and presently descending to feed on the fish. It is said the Crow will live three hundred years.

Dr. Salmon, in the *New London Dispensatory*, tells that, "A drachm of the ashes of a crow given two or three days together cures the epilepsie and the gout."

Corvi leguminales frugilegi, or Rooks, are close allies of the Crows. It is commonly said by rustics that when a Rookery is near a house, in the case of a death therein, this bird will not leave the neighbourhood until the funeral has taken place. Young rooks in the north are "Perkers."

The inside of the Rook's mouth, as distinguished from that of a Crow, is of a dark flesh colour turning to purplish. The Crow has a stouter bill, with a curious habit of keeping it to the ground. There is a wide-spread tradition throughout England that King Arthur did not die, but was transformed into a Cornish Chough, of which the talons and beak, "all red with blood," are said to mark the violent end of this famous ruler. The Chough is found only on a rocky coast. Gilbert White tells charmingly of the rooks returning in the evening by thousands to their rendezvous whilst cawing and chiding loudly with a pleasing murmur not unlike the cry of a pack of hounds in hollow echoing woods, or the rushing of the wind in tall trees. A little girl used to remark as she was going to bed during such an occurrence that, "the rooks were saying their prayers."

In Yorkshire and Lancashire boys on seeing an ill-omened Crow proceed to exorcise the unwelcome bird thus:—

"Crow, crow, get out of my sight!
Or else I'll eat thy liver and lights."

Gilbert White noticed that, "Crows (common rooks), since railways have been introduced, assemble along the line to pick up the pieces of grease which fall from the carriage wheels." In Hampshire grease from Church bells is a rustic cure for "Shingles."

THE CUCKOO (*Cuculus canorus*, *Zeke*), is a summer migrant to this country. A well known adage tells that: "In April come it will; in May it sings all day; in June it changes its tune; in July away 'twill fly." It has been called the "Welsh Ambassador." When a German peasant first hears the Cuckoo he rolls himself three or four times on the grass, and thus secures freedom for the rest of the year from pains in the back.

The flesh is good (*London Pharmacopœia*, 1696), and eaten by the Italians. "Its ashes are of use against the stone, epilepsy, and agues, given in the fit."

In Shropshire the labourers, as soon as they first hear the Cuckoo, will leave off work and devote the rest of the day to merry making, which they term the "Cuckoo ale." The bird's feathers come off in the winter, leaving it scabby. Long-haired caterpillars, such as the Woolly bear, larva of the Tiger moth, form a chief part of its food.

About some parts of the United Kingdom the Cuckoo, or Cuckow, is called the "Gowk"; and it is the Greek "*Κοκκυς*." The true song of this bird is confined to the male sex, and to the season of love. An assertion has been made, and is maintained, that the egg deposited by a Cuckoo in another bird's nest will resemble in colour the other eggs normally laid there by the owner of the nest. It would be Quixotic to suppose that by some mysterious method the colour of the egg-shell can become affected by the action of external objects on the perceptive faculties of the mother. More probably each Cuckoo

inherits, year after year, a tendency to deposit her egg in the nest of some particular bird.

"Cuckoo spittle," popularly so called, is a small foam found deposited in the early summer on leaves of the lavender, rosemary, fly catch, white willow, etc., in flakes, each containing a diminutive insect of bright green colour. The spume proceeds from this insect (*Cicada spumaria*) like that of the Cochineal (which see), as exuded for its protection and warmth. Similar medicinal properties have become attributed to each of these Insects.

THE DUCK is in Latin *Anas*. It was customary in old physic for helping the cholick to lay against the belly a live duck with its feathers pulled off. This bird's liver was said to stop fluxes caused by the vices of the liver. "Its grease is a great anodyne, and of good service against distempers of the nerves. Anoynted, it helps the pleurisie and gout." In Warwickshire water is called "Duck oil." "Put a little more elbow grease into it and not so much 'duck oil.'" The Mallard is the common Wild duck from which our domesticated ducks are derived. As with the human species, "the female bird invariably makes the most noise." Again, "she is sometimes found to assume the male plumage." The Rouen and Aylesbury breeds of ducks are those chiefly esteemed from an economical point of view.

GLOW-WORMS (the *Lampyris*, *Noctiluca*) "are generated of dew, and the powder of them is anodyne," said Dr. Salmon three centuries ago. A tincture is made (H.) to-day, especially of the Italian glow-worm, for present medicinal uses. This is prepared with a hundred of the insects to nine drams of rectified alcohol. For

the French tincture double the number of their insects is used. Provers have experienced severe giddiness, loss of appetite, thirst (without wishing to drink), excessive sexual excitement, and symptoms of rabies. In a diluted form, and in small doses with water, the tincture acts most beneficially for relieving these several morbid conditions when occurring as disease. The Glow-worm feeds on snails and slugs, setting an example of kitchen cleanliness by first using the brush with which nature has provided it to carefully rub off their slime.

The larvæ of the Glow-worm attack small snails and slugs; but the insect when perfect becomes entirely herbivorous, eating only the tender leaves of plants.

THE GNAT (*Culex*) arises, said Dr. Salmon, out of putrefaction, and is useless in physic. Nevertheless, in a Huntingdonshire village where several cases of small-pox were lying sick, an old cottager declared that the best way to prevent the disease from spreading was to open the windows of the sick rooms at sunset in order to admit the gnats, who would load themselves with the infection, and then fly forth and die. "Smoking, whitewash, and tar-water be fools to them gnats," said he. In the Eastern counties when children chase the gnats they call:—

"Gnat! gnat! fly into my hat,
And I'll give you a slice of bacon."

In that delightful book, *Alice through the Looking Glass*, she talks to, "A very large gnat, about the size of a chicken!"

THE GUINEA-PIG (*Cavia cobaya*), has been commended as affording light nourishing food for an invalid; its

flesh is delicate and sustaining. The animal is not of the rat kind as often supposed, nor is it of a porcine nature, but betwixt a rabbit and a mouse, an inhabitant of Brazil, and domesticated in Europe. It is perpetually restless when awake, running to and fro, grunting or eating. It feeds on vegetables and drinks water, bringing forth young several times in a year, and being economical for the market, "where," says *L'Union Medicale*, "it ought to find a ready reception." In *Silas Marner*, Mrs. Crackenthorp is described as "very like a Guinea-pig that twitches its nose, and soliloquises in all company indiscriminately."

THE JAY is *Garrulus glandarius*. This fairly well-known bird of buff and blue plumage, with white and black parts, is generally found where there are oak trees about, and thus it gets one of its names from "*glandes*," "Acorns," of which it is a great lover. It can imitate anything except the human voice. In France it is eaten by poor country people; but Muffet saith it is "of bad nourishment, causing the epilepsie." The flesh is said to heal excoriation of the bowels.

"What, is the Jay more precious than the Lark,
Because his feathers are more beautiful?"

—(Petruccio to Katharina) *Taming of the Shrew*.

This bird is especially fond of eggs, with a particular liking for those of the pheasant and partridge. The beauty of the jay's wing is proverbial, being due to vivid tints of blue, turquoise, and cobalt, heightened by bars of jet black.

THE LIMPET (*Dentalium*), is a common little conical shell-fish on our coasts, adhering with much tenacity to the surface of a rock, and making a vacuum within

its shell so as to soften the face of the stone on which it firmly fits. This animal was not much employed in medicine of old, but only for the "citrine ointment," which was made of citrons, deer's suet, dragon wort, white coral, crystal shells of the limpet, tragacanth, camphor, borax, and hog's lard. It was used against freckles, scabs, pimples and morpew. The shells are of the same nature as other shells. The Harlyn pie of St. Merryn, Cornwall, has long been famous. It is composed of limpets, raisins, and various herbs, an excellent dish, being rendered annually for centuries by the Edwards family on the eve of St. Constantine's Day, to the proprietors of Harlyn.

THE LIZARD (*Lacerta agilis*), "with such prodigious eyes in such small heads," is a pretty, harmless little creature, which snaps off its tail if touched, and disappears among the long grass on a warm, sunny, summer day. The tail grows again promptly. An "Oyl of Lizards" was invented of old by one Brassavolus, for the cure of red faces and the discolouring of scars.

The *Lacerta aquatica*, or Water lizard of the older writers, is our Newt, or Salamander, to which the most astounding powers were formerly attributed. Pliny asserted its capability not only of resisting fire, but also of extinguishing flame.

The Romans had a proverb that he who was bitten by a Salamander needed as many physicians as the reptile bore spots; and another, "If a Salamander bites you, put on your shroud." But modern investigation has entirely dispelled these fears. "If provoked," wrote Dr. Salmon, "they shut the mouth and stand upon their hinder legs till their body be all white or pale, by which is shewn their evil nature. Salt will kill them presently."

The urine of the Lizard is highly irritating in some countries, and will blister any part it touches. In Guatemala there is a belief that Lizards, if eaten alive, will cure cancer.

The Skink, a kind of Lizard found in Egypt, and brought to Europe by way of Marseilles, has been long famous as a medicine among Eastern nations, and at one time held a place in the British Pharmacopœias. It is a small animal about six inches long, of a pale, yellowish-gray colour, being in its manners perfectly harmless, and so active in its motions that it hides itself in the sand in an instant. Its flesh was chiefly given as a sexual restorative, and as remedial in skin diseases such as elephantiasis and leprosy. In consequence of its reputed powers it entered into the composition of famous old medicines for imparting genital vigour, the Theriaca Andromachi, and the Confectio Damocratis. It was employed to re-animate the generative powers when exhausted by the frosts of age, or by an excess of debauchery. Probably the animal in its preparations does actually exercise a measure of efficacy in these respects by its phosphates and other constituents. "The flesh powdered and drunk to a drachm," said Dr. Salmon (1696), "causeth lust." Pliny belauded it as a specific against poisoned wounds; and Dioscorides thought it superlative for resuscitating spent sexual energies. Dr. Gosse, of Geneva, "*Assure que ces animaux sont des excitants énergiques, et des sudorifiques puissants qu'on pourrait utiliser très efficacement dans diverses maladies.*"

The Land Newt (*Effet*) or Land Salamander (*Lacerta maculata*), is supplied with a milky secretion given off from its sides, which are studded with tubercles. This humour when injected under the skin of birds brings on fatal convulsions; likewise with animals, though they

presently recover. It differs from that of the toad by not affecting the heart. A medicinal preparation of Salamandrine would probably be of benefit against epilepsy and similar convulsive disorders.

In Ireland the Newt is known as "Mankeeper," and is regarded with apprehension by the ignorant from the erroneous notion that it will jump down the throat of any person whom it finds asleep. Water newts eat aquatic insects and tadpoles.

THE MUSSEL (*Mytilus edulis*) is found among the roots of seaweeds on low-water rocks, or in numbers at a mud-bank near the mouth of a river. It attaches itself anywhere by means of its byssus or beard, a sort of silky hair which the animal secretes for this purpose. When anchored it separates its bivalve shell a little way and, putting forth the frilled edges of its mantle with their openings for the inward and outward currents, gets oxygen and food by the one, expelling carbonic acid gas and waste by the other. Mussels are used extensively as food, being more highly appreciated in France than in England; but the mollusc is apt to become more or less poisonous at certain times, between May and August, "*la periode des mois sans 'r,'*" partly from the presence of spawn in their gills during this season, and partly because of the noxious food then consumed by the creatures. Brieger isolated from them a toxic principle at these times which he has named "Mytilotoxin," and which belongs to the group of ptomaines or corpse products, being developed in the liver of the mollusc. In the case of bad effects produced by eating injurious mussels, it will be proper to give small doses of ether repeatedly; and the medicine known as pilocarpine (got from a Brazilian shrub) is found to

be an antidote. Before being cooked Mussels had better be put into salt and water for a while without food, so as to scour themselves. The symptoms of mussel poisoning are qualms in the stomach, violent vomiting and purging, cold sweats, prostration of strength, failing pulse, cramps, and death. Dr. O'Bruun has reported that after having eaten fresh-boiled mussels at supper, he afterwards began to experience during the night itching of the neck and wrists, heartburn, a sense of being narcotised as if from chloroform or nitrous oxide, noises in the ears, sparks before the eyes, some double vision, and an outbreak of nettle rash all over the body. He presently recovered, but some muscular twitchings in the legs continued for several days. In Leith (1827) nearly thirty persons were poisoned by eating mussels taken from a particular spot; but no mineral poison such as copper was found in the molluscs, though such had been discovered by Dr. Bouchardat on a previous similar occasion.

Other fish sometimes prove likewise injurious: crabs, mackerel, conger-eels, periwinkles, and oysters. Three boys at Falmouth fell one after another on the shore in a fit, and shortly became insensible, dying within an hour, whilst some molluscous substance, very similar to that of mussel, was afterwards found in their intestines.

Mytilotoxin, if given to animals, causes convulsions, and induces death, by an accumulation of carbonic acid in the blood, with other less active poisons. But Salkowski has shown that by distillation with carbonate of soda this toxin can be made harmless, a fact of important practical applicability which has not been lost sight of by consumers.

Quoth Prospero to Ferdinand in *The Tempest*:—

“Sea water shalt thou drink; thy food shall be
The fresh brook mussels.”

Dr. Salmon said (17th century): "Mussels preserved in Goodron's pickle (made of sea water, wine-vinegar, bay leaves, mint, pepper, ginger, and cinnamon) are as wholesome and more pleasant than oysters. Their broth is opening and purgeth the veins, and therefore good for such as have the dropsie, jaundice and gout; the shells have the vertues of other shells, being prepared in the same manner." In France, to make "*Moule à la mariniere*" (admirable for those who have "the taste of their mouths"!), the molluscs, after being thoroughly washed and deprived of their beards, are boiled with butter, chopped onion, parsley, red pepper, bay leaves, and vinegar, in their strained liquor, and then eaten from the shells, taking up some of the gravy into these. At Bideford the long bridge of twenty-four arches is entirely supported from being driven away by the tide, (which would wash away mortar) by the strong threads which mussels, brought constantly in boats by the Corporation, fix to the stonework. These congregated threads are their fringe-like *byssus*.

With certain persons of particular constitution mussels will disagree at all times, causing asthma, bronchial irritation, diarrhœa, and an outbreak on the skin; and with the same persons when morbidly affected in either of such ways from spontaneous causes, medicinal preparations of the mussel, if properly made and administered, prove curative.

THE NIGHTINGALE (*Daulias lusciniâ, Philomela*), comes to this country about the second week in April, and ceases to sing early in June, leaving again in September. The best rendering of its famous song is a French one: "*Le bon Dieu m'a donné une femme qui j'ai tant, tant, tant, tant battue; que s'il m'en donné une autre, je ne la batterais,*

plus, plus, plus, plus, qu'un petit, qu'un petit, qu'un petit." The melodious bird often sings in the day time. Ovid tells about the wrongs of Philomela whose tongue was cut out to prevent their disclosure, and of her sister, Procne; the one being afterwards metamorphosed into a Nightingale and the other into a Swallow, both birds of plaintive and mournful music! His version of Philomela may be found in the sixth book of the *Metamorphoses*, verses 412-676. Pliny said: "There is not a pipe or instrument in the world that can afford more harmony than this pretty bird doth out of that little throat of his; yet it is at times almost sad." The medicinal virtues of the Nightingale have never been much extolled. In the *New London Dispensatory* its flesh is said to be sweet and excellent food, "helping the cachexia and strengthening the brain; its gaul mixt with honey clears the eyes." Mizaldus declared long ago of the Nightingale: "*Cantando victa moritur*," "It dies for shame if another bird sings better." Southey quotes a notion "that the Nightingale sings all night to keep herself awake lest the slow-worms should devour her." It feeds much on night caterpillars; and in the autumn becomes a fruit eater, especially of "black heart" cherries.

The Anglo-Saxon name of this bird was "Nihtegale," or literally, "Singer of the night." Its winter retreats are, presumably, in the interior of Africa. One record has shown that it then visits the Gold Coast. The "early nightingale" of newspaper paragraphs is generally a song-thrush.

OWL, the common Barn (*Strigida flammea*), has been generally thought an uncanny bird. The Spaniards say it was present at the Crucifixion, and has never ceased

since to cry "Crux, Crux." Robert Lovell wrote 1661, "Owl flesh is little used in meat, and, if so, by the poorer sort of people wanting better victuals: yet if young it is of good savour; the flesh helps those that are paralytick, as also those that are melancholick, and troubled in mind." In Yorkshire, Owl broth is thought to be a specific for whooping cough. Pliny taught: "The Owl cures palsies, and is good for those that are troubled in mind; the brain eaten helps the headache; the gall is good, as Schroeder saith, against spots in the eyes." Owls abound at Athens, and so this bird was given to Minerva (Athena) as her symbol. Shakespeare puts into the mouth of Ophelia the exclamation: "They say the Owl was a baker's daughter; Lord, we know what we are, but not what we may be." The fabled origin of this is: our Saviour went into a baker's shop to ask for something to eat, when the mistress of the shop immediately put a cake into the oven for Him, but the daughter complained that it was too large and reduced it to half the size; however, the dough swelled to a very large loaf, and the daughter crying out Heugh! Heugh! Heugh! was changed into an owl. According to some old legends the Owl was originally of noble parentage, "Once I was a monarch's daughter, etc."

The bird is called in Shropshire "Wollard," or the Screech owl, the cry being a screech, and it snores. In former times a certain remedy for reforming a drunkard was to give him as many eggs of the Screech owl, boiled hard, as he could possibly eat. He would for ever after be a total abstainer from intoxicating liquors. Swan in his *Speculum Mundi*, recommended owls' eggs to be broken, and put into the cups of a drunkard, or of one desirous to follow drinking,

and they will so work with him that he will suddenly loath his good liquors, and be displeas'd with drinking.

“ A sickly duckling long in London pent
 Far from pure water, and fresh Country air,
 Was by a shrewd old drake to Malvern sent
 For cure by hydropathic treatment there.
 The bird physician of that famous place,
 A large-eyed owl, of faculties profound,
 Agreed at once to undertake the case
 And by his baths to bring the patient round.
 Making her wade in water ankle-deep
 O'er stones to stimulate each tender sole,
 'This' said he, 'is the footbath which we keep
 At first the circulation to control.'
 Then presently he bade her swim awhile
 In rippling current reaching to her wings:
 This process he, 'the running Sitz' would style—
 'Which fuller measure of reaction brings.'
 Soon by these means the duckling stouter grew:
 And next he taught her how by daily dives
 With headlong rush, her health to still renew:
 'From these,' said he, 'our Plunge its name derives.'
 Lastly she sailed beneath a falling stream,
 And sported freely in its cold cascade:
 'This,' the owl told her 'is the Douche supreme,
 By which your course of baths complete is made.'
 Robust at length, and on her pinions strong,
 She took her leave, but flying homeward back
 Repaid him only with a thankless song
 By calling loudly at him, Quack! Quack! Quack!”

THE PARTRIDGE (*Perdix cinerea*) is a bird well-known as a familiar denizen of our fields, with its covey, and in season as game from the first of September to the first of February. It is plainly attired in a yellowish brown suit marked with bars of black, and having a remarkable horse-shoe figure on the breast. An old couplet runs:—

“ If Partridge had the Woodcock's thigh,
 'Twould be the best bird ever did fly.”

Or again:—

“ If the Woodcock had but the Partridge's breast
 'Twould be the best bird that ever was dressed.”

It is commonly known that exercise makes muscular fibre strong, firm, and hard, as seen in a blacksmith's right arm, or a runner's legs. This is exemplified again in the Woodcock and Partridge, of which the former flies for the most part, whilst the latter walks and runs. The wing of the Woodcock is therefore always very tough, that of the Partridge very tender.

An old remedy in 1690 for hysterics, was to burn some blewinkle and partridge feathers under the nose; this was my lady's medicine, *vide* Shadwell, "the Sorcerer."

The Partridge becomes poisonous in America at certain seasons from eating laurel: its length of life there is from twenty to twenty-five years. Our English bird is pronounced in the *New London Dispensatory* "excellent food for a weak stomach: its liver dryed and drunk helps the epilepsie; its marrow and brain cure the jaundice; its gall is one of the most eminent things for defects of the eyes in the world, helping sores in them, dimness of sight, and suffusions; its broth is of use against the elephantiasis, and the French pox." It is a very libidinous bird, for "they will seem to couple with their own image in a glass"; they live about fifteen or sixteen years. Partridge braised with cabbage—"perdreux aux choux"—is a wholesome and appetising combination. The Woodcock (*Scolopax rusticola*) says the *London Pharmacopœia* (1696), "In all its parts has the virtues of a partridge, the flesh is the best in winter, being then fattest; the ashes are prevalent against the stone." This and the Snipe, living as it is seen chiefly on suction, and therefore containing within them when killed nothing corruptible, may be eaten trail and all. Dr. Yeo says that, though of delicate flavour they are too rich for invalids;

but this would probably depend on the cooking. Epicures like a woodcock which has "just seen the fire." The flesh is better and contains more blood as the winter advances than when the bird arrives here in October. This seems to prove that it obtains fuller nourishment with us than throughout its summer residence in Norway and Sweden.

During incubation it is remarkably tame. For sustenance it drives its long beak far into the ground. Says the Clown to Malvolio in Shakespeare's *Twelfth Night* "And fear to kill a woodcock lest thou dispossess the soul of thy grandam."

PERIWINKLE, the Common (*Littorina littorea*), is one of our most popular homely species of shell fish, swarming at every turn among marine rocks, and largely eaten by the poorer classes in towns as a relish at tea. It develops the hard stony shell before hatching, the mouth of this being closed with an operculum when at rest. The *London Pharmacopœia* (17th century) ordered Periwinkles as nourishing food, very restorative in consumption and hecticks, being sod in their own sea water; the whitest, and such as are taken in clean creeks are the best. For consumptive patients they are to be boyled in milk; others may eat them boyled in vinegar, or water and salt.

PHEASANT, the (*Phasianus Colchicus*), is a native of Western Asia, and was naturalised with us during the reign of Edward the First. Pliny mentions it as the *Phasiana avis*, a bird of the river Phases. Everyone is familiar with its handsome appearance and brilliant glossy plumage, whether strutting in the covert, or hanging temptingly in the poulterer's shop. Pope

has thus painted in graphic words the gorgeously attired monarch of the woods:—

“His glossy varying dyes,
His purple crest, and scarlet circled eyes,
The vivid green his shining plumes enfold,
His painted wings, and breast that flames with gold.”

We prize the Pheasant highly as a food for its delicacy of flavour; its flesh is succulent and wholesome if not kept until so “high” as to engender ptomaines, the products of corruption when at all advanced. Any such privilege of devouring putrid products should be left to the gipsies who “tell fortunes because they learnt to do so centuries back through their forefathers in Hindostan, and who devour carrion because the Hindoo proverb is still in their remembrance: “That which God kills is better than that killed by man.”

Robert Lovell (1661) said of the Pheasant, “It is of good juyce, and breedeth good and laudable blood: they roll themselves in the dust that they may kill their lice; and they love their own images.” “A fowl fair in the feathers,” writes old Fuller, “especially the Cock, and dainty in the flesh, the care being more than the cost, seeing their generall repast is on pismires. Whether these tame be as good as the wild pheasants I leave the Pallate-men to decide.” Pheasants took their name from Phasis, a river of Asia, and their long flight thence into England.

Elizabethan epicures and physicians spoke handsomely of the Pheasant: “It exceedeth all foules in sweetnesse, and wholesomeness.” Cogan calls it “Meat for princes, and great estates, and for poor scholars when they can get it.” Pheasants’ brains were eaten with avidity by the Cæsars, and a propitiatory offering was made of them to the statue of Caligula. Roman experts preferred

the breast of the bird. Pope wrote in his epistles the well known lines :—

“ One likes the pheasant’s wing, and one the leg :
The vulgar boil, the learned roast an egg.”

When wood fires were of common usage eggs were roasted more often than boiled ; and care, or “ reason,” was needed in thus cooking the egg, not to do it “ all on one side,” says Touchstone.

The Clown in the *Winter’s Tale*, wisely pronounced that “ Advocate’s a court word for a Pheasant.”

Good old Peter Hawker wrote that for himself he preferred a boiled Pheasant with onion, or Soubise sauce to all the fancy dishes that ever crowded a Roman’s board. At the supper banquets of Apicius and Lucullus no delicacies were held in higher repute than the Pheasant when stuffed with beef steak, and garnished with truffles. The French think concerning the Pheasant it lacks only something to equal the Turkey ; but they characterize our bread sauce eaten therewith as “ poultriee.” “ Wercock ” is a provincial name for the bird, and, if killed before October the first, it is known as a “ Swishtail.”

When the proud King of Lydia was seated on his throne, surrounded on all sides with gold, and sparkling with jewels which coruscated with a myriad of brilliant hues, he asked Solon if he had ever seen aught more splendid ? “ Yes,” replied the Philosopher, “ the plumage of the Pheasant excels it all.” Aristophanes gave to his patrons on whom he depended for favours some such a delicate inducement. In his *Comedy of the Birds* occur the lines :—

“ And when other means fail we are found to prevail
If a peacock or pheasant be sent as a present.”

"The flesh restores," quoth Dr. Salmon, "in hectic fevers; the gall sharpens the sight; and the dung excites to vengery." Pheasants are fond of *Arbutus* berries.

It is remarkable that spaniels, though hunting pheasants and partridges as it were by instinct, will hardly touch their bones when offered as food. Likewise sporting dogs, who do not flush a woodcock until trained to the scent, turn away from its carcase with abhorrence, though ever so hungry.

Even when not kept long enough to be "high" before cooking, such game as Pheasant, Partridge, Hare, and Venison, should be seldom eaten for more than three days consecutively by persons whose digestive powers are limited, or corrupt principles will accumulate in the system: The same rule should apply to Turkey, Wild Fowl, and other such meats. Pheasants eat freely the tubers of the common Buttercup.

THE RABBIT or Coney (*Lepus cuniculus*, Anglo-Norman *Conyng*), is a native of Southern Europe, and a most prolific little animal, so much so as to have become a plague in the first century before the Christian Era. It can feed with impunity even on the poisonous Belladonna. Rabbits "thrive" best, says Fuller, "on barren ground and grow fattest in the hardest frosts; their flesh is fine and wholesome; if Scottishmen smile at our wing of a rabbit let us laugh at their shoulder of a capon." Marcellus Empiricus, physician to Theodosius, (345-395), prescribed natural pills of rabbit's dung. Dr. Baas declares that the same remedy is in use on the Rhine at the present time as a cure for consumption. This animal, and the hare, affect some persons who partake of either, with nettle rash, or spasmodic asthma; and dietetically they may be tried at table in such cases.

There is an authentic record that in 1862 a certain rabbit pie proved poisonous because no hole was made in the crust at the top before the pie was baked, so as to let out the animal ptomainic vapours generated during cooking. A family of ten persons after partaking of the pie was seized all round with diarrhœa, and violent pains in the bowels, one member becoming collapsed and insensible. It was clearly shown that the rabbits and other materials used in preparing the pie were perfectly fresh, sound and good ; but no hole was made in the top crust.

Again, another case was related by Dr. Buckenham of injurious effects produced from precisely the same cause : and in an article on poisonous animal foods, January 10, 1863, the *Lancet* wrote : " All learned toxicologists and chemists seem to have forgotten the important fact that if a meat pie is made without a hole in the crust to let out certain emanations from the meat during cooking, colic, vomiting, and other symptoms of slight poisoning are likely to occur. I have known, says the writer, two instances of large parties being affected in this manner from eating meat pies which had no hole made in them."

In July, 1898, at Chadderton, Oldham, there was an outbreak of fifty-four cases, with four deaths, poisoned by eating veal pies which were insufficiently cooked, and had been kept for forty-eight hours. A special ptomaine was formed, from which the better cooked pies of the same batch were free. One person is said to have taken six of these without any injurious result. Authorities are agreed that subjection for a few minutes to the boiling point will destroy the harmful toxins.

"Talbotays" was a former sauce taken with rabbits and hares, being concocted with the blood, pepper, ale, and salt.

In England and America the Rabbit is thought to be a delicacy ; but a negro in the West Indies will go very long before he is willing to touch it. The Chinese represent the moon by a rabbit pounding rice in a mortar, because the period of this animal's gestation is thirty days, and typifies the moon's revolution round the earth. A Cornish miner looks affrighted and turns away when he meets an old woman or a rabbit on his road to the pit's mouth.

In *Uncle Remus*, Brere Rabbit "lay low," and was too sharp for Mr. Fox ; whilst Alice in *Wonderland* was more than astonished "to see the White Rabbit actually take a watch out of its waistcoat pocket, and look at it, and then hurry on." Gilbert White tells that a rabbit warren produces the very best turf for our lawns because the animals bite so close, and eat down the bents of grass. In Yorkshire, as Halliwell teaches, there is a familiar nursery cry (which has perhaps some physical intention) :

"Rabbit, rabbit, rabbit pie !
Come, my ladies, come and buy ;
Else your babies they will cry."

THE RAT is of two distinct kinds : our black English rat, (*Mus rattus*), now becoming uncommon ; and the brown Norway rat (*Mus decumanus*), which has almost extirpated the former. The black rat inhabits thatches and old walls, whilst the brown rat burrows in the earth, or takes refuge in our sewers and drains ; it is much the more cunning and wary. "The fat (wrote Dr. Salmon), is excellent against the palsie ; the dung is good to help baldness ; nine rats' turds is a great and approved experiment among women to provoke the terms ; the ashes being taken every day clears the eyesight ; but the tail is full of poyson." "The fat (as Robert Lovell

bore witness, 1661), helpeth the palsey ; so doth that of the dormouse." It is said that the grey matter of the brown rat's brain is highly developed, which accounts for the high order of its natural cunning as "the knowingest varmint of any we have."

Rats are very fond of scents, and may be lured thereby. These creatures are used in China as articles of food, being split in halves, and cooked as tidbits for the delicate. The scavengers of Paris consider that a fricasseed rat makes an excellent relish : and during the siege of that city a ragout of rats fetched a good round sum. There is no consistency, as Dr. Wynter Blyth thinks, in eating rabbits, and refusing rats, in enjoying a reptile like the turtle, but shuddering at frogs. But are not rats partly carnivorous, and therefore less clean feeding ? It has been alleged that Irish rats can be rhymed to death. Shakespeare speaks to this effect by Rosalind : "I was an Irish rat ; I was never so berhymed since." The Egyptians deified rats ; and the Sun-god of Rome received the appellation of Apollo, the ratkiller.

Recently an eminent Chinese authority has strongly advocated the use of rats as food for preserving or restoring the hair. He writes thus on the subject : "What the carrot is to a horse's coat the rat is to the human hair. Every horseman knows that a *regimen* of carrots will make his stud as smooth and lustrous as velvet ; and the Chinese, especially the women, know that rats used as food stop the falling out of hair, and make the locks soft, silky, and beautiful."

In America the term "Rats" means a contemptuous sarcasm, or indifference.

RAY, the, or Skate, is of the genus *Raja*. As stated when discussing the Electrical Eel, a foreign fish, we have

in our own seas another such, endowed with similar properties, the Torpedo, Cramp fish, Numb fish, or Electric Ray, belonging to the family of Skates. It possesses a columnar battery within its structure, and nerves communicating with the brain therefrom, a living and moving electrical apparatus which must have been in existence for hundreds of years before electricity was discovered.

The Skates are very voracious, their food including molluscs and crustaceous fish. So powerful are their muscles and jaws that they can crush the strong shell of a crab with ease. There are nine or ten species of Rays found on our coasts, some of them having formidable spines on the tail, so that the fishermen chop it off as soon as the animals are taken out of the water.

Frank Buckland describes the Electric Ray as a skulking rascal, with a coat of almost dirt colour. Being probably too lazy to hunt after his food, and doubtless remaining half asleep in the mud till something worth eating walks upon, or swims over him, he then "lets fly" and gets his dinner without much difficulty. How far this electrical endowment of the Ray can be utilized for curative purposes, like that of the Jelly-fish (which *see*), against rheumatism and neuralgia, remains to be proved by some enterprising experimentalist. The promise seems to well warrant making a trial in this direction.

The Skate, Squatina, said Dr. Salmon, 1696, is good against consumption; the oyl of its liver helps the hardness of a man's liver; the ashes of the skin help running ulcers of the head, and baldness.

THE SKYLARK (*Alauda arvensis*), "soaring high as its sweet song is thrilled forth," never bathes in water,

but dusts itself clean. "The flesh is of exceeding good nourishment, fattest and best in autumn and winter; if eaten, the whole lark helps the cholick. They breed thrice in the year, and are much troubled with the epilepsie." Acquaintance with this fact should suggest their medicinal use for the same distressing malady. "The Lark," says Fuller (*Book of Worthies*), "is a harmless bird whilst living, not trespassing on grain, and wholesome when dead, then filling the stomach with meat as formerly the ear with musick. If men would imitate the early rising of this bird it would conduce much unto their healthfulness." Juliet tells: "Some say the lark and loathed toad change eyes;" and a quaint line runs: "If the sky should fall larks would be caught."

THE Common SNIPE (*Scolopax gallinago*) is a frequenter of marshy districts, being accounted a litle bird of delicate eating, and having found repeated mention in the former table chronicles as a dainty article of food. About 1512, as we learn from the *Household Book* of the Earl of Northumberland, Snypes were charged at three pence the dozen.

An old French quatrain runs:—

"Le becasseau est de bon manger,
Duquel la chair resueille l'appetet;
Il est oyseau passager, et petit,
Et par son goust fait des vins bien juger."

The Snipe has a wonderful surgical instinct. With its beak and its feathers it will effectually plaster any bleeding wounds it sustains, plucking some of its down from other parts of the body, and securely fixing this to any wound by the coagulating blood. If one or other of its limbs be broken it will strap up the

fracture with interwoven feathers made into a sort of splint, or will even apply a ligature spirally round the limb, constructing this with flat leaved grass, or with feathers and moss intermingled.

SPARROW, the House (*Pyrgita domestica*), belongs to a distinct genus from the Hedge sparrow (*Accentor modularis*), and is a friendly bird, useful both in the medical, and in the naturalist's sense. During the spring and summer months sparrows destroy many millions of noxious insects. The little Hedge sparrow sings at daybreak, and flirts its wings, being hence called "Shuffle wing," and in Devon "Segge." A quaint old nursery rhyme tells lovingly of the commoner bird:—

"This little cock sparrow shall make me a stew;
And his giblets shall make me a little pie too."

"The flesh if lean," as the *New London Dispensatory* taught, bindeth the belly; but the broth loosens it: this is a most lascivious bird, and being much eaten excites venery; the youngest are the best. "The whole Hedge sparrow is excellent to break the stone and expel it, being eaten raw with salt, or burnt to ashes, and so taken; it also helps the epilepsie, and dropsie, or tympanites, consuming humors by its callidity and dryness: the dung applied with man's spittle cures carbuncles, and extirpates varices." Rustics name the sparrow Philip; and in Cumberland a Hedge sparrow is a Tiling, or Titling. It is called Dunnock in many parts of Britain.

SPRATS (*Chalcides*), "pickled like Anchovies exceed them in goodness, and very much strengthen the stomach; the flesh taken before meat loosens the belly."

"They are," wrote Fuller, "the minims of the sea, and their cheapness is the worst thing (well considered the best) which can be said of them; were they as dear they would be as toothsome, being altogether as wholesome as Anchovies; they be caught about Essex in incredible abundance, whereon the poor weavers of Colchester make much of their repast, cutting rands, rumps, surloyns, chines and all joynts of beef out of them, as lasting in season well nigh a quarter of a year. True it is that within these last sixteen years better men than weavers have been glad of worse meat than sprats (and thankfull to God if they could get it!) In the city of Colchester, a greater price would give a high gust unto them in the judgment of Pallat men."

Thousands of Sprats, the late Frank Buckland declared, are sold in the form of anchovy paste, being pickled with salt, prunella, and some little cochineal. The true Anchove was esteemed of old as strengthening the stomach, restoring appetite, loosening the belly, and good against agues.

Their name, *Encrasicholus*, comes from the bitterness of their heads, and therefore these are cast away with the gall. Sprats are called Garvies, from Inch Garvie, an Isle in the Firth of Forth, near which they are caught.

THE SQUIRREL (*Sciurus*) is a bright active little denizen of our woods, which feeds on nuts and fir cones, etc., hybernating during the winter, but not continuously, as it wakes for a while on mild sunny winter days, and then retires again to its quarters.

Dr. Salmon wrote in the seventeenth century, "The flesh is sweet and good, like that of goats, or conies; the fat is good, as Galen supposed, against pain of the ears; the teeth are used by magicians in foretelling

things to come." The nest is called Drey in Hampshire, and in Suffolk it is a Bay. Gilbert White saw some young squirrels nursed, and suckled by a cat.

Another small wild creature of our woods and hedgebanks, the Weasel (*Mustela*), though persecuted because said to suck eggs, or to carry off an occasional chicken, is credited with curative uses. A noted old remedy for epilepsy was to "take the brain of a Weasel and dry it to powder, and put it into some pure vinegar; and temper them well together with a knife or spoon, and give to the diseased person to drink, and it will do him exceeding much good." With Sir Thomas Browne the left stone of a Weasel was a panacea.

THE STAR-FISH (*Asterias rubens*, *Echinodermata*), is found commonly on the sea shore at low water, when stones are turned over, or rock crevices inspected. It is a star-shaped creature with a rough spiny covering. The *Uraster rubens* is the five-fingered Star-fish, which has been popularly supposed to swallow oysters.

When the Star comes upon food too large to pass through its mouth to the stomach then it has the knack of passing its stomach through the mouth to the food, thereby surrounding its victim with the fine membrane whilst pouring out the gastric juice which reduces this victim to a fluid state and absorbs it; the stomach subsequently returning to its natural position inside the Star. This may be commonly seen when anyone is shore hunting. On the under surface of its rays are hundreds of active little suckers by which it is enabled to move about, whether on rock or weed, up or down. The entire underside is sensitive to odours; the upper side is covered with small plates, or bosses of carbonate of lime, being orange-coloured, and rough.

Some of the Star-fish are called "brittle fish," because separating themselves into pieces with wonderful quickness and ease. "Touch one, and it flings away an arm; hold it, and in a moment not a tentacle remains attached to the body." However, it soon puts forth new ones, being wonderfully tenacious of life. The Star-fish is used medicinally (H.) being dried, and triturated to a fine powder with sugar of milk, by bruising and rubbing in a mortar. Dr. Petroz, with seven healthy persons to assist, made experiments by their taking this medicine of toxic strength in varying doses. Chronic ulceration of the skin, even like that of a cancerous character, was the result with some of these provers; also obstinate constipation with congestive headache was caused in others; and for cases of these symptomatic features when coming on through illness, the diluted and reduced trituration has been found decidedly beneficial. Among the ancients this *Asterias* had a reputation for curing epilepsy.

The Star-fish found in the Persian Gulf looks at night like a full moon in miniature surrounded by rays. A tincture of the Star-fish is also made (H.) and when given of diluted strength in doses of from five to ten drops, with a spoonful of water, it proves admirably helpful against the general dull stupid feeling of general malaise, with backache, and sense of numbness in the limbs, consequent on sexual abuses. A weak broth made from the fresh Star-fish may be taken medicinally for the same symptoms.

THE SWEAT (*Sudor*) is the *sensible* perspiration excreted by the skin. In *A Thousand Notable Things* it is declared that "Whoso use to rub their fingers between the toes of their feet, when they go to bed, especially at

times when they smell most, and then do smell the same at their nose, will find a perfect remedy to put away the cramp."

A classic legend tells that Jupiter, labouring to explain two oracles which did not agree, broke out into a sweat; and from the divine perspiration sprang the colewort, as originating all our cabbage tribe of vegetables. The reading of this fable may well be that the colewort was first cultivated "by the sweat of the brow."

Among the tribes of California their *Sweat House* is half a religious temple and half a sanitary asylum, being used as a super-heated vault, from which the braves, having sweltered all night, plunge perspiring into the ice-cold river at early dawn. Also the heat and smoke are utilised for drying and curing long strips of fish which hang from the roof.

TRIPE is the paunch, or first part of the stomachs of ruminant (cud chewing) animals, such as the ox, and the cow, etc., when prepared as food, its principal constituents being albumin and fibrin, with fat.

Few things are more readily digested than Tripe when it is properly cooked. Formerly it was called Paunch-clout; and with some it bears the names Trilibub, Trollybags, Rollybags. Robert Lovell (1661) objected to this food, saying that "Tripes are long in concocting, nourishing little, and excrementitious, ingendring filthy diseases." But the Greeks and Romans ate tripe with great relish, deeming it a fit dainty for heroes.

It formed the chief dish at the banquets of men who met to celebrate the victories of gods and of their own soldiers over the impious Titans. In *Taming of*

the *Shrew Grumio* asks Katharina "How say you to a fat tripe fairly boiled?" To which she replies, "I like it well." It contains thirteen per cent. of albumin, and sixteen per cent. of fat; but not much of the latter should be taken by a person of delicate stomach. Tripes is a slang word for intestines with the vulgar.

"Next morning Miss Dolly complained of her Tripes; Drinking cold water had given her gripes."

True pathos may attach itself even to common-place tripe. In the last little note which Charles Lamb wrote (to Mrs. Dyer) five days before his attack of erysipelas, and his unlooked-for death, he asked anxiously about a book left at her house which he had "gone out to fetch while the tripe was frying;" it was "Mr. Cary's book," and he would not lose it for the world. "If it be lost," says Charles Lamb, "I shall never like Tripe again." It was found afterwards with a leaf folded down at the account of Sir Philip Sydney's end.

Said the learned and witty Erasmus: "A reader should sit down to a book, especially of the *Miscellaneous* kind, as a well-behaved visitor does to a banquet. The master of the feast exerts himself to satisfy his guests; but if after all his care and pains something should appear on the table which does not suit this or that person's taste, they politely pass it over without notice, and commend other dishes, that they may not distress a kind host."

MOLE.

THE Mole (*Talpa europæa*) is a small animal seldom seen, because it lives for the most part underground, where it can tunnel with wonderful rapidity. Its fore

feet are armed with strong, curved, sharp-cutting nails for digging, whilst it possesses a broad hand for throwing back the loosened earth—a kind of pickaxe and shovel combined. The Mole was formerly called a "Want," and Molehills were "wantitumps." In Gloucestershire the names "Wont" and "Ontitump" are still used; also "Mace" for the Mole, and "Wont heave" for its hill. Among *Saxon Leechdoms* we read that the Magi of old had a special admiration for the Mole. If anyone should swallow the animal's heart whilst it were palpitating and fresh he would at once become an expert in divination. In *A Thousand Notable Things* is stated: "If you will catch Moles or Wants, put garlic, leek, or onion in the mouth of their holes, or in their enterings into the ground, and you shall see them come, or leap out quickly, as though they were amazed or astonished. The *Philosopher's Banquet* (1633) tells that, "The Mole or Want is a creature of strange effect, as the philosopher conceives, who being put into the nest of any bird it can never bring forth her young; as also the water wherein she is decocted being rubbed upon anything that was blacke immediately changeth it into white."

Recently Dr. Laville has taught that the bite of a Mole can produce rabies in a dog. When flies have sucked the poison of a dead Mole they are capable of communicating either to man or to beast, anthrax, carbuncle, a malignant pustule, or erysipelas. He therefore admonishes gardeners to bury their trapped Moles deep. He has himself verified the efficacy of the Mole, when medicinally prepared, against epilepsy, rabies, and many nervous disorders. Burnt Mole in powder, twenty-five centigrammes (about four grains), for a dose, with from two to four drops of the mother tincture mixt with a little water, and taken in the

morning whilst fasting, will prove effectually remedial. Mathiolus, Dioscorides, and Paracelsus showed that the Mole has been considered of old a mighty remedy for epilepsy; and even in our own day it forms the principal basis of the Neufchatel cure.

A tradition obtains that the first Mole was a proud woman, too proud to live on the face of the earth, and so God turned her into a Mole and caused her to exist underground. The animal is very ferocious, and when it has killed one of its own kind it drinks the blood of its slaughtered victim with avidity.

In Staffordshire, and Shropshire, for tooth-ache a Mole-trap is watched, and the moment it is sprung, whilst the poor mouldwarp is "*in extremis*" (but it must be before life is extinct), his hand-like paws are to be cut off, and worn by the sufferer. A right paw should be used if the offending tooth is on the right side, and *vice versa*. A Mole's paw may sometimes be seen mounted in silver.

MOTHS.

"MOST of the common moths," says Mr. Holt, "which flit in thousands by night about our fields and gardens have nice fat bodies, and ought certainly to be used as food. They are the very incarnation of sweetness and delicious beauty, living storehouses of nectar gathered from the most fragrant flowers. They even sacrifice themselves voluntarily upon the altar of our lamps as we sit with open windows on balmy summer nights. They fry and kill themselves before our eyes, seeming to say, 'Surely the savoury scent of our cooked bodies must tempt you! Broil us with butter, we are most appetising! Grill us, boil us, stew us, we are excellent all ways!'"

In a previous section discourse has already been held here with gusto about the edible grubs of several choice and common Moths (see "Insects"), so that now these familiar Lepidopteræ need only be named as the fully developed dainties; they comprise the large white Cabbage butterfly (*Pontia brassicæ*); the smaller white Cabbage butterfly (*Pontia rapæ*); the Cabbage moth (*Mamestra brassicæ*); the large, yellow, underwing Moth, whose caterpillar feeds on turnip and cabbage leaves; the common Bufftip; and, as a speciality, the Death's Head Hawk moth (*Acherontia atropos*), a marvel of lusciousness because robbing bees of their combs and regaling itself to repletion on the honey. The caterpillar of this last Moth is often from four and a half to five inches in length, of a clear yellow, with pea-green bands, spotted with blue; very gay in its caterpillar robe, very grim in its fully developed aspect as a skeleton at the feast! Rustics throughout Devon call the Caterpillar a Mascel, or Maskel. The Gooseberry or Magpie moth (*Abraxus grossulariata*), which makes such havoc with the gooseberry bushes, should likewise in recompense pay toll on our tables. Night-flying Moths in the States are erroneously known as *butterflies*.

"The butterfly," said Dr. Salmon (1696) somewhat vaguely, (*Papilio*), "given inwardly in powder, they provoke urine; it is a long-lived creature after the head is off. I pulled the head off from one (in the middle of summer) that lived above thirty days and could fly all that time." In Cornwall moths are regarded by some as departed souls, by others as fairies, and are called "Pisgies" (Pixies?). The Germans name a butterfly "molken-dieb," or whey-thief.

Butterflies are very susceptible to the charms of music.

We all know the graceful ballad by Haynes Bayley, of which the refrain says:—

“I’d be a Butterfly born in a bower,
Where Roses, and Lilies, and Violets meet;
Roving for ever from flower to flower,
And kissing all buds that are pretty and sweet.”

“Ah! sim papilio natus in flosculo.
Rosæ, ubi lilia, violæque patent!
Floribus advolans, avolans osculo
Gemmulas omnes quæ suavé olent.”

MOUSE.

THE Mouse (*Mus*) is a familiar little Rodent. Mice anciently enjoyed the reputation of possessing considerable curative properties, and they were occasionally prescribed by eminent doctors. Bulleyn, physician to Henry the Eighth, recommended that a small young mouse roasted should be given to a child suffering from any nervous disorder.

In the *Rich Storehouse of Medicines* (1650), is offered as, “An excellent good remedy for one that spitteth bloud,” to “take the dung of mice and beat it into fine powder (in quantity as much as will lie on a groat of silver), and put it into a pint of the juyce of plantane, and put thereto a little fine sugar well beaten first into powder; and let the party grieved drink a good draught thereof at a time both morning and evening every day, until such time as you perceive the infirmity to be clean gone; and that will help.” Again, as “A very good medicine for the chin cough, take a mouse, and flea it, and drie it in an oven, and beat it to powder; and let the party grieved drink of it in ale, and it will help, *probatum est.*” The *London Pharmacopœia* (1695), said of the Mouse: “It is a short-lived, lecherous creature; the fat is good against the scirrhus and for the baldness by falling off of the hair; so also with honey and bear’s grease.

The dung from three to six grains looseneth and purgeth children. When applied outwardly it helps ringworms, scurf, and dandriff, and cures all sorts of warts and piles." "*Non aliter quam mures ferrum edunt,*" told Seneca.

Writing about Wales, Fuller remarks that, "Foxes are said to be the best tasters of flesh, flies of the sweetest grapes, and mice of the tenderest cheese; and the last (when they could compass cheese in that kind) have given their verdict for the goodness of the Welsh. What should be the reason that so many people have such an antipathie against cheese (more than any other manner of meat), I leave to the skilful in the mysteries of Nature to decide."

Edgar says, as Mad-man in *King Lear* :—

"But mice, and rats, and such small deer,
Have been Tom's food for seven long year."

Fried mice are considered in some English counties a specific against small-pox, it being insisted by certain persons that they must be fried alive. Dyer tells us (*Folk Lore*), that in East Lincolnshire fried mice are regarded as an infallible cure for whooping cough, the mother generally preparing this mess.

Again, in Gloucestershire, a good specific for whooping cough is a roasted mouse to be eaten by the patient. And a common superstition prevails in Devon and Cornwall that mice can portend death. Mice in Suffolk are "Meazon." *Alice in Wonderland* thought it must be the right way in speaking to a mouse to say, "O, Mouse!"

In *A Thousand Notable Things* (1815), it is asserted that a flayed mouse roasted, or made into powder, and drank at one time doth perfectly help such as cannot hold or keep their water, especially if it be used three

days in this order." Also Mouse dung has been thought from the time of Pliny excellent for the constipation of children. Dr. Jacob Hunerwolf, in 1694, wrote a treatise on this remedy as a laxative, extolling it very highly for such purposes. In the folk-lore of Hull it stands recorded: "That a child who cannot hold his water may be cured by eating three roasted mice; and the same dish is also a cure for the whooping cough." Bishop Hatto, proverbial for his perfidy, is declared to have been devoured by mice in the Mouse Tower on the Rhine."

The measles worm of the Mouse engenders the peculiar tape worm of the Cat (*tenia crassicolis*). Dr. Laville has shown about the Shrew mouse (*Mus araneus*), that: "If the mole can produce by his bite spontaneous rabies in the canine family, the bite of the Shrew can likewise communicate it to the cat race (*feline*). The powder of the burnt shrew," saith he, "possesses in a higher degree than all the other mice the property of stopping incontinence of urine, whether by night or by day, in young children." The Shrew mouse in Suffolk is "Ranny," in Dorset "Sure crop"; a Field mouse in Staffordshire is "Hardishrew." Country people in Northamptonshire have an idea that Harvest mice are unable to cross a path which has been trodden by man, and that if attempting to do so they are immediately struck dead "This accounts," say they, "for the numbers which may be found on a summer evening lying lifeless on the verge of the field footpaths, without any external wound, or apparent cause for their fate."

The Romans ate Dormouse sausages as a soporific. Petronius delivers an old receipt for dressing and serving the same with poppies and honey, which must

have been a somniferous dainty, as good as was owl pie for inducing a nap after dinner. "The soles of the feet being anointed with the fat of a Dormouse," writes an old medical author, "doth procure sleep."

Koch has found that mice are peculiarly susceptible to the poison of splenic fever; the minutest particle of the fresh blood or spleen of any infected animal will infallibly produce the disease when brought into contact with the living tissue of the Mouse.

In Grainger's *Poem of the Sugar Cane*, which was ridiculed by Dr. Johnson, a pompous paragraph of the blank verse began: "Now, Muse, let's sing of mice!" Quoth Johnson: "One might as well write, '*The Parsley Bed*: a Poem'; or, '*The Cabbage Bed*!' I should like to see the *History of the Grey Rat*, by Thomas Percy, D.D., Chaplain in Ordinary to His Majesty"—(laughing immoderately).

In *Queen Mab* (Percy's Reliques) we read that:—

"The brains of nightingales,
With unctuous fat of snails,
Between two cockles stewed,
Is meat that's easy chewed.
Tails of worms and marrow of mice
Doth make a dish that's wond'rous nice."

"Quantum in lusciniâ latet cerebri
Et testudinum adeps inunctorum,
Cum binis cochleis perinde coctus,
Non est difficilis cibus molari.
Caude vermibus, et medulla muri
Componunt epulas perelegantes."

In *Panzooologico Mineralogia*, or, *A Compleat History of Animals and Minerals* (1661), it is found stated that, "Being boiled and eaten, mice help children's wetting the bed. The dung is corrosive; given in any liquor it looseneth the body; therefore some nurses use it for children. The flesh eaten causeth oblivion." Other remedial means for overcoming constipation

have been oddly devised at various times by ingenious mediciners. The Arabian physicians wrote prescriptions for the purpose with purgative ink, so that the doctor's dictum, "take this," when he penned for the patient a formula of ingredients, was intended literally, and the paper had to be swallowed. Southey records that the Morlacchian remedy for intestinal obstructions is to lay a large flat stone on the patient's belly. To be costive in the Eastern counties is "farthing bound."

It was a leading maxim of the Salernitan School (1600):—

" Non mictum retine, non comprime fortiter anum ;
Hæc bene si serves ex longo tempore vives."

" Keep thy water works always free, thy back door open with constant care ;
So shall thy days be long in the land, of precepts if thou obey this pair."

With reference to the said quaint distich it may be noted that our modern water closet is a comparatively recent invention. Sir John Harrington published, in 1596, a tract called the *Metamorphosis of Ajax*, by which he meant the improvement of a "jakes," or "privy," into a water closet. The book offended Queen Elizabeth, who kept him for some time in disgrace. Robert Herrick wrote (1640):—

" The Jewes their beds and offices of ease
Plac't north and south for these cleane purposes,
That man's uncomely froth might not molest
God's wayes and walks, which lie still east and west."

A classic poet relates that, "*Coctilibus muris cinxisse Semiramis urbem dicitur.*" Semiramis is said to have surrounded her city, "*coctilibus muris,*" with "brazen walls"; but Canning facetiously translated it, "*coctilibus muris,*" with "cocktailed mice." Topsel wrote (1658) about the Shrew mouse: "When beaten to

powder and mixt with goose grease, if rubbed or anointed on a swollen and inflamed part, it doth bring a wonderful cure. The tail of a Shrew, if cut off and burned, and beaten to powder, and anointed on the sore of any man which came by the bite of a ravenous dog, will in a very short space make the same whole and sound, so that the tail be cut from the Shrew while she is alive."

MUSK.

MUSK is an Animal secretion of the *Moschus moschiferus*, a ruminant mammal of central Asia and Thibet. It is imported from China and India, being the inspissated and dried product of the præputial follicles of the Musk Deer. It occurs in reddish-black unctuous grains, having a very diffusible, strong, peculiar odour, and a bitter aromatic taste. The substance is contained in a round membranous bag covered outside with stiff greyish hairs arranged concentrically around a central orifice. This bag, or sac, is found behind the navel, and becomes filled with the musk chiefly in the rutting season. So powerful is the smell of Musk when taken fresh from the animal, or from the bag in bulk, that it has been known to cause bleedings from the nose, eyes, and ears of those who have imprudently inhaled its vapours. Musk is partly soluble in water, and completely in ether, being a resinous body combined with a volatile oil, and mucilaginous extractive matter (adipocere).

As a medicine it is highly esteemed in the East for its powerfully stimulating and antispasmodic properties, promoting the secretions, raising the pulse without heating the body, relieving spasms, whilst increasing also the energy of the brain, and nervous system. It is especially useful for hysteria and epilepsy, having been

taken likewise with some success in tetanus (lock jaw), as well as in extreme cases of prostration, and for retrocedent gout. Combined with ammonia it has gained a celebrity for the power of arresting gangrene: with which view Mr. White, a famous surgeon of Manchester, gave it with much advantage in sloughing ulcers, and in the dry gangrene of aged persons. Hindoo physicians employ it with confidence against hydrophobia, ordering from five to thirty grains every four or five hours in a bolus. Triturations of musk, and a most useful tincture (H.) are made. In cases where the remedy is employed at all it should be given freely, though on account of its high price there may be a temptation to use small quantities.

The dose of Musk in substance may range from six or eight, to twelve, or fifteen grains when prompt and powerful effects are required. A dram of the apothecaries' tincture contains about one grain of musk. It is specially fitted to relieve purely nervous affections without any feverishness; and has repeatedly cured hiccough, spasmodic cough, whooping cough in its second stage, spasmodic croup, and colic; also Saint Vitus's dance, and hysterical convulsions.

Musk will capitally alleviate wakefulness from combined bodily and mental fatigue, being given in pill or emulsion—grains five or six—every three or four hours; to a child one grain, or more; or it may be usefully administered as an injection into the lower bowel.

This remedy has proved of benefit in pneumonia with extreme weakness; but it fails sometimes to confer sleep, as with Dr. Johnson (supposing the musk to have been genuine in his case). When suffering at night from asthma and dropsy, he wrote (see *Boswell's Life*): "With Dr. Lawrence's consent I have for the last two

nights taken musk ; the first night was a worse one than common ; the second a better ; but not so much better that I dare ascribe any virtue to the medicine ; I took a scruple (20 grains) each time." Imitation sacs are sometimes made from the skin of the animal ; also the musk is adulterated with bird's dung, dried blood, wax, etc.

After first stimulating the circulation, good Musk then goes on to act as a narcotic ; in full doses it causes headache and drowsiness, also exciting the sexual functions. For nervous palpitation of the heart, and hysterical attacks, as well as for nervous asthma, and hiccough, the tincture (H.) of first decimal strength is found to answer admirably in doses of six or eight drops in water, repeated at short intervals whilst still required. Dr. Hughes (Brighton) says: "I always carry some in my pocket-case on account of its great value in these ailments."

Musk is a very durable perfume ; a few grains of it will yield the characteristic odour for years. In an inventory, taken A.D. 1423, of valuable objects belonging to Henry the Fifth are enumerated a musk ball of gold weighing eleven ounces, and another of silver gilt.

Excellent results have been obtained from giving musk in cases of collapse from paralysed respiration, because of its power in stimulating the respiratory centre : also by covering the stench of the expectorated matters from gangrene of the lungs. In desperate cases of pneumonia it has proved of signal service. Dr. Napheys of Philadelphia, prescribes musk one grain every two hours, in the sleeplessness of hypochondriacal patients. Furthermore this medicine has now a considerable reputation as a remedy in typhoid fever. By practitioners of a by-gone day it was much employed ;

then it ceased to find favour, and finally its name was erased from the Pharmacopœia. It is an expensive medicine, as the cost in a single case of typhoid fever sometimes amounts to five pounds sterling; so says the *British Medical Journal*, March, 1898.

Musk has a decided action on the sexual organs. Hempel tells of a robust man who had been completely impotent for four years past through a cold, recovering his virile powers by grinding up musk for his employer.

OILS, ANIMAL.

See also "Animal oil," "Butter," "Cod-liver oil," "Marrow," "Pig," and "Tallow" (with Glycerine).

THE closer the similarity between the fat of the food and the fat of the body the more readily is dietetic fat absorbed, and utilised for the bodily wants. Food fats vary in usefulness according to the particular part of the animal from which they are taken. Thus, mutton fat is harder than beef fat, and in each case the fat around the kidneys differs from the general fat beneath the skin. Again, the yellow marrow found in the central cavity of bones is another distinct fat; each of these having its own melting point according to the proportion of stearin which it contains. Beef marrow remains fluid at a lower temperature than any of the ordinary animal fats, which makes it superior for ready absorption when taken for nutritive sustenance.

Sir Henry Holland advocated the practice of anointing the harsh dry skin of dyspeptic patients with warm oils, those of a bland animal sort being preferable for this purpose; they assimilate more nearly to the bodily fat than vegetable oils, which, moreover, contain water. Lanoline, the purified fat of sheep's wool, has a special

affinity for the skin, and becomes very readily absorbed by it.

"In my youth, said the Sage, as he shook his grey locks,
I kept all my limbs very supple
By the use of this ointment—one shilling the box :
Allow me to sell you a couple."

—*Alice in Wonderland.*

Oils are fixed, or volatile, all fatty substances employed as food belonging to the former class, and being slow of digestion, much more so than the vegetable oils. Animal fats contain volatile fatty acids, the evolution of which when they are taken as food causes in many persons subsequent distress. Mutton fat contains hircic acid, butter contains butyric and caproic acids, and train oil contains phocenic acid. Heat in cooking renders these acids specially objectionable for persons with weak stomachs, so that to prepare any such fatty foods by frying will make them disagree. The fixed oils give off, while boiling, an acid volatile oil, acrolein, and the fatty acids are set free. The fat of cured bacon is less injurious to dyspeptic persons than fresh animal fats. The yolk of egg, the livers of poultry and fish, and the brains of animals all abound in oily matter: likewise salmon, herrings, sprats, eels, and mackerel are rich with the same ingredient. Gall stones consist of a fatty matter, and occur because more fat is taken than can be digested. Experiments have shown that the utilisation of bacon as a fatty food within the body is less than that of butter, probably because the butter fat is not enclosed in cells. One great purpose served by fat is to lessen the necessity for so much lean flesh meat as would be needed without it. Fat helps materially to support under muscular fatigue. If not supplied as food it may be formed at the expense of the flesh. Easily absorbed fats are of special requirement by scrofulous

children, but animal fats of whatever sort should be reduced to the minimum for gouty persons.

A curious oyl (of paper) is commended by Sir Richard Boyle (1696), as "A potent, but smarting medicine for things growing in the eye: take white paper and let it flame away on a clean pewter platter till there remain so much oyl behind as you think you shall need. Blow off the cinders of the paper, and with a little of your spittle mixt by your finger with the oyl make up a kind of oyntment: which being taken up with a feather is to be applied once or twice a day, as need shall require (and as the patient can bear) to the affected eye: which course is to be continued till the cure be compleated."

Similarly in *A Thousand Notable Things* (1815), it is ordered to "make oil of paper," a little whereof is to be put on a clean feather into the eye that is sore, or dimsighted, and it will help the same marvellously. Burn fair paper on a clean pewter dish, or saucer; or hold a piece of fair paper folded on a knife's point, and set fire on the nethermost end thereof, and hold the same nigh unto the saucer, and out thereof will come a little moist oil, and be on the saucer.

Neat's-foot oil is again an admirable animal fat for inunction by the skin as helping to restore flesh and warmth in atrophy from chronic indigestion; though, saith Grumio to Katharina (*Taming of the Shrew*), "What say you to a neat's foot? I fear it is too choleric a meat." The famous surgeon John Hunter advocated the external application of oils in disease. "Lawran" was a sort of oil used formerly to anoint the ears of deaf persons. Gilbert White relates that oil is extracted from Cockchafers in Kent by boiling these creatures, which are collected by labourers for the purpose.

The Apothecaries of old used to possess themselves of human fat as part of their stock in trade. Pomet (1712) writes: "Everybody knows in Paris that the public executioner sells it, and the druggists vend a sort of it prepared with aromatic herbs, which is without comparison much better than that which comes from the guillotine." This human fat was highly esteemed for rubbing purposes in cases of rheumatism, and similar complaints.

A whimsical Latin line concerning the fat oblations of Scriptural burnt offerings, runs forward as an hexameter, to signify Abel's sacrifice, and backwards as a pentameter, to represent Cain's sacrifice.

"Sacrum pingue dabo, non macrum sacrificabo;
Sacrificabo macrum: non dabo pingue sacrum."

Ecclesiastics are peculiarly prone to fatness, perhaps because of their sedentary habits. The poet Thomson tells thus in his Seasons, "Winter," about:

"A little round fat oily man of God."

OX.

THE Ox is the classic *Bos*, or *Taurus*: Bull. In the *Rich Storehouse of Medicines* (1650) we read: "A good remedy for the strengthening the back is to take in quantity a quart of the pith of an Ox-back, and a quart of muscadine, and boyl them together until they be thick; then take the same, and strain it through a fair linen cloth, and let the party grieved drink five or six spoonfuls thereof at a time every morning fasting, for the space of four or five days together: and it will do him exceedingly much good." This precept was another illustration of an animal extract used curatively of old by intuition for disease of the same animal part in a sick person, such as is scientifically advocated in the present

day. Similarly the urine of the Ox was given for uric acid stone in the bladder of a patient.

As a more whimsical method of cure an old woman in Cornwall had long suffered from great weakness, and was thought to have been ill-wished : so she went to the Teller who was able to lay ghosts, and hobgoblins. He bade her buy a bullock's heart, and get a packet of pound pins. She was to stick the heart as full of pins as she could, and the body that had ill-wished her felt every pin which was run into the bullock's heart as sharply as if it was being run into herself ; the spell was broken off, and the old lady grew strong.

A popular practice of former years is still pursued in some rural districts, of straightway applying a piece of raw beef over the part injured by a fresh contusion or bruise. It certainly happens that subsequent blackness (ecchymosis) is much prevented by this Animal method.

"An Ox because he hath been gelded doth live twenty years ; a bull liveth fifteen years." Sextus Placitus in *Saxon Leechdoms* wrote : "For bad gripings of the bowels let one drink in heated wine a bull's marrow—that amendeth him. For every sore let one take bull's dung fresh in hot water ; soon it healeth." "To remove ugly marks from the face smear with bull's blood, it taketh away all the marks."

The Ox, an emblem of the priesthood, has been awarded to Saint Luke the physician. An entry is to be found in the Bishop's Account Roll (*History of Durham*, A.D. 1426-27) : "Paid to Thomas Egliston for marking sixteen of my lord's Oxen with the mark of Saint Wilfrid, to the intent that they may escape a certain infirmity called the moryn (murrain)."

In *The Rich Storehouse of Medicines* (1650), there is given as "An excellent medicine for the gout: to take shoemaker's spelts, or pieces of ox-hide leather, and fry out all the grease of them; and then lay some of the same grease upon a brown paper, and warm it a little at the fire, and so apply it to the place grieved, and it will take away the pain in one night." Again, Robert Boyle ordered (1696), as "An experienced medicine for the pain of the hemorrhoids: take the sole of an old shoe worn by some man that walks much; cut it in pieces and burn it hot to white or gray ashes, but to a fryable and tender coal; reduce this to impalpable powder, and then with a sufficient quantity of unsalted lard make it into an unguent, wherewith the part affected is to be anointed from time to time."

A "cock and bull story" is said to have originated through a sorry painter drawing a mis-shapen Cock upon a signboard, and writing under it "This is a bull."

Dr. Edward Jenner, in Gloucestershire (1776), as is well known, found that Cows were liable to the occurrence on their udders of certain eruptive vesicles; and that persons who milked such cows, by coming into manual contact with these weeping vesicles, were thereby rendered insusceptible of inoculation by small-pox, or of taking the disease. This was a striking instance of virus cultivated through an animal, and generating in such animal a serum protective to the human subject against small-pox. It led to the inestimably beneficent practice of *vaccination*: for the efficient and safe performance of which public proceeding pure lymph is now cultivated in sound heifers, and preserved enduringly with incorruptible glycerine, being freely provided for general uses at the National cost.

OYSTER.

THE Oyster (*Ostrea edulis*) is a well-known and highly popular mollusc, specially rich in phosphates which serve to replenish defective structures, and to restore vital forces in the body: it is easily digestible by most persons, and therefore specially suited to invalid stomachs. The Oyster has been extolled for its nutritive qualities since the old Roman days of Horace and Martial, and of the oyster beds at Baiæ, which was the Brighton of the Roman Empire. British oysters were celebrated by Juvenal; and the Romans when in Britain obtained them chiefly from Rutupiaë (Richborough). Nero at the first taste, says Juvenal, knew whether the oysters served at his table had been bred at Circœi, or at the Lucrine rock, or in the beds of Rutupiaë. The following lines were written of him (or of some other Roman epicure) who:—

"Circœis nata forent, an
Lucrinum ad Saxum, Rutupinove edita fundo
Ostrœa, callebat primo deprendere morsu."

"At the first bite each oyster's birth-place knew,
Whether a Lucrine or Circœan one he'd bitten,
Or one from the Rutupian deeps in Britain."

Apicius in the reign of Trajan possessed a particular receipt for fattening oysters; they were probably pickled, being washed with vinegar, and preserved in jars smeared over with pitch. Athenian *gourmets* ate raw oysters, the shells being dextrously opened by a slave at the table in the presence of the guests, for whom the fattest and best of the bivalves had been kept separately in a light purple net.

Greek Restaurants became established in Rome at which oysters from Cape Pelorus were served with a dressing of Marsh Mallows and fine herbs. At the Latin Eating Houses a favourite sauce with oysters was a

mixture of pepper and alisander, yolks of eggs, vinègar, garum (a condiment made of pickled fish), wine, and honey.

Oysters contain albuminous, gelatinous, and fatty matters, muscular filaments, and creatin. One of these molluscs is composed, speaking roughly, of water eighty-five parts, organic matter one and a half parts, with mineral matters and silica two and three quarter parts. The principal constituent of the shell is carbonate of lime, its remaining organic elements being phosphate and sulphate of lime and magnesia, silica, oxide of iron, and alumina.

By helping to cure pulmonary disease through the action of its iodine, iron, sulphur, and marine lime salts, whilst promoting at the same time the general vitality by its special nutriment, the oyster is an admirable combination of food and physic. The liquor with which it is found to be furnished inside the shell when opened, is particularly rich in these curative and restorative constituents; it has a composition quite different from that of sea water, containing a notable amount of albumen, besides flocculent vegetable matter, and numerous animalculæ. The physiologist Payen computed that sixteen dozen oysters of moderate size would furnish enough protein (food of primary requirement) to suffice for one day's subsistence of a male adult.

Among the antiquities discovered at Cirencester was a Roman oyster knife, which was presented to the British Association in 1856.

Ambrose Paré, a noted French doctor in 1550, wrote a treatise on oysters as medicinally strengthening, in which he further advocated their application in the shell directly over any inflamed, or angrily sore part. Harry Monmouth was partial to oysters: in a

cookery book compiled during his reign was ordered a "dariolet" to be served at the Coronation banquet, this being a sort of gigantic oyster patty, the molluscs in which were dressed with a rich cream. George the First preferred stale oysters.

Five years are needed for the oyster to attain its full growth. A French writer has said there is no alimentary substance, not even excepting bread, which does not produce indigestion under given circumstances; but the oyster never. Warm milk is drunk with oysters in Paris; it is believed to be their *seul dissolvant*.

"The herring loves the merry moonlight,
The mackerel loves the wind;
But the oyster loves the dredging song,
For they come of a gentle kind."

Raw oysters to be thoroughly enjoyed must be literally lapped from the concave half shell—liquor and all. Epicures declare it barbarous to squeeze fresh lemon juice over oysters, or to employ vinegar with pepper for this purpose; nevertheless it is to be remembered that the oyster consists largely of albumen, which is aided in its digestion by the addition thereto of some vegetable acid, or else it may become hard and leathery in the stomach. The great Dr. Johnson (as Mrs. Piozzi relates in one of her letters to Mr. Duppa) poured oyster sauce over his plum pudding. Dando, the notorious tavern bilk, swallowed sixteen dozen oysters easily in a day; but he never paid for his voracious entertainment.

"Happy the man" says John Philips in the *Splendid Shilling*, written 1703, as a parody on the epic style of Milton:—

"Happy the man who, void of cares and strife,
In silken or in leathern purse retains
A Splendid Shilling. He nor hears with pain
New oysters cried, nor sighs for cheerful ale."

"Felix cui modicâ non deficiente crumenâ
Tinnulus argenteo splendescit lumine nummus:
Ostrea non frustra gratam venalia cœnam
Nunciat impranso raucus per compita præco,
Nec gemit optatos, ceu Tantalus alter, ad haustus."

Formerly a "whistling oyster" was exhibited at a small shop in Vinegar Yard, Drury Lane, and made the house for a time very popular.

The Oyster (Yeo) consists chiefly of a soft and a hard portion; the soft part is the liver, which is very digestible; the hard part is the muscle which binds the shells together, and is not nearly so wholesome, so that it should not be eaten by those of weakly digestive powers. Oysters found near Milton, in Kent, are known as "Natives;" they are small, round, plump, and white. The age of an oyster is chronicled by the layers, or plates, of the shell, each of which marks a year. In scalloped, or stewed oysters the heat coagulates their albumen, and wrinkles up the fibrin, thus rendering them less easily soluble by the gastric juice of the stomach; also the melted butter often served as an accompaniment adds to the indigestibility. Dr. Johnson compared scalloped oysters to "children's ears dressed in sawdust."

A local proverb, says Fuller in his *Book of Worthies*, tells that "The Mayor of Northampton opens oysters with his dagger." He adds, "this town being eighty miles from the sea its shell fish may be presumed to be stale thereat." Heliogabalus (in common with George the First) liked his fish a trifle stale, not caring for oysters till their shells began to gape spontaneously. King James was wont to say, "He must have been a very valiant man who first adventured on the eating of oysters: most probably mere hunger put men first on that tryal."

Oysters are the only meat which men devour alive, and yet count it no cruelty. The oyster by a paradox lives in its bed, and dies when taken out of it.

A property of stimulating the sexual impulses is ascribed to oysters. So Byron avows in *Don Juan*: "Oysters and eggs are amatory food." "What capital things," said a wit, "oysters would be, if we could only feed our servants on the shells." The "beard" is the branchiæ or gills. Emsworth oysters are mentioned in *Domesday Book*."

St. James the Great of Spain was the patron Saint of these molluscs: and there is a vulgar superstition that whoever eats oysters on August 4th, St. James's Day, will never want money. This is the traditional day for first opening the oyster; and children then make grottoes of the shells in the streets, and collect pence from the passers-by, with a customary refrain of "Please remember the grotto"; which is really a memorial of the shrine of St. James at Compostella. For invalids oyster sauce out of which the cooked oysters (which become tough when boiled) have been first removed, is a highly nutritious condiment containing all the liquor, and the best principles of the oyster. It was Voltaire who said of the English people, "They cut off their kings' heads, and their horses' tails; they have a hundred religions, and only one sauce."

Within the last five or six years a mistrust of oysters has possessed the public mind because of the fact that certain water-borne diseases, especially typhoid fever, have been undeniably conveyed by such oysters, and other molluscs, through the access of crude sewage to their beds. In January, 1895, Sir William Broadbent recorded twelve cases of typhoid fever, each of which was convincingly traceable to eating oysters; and the

same calamitous result has clearly resulted from a like cause in many other instances within recent years. In a report on this important subject subsequently made by the British Medical Association it was stated that undoubtedly large numbers of dead oysters are daily consumed by the public, oysters that have died in the fishmonger's shop, or supper room, and recognisable, at any rate for a few days, only by an expert or an epicure. Nevertheless, the effect of eating merely stale, or simply unwholesome oysters would not be a gradual development of specific typhoid fever (after hatching this from eight to twelve days), but rather the speedy onset of sickness, diarrhoea, or even choleraic symptoms.

It would seem that oyster cultivators on some of our shores, finding that a certain admixture of fresh water proves favourable to fattening and delicacy of flavour, though an excess thereof causes rapid deterioration, had placed the oyster beds near the mouths of rivers, or of enclosed arms of the sea into which is discharged the sewage of large towns, or of numerous villages; and when the report now alluded to was drawn up it had been certainly found that in some localities sewage made its way into highly suspicious proximity to the oyster beds, and the molluscs were eaten raw with more or less of the water enclosed.

But on the whole the inquiries and inspections instituted are "decidedly reassuring," and show that "so far as the Kentish and Essex fisheries are concerned the beds in which the oysters are laid out to fatten are not in the majority of instances exposed to any appreciable risk of sewage pollution." "At the same time it could not be asserted that the mischief had arisen through imported oysters," for the so-called "dutch natives," scarcely inferior to those of Colchester, are laid down

on the shores of the Zuyder Zee, where sewers remain unknown, and where all excrement is applied directly to the soil. Any suspected oysters before coming to table should first be put for several days into salt and water, without food, to scour themselves from ptomaines which may possibly be present; and then the oyster can be eaten with impunity.

Dr. Peter Hood has succinctly related the case of an old lady in Hertfordshire who, after having suffered from positive cancer of the breast, caused it to entirely separate by a steady perseverance in the medicinal use of oyster-shell powder. At the same time she lived principally upon bread and milk, seldom eating meat. She was led to take these steps because of a similar cure which came within her knowledge on a gentleman who had a tumour in his cheek, of the size of a small orange, which was pronounced by Sir Astley Cooper to be a cancerous tumour, he advising its prompt removal, and saying that unless this were done the patient would not live six months. But under treatment by oyster-shell powder in less than six months the tumour had entirely disappeared, and perfect health was restored. The old lady, aged eighty, lived for two years after Dr. Hood had seen her. The wound, he adds, resulting from the separation of the breast never entirely healed, but she did not complain at any time of discomfort from it. When Dr. Hood inspected it this was comparatively dry, with only a slight sanious discolouration of the linen with which she kept it covered. Sir Spencer Wells broached the view, about which he had become convinced, that a starvation of fibroid tumours by lime slowly deposited in the blood-vessels feeding them, may be often produced (resembling the spontaneous change which sometimes occurs in such

tumours) by giving calcareous elements medicinally. He had read some years previously Dr. McClintock's observations on the chloride of lime, and had in consequence been led to prescribe lime freely in the treatment of tumours. He added (as Dr. Hood relates) his opinion that if the lime were continued too long, all the arteries of the body, and not only those going to the tumour, would begin to degenerate, the first evidence being the formation of a white calcareous ring round the pupil of the eye.

To prepare the oyster-shell powder bake a quantity of the shells, using those which are concave, half a peck or more, for three nights in a slow oven; then scrape out the small white part within each shell; powder these parts finely, and take as much of the powder as will lie on a shilling once or twice a day in a little warm water, or tea. If this seems to affect the system at all uncomfortably, then desist for a day or two, and afterwards commence again. Should an ointment be thought desirable, mix some of the powder with unsalted lard, or cream, or quite fresh butter, and apply it. This treatment generally requires perseverance for three or four months before its curative effects begin to be perceived.

Dr. Hughes, Brighton, thinks that a specific remedial effect is produced by triturated lime in oyster shells on the constitution at large, over and above any calcification of blood vessels, such as is problematical.

Oyster-shell lime dissolved in vinegar to a saturated solution was given by Hahnemann to four provers. It produced in each instance much acidity of the stomach, with a severe cold headache of the migraine character. For the radical cure of this latter evil, so often intractable, the tincture (H.) of *Calcareo acetica* (vinegar of lime) has been eminently useful.

Again, if equal parts of finely powdered clean oyster-shell and quite pure precipitated sulphur powder are mixed together and the mixture is kept heated to white heat for ten minutes in a crucible hermetically closed, the resulting compound will be a sulphide of calcium, or liver of sulphur (*Hepar sulphuris calcareum*). This substance, being a combination of two great constitutional medicines, sulphur and lime, possesses points of medicinal resemblance to each element, affecting the skin like sulphur, and the glands like lime, whilst exercising a third special, and separate action of its own. Thus it will often check the formation of matter when threatened as an abscess, or a suppurating boil, besides promoting its favourable course when this cannot be prevented, and bringing it to a speedy issue. For such a purpose Dr. Ringer, speaking with authority, finds even the eightieth part of a grain, given dissolved in water three or four times in the twenty-four hours, sufficient to produce these effects. But the solution must always be freshly made, as it quickly volatilises, and becomes inert.

The liver of sulphur can exert likewise a remedial influence on the lining membranes of the chest, and throat, and windpipe. Rubbed up with powdered sugar of milk, one part to ninety-nine, and given in ten-grain doses of this well mixed powder, it displays all such curative effects. To make the official oyster shells, "testoë ostreoë," the hollow shells are ordered to be used because they contain more carbonate of lime.

Some further notice of Sulphur as a medicament of leading importance for several curative purposes of much moment may well be here introduced. Paracelsus as far back as in his time taught how "to make oyle of sulphure, which is a great secret." After the elaborate proceedings which he directed had been brought to an

issue, "then hast thou an oyl the which is a great treasure, and the which keepe in a glasse, for it will helpe the poxe, and all outward sores, and ulcerations, and filthy sores the which will not be helpe; it is also excellent against the rose and the pestilence."

Sulphur, in the form of sulphurous acid, as obtained by burning it in the atmosphere, is a powerful disinfectant, and killer of germs; but if the fumes are respired strongly they will induce asthmatic breathing, just such as sulphur given medicinally in small diluted doses will serve to signally relieve. Even the Sulphurous Springs of Eaux Bonnes will sometimes cause blood-spitting in consumptive patients sent to them for curative relief, their stimulation being so strong that an artificial asthma is created. Sulphur quickens the circulation in the skin, and determines a venous turgidity of the lower bowel. Its tincture (H.) which has to be made with absolute alcohol, and then holds in solution only one per cent. of the substance, is remarkably curative (in small doses) of skin diseases, and of piles.

In massive doses sulphur is an aperient, of a mild character, but constipation presently follows. Toxic quantities of sulphur were found to produce in its provers pains closely resembling those of rheumatism, which caused troublesome wakefulness without ability to go to sleep again. For this sort of insomnia, as well as notably for rheumatism, quite moderate doses of the sulphur tincture always prove of true service. In nearly every chronic ailment the remedial treatment may be advantageously commenced with a few doses of diluted sulphur.

Dr. Hughes says he knows a physician in Saxony who has obtained a great reputation for curing divers obstinate maladies by adding, without understanding

why, flowers of sulphur to each one of his prescriptions. But the good effects of these large toxic doses are not lasting. Sir Benjamin Richardson wrote recently, "There is a peculiar offensive sulphur compound called mercaptan, a little of which when administered to anyone produces the most intense melancholy, tending well nigh to suicide;" and "we can sometimes detect a similar offensive substance in the breath of patients who are suffering from melancholia." The administration of this sulphur compound (sufficiently diluted, and thoughtfully regulated) in such cases may be very hopefully advised.

Respecting Sulphur, its consideration explains the probable rationale of cinder tea as given popularly in Lancashire by practical mothers to their flatulent babes. Doctors prescribe curatively for this infantine trouble hyposulphite of soda, which is a chemical combination of the corrective sulphur with the antacid soda; and practically cinder tea comes to the same thing, as the sulphur of the cinders (everyone knows their diabolical smell when wetted) and the alkaline potash, or lye, are medicinally present in the homely infusion. For corns and warts, which, though hypertrophied conditions of the skin locally, yet have behind them a constitutional bias, sulphur in small doses given at spare intervals will bring about the gradual eradication of these troublesome outgrowths.

Also sulphur cures piles by virtue of its general dynamic action upon the veins throughout the body, and upon the whole skin; not merely as a laxative to the lower bowel, as some suppose. So much then for this mineral!

Prepared earthy chalk is by no means an adequate substitute for such an animal preparation thereof as exists

in the oyster-shell, which contains phosphate as well as carbonate of lime; hence this is more acceptable to the stomach, more readily absorbed into the system, and less constipating. Richter taught that the animal carbonates in general derange the stomach less than chalky mineral medicines; and that they are therefore preferable cannot be controverted. As an ordinary dose, oyster-shell powder may be prescribed from five to thirty grains.

In Colchester an annual oyster feast is held on October 25th. One of the local poets has sung about the appetising mollusc:—

“ In spite of foes which everywhere abound
The cool impassive oyster holds his ground :
Tenacious, firm, in temper unexcelled,
His mouth kept shut unless he be compelled,
And then imparting only what he should,
Not for his own, but for the public good.”

Thackeray once ate an American oyster, “huge, long, and grey,” which, said he, “made me feel as if I had swallowed a baby.”

“Not worth an oyster” was a common saying in Chaucer’s time, which signified a man so poor and humble as to be reduced to shell fish for sustenance. Thus the Sompnere:—

“For many a muscle, and many an oistre,
When other men have been full wel at ese,
Hath been our food.”

And Hood sang pathetically in the same strain:—

“What different fates our stars accord!
This babe to be hail’d, and wooed as a lord;
And that to be shunned like a leper!
One to the world’s wine, and honey and corn;
Another, like Colchester native, is born
To its vinegar only, and pepper!”

PANCREAS.

THE Pancreas, or “Stomach-bread” of an animal (such as a Sheep, Calf, or Pig), is not the Sweet-bread, though

often so called. Butchers are fond of palming off this organ as a sweet-bread (which is, when true, the thymus gland of the calf, taken from the front of its throat). But the Pancreas is connected with the stomach, and is not nearly so digestible as the delicate throat gland; its large veins and arteries reveal its nature even when this stomach-bread is chopped up.

Though ill-suited as a tender dish for the invalid, yet the Pancreas taken from a healthy animal will subserve an important medicinal end for a patient whose own stomach-bread (pancreas) is impaired. The function of this stomach-bread is to supply a special ferment to the food after it has first undergone stomach changes, and has been passed on into the bowels for intestinal digestion. Such a ferment (zymin) is essential for the conversion of fats and oils into useful elementary nourishment, and for turning starches into sugar. If the stomach-bread is taken away from a living animal, the disease called diabetes ensues, the blood being loaded with sugar; but if a small portion of the stomach-bread is left, or if a piece of another living animal's stomach-bread is grafted under the skin of the belly in the first animal, then diabetes does not occur. Clearly therefore the function in health of the stomach-bread is to deal with substances which supply sugar, and fat; and when this gland is diseased in the human subject, curative effects over the ill consequences can be wrought by giving extracts of a healthy animal gland as medicine, or injecting them under the skin. Tabloids containing these extracts of the animal pancreas (stomach-bread) are now carefully prepared, and supplied by our leading manufacturing chemists. The pancreatin, or active principle of the stomach-bread is alkaline, and would become spoilt by the acid juice of the stomach if swallowed before it

could reach its sphere of action in the intestines ; but the chemists overcome this difficulty by enclosing the pancreatin in a small horny capsule (of keratin) soluble only by alkaline fluids such as those of the intestines, and not to be first dissolved by the acid gastric juice of the stomach. It is for this reason that the "pancreatic emulsions" prepared incautiously with fatty, and starchy food, saponified by pancreatin, are practically useless : they suffer damage in the acid stomach before reaching their own proper place of alkaline work. In the pancreatic juice of man are contained four distinct digestive ferments,—strypsin, diastase, a milk curdling element, and a soap making ferment. A number of cases are on record in which pancreatic injections have either been the means of saving life permanently, or have prolonged life in desperately incurable cases beyond the term when it must otherwise have come to an end.

PEACOCK.

THE Peacock (*Pavo, Avis Junonis*) is an Asiatic bird, and is now in India a great object of sport. It was called also of old *Avis Medica*, because of its curative virtues.

Bartholomæus Anglicus wrote (1250) : "The Peacock hath an unsteadfast, and evil shapen head ; as it were the head of a serpent, and with a crest ; and he hath a simple pace, and small neck and areared, and a blue breast, and a tail full of eyes distinguished, and high with wonder fairness, and he hath foulest feet, and revelled, and he wondereth of the fairness of his feathers, and areareth them up as it were a circle about his head, and then he looketh to his feet, and seeth the foulness of his feet, and like as he were ashamed he letteth his feathers fall suddenly, and all the tail downwards, as

though he took no heed of the fairness of his feathers ; and, as one saith, he hath the voice of a fiend, head of a serpent, pace of a thief, for he hath an horrible voice."

The Peacock was first brought to table by Quintus Hortensius, Roman orator, and advocate, who loved its flesh, and the eggs of the Peahen, even at twenty pence a piece. It was sometimes served of old covered about with gold leaf instead of feathers, being stuffed with spices, and dished on a golden or silver lordly charger, holding in its beak a piece of blazing camphor, and usually brought to the board by a gentlewoman of high degree. After the jousting in the lists at an old English Banquet the Peacock was sometimes borne to the feast by the Queen of the tournament, who placed it before the Knight of the highest valour and exploits. On such occasions this Knight of distinction, before carving the bird, renewed, over its gaudy plumage, or gilt surface, his oaths of chivalric devotion. To the same knightly practice of swearing loyalty "over the hackel" (which contained in Elizabeth's time a minced stuffing like that of a game pie, more often than the mere flesh of the bird) Justice Shallow was indebted, as some think, for his oath "By cock and pie."

"By the Peacock" was at one time a sacred adjuration, it being fabled of old that the flesh of this bird is incorruptible ; and therefore the Peacock was taken as a type of the resurrection. It was sometimes cooked whole by the Romans, but when brought to table in its plumage it showed that the meat having been first dissected by the carver was restored to the interior of the hackel. Flourishes of trumpets accompanied the bringing in of the bird in feudal English

days ; whence *Cornez le diner*, Blow the horn for dinner, was equivalent to what Byron called in modern times "The tocsin of the soul, the dinner bell ;" and, for a like reason, later on, salted beef, then the prevailing dish, was said to be corneyed, or corned, a term still used. In Queen Anne's time the populace huzzaed for Dr. Sacheverill at feasts (commemorated by Dr. King), whereat

"A caldron of fat beef, and stoup of ale
On the huzzaing mob did more prevail
Than if you gave them with the nicest art
Ragouts of Peacocks' brains, and filbert tart."

To *carve* a peacock, "the food of lovers, and the feast of lords," was to disfigure it.

Robert Lovell (1661) told about these birds, when they cry much in the night they foretell raine. "Alluding to the wasteful way in which the Peacock was cooked at his date, Massinger, in the *City Madam*," makes Holdfast speak of three fat wethers bruised (braised) to supply sauce for a single Peacock. Dr. Kitchener pronounced that its scarcity nowadays, and its external appearance are the only recommendations, the meat of it being tasteless and tough, so that we scarcely ever see the bird at table. Why a "Pythagorean would have eaten a peacock sooner than one of us would have injured a robin," is a curious question propounded in the folk-lore of Lancashire and Wales.

As an Animal Simple in mediæval English times, the Peacock was reputed by its broth, if fat, to cure pleurisies ; its eggs if eaten would cure the rheumatism ; the tongue was good against the epilepsie ; the bones in powder with vinegar availed against morphew (*mort feu*, dead fire, a white scurf on the face), and leprosie ; the feathers were used in fumes against

the rising of the Mother (Hysterics); the gall cleared the eyesight; and the dung given dry in powder, a drachm at any time for many days together, healed the falling sickness. Crato mixed it with sugar; or it was to be steeped in wine overnight, and strained; then administered from the new moon to the full. The *Stercus Pavonis* (Peacock's dung), wrote Dr. Quincy (1730), "is reckoned a specific in epilepsies: and Dr. Pitcairn, from experience, much commends its use in a vertigo, which distemper has a great affinity with the former." Saint Augustine said he had ascertained by experiment that the flesh of the Peacock is not subject to decay. In former days Peacocks and Swans were sold in the Market at Tunbridge Wells; "which birds," said Mr. Peter Causton, "were but in small esteem."

PEARLS.

PEARLS, the jewels of the sea, are small accidental excrescences found in the shell of the pearl-oyster, or, more truly, the pearl mussel (*Avicula margaritifera*), being often buried in the mollusc's body, but more commonly discovered adhering to one of the valves of its shell. Some writers suppose them the product of disease which makes the animal suddenly cast out these pearly concretions as excessive calcareous matter; others regard the pearls as healthily secreted with a view to strengthen certain parts of the shell. They may be justly ranked among Animal simples of a remedial sort, being manifestly absorbent, and actively antacid.

Pliny says that pearls were first formed by the dews of heaven falling into the open oyster shell at the breeding time; but cloudy weather then spoilt the colour, and lightning stopped the growth, whilst thunder made the mollusc miscarry, and eject hollow

husks called bubbles (physemata). "The clouds for joy in pearls weep down their showers." Certain occult virtues of the Pearl were highly esteemed in the Middle ages, and were thought to be practically developed if the pearls were boiled in meat, which would then heal the quartan ague; if bruised and taken with milk they were good for ulcers, and cleared the voice; they would comfort the heart as a cordial, and make their possessor chaste. Furthermore, they were considered when powdered to be invaluable for most stomach complaints. The Greeks and Romans wore them as amulets. Pope Adrian, wishing to secure all virtues in his favour, assumed a periapt of sun-baked toads, and pearls. Marco Polo told, in the thirteenth century, of people who, when a dead body was burnt, put a rose-coloured pearl in the mouth.

Dr. Salmon wrote of the Pearl in the *New London Dispensatory*, as *Margarita Perla*, *unio* (because the ancients supposed there was never but one in an oyster), or *Lapis erithreus*, either oriental or occidental, found in sea shell-fish, the first near the Persian or Indian ocean, the latter upon the coast of Scotland, Silesia, and other parts of the western world; but nothing nearly so good as the oriental. They strengthen and comfort the heart, revive the spirits, and refresh all the principal parts. In collyriums they strengthen the eyes, they cure melancholy, help those which are subject to cardiack passions, and defend against all pestilential diseases. They are good against the flux of the belly proceeding from the slipperiness of the intestines, by reason of which the food passes undigested. They are put into *Manus Christi* (see "Ass"), against faintings; they cleanse the teeth and make them white." Schroder saith: "They are so famous that men in the

greatest agonies are refreshed thereby. They cure heartburnings beyond other medicines, and are the chief of all cordial medicaments; the crude powder is, in my opinion, much beyond the salt of magistracy."

In Dr. Thomas Fuller's *Body of Prescripts* (1710) were ordered, a Pearl antiphthisic julep, a temperate Pearl cordial julep, a warm Pearl cordial julep, a Pearl hysteric julep, and our Sugar of pearl; "To obtain which take white sugar candy powdered and searsed (sifted), three ounces; pearl prepared, one ounce; mix these into a subtle powder. Its use is for making up of Pearl juleps speedily and easily."

In 1696 the College of Physicians ordered concerning Pearls to: "Beat them in a steel or iron mortar, and levigate them on a marble with a little rose-water till they are in a fine powder; then make them into balls." "In the salt or magistracy of pearls, though vinegar is ordered by the College as a dissolvent, yet we know by experience that juyce of lemons, or spirit of sulphur, dissolves them much better and easier. Outwardly some use the magistracy as a 'fucus' for the face, mingled with pomatum."

"The essence of Pearl, made with vinegar and repeated distillations, is inferior to no cordial; it strengthens the heart, fortifies nature, revives all the spirits—natural, vital, and animal,—and creates all the natural powers; it is anodyne and analeptick, restoring in consumptions. Outwardly it is one of the rarest cosmeticks yet known in the world; if the skin be clean, and if it be well laid on, will lye about thirty days, nor in that space of time need it be renewed." "All pearl," as M. Lemery thought, "is esteemed cordial and proper against infection, to recruit and restore lost spirits; but their chief virtue is to destroy and kill the acids as other alkalis

do, and likewise to correct the acrimony of the stomach. Pearl is also good against a canine appetite, a flux of the belly, the hemorrhage, etc. ; the dose is from six or ten grains to a dram." And M. Pomet praises the use of Pearl to be put into potions, or other cordial compositions. "The ladies of quality use the fine-ground powder of it to give a lustre and beauty to the face ; they make of it likewise, with acids, a magistery and a salt, to which they attribute large virtues ; besides other imaginary preparations, as the 'Arcanum of Pearl,' the flowers, spirits, essences and tinctures, and the like, to pick fools' pockets ; but the best and only useful preparation of it is the powder well levigated."

The famous feat of swallowing a costly pearl related of Cleopatra had been tried before by Clodius, the son of Cæsus the player, who discovered that pearls in solution possess a most exquisite flavour.

"Filius Cæsi detractam ex aure Metellæ,
Scilicet ut decies solidum absorberet, aceto
Diluit insignem baccam ; qui sanior ac si
Illud idem in rapidum flumen, jaceretve cloacam ?"
Horace, *Sermonum*, libr. ii. 239-242.

"The foolish son of Cæsus took a pearl
From out the ear-lobe of the Roman girl,
Metella ; this, which ranked in worth
Ten times or more its weight of gold, with mirth
Of brainless sort he solved in acid wine,
And drank the same, deeming the action fine !—
More sense the dolt had shown the gem to throw
Into the rapid stream, or sewer below !"

Pearls may be artificially produced by drilling a hole almost through one of the shell valves, when the animal will secrete a pearl upon that part of its shell. The Pearl mussels are taken by experienced divers, seven years being the period required before the pearl-oyster arrives at perfection.

Bacon gave it as his opinion (*Sylva sylvarum*): "There are many things which operate upon the spirits of man by secret sympathy and antipathy; that precious stones have virtues in the wearing has been anciently and generally received": "*Christianos fidem in verbis, Judæos in lapidibus pretiosis, et Paganos in herbis ponere.*"

The Jewish rabbins and some modern commentators translate "*bdellium*" of the Old Testament Scriptures as "pearl"; but it is more than probable that the pearl was yet unknown in the time of Moses. The modest splendour and purity of the jewel made it the favourite of all others among the Orientals; but pearls, if put away, after a time lose all their orient, they require the sunshine to keep them bright. River pearls are but of small commercial value.

As a jewel the pearl signifies humility, purity, innocence, and a retiring spirit. A motto was adopted for it in Venice (1684): "*Rore divino.*" The wife of Francesco de Medici took as her device the sun shining upon a pearl just emerged from the sea, with the motto, "*In splendorem, tu vigorem.*" And Margaret of Austria, in 1530, had a pearl shining out of its shell, with the legend, "*Deus matura Corona*": "God gives stability to the Crown." "Rich honesty," saith Touchstone, "dwells like a miser, sir, in a poor house, as your pearl in a foul oyster."

To "take the Pearl from a Piper's eye" was to remove a white thickening from the cornea, or outermost eye membrane of a blind fiddler; or, indeed, to make a purblind man see clearly.

The large fresh water Pearl-mussel (*Unio Margariferus*) has been known for ages in Scotland, where it produces Scotch pearls, which are now and then of value. Old writers assure us that it was these English

jewels that tempted Julius Cæsar to renew his visit to our island. Conway river pearls are cultivated in Wales.

Sir Thomas Gresham had the vanity and folly to swallow a pearl when Queen Elizabeth dined at a City banquet after her visit to the Royal Exchange. Ben Jonson, in the *Alchemist*, talks of the tongues of carps, dormice, and camels' heels, boil'd in the spirit of sol with dissolved pearl, as Apicius' diet 'gainst the epilepsy." The poet Gay was moved to think about the pearl-oyster:—

“The man had sure a palate covered o'er
With steel or brass that on the rocky shore
First ope'd the oozy oyster's pearly coat,
And risked the living morsel down his throat.”

The Pearl was called “Unio” either because found singly (one only) in the shell, or because growing in the form of a single bulb like an onion. Burton writes: “Those smaller unions which are found in shells amongst the Persians and Indians are very cordial, and most part avail to the exhilaration of the heart.”

But high spirits when occurring to singularity are often the presage of misfortune. Percy Bysshe Shelley, during all the time he spent in Leghorn, was in brilliant spirits,—“to him a sure prognostic of coming evil.” The same thing will happen just before a serious illness; and the reason why suggests a curious physiological question. “Grimaldi on the night of his death,” says Dickens, “bade his companion good night most cheerfully; soon afterwards his body was found dead and cold in bed.”

“How oft, when men are at the point of death,
Have they been merry! which their keepers call
A lightning before death.”

Romeo and Juliet, Act v, Sc. 3.

PEPSIN.

PEPSIN is the active principle of the gastric juice which the lining membrane of the stomach pours out for digesting the food (of an albuminous sort) taken into it at a meal. When this natural juice becomes deficient through deranged health of the stomach, then artificial Pepsin, obtained from the stomach of a healthy animal freshly killed, may be given in substitution. This retains its activity only in the presence of an acid; hence it is that the addition of a little muriatic (hydrochloric) acid materially assists its use.

Pepsin does not serve to digest fats, or starchy foods. It is prepared from the mucous membrane which lines the healthy stomach, when fresh, of a pig, sheep, or calf. The cleansed mucous membrane is scraped with a blunt knife, and the viscid pulp thus obtained is spread on glass and dried at a moderate heat. It is then powdered, and kept in a stoppered bottle.

Pepsin is of service for the above reasons, when judiciously prescribed, to aged and weakly persons; though its beneficial action is generally thought to be qualitative rather than quantitative, serving, in a dose far too small for becoming a sufficient ferment, to stimulate afresh the sum total (whatever this may be) of the digestive energies, and to make the stomach secrete anew the complement of its gastric juice. In man the gastric juice contains two distinct digestive ferments,—pepsin, and a curdling ferment. When Sir James Clark went with the Queen to the French Exhibition in 1855 he brought back with him some Pepsin as prepared by Monsieur Boudault, which contained no starch or sugar of milk; and he induced the English doctors to give it a trial. It has been an established remedy ever since. From two to five

grains should be given during, or immediately after, a mixed meal, being sprinkled between thin slices of bread, or wrapped in wet tissue paper.

When meat is macerated in water, with muriatic acid added thereto (this being the chemical analogue of gastric juice), it soon becomes putrid; but when sufficient Pepsin has been added to digest the meat it remains perfectly sweet for a long time. So from this it may be seen that animal foods, if properly digested, will produce no inconvenience whilst lying within the intestines; whilst, if ill-digested, they soon begin to decompose during their passage through the body, and to evolve noxious products which are absorbed harmfully into the whole system. Beef tea may be peptonised with pepsin before being swallowed, and it is thus rendered richer in peptones (soluble albuminates), becoming equivalent in value to milk as regards the nitrogenous parts, because peptonised foods are, strictly speaking, artificially digested albuminates. As regards the fats and starches of foods taken into the stomach they are not influenced at all by the gastric juice within the stomach, but they pass on in their unchanged state into the intestines so as to be acted on by the ferments of the stomach-bread (*pancreas*, *which see*).

To preserve Pepsin in a liquid state glycerine is the only reliable agent. In some cases of asthma dependent on faulty digestion, Pepsin is very useful. It is now known that in temperate regions those persons who are engaged in the fishing trade, and who subsist chiefly on the poorer kinds of fish, are very liable to leprosy eruptions on the skin. In such persons the habitual use of Pepsin will prevent putrid changes, and the formation of ptomaines, proving likewise curative even when the trouble has become chronic.

PIG.

THE Pig (*Sus scrofa*), in the male, Hog, or Boar, has been very anciently known. It is a familiar fact that the Jews of old were forbidden to eat the flesh of this animal by reason of its filthy habits, and because of its tendency to engender skin diseases,—especially that of leprosy. “Swines’ flesh,” said old Fuller (*Book of Worthies*, 1642), “is observed most nutritive of men’s bodies because of its assimilation thereunto. Yet was the eating thereof forbidden to the Jewes because (besides the absolute will of the Lawgiver) in hot countries men’s bodies are subject to the measles and leprosy, who have their greatest repast on swines’ flesh. For, the climate of Canaan was all the year long as hot as England betwixt May and Michaelmas; and it is penal with us for any butcher in that term to kill any pork in the publick shambles.” Pig’s flesh is more gelatinous than beef, or mutton: and gelatine is a typical medium for the development of germ life. At Bartholomew Fair (August 24th), a pig used to be roasted whole, and sold piping hot. This Fair was held in Smithfield from 1133 to 1855.

The Boar was in old times dedicated to the Sun, which the ancient Britons worshipped. At the time of its winter solstice, in expectation now of longer days again, the people feasted on this sacred animal; hence has been derived the popularity of boar’s head, and of pork pies, at Christmas. In Scandinavia little cakes resembling a boar or pig are eaten to celebrate the turn of the shortest day. St. Anthony was the patron saint of hogs, having a pig for his attendant in all pictures. The Greeks and early Romans were great consumers of fat, so that among them pork was held in high esteem.

About bacon-fat said Fuller: “Hantshire hoggs are

allowed by all to be the best for this. Here, in the forrest, swine feed on plenty of acorns (men's meat in the golden age, hogs' food in this of iron). No bancks of lean can be seen for the deluge of fat in their flesh, which is no less delicious to the taste than more wholesome for the stomach." Hogs' lard is the purified fat; and used to be called "axunge" from being employed to grease a wheel, "*Axem unguere.*" It should have little or no taste or odour, but becomes rancid because of its *elaine* when exposed to the air; it is nutritious, but not easy of digestion; applied topically, it soothes and softens. Lard when impregnated with Benzoin becomes antiseptic; and to rub the whole body with this lard in scarlet fever protects the skin from the air and lessens the irritation or itching, whilst lowering the temperature and quieting the pulse; it also detains the particles when peeling of the outer skin is going on, thus restricting the area of infection. Moreover, it prevents any general chill to the skin such as sometimes causes scarlatinal dropsy even in slight cases.

Pork as animal fat, and boiled beans as vegetable albumen, make a complete meal, of which the combined character is as scientific as it is popular. This is the national dish of the American States. The Pig is the only animal which furnishes blood as a distinct article of food. Mixed with fat and condiments, whilst enclosed within the cleansed intestines, pigs' blood constitutes what is known as black pudding (*apex abo*). This sometimes, if kept too long, acquires highly deleterious properties owing to the peculiar fatty acid developed (botulinic). Cardinal Zinzerdorf deemed pigs of no use except for their blood, of which he used to make a bath for his legs and feet whenever he had the gout. Sextus Placitus, in *Saxon Leechdoms*, has ordered, in the

primitive days of English medicine, "For strangury and sore of bladder," to "take a boar's bladder with the mie (urine), and heave (hang) it up, and abide until that the wet is flown off; afterwards seethe it, and give it to eat to him who suffers the trouble: wonderfully it healeth. Also for them who mie (micturate) and cannot retain their water, a boar's bladder, roasted and given to be eaten, healeth the misease." These are again other instances of a healthy animal organ being ordered in the earliest days, without any science such as is now preached, for impairment by disease of the same organ in a sufferer. In the *Rich Storehouse of Medicines* (1650), as a remedy for the "falling sickness" or "evil," it was told to, "Take the matrix of a sow that hath young pigs, and dry it upon a tile stone or fire-shovel, and make a powder thereof, and give it the patient to eat or else to put in his drink, and immediately after he hath taken it you shall perceive the disease to remove into his fingers' ends (but grieving him sore all this time), and then make some kind of rupture to set to his fingers' ends, and in a little while after you shall see the yellow matter or corruption issue out of them; *probatum est.*" Likewise, "As an excellent good remedy for the emerods (piles), and to dry up any sore, take a little plate of lead, and rub it upon a little boare's grease if it be for a man, but if it be for a woman then take swine's grease, and wash it out with white wine, and then anoint the place grieved therewith, and this will do exceeding much good." "For the dysentery," taught Sir Robert Boyle (1696), "take pigs' dung, dry it, and burn it to grey (not white) ashes; of these give about half a drachm for a dose, drinking after them about three spoonfuls of wine-vinegar. For the hemorrhoids make a suppository of

hogs' lard or bacon, or, instead of that, employ goose-grease made up into the same form." The ancient Magi taught to drink the ashes of a pig's pizzle in sweet wine, and so to make water into a dog's kennel, adding the words: "Lest he, like a hound, should make urine in his own bed." Also an amulet (karabraoth) was worn, being written thus: "*In cubile canis urinam faciat qui urinam non potest continere; dicatque, dum facit,—ne in cubili suo urinam ut canis faciat.*" Bartholomæus Anglicus (1250), gave orders that: "In madness, over all things, with ointments and balming men shall labour to bring the patient to sleep. The head that is shaven shall be plastered with lungs of a swine, or of a wether, or of a sheep; the temples and forehead shall be anointed with the juice of lettuce or of poppy. If after these medicines are laid thus to, the wodness dureth three days without sleep, there is no hope of recovery."

Bladud, a British Prince, being leprous, was forced to become an outcast swineherd, and presently communicating his disease to the swine. He then noticed that the pigs took to plunging into a certain marsh at the foot of a hill, and lay there wallowing. Day after day the animals returned to their mud bath, until Bladud saw with surprise they became cured of their leprosy. He was wise enough to follow their example, and found himself likewise cured by this means. Afterwards he built a city on the spot where he had been healed,—with baths for lepers: and this was the origin of the far-famed waters of Bath, prior to the coming of the Romans.

Pigs' gall, or bile, is more delicate in chemical composition, and approaches more nearly to human bile than does ox gall. If given internally it aids the digestion of fatty foods and increases the intestinal energy, preventing putrefactive changes; therefore it is of useful

service in indigestion with flatulence and constipation. In the *Lancet* (February 24th, 1877) Dr. Morton told of the "salt pork ulcer, having an intractable fungoid character on one of the fingers, until the owner left off taking this food pickled with the mineral, and then quickly healing; it bled profusely on the slightest touch."

In the forefeet of pigs is a very little hole to be seen when the hair is carefully removed, and the tradition is that the legion of devils gained entrance by this aperture. There are also round it some six rings, the whole together not much larger than a small spangle; they look as if burnt or branded into the skin, and the story runs that they are the marks of the devil's claws when he entered into the swine (*Mark* v., 11-15).

Dr. Routh showed, in 1859, that swines' flesh is to be generally recommended in preference to other kinds of flesh for promoting the flow of breast milk.

The Romans were consumers of pork haggis, and of various kinds of pork sausages. In Germany the poisonous effects produced in the body by having taken putrefying pork sausages is termed "*botulism*." The infamous *aqua toffana*, *acquetta de Napoli*, employed in the Middle ages by secret poisoners, was prepared by sprinkling white arsenic upon pieces of pork and collecting the liquid which drained from these, the juice of a kind of toad flax being also added, and a special, highly-poisonous liquid was the result. This juice was considered to be far more deadly than an ordinary solution of arsenic; and recent researches into the compounds which arsenic forms with organic matters lend countenance to the view.

In the folk-lore of Warwickshire it is held that if a pig be killed in the wane of the moon, the bacon is sure to shrink in the boiling; but if, on the other hand, the pig

be killed when the moon is at the full the bacon will swell. To "buy a pig in a poke" is to make a bad bargain, having reference to an old dodge of selling to greenhorns a cat in a bag instead of a sucking pig; but if the sack was opened before purchase, then the trick was discovered and the cat was let out of the bag.

It is remarkable that swine have almost an immunity from harm by snake venom if bitten by a serpent or viper.

The late Dr. Adam Clarke, well known as a Wesleyan minister in the early part of this century, being on one occasion asked to say grace at a table supplied with pork, did so in the following characteristic terms: "Lord, if Thou canst bless under the Gospel what Thou didst curse under the Law, bless this pig!" The test of a clean animal under the Levitical law was that it should be cloven-footed, and should chew the cud. The Reverend Gilbert Heathcote, Archdeacon, and Canon of Winchester, being told he used hard words when preaching, asked a labourer if he knew what is meant by "predestination," and was answered, "Yes, Sir, sommat about the innards of a pig."

The Salernitan School pronounced that:—

"Pork without wine is not so good to eat
As sheep with wine, which medicine is, and meat."

In Kent the smallest or favourite pig of a litter is called "Anthony pig," and to follow like a tantany pig is to follow close. Again, in Lancashire the weakest pig in a farrow is known as the "rickling," or "ritling." A neighbour coming to call on a friend, and seeing the one of the children who is weakly, would say: "Well, I reckon this is the ritlin; but, never mind! ritlin often turns out best pig i' th' farth!" Actors and actresses are devotedly fond of cooked pigs' feet, or trotters, when

nicely prepared with herbs and condiments. These and polonies are hawked at the doors of London theatres; and Mr. Robert Soutar once enacted with great success the part of a vendor of trotters, in Tom Taylor's drama, "The Ticket-of-Leave Man."

Old Fuller (*Worthies of England*) says: "Pigs play on the organ at Hog's Norton." There is more than one surmise as to the meaning of this. In *Wit's Recreations* (1640) we read:—

"A good wife once a bed of organs set;
The pigs came in, and ate up every whit;
The goodman said: 'Wife, you your garden may
Hog's Norton call; here pigs on organs play.'"

Again, the Abbé Debaique, Maitre de Musique to Louis XI, made a hog organ, by enclosing pigs of various sizes, and pitches of voice, in a kind of chest, the older ones on the left hand for the bass, and the younger ones on the right hand for the treble; over all these was suspended a keyboard, which, when played on, pressed long needles into the pigs' backs; the result may be left to the imagination. Or, perhaps the original name was Hocks Norton? Hock is the Oak tree; whilst pigs and Acorns are often associated.

The familiar phrase, "Please the pigs," is rendered in Devonshire "Please the pixies"; or perhaps it bears the meaning, "If the Virgin permits," from Saxon, "*piga*," "virgin." By a roundabout way the term "porcelain" comes from the Portuguese "*porcelana*," a little pig. Spanish traders thought the hard, vitreous ware very like to cowrie shells in texture and aspect, which in their turn resemble a pig's back as to shape. Hence was given the name to the product.

Hog's lard is called "Sallis" in Gloucestershire. A plaster of bacon rind, in size four inches by six, with

the fat side in, will when applied to the loins for some hours wonderfully relieve lumbago, and is equally excellent for a sore throat. Lord St. Alban had his warts on both hands cured, at the instance of the ambassador's wife, by their being rubbed over with a piece of lard having the skin on. This was then nailed up with the fat towards the sun, and within five weeks all the warts (some of which had lasted for several years) went quite away. Quoth Old Burton: "One Pope pork, another peacock! What harm came of it?" "How forcibly," says the *Comic English Grammar*, "a sucking pig displayed outside a pork-butcher's shop recalls to the mind that beautiful line of Ovid: "*Parsque tui lateat corpore clausa meo*"; "And to think! a part of you may be shut up within my body!"

Surprising though it be, the pig is less liable to tuberculous disease than any other animal that goes to the shambles, except perhaps the sheep. In its bile the proportions of the salts of sodium and potassium are more equally balanced than in that of the ox. This pigs' bile medicinally aids the absorption of fats, increases the energy of the intestinal movements, and prevents putrefactive changes within the bowels; therefore tabloids containing some of the same (such as our leading druggists now supply) may be usefully taken, one to be swallowed whole twice or three times a day just after food, for flatulent, costive indigestion.

James the First was given to say that if ever he should ask the devil to dinner, he would regale him with a pig, a poll of ling, some mustard, and a pipe of tobacco afterwards for digestion. Dr. Johnson declared: "Pigs are a race unjustly calumniated; pig has, it seems, not been wanting to man, but man to pig; we do not allow time for his education; we kill him at a

year old." A griskin of pork is, in Northamptonshire, "sweet-bones." At Preston Pans, among the fishermen, if when on their way to the boats they meet a pig, straightway they turn back and defer their embarkation.

"Cornwall squab pie, and Devon whitepot brings;
And Leicester beans and bacon fit for kings."

The breed of pigs in the South of England is usually black, whilst in the northern counties white-skinned pigs are commonly preferred.

PIGEON.

THE Pigeon is of the genus *Columba*. Darwin has shown that all our varieties of Pigeons have sprung from one stock; and occasionally among the choicest kinds the original blue and bars will turn up again. The Wood pigeon (Cushat) or Ring pigeon is *Columba palumbus*. Pliny relates that immense prices were given for pigeons by the Romans, the earliest known record of these birds being about three thousand years before Christ. The Russians are said to abstain from eating the pigeon as food because it is the emblem of the Holy Spirit. A Wood pigeon is a "Guice," or "Zoo-zoo" in Gloucestershire; in the North it is "Cruchet," and "Cow shut" ("Cushat").

Robert Lovell (1661), wrote: "Its flesh is good for languishing persons, and the dung burneth and discusseth; they drink like beasts, and are troubled with fleas; they kisse before generation." "Amongst fowl," tells Burton, in his *Anatomy of Melancholy*, "peacocks and pigeons, and all fenny fowl are forbidden; those that come hither in winter out of Scandia, Muscovy, Greenland, Friezland, which half the year are covered all over with snow and frozen up. Though these be fair in feathers and pleasant in taste, and have a good

outside (like hypocrites), white in plumes and soft, their flesh is hard, black, unwholesome, dangerous, melancholy meat." "*Gravant, et putrefaciunt stomachum,*" saith Isaac. Their young ones are more tolerable; but young pigeons he quite disproves. We learn from the Folk-lore Society that in Pepys' (1663) time pigeons were applied to the feet of a sick person when in the extremity of illness. On enquiring at St. James' about the Queen of Charles the Second, Pepys was told that her pulse was beating twenty to the king's, or my Lady Suffolk's eleven. She had been so ill as to be shaved, and to have pigeons put to her feet, and extreme unction administered. So, too, in another desperate case five years later, Kate Joyce sent word to Pepys that if he would see her husband alive he must come presently. Pepys adds: "His breath rattled in his throat, and they did lay pigeons to his feet, and all despair of him." In France pigeons were employed in a variety of ways for a variety of cases: being put about the heads of mad people; whilst to the sides of those suffering from pleurisy the pigeon, split open along the back, was applied hot. Pigeons' blood was thought good for complaints of the eyes; some drops of blood withdrawn from under the wing of a young pigeon would cure a wounded eye if they were let fall on the wound. In Scotland at times the pigeons were left fluttering in their dying agony against the feet of an expiring man. Early in the morning a near relative would remove the pigeons and carry them to "a place where the dead and the living did not cross (that is to the top of a precipice), and leave them." And connected with the use of pigeons is a longstanding popular belief that persons cannot expire upon a bed of pigeons' (some think game) feathers. "Poor soul!" said a Sussex man of his friend, "he

could not die any way till neighbour Puttick found out how it was. 'Muster S., says he, 'ye be lying on geame feathers, mon, surely'; and so he wor. So we took 'n out o' bed and laid 'n on the floore, and he pretty soon died then." Again, to ask for pigeons is usually thought a bad sign, and to indicate the last craving for food. "Ah, poor fellow!" said a farmer's wife to an applicant for pigeons on behalf of a sick friend, "is he so far gone? A pigeon is generally almost the last thing they want; I have supplied many a one for the like purpose."

"Spirante columbâ

Supposito pedibus revocantur ad ima vapores."

"They apply pigeons to the feet for the purpose of drawing down vapours from the head" (*Dr. Donne's Devotions*, 1839). In the *Life of Mrs. Godolphin*, Evelyn says: "Neither the cupping nor the pigeons—those last of remedies—wrought any effect." Jeremy Taylor plainly states: "We cut living pigeons in halves and apply them to the feet of men in fevers." Flocks of wild pigeons in Lousiana presage the pestilence.

A belief has obtained that the person who is sprinkled with Pigeon's blood will never die a natural death, because some of the blood from a pigeon attacked by a hawk accidentally fell on a bust of Charles the First before he was beheaded, and it therefore became ominous.

In the *London Pharmacopœia* (1696), it was taught that a live pigeon laid with the fundament naked to a plague sore, and repeated so often as the pigeon dies, frees the sick from the venom and from all danger. By country folk it is considered a sign of approaching sickness if a pigeon comes and accidentally perches on a table; and, if on a bed or a chimney-piece, of death. "It is

reckoned of a certainty a fatal sign of death in the house if a white pigeon is observed to settle on a chimney." "The dung is the hottest of all fowls' and is wonderfully attractive, yet accompanied with an anodyne force. Given inwardly in powder, from half a drachm, it helps the headache, megrim, lethargy, gout, pain in the side and stomach, and pleurisie." Pigeons are found to suffer from smallpox, as revealed by an examination of their blood.

The *Rich Storehouse* (1650) states that, "A good medicine for eyes that are bloodshot, and hot and red, may be made as follows: take the blood of a stock dove or pigeon, and drop a little thereof into the eyes of the patient when he goeth to bed; also take a fine linen cloth and wet it in the same blood, and lay it upon the eyes immediately after the dripping in of the first, and this will help him howsoever it do come—either by stroke or otherwise." "A corrected Pigeon," Fuller declared (with blood let under both wings), "is both pleasant and wholesome nourishment. They are generally reported without gall; but their bills can peck as well as kiss, and if their crops be not clearly drawn their flesh is bitter." Hamlet soliloquised about his irresolute purpose, "But I am pigeon-livered, and lack gall to make oppression bitter."

Besides using pigeons' blood for weak and congested eyes, at Vienna the men say that earrings are excellent to be worn, "the hole in the ear and the weight of the earring drawing any humour from the eyes to those parts." The same notion is likewise common in Denmark; and even in this country it is generally entertained, particularly throughout Sussex.

A custom similar to that of applying split pigeons obtains in South America with a species of Cormorant,

which is opened and laid on the breast for asthma; concerning which Southey makes this remark, "The relief obtained is either a natural cessation of the paroxysm, or merely the effect of warmth so applied."

RAVEN.

THE Raven (*Corvus corax*) is a bird becoming gradually rarer in England, and which was thought in olden times symbolic of a spirit, clean or unclean, "*Ubi aves, ibi angeli.*" The Ravens were winged messengers for good or evil. They had sprung in some mysterious way from the waters to inhabit the air, and were fed with the dews of heaven: "*Deus pascit corvos.*" "Who provideth for the Raven his food, when his young ones cry unto God they wander for lack of meat." "He giveth to the beast his food, and to the young ravens which cry." Such Birds of prey were supposed to be messengers for evil. Bartholomew Anglicus (1250) held that, "Ravens are birds fed from God at the time that they have no black feathers by benefit of age; but it is full unlawful to believe that God showeth His privy counsel to crows." Some persons have contended that the Raven, as a creature of ill-omen, brought infection and foreboded death. Marlowe has said (1633, in the *Jew of Malta*):—

"Like the sad, presaging raven that foretells
The sick man's passport in her hollow beak;
And in the shadow of the silent night
Does shake contagion from her sable wing."

To the children of Israel "every Raven after his kind" was forbidden by the Lord through Moses, as "to be had in abomination among the fowls": "they shall not be eaten."

In Christian art Ravens are the emblems of God's providence, as bearing reference to the birds which fed

the prophet Elijah ; and in Shakespeare's *Titus Andronicus* we read : "Some say that ravens foster forlorn children." At Marazion, near Penzance, no one will shoot a raven, because it is affirmed that King Arthur is still alive in the form of that bird. "Have you not read, sir," answered Don Quixote, "the annals and histories of England wherein are recorded the famous exploits of King Arthur ? of whom there goes an old tradition, and a common one all over that kingdom of Great Britain, that this king did not die, but that he was turned by magic art into a raven ; and that in process of time he shall reign again and recover his kingdom and sceptre, for which reason it cannot be proved that from then to now any Englishman has killed a raven." "When a flock of ravens forsakes the woods famine and mortality may be looked for, because Saturn, the author of these calamities, is specially discerned by the ravens."

"The Raven leaves her young ones to the care of the God of Nature, who is said in the *Psalms* to 'feed the young Ravens that call upon Him' ; and they be kept alive, and fed by a dew, or by worms that breed in their nests, or in some other way that we mortals know not of."

In Zurich Longfellow stayed at "the Raven," where he wrote in the travellers' book :—

"Beware of the Raven of Zurich ;
'Tis a bird of omen ill,
With a noisy, and unclean nest,
And a very, very long bill !"

In the *Rich Storehouse of Medicines* (1650) as, "an excellent good remedy for the jaundise" it is given to, "Take the gall of a raven and dry it well, then grate it into powder ; and when you have so done take a pretty quantity of it, and temper

it either with ale or beer. Let the patient drink thereof every morning fasting, for the space of six or seven days together, and it will presently help him; this was truly proved by N. Cox"; being again a fresh instance of cure wrought intuitively of old by a proper animal substance successfully, though ignorantly, employed. "The cry of the raven," says Du Bartas (translated), "is 'Pork, pork,' not 'Caw, caw.'" Gilbert White has told of an oak near Hampton Court which for many years bore the title of the "Raven tree." Its trunk bulged out into a large excrescence about the middle of the stem, so that year after year a pair of ravens continued to build on an inaccessible tree-top. At last, when the wood was levelled, the tree nodded to its fall, but the dam sat on until flung from her nest dead to the ground. At Cambridge a college servant, or "gyp," is so called from "gups," a bird of prey. Rustics always name the Raven "Ralph." In *Barnaby Rudge*, the Raven, "Grip," has been immortalised by Charles Dickens with its refrain, "I'm a devil, I'm a devil"; whilst the famous poem by Edgar Allan Poe (1845) concerning this bird of strange portent has attained a worldwide popularity:

" And the Raven, never flitting, still is sitting, still is sitting,
 On the pallid bust of Pallas just above my chamber door;
 And his eyes have all the seeming of a demon that is
 dreaming;
 And the lamplight o'er him streaming throws his shadow
 on the floor,
 And my soul from out that shadow that lies floating on the
 floor
 Shall be lifted—NEVERMORE."

The food of the Raven is almost entirely animal, consisting of worms, grubs, caterpillars and insects, with an occasional feast of dead lamb or sheep. It likewise will eat young partridges and pheasants, whilst

making off, if hungry, with poultry from the farmyard. Because of its closely imitating the human voice it is called by the Scandinavians the "Bird of Odin." Its length of life is seventy or eighty years.

SALIVA.

THE Saliva or Spittle was in Anglo-Saxon "*Spout*," "*Spaul*." (Milton calls to "bedaub with Spittle" to "bespaul.") The human Saliva formed an ingredient in a holy salve of the Saxons. It is slightly alkaline, and contains ptyalin with sulpho-cyanate of potassium. Two hundred years ago the learned Leeuwenhoek recorded in his *Arcana Naturæ* that he had discovered "*viva animalia*" in his Saliva; which was practically the beginning of bacteriology. The presence of alkaloids in human Saliva has been demonstrated by Gautier. He found that extracts obtained from about twenty grammes (five drams) of pure Saliva secreted during the day, when injected beneath the skin of a bird, produced intense stupor and drowsiness, which lasted for some hours. "The night salivas of man are more excellent (against convulsions) than those of the day."

Rheumatic pains in the joints were to be dispelled, according to the teaching of *Saxon Leechdoms*, by spitting thereon, and singing over them nine times, "*Malignus obligavit, angelus curavit, dominus salvavit*." "It will soon be well with him," adds the Saxon Leech in his usual cheery way. Levinus Lemnius (1566) wrote about the Saliva: "Divers experiments show what power and quality there is in man's fasting spittle when he hath neither ate nor drunk before the use of it, for it cures all tetter, itch, scabs, pushes, and creeping sores; and if venomous little beasts have fastened on any part of the body, as hornets, beetles, toads, spiders, and such

like, that by their venom cause tumours, and great pains, and inflammations, do but rub the places with fasting spittle, and all those effects will be gone and dismissed." Theocritus declared :—

"Thrice on my breast I spit, to guard me safe
From fascinating charms."

The *London Pharmacopœia* (1696) says : "Saliva—sputum, spittle, fasting spittle—rubbed on oftentimes cures pimples, and breaking out on the skin, making the skin clear."

Among the old Greeks and Romans spitting was a charm against spells and witchcraft, as Pliny has explained ; and it availed in "giving an enemy a shrewder blow." Bartholomew Anglicus wrote (1250) : "The spittle of a man fasting hath in a manner strength of privy infection, for it grieveth and hurteth the blood of a beast if it come into a bleeding wound, and is medled with the blood ; and that peradventure is, as saith Avicenna, by reason of rawness, and therefore it is that holy men tell that the spittle of a fasting man slayeth serpents and adders, and is venom to venomous beasts as telleth Basil."

"God works by means," saith old Burton, "as Christ cured the blind man with clay and spittle." "And as Jesus passed by, He saw a man which was blind from his birth : He spat on the ground and made clay of the spittle, and He anointed the eyes of the blind man with the clay ; and said unto him, Go, wash in the pool of Siloam (which is by interpretation 'sent'). He went his way, therefore, and washed, and came seeing."

Eminent oculists nowadays do not disdain to advise that weak, ailing eyes should be daily smeared within and without the eyelids by a free application of the fasting saliva. In Madagascar the first spittle in the

morning is called "*Rora màfàitra*," "Bitter spittle," and is thought to exercise medicinal virtues in healing a sore ear or eye. So many cures of sight thereby are confidently alleged and recorded that it would be an interesting topic of investigation whether any sanative medicament is actually held in the salivary fluid, which was guessed at of old, but has not been scientifically subjected to modern enquiry.

In *A Thousand Notable Things* (1815), this property of the fasting saliva is again asserted: "Being the first spittle of a whole and sound person it doth quite take away all scurviness, sawsflame or redness of the face, ringworms, tetter, and all kinds of pustules or wheals by smearing or rubbing the infected place therewith; and likewise it clean puts away thereby all painful swelling by the means of any venomous thing as hornets, spiders, toads or such like." Richard Boyle told in the seventeenth century of, "A very easie medicine for light scorbutick pains: anoint the pained part from time to time with fasting spittle; and if you will have the medicine a little stronger the patient may put róch allom to the bigness of a small pea into his mouth before he employs his spittle."

In Roman mythology it is related that the sacred dogs of Æsculapius licked the wounds of his patients. Irish labourers believe to-day that if a man with his tongue licks a lizard all over, this organ has acquired the power of healing any sore or curing any pain to which it may be applied. A Cornish cure for sciatica consists in wetting the forefinger of the right hand with spittle, and crossing the front of the left shoe or foot with it three times whilst repeating the Lord's Prayer backwards. Mothers' marks on the skin, varicose, claret-coloured aggregations of the small superficial veins in a knot or nævus, may

be dissipated, even when of considerable area, by a daily licking with the mother's tongue.

Spitting on anything for luck is a common superstition. Fishmen and fishwomen, costermongers and other small traders, spit on their "hansel" (the first money they take); and boxers spit on their hands to make them deliver winning blows. Demylos, the glutton, in order to secure for his exclusive eating a superb dish of fish—"enepteusen eis auteen"—spat into it publickly at table. It is said the Mexicans ferment their bread by mixing the flour with Saliva. This converts the insoluble starch of food into soluble sugar. "Bread eaten in sorrow" is ill digested because the mental depression has arrested the flow of saliva which should change the starch into sugar in the mouth, and thus make the substance digestible.

To rub warts with fasting spittle every morning will remove them. Against the smarting and swelling caused by a bee-sting, to wet the part freely at once with one's saliva affords immediate relief (because of its alkaline quality). In ancient days Hilarion cured a woman in Egypt of blindness by spitting in her eyes; and in like manner Vespasian is said to have restored the sight of a blind man at Alexandria.

Animals at all times treat their wounds by licking, the Saliva being very effectual, together with the fomentation thus applied. We read in the Gospel of St. Luke (the physician), that a certain beggar named Lazarus was laid full of sores at the gate of the rich man: "moreover, the dogs came and licked his sores." Some African natives salute one another by mutual spitting. In Masiland a damsel would feel shocked if her lover presumed to kiss her, but flattered if he spat in her face.

SALT.

COMMON Salt (*Sal*) is the Chloride of Sodium. So many animal simples of importance, such as ox-gall, blood, pepsin, etc., own it, or its parts, as their leading constituent, helping largely to determine their curative value, that, though a mineral, it claims some detailed notice here for its nature and multiform uses.

No particular description need be given of its sources, whether as rock-salt within the bowels of the earth, or as a brine spring (at Droitwich and Nantwich), or combined in sea water with bromine, magnesium, potassium, and other such matters. Chemically, it is a combination of chlorine with sodium; and takes its Latin name "*sal*" as a verbal twist from the Greek "*als*," "the sea."

So absolutely necessary is this mineral to the health, and even to the life, of mankind that a desire for salt is one of our strongest animal instincts. All healthy bile contains its chemical constituents very abundantly, and cannot be properly secreted without a sufficient dietetic supply of this mineral. Likewise, our tears when we shed them are saline to the taste. Indeed, salt exists in every fluid and every solid of the body; it is a constant element of the blood, but always in a fixed quantity, just so much and no more, however freely we may mix it with our food. On the other hand, if no salt be provided, then the blood has to part with its natural quantity, but slowly and unwillingly; so that the bile and other humours thus suffer impairment. It is the chief basis of the acid gastric juice, without an adequate supply of which no mixed healthy digestion can take place.

Abstinence from salt is said to bring about "albuminuria" by altering the constitution of the blood;

this being, nevertheless, distinct from the albuminuria of kidney disease. Salt increases the oxidation of the albumen taken as food, and the excretion of urea. The watery part (serum) of the blood contains from four to six parts per thousand of common salt; but vegetable potash must be also taken, it being notorious that an exclusive diet of salt food tends to produce scurvy. By the old criminal law of Holland it was decreed that culprits convicted of murder should be fed in a damp prison on bread made without salt. They always perished within a short time, and by a loathsome form of death. "The effect was terrible," as Somerville tells us, "seeing that these wretched victims were devoured by worms engendered within their own stomachs."

Wild animals will travel long distances and brave great dangers to get at the salt-licks; and the saline earths supplied thereat are then irresistibly attractive to these wild creatures of the prairie or desert. Among domestic animals there is a natural craving for salt when it is insufficiently supplied in their food. Horses and cows are most healthy when provided with a lump of Rock salt in the manger. Even bees will sip a solution of salt with avidity.

And yet, notwithstanding these convincing facts, some persons are found, even in the present day, to advance opposite views. Dr. Hassall has made bold to throw doubts of late on the necessity for salt to be taken by mankind; and nearly sixty years ago a Dr. Howard went so far as to publish a pamphlet bearing the title: "Salt, the Forbidden Fruit or Food, and the chief Cause of Disease of the Body (especially Consumption) and Mind of Man and Animals; as taught by the ancient Egyptian Priests and Wise Men, and by Scripture."

It is certainly true that in some parts of Africa the natives never take Table salt by any chance, and never appear to require it ; but the well water in those regions is nearly always brackish, so that salt is imbibed in this way. Again, many of the Russians in certain districts eat their food without a particle of salt, though it can be readily obtained ; and one tribe of the New Zealanders is known to hold salt in abhorrence. The explanation of these cases may be found in some peculiarity of constitution, or in some special diet which in itself contains the chemical components of salt, only uncombined. Dr. Howard, in his small volume, unhesitatingly asserts "that the furiously-rapacious and insatiable jaws of that English devourer of human life, commonly called consumption, are fed and supplied almost entirely by the free use of salt in this country ; and that by a judicious abstinence from salt (with the adoption of certain rules and measures as prescribed), consumption and many other painful and distressing diseases may be avoided." The flavour of salt, he argues, cannot be perceived in any fruit of the earth. "It is also remarkable that when the humours of the body are freed from their customary saltiness (artificially produced), the blood of persons liable to chilblains very soon begins to lose its tendency to congelation from the effect of cold." Dr. Howard contended that "the ancient poets and philosophers, as shown in the revelations of Egyptian mysteries, frequently alluded to the circumstance of man having rendered himself liable to infirmity, disease, and death by the use of mineral matter which had not been changed, refined, and purified by vegetable elaboration ; and that in accordance with this doctrine the ancient Egyptian priests and wise men, as Plutarch relates, taught that salt is fatally hurtful to

man's constitution." The argument advanced was that no mineral matters can be harmlessly or usefully taken into the body except after being first elaborated through vegetables; else, if man shall presume to pass by the vegetable, and to take and receive into his body from the earth matters direct, crude and unpurified, disease and death are sure to be the inevitable consequences of such transgression. Yet the positive experience of many an able physician points to quite the opposite conclusion. For instance, Dr. Pearson, who is of American eminence, testifies: "If there be in our *Materia Medica* any such thing as a specific for intermittent fever, it is common salt, highly attenuated, especially when the sufferer has a greyish yellow aspect, and the spleen and liver have become enlarged. But it is only with highly reduced potencies that these curative results have been obtained; though a tablespoonful of common salt mixed with some gin is a popular remedy in some river localities, and among boatmen, against what the Yankees call "fevernagy" (fever and ague).

For bleeding from the lungs in consumption a teaspoonful of dry table salt is given in an emergency with capital effect, and repeated, if necessary, at intervals of fifteen or twenty minutes. Nothing else appears to be so successful in arresting this form of bleeding, though no sufficient explanation of its action has been rendered, whilst many ingenious hypotheses have been advanced. Experimental provers of Table salt—used both crude and highly attenuated, also in doses of various strengths, from toxic bulk to extreme reduction—whilst taking these several potencies became constipated in general, the liver being disturbed, the sexual impulses diminished, and (in women) the monthly courses delayed; the skin showed signs of irritation, whilst pains in the forefingers

and thumbs were particularized. Large doses provoked a scorbutic degeneration of the blood, with various eruptive outbreaks, and even ulcers on the skin; also much depression of spirits, with a dry mouth and frequently a sore tongue, together with a hammering headache, an enlarged spleen and some fever.

Dr. Compton Burnett has written a most admirable little volume on the wonderfully curative powers of Salt potentialized to a very high degree of dilution, even when ordinary salt at table was part of the daily diet, or when the patients lived at the seaside in an atmosphere constantly loaded with saline elements. Again, Dr. J. H. Clarke confidently advocates a highly diluted form of common salt, as rubbed up with sugar of milk to quite a remote fractional strength, for a catarrhal cold after its first feverish stage. He says: "When Dr. Burnett's book first appeared I made a study of it, and was struck with the number of symptoms analogous to those of common catarrh which the mineral produced when given in strong toxic doses. Having a pretty severe cold myself at the time, I took a few doses of his minutely subdivided trituration of Salt, and was immensely delighted at finding myself quite cured in the morning. I soon repeated the happy experience on several patients, who declared, one and all, they never got rid of a cold so quickly in their lives. At that time," adds Dr. Clarke, "I thought the range of this drug to be so wide that it was equal to curing almost any catarrh; but subsequent experience did not justify as much as this, though it did confirm me in my opinion that common salt, when properly administered, is one of the most valuable remedies we possess for a cold." Likewise, for severe gastric headache salt has proved of singular medicinal

efficacy. With reference to this troublesome malady as recurring migraine, Dr. Symonds, of Bristol, has found that patients were kept long exempt from its attacks by faithfully drinking a tumblerful of common salt and water every morning an hour before breakfast; but the practice, though distasteful, must be courageously and steadily kept up. Dr. Rubow, of Berlin, obtained surprisingly favourable results from the use of common salt in six cases of migraine (recurrent sick headache) where the attack began with nausea, distension, loss of appetite, depression, and sickness. From half to a whole teaspoonful of salt was given immediately, with a little water after it, and the attack was straightway repelled; or, if it had commenced, relief was obtained within half an hour. Nothangel had previously found, through information got from a lay person, that common salt would often act as an efficacious remedy in cutting short or preventing many cases of epilepsy. He advised a young man who suffered from the *petit mal* with well marked premonitory sensations, to carry with him some common salt, and at the first signs of a threatened attack to swallow as much as he might choose; the prescription was effective every time.

Nevertheless, the most recent pronouncements of medical science are that salt is bad for gouty subjects in whom the acidities of a rheumatic digestion occur. This is because of the sodium which is the earthy basis of Salt, and which when taken up into the blood aggravates gout. Dr. Drew has found that with such patients, after exclusion from them of all salt, not only as a condiment but in every form of food—in salted meat, and in other comestibles—the result in four or five weeks was most astonishing; the stiffness of the finger joints and toe joints passed away, rings which had

of necessity been put aside could be re-worn, and the hands resumed their primitive size and shape. This happy end was arrived at by carrying out the conclusion, which observation had suggested, that biscuits or tea made with soda induced an attack of gout, the hypothesis being that in salt the sodium element becomes united with an oxygen atom, and presents soda to the uric acid in the blood as the worst poison it can encounter; so that interstitial thickenings of the joints and rheumatic inflammations of the bone-coverings supervene.

Dr. Clarke teaches that the salt obtained from mines differs somewhat in chemical constitution from salt when got from the sea, which is not pure salt. Hence, perhaps, arose Dr. Burnett's success in effecting remarkable cures with the triturated mineral, when given to patients living at the seaside, for maladies of long standing and otherwise intractable. Some valuable saline mineral waters contain common salt in only an infinitesimal quantity, as that of Ems, which does not furnish more than 7·27 grains in sixteen ounces.

Operatives who work in the manufacture of salt find themselves fortified against catarrhs, rheumatism, neuralgia, and other such ailments as commonly attend exposure to cold and damp. Yet Dr. Howard has alleged in his pamphlet that salt, being largely composed of chlorine, gives out a noxious corrosive vapour, destroying every vegetable in places where it is generated and diffusing desolation around: as is likewise to be observed at factories for producing chloride of lime, where consumption makes great havoc amongst the workers, there being at most times a perceptible pungent and hurtful odour in the surrounding atmosphere! Again, to quote Dr. Howard: "Salt has the

effect of rendering the mucous membranes liable, from trifling causes, to inflammatory cold or catarrh which, if progressing in severity, may become consumption." During this catarrh the excretive surface of the lining membrane within the respiratory organs is most certainly employed in the work of carrying saline matters out of the body by means of the exudation of a limpid salt fluid, and an excretion of salt, viscid matter; whence the common expression, "saline catarrh."

Salt being highly soluble enters with the fluids into the blood, and by acting as an irritant provokes thirst, which is an instinctive desire for drink to dilute the saline blood, so that the salt may be excreted out of it by the skin and by the kidneys. The more salt that is taken, the greater the thirst! To drink sea water in any quantity causes furious and frightful delirium.

When meat is salted it presently becomes dry, hard, and comparatively innutritious because its juices exude as brine by chemical law; and the salt within the meat does not remain chemically the table salt which favours digestion. It becomes deteriorated, and serves to do harm instead of good.

The salt of France is reputed to be stronger than that of England, whilst in England the sugar is sweeter than that of France. Herophilus of Chalcedon, in Bithynia (fourth century B.C.), was the first to administer salt as a medicine. "Salt," wrote Old Fuller, "is most essential to man's lively-hood, without which neither sacrifice was acceptable to God, nor meat is savory to man. It is placed on the board with bread to show that they are equally necessary to man's sustenance." A general in our late wars soundly chid a captain for his so soon surrendering of a castle, seeing he had store of powder therein. "I had," returned the captain, "plenty

of black, but no white powder (salt) at all." In the *Rich Storehouse of Medicines* it is directed that, "If a patient be costive and hard bound in his belly, then let him take a suppository made with a little boyled honey and a little fine powder of salt, and so take it in at the fundament, and let it be kept therein until it move a stool or two."

Salt improves the glossy and smooth appearance of animals' coats. Insular cattle grow larger because of the saltness of their pastures, thus Albertius thought The salt, moreover, has a quieting (taming) effect on them, so that they yield an abundance of milk; whence it happens that in seaside localities where cattle feed on salt pasturage they are more prolific, their flesh more tender, their milk more abundant and richer in cheese. "Moreover," he adds, "sheep will grow fat on salt drinks, so that salt should be given them on every fifth day, two hundred pints for every hundred sheep." In the same way the poet testifies: "Let the lover of milk bring frequently to the mangers of his cows cythiscus, lotus, and salt herbs; these they love best, and they will swell out their breasts. Moreover, having partaken of these, they will drink more, and so a larger flow of milk will be provoked." Nardius, "*analysis de lacte.*"

In small quantities Salt stimulates growth; in large quantities it begets sterility. A common custom prevails in some parts of England to put a plate of salt on the breast of a corpse when it is laid out, the original idea being that Satan and evil spirits in general hate salt, which is an emblem of incorruption. To spill the salt has always been thought a bad omen from the time of the Romans, who sprinkled the heads of their sacrificial victims with salt, and deemed it unlucky if any of the same fell to the ground. Horace

(libr., iii., ode 23) alludes to the counter charm—which still prevails with ourselves—of throwing some of the spilt grains over the left shoulder :—

“ Mollivit aversos Penates
Farre pio ; saliente micā.”

Salt has been given with success as a preventive of cholera, and injected as a solution into the veins remedially against this disease when actually draining the system. In 1834, and again in 1848, during epidemics of the scourge, a teaspoonful of salt taken with each meal was found to be preventive of cholera, and the injection of salt and water into the veins resuscitated not a few sufferers. During the cholera visitation of 1831 the operatives employed at the Droitwich salt works had a complete immunity from attacks. Hot salt enclosed in bags is a most useful application to relieve colic, or muscular rheumatism, or toothache, or the monthly pains of women. Dissolved in whiskey it is a popular embrocation for bruises and glandular swellings. Moreover, Salt is an ancient, and continues to be a trusted destroyer of intestinal worms, especially those that are round (*lumbrici*) ; whilst injections into the fundament of salt and water are curative of thread worms. This mixture also makes a useful and prompt emetic to empty the stomach when gorged with an excess of food, or containing a narcotic poison. Some years ago there was a widely-spread craze for a combination of brandy and salt to cure almost every ailment ; but the panacea fell into disfavour when it was found that patients too often drank the brandy and left the salt.

Under ordinary circumstances a healthy man parts with about twelve grains of salt every day by one channel or another, through the secretions, the tears,

and the bile; therefore, if he is to maintain his health, that quantity at least should be taken daily.

“Sal primo poni debet, primoque reponi;
Omnis mensa male ponitur absque sale.”

Such was a noted maxim of the Salernitan School. “Yet,” thought Old Burton, “common experience finds salt and salt meats to be great procurers of melancholy; and for that cause, belike, those Egyptian priests abstained from salt, even so much as in their bread; *ut sine perturbatione esset anima*, that their souls might be free from disquietude. *Non est in magno corpore mica salis*: a large body holds scarcely a morsel of salt. “Big men,” says Burton, “are often barbarous lubbers, their body is a burden to them, their spirits not so lively” :—

“‘Si membra tibi dant grandia Parce,
Mentis eges.’”

A homely saying signifies that to “Help one to salt, is to help one to sorrow”; but the ill luck is averted by a second helping. An eminent salt manufacturer has adopted the highly appropriate motto: “*Sal est salus*,” “Salt is health.” Whilst another trite saying, which is equally true, reminds us that “*Sal sapit omnia*,” Salt gives an honest flavour to all foods. “When finely stamped and mixed with fasting spittle, salt laid on a fillet and applied certain times to the place where superfluous hair is doth cause that hair to grow there no more.” In the United States of America, Professor Hopkinson, of Philadelphia, wrote a dissertation on a salt-box, as a satire upon the examinations in the college there. It was a former custom in England to salt down a dead person for preservation from offensive corruption, in case the burial had to be delayed. “*Sol in cælis, in terris sal.*”

A notion that salt has the power of resisting, or counteracting, the injurious tendencies of adverse sympathies is very ancient: thus an extracted tooth must be thrown into the fire, together with a pinch of salt, so as to prevent future toothache. This was commonly practised in the West of Scotland a hundred years ago.

SEA ANEMONE (*see* JELLY-FISH).

SERUMS.

WHEN blood coagulates outside the body it becomes separated into a solid clot, and a liquid serum which forms more than half of the total. In a hundred parts of this serum ninety are water, the rest being extractive and saline matters, with "proteid" substances (albuminous). Pathologists have recently discovered that such serum may be made to contain certain principles which are protective against, or curative of infectious disease caused by microbes (toxins) in the blood, and which are therefore known as anti-microbes (anti-toxins). The microscopic elements which have got into the blood from an infectious disease engender a poison which is far more profoundly harmful than themselves. But the constitutional powers for healing within the body start straightway to produce an antagonising force which shall neutralize the deadly microbic poison; and this force is represented by the anti-toxins in the serum of the blood. They can be cultivated in the blood of an otherwise sound animal by gradually stronger doses of the infectious microbes being injected into its veins, until the antagonising serum becomes sufficiently protective to render the animal "immune" against this infectious disease: and if some of its fortified serum is now injected

under the skin of a human being it will equally protect him or her ; indeed, if the infectious disease has already been contracted by the human being, and is advancing, the anti-toxins will overtake it, and arrest it. By these means it is found that lock-jaw, diphtheria, and snake-poisoning may be successfully met, and vanquished ; the hope seeming further warranted that many other diseases of a microbic nature will eventually yield to this inestimably beneficial mode of treatment.

Horses which, though unfit for work, are healthy and sound, are now maintained by competent officials expressly that they may furnish the protective Serum. Such are the guiding principles of this modern discovery which has already wrought wonderful results in the saving of many lives, and which promises to endow physicians with the power of preventing, or curing numerous diseases hitherto of dire fatality. Cholera, typhoid fever, hydrophobia, and syphilis are now under experimental investigation of this kind, with more or less success as the present result ; whilst, with regard to diphtheria, its anti-toxin serum has become a State provision, and an article of assured supply by our large wholesale druggists. The horses can be gradually made so immune (or absolutely protected) as to receive without harm in a single inoculation doses of venom (for instance that of a deadly snake) each sufficient to kill fifty horses fresh to the treatment. And the curative powers of the Serum become so great that a rabbit may be injected in one ear with venom strong enough to kill it in two hours, and yet after letting an hour and a half elapse before administering the antidote the victim's life will be saved. The horses chosen for the cultivation in their blood of protective (anti-toxin) serum are first proved free from glanders.

It is most worthy of notice that any one sort of anti-toxic serum will protect against other venoms than that of which it is a specific culture. But the blood-serum of animals possessing a natural immunity from this or that disease is not of itself protective to others against such disease, and cannot be made so.

SHEEP.

THE Sheep is *Ovis aries*: this familiar animal being found in almost every corner of the globe, but nowhere wild. Its most useful varieties exist in Europe.

Of the fleece we make cloths; the skins are in request with saddlers, bookbinders, and glovers; the intestines are formed into strings for musical instruments; the flesh affords a wholesome and nourishing food; and the fat, or suet, is employed medicinally. Our early physicians attributed curative virtues to other parts of the sheep. In the *London Pharmacopœia* (1696), it is directed that the "Sheep's gall cures cancers, being anoynted with it; drop't into children's ears with breast milk it helps the running and deafness, more especially if injected with a syringe; taken with honey it helps the epilepsie, and the blood drunk helps the falling sickness; the tallow helps burns, and scalds, and skins a sore; applied with allom (alum) it helps kibes (inflamed chilblains in the heels). The urine taken from a black, or red sheep, and mixt with honey cures the dropsie, from three to six ounces being taken for a dose."

In the *Pathway to Health* (1664), it is stated: "For him or her that is diseased in their knees, or in their joynts that they may not go, take a black sheep's head, and smite it all to pieces, wool and all, and put it into a pot with water and seeth it till it be as soft as

pap; and then pluck out all the bones and set it on the fire again; and then put into the same a good quantity of oatmeal, and let them seeth till they be thick, and then lay it upon a piece of leather; and while it is very hot lay it to the party's joynts, and they shall find great ease of the swelling of their joynts. Proved!" Again, the Hon. Richard Boyle gave as "a good medicine for incontineny of urine, and the beginning of a diabetes," "Cut off the necks of well blown sheep's bladders, and of the remaining membranes put up pretty store one over another into a covered pot, where being dry'd gently, and yet sufficiently in a baker's oven, take them out, and pulverise them well. The dose is as much as will lye upon a large groat, or small sixpence." It may be remarked that this is again an instance of a healthy animal organ being given long ago to cure disease of the same organ in the human subject. Just after a like manner the Fox's lungs (*Pulmones Vulpium*) were introduced into Medicine, wrote Dr. Quincy (1728), because of the imaginary efficacy which similar parts of man and an animal have over each other. "So, because a Fox is a creature which can run a great way, and long together, therefore his lungs must be good to mend those which are hardly able to respire."

Thus, too, it is recorded that Chinese physicians have long since treated nervous decay, and general lack of brain power, by giving the brain-substance of the common barn-door fowl, this being dried, and powdered as a medicine.

It is told of Childe, lord of the manor of Plymstock, that being benighted on the moor in a snow storm he killed his horse and got within its body for warmth to save his life, being presently found by the Benedictine monks of Tavistock. Similarly for extreme exhaustion

from bodily illness (as in an advanced stage of continued fever) the reeking hot skin taken quickly from a newly slaughtered sheep has been savingly employed to restore vital warmth by enwrapping the sick person therein: likewise the feet have been cherished for heat in the skirt of a sheep to draw blood from the head. Such an application of a sheepskin taken hot straightway from the animal when just killed, and forthwith enveloping therein the cold, strengthless patient, was loyally advised by an outsider for the Prince of Wales at the critical stage of his fever in 1871. This is the great Pathan remedy which is practised all over Afghanistan, and was perhaps told of by Homer. A sheep is slaughtered and skinned; then a little oil of turmeric is rubbed over the skin, within which, whilst it still reeks with heat, the patient is wrapped up. The same venerable practice was employed in the case of Sir Walter Scott when an infant, and was afterwards described by him in his autobiography. At Sandy Knowe whilst cutting his teeth he suffered an attack of what was then called "essential paralysis," which impaired the use of his right leg. After the regular faculty had given up the case he became the subject of every kind of treatment which the friends of the family could suggest. Amongst the old remedies to which recurrence was had, and most of which increased his lameness, some one recommended that so often as a sheep was killed for the use of the household "I should be stripped and swathed up in the skin, warm as it was, just flayed from the carcase of the animal. In this Tartar-like habiliment I well remember lying on the floor of the little parlour in the farmhouse, while my grandfather, a fine old man with white hair, used every excitement to make me crawl."

Formerly the Bath waters, or "Waters of the Bath," as they were styled, found favour for paralysis because they were not merely hot, but also impregnate with the essential heat contained in the bowels of mother earth; so the sheepskin was considered not simply hot, but redolent of life-giving vital warmth.

"I am afraid," wrote a Borderer (1871), about the above proceeding, "that in these materialistic days most doctors look upon heat as a mode of motion, and vital heat as a result of oxidation; but the glowing sheepskin may not be a bad remedy after all for a poor devil battered and bruised!" The same application was made, as is recorded, to a poor collapsed child whose legs had been torn off; and improvement immediately followed, which was maintained.

In the Folk-lore of North Hants it is told that the patella (or knee cap bone) of a sheep, or lamb, was worn to cure the cramp. During the day it was kept as near the skin as possible, and at night it was laid beneath the patient's pillow; hence it became locally known as the cramp bone. About Devon, and Cornwall, for preventing sciatica (bone shave) the knuckle bone of a leg of mutton is carried in the trousers pocket, or hung round the neck. In Somersetshire, for the cure of consumption the afflicted person is carried, or led, through a flock of sheep as they are let out of the fold in the morning. It is believed that shortly afterwards the complaint will begin to subside. Even the Archbishop of Dublin recently advised for lung consumption in a child that the mother should thus treat the complaint.

As bearing on the resuscitation of bodily heat by envelopment in the skin taken straight from a sheep just slaughtered, a singular method of prolonging life by kindred means, ascribed to the earliest ages,

was the Gerocomie, or the custom of infusing new strength and vigour into a body enfeebled under a load of years by bringing it into contiguity with the physical exhalations given off from some fresh and blooming youth. A well-known instance of this practice is to be found in the Scriptural history of King David (*Kings*, book i., chapter 1,) "Wherefore his servants said unto him, Let there be sought for my lord the King a young virgin, and let her stand before the King, and let her cherish him, and let her lie in thy bosom, that my lord the King may get heat. And they found Abishag, a Shunammite, and brought her to the King." Even in modern times this prescription has been followed with advantage. Boerhaave, a famous physician (1738), caused an old Burgomaster of Amsterdam to sleep between two healthy young persons, and assures us that the aged man acquired by these means a visible increase of vigour and activity. The great value which the Greeks and the Romans set upon inspiring pure sound breath from those about them was founded on these notions; and an ancient inscription discovered at Rome in the last century alludes to the same subject.

"Æsculapio et sanitati
L. Clodius Hermippus
Qui vixit annos cxv., dies v.,
Puellarum anhelitu:
Quod etiam post mortem ejus
Non parum mirantur physici.
Jam posteri, sic vitam ducite!"

"To Æsculapius, and the laws of health,
This votive stone commemorates the wealth
Of years, well nigh six score, Hermippus gained
By wholesome breath of virgin girls sustained.
Physicians wondered that he died at length,
Such vigour got he, and such store of strength:
Ye who come after lead the same long lives,
Preferring lively damsels to your wives!"

About Devon it is a popular cure for whooping-cough

to take the child to a sheep-fold, and let a sheep breathe on his face; then to lay this child on the spot of ground from which a sheep has just arisen, doing the same daily for a week: "Tiz a zartin cure, zir, I zhuree."

The milk of ewes is thick and heavy, abounding in cream, and with but little whey; it is but seldom employed medicinally. The manufacture of this milk into cheese is mentioned in Homer's *Iliad*, and again in the *Odyssey*: "Half the white stream to hardening cheese he press'd." Such milk contains much albumen. Suet (*sebum*) is the internal fat of the sheep's belly, melted, and strained. It consists of stearin, palmitin, olein, and hircin, the last named constituent having a peculiar goat-like acetous odour. When fresh it forms a suitable dressing for blistered, or raw surfaces, but it is irritating if stale. Being boiled in milk the fat of sheep makes an emulsion which is of service in chronic diarrhœa, and for dysentery from acidity within the intestines. By distillation suet affords sebacic acid. A broth prepared from sheep's trotters may be administered by injection into the lower bowel when nourishment cannot be tolerated by the stomach, or given by the mouth. The trotters in Devon are "dally bones." Another useful domestic enema may be made with mutton broth a pint, and brown sugar an ounce.

Mutton fat often provokes indigestion because of the hircic acid which it contains. In 1857 Dr. Rosmini advised the vapour of sheep's liver for the ophthalmic affection (of the eyes) called hemeralopia; and complete success attended its use by Dr. Quaglino, in many instances, among the Piedmontese soldiers under the walls of Verona and Mantua. The liver of different animals has been for ages a popular remedy, whether as food when cooked, or applied raw in slices to the

eyes, or boiled in a sufficiency of water, for the steam thus medicated to be directed towards the head and eyes. But in the Hakluyt Society's collection of documents it is narrated: "And upon this beare we fed for some twenty dayes, for shee was very good flesh; the only mischance we had with her that upon the eating of her liver our very skinnes peeled off. For mine owne part, being sicke before, by eating of that liver, though I lost my skinne, yet recovered I my health upon it."

In the Lower Roman Empire a remedial combination of animal liver with figs (*figus, ficatum*) became what is now popularly known as a "fagot."

Monsieur Dupuy injected a solution of sheep's brains into the large leg-vein (crural) of another sheep, and death ensued within a few minutes. The blood was found to have become coagulated in the heart, and large blood vessels. Sheep's brains kill an animal in this way even more quickly than perchloride of mercury (corrosive sublimate). Some use may be made of them in such direction, for staying hemorrhage by coagulation, if thoughtfully devised, and carefully executed. The remarkable alterative efficacy of the sheep's throat-gland (thyroid) when given as a medicinal food, on the newly discovered principle of curative healthy animal substances, has already been explained. It is strikingly shown in the reduction of excessive fatness; likewise in cases where the vital energy is low, and mental sluggishness is a prominent feature.

Mutton, the flesh of the sheep, is less stimulating and less nutritious than beef, and in general not so easily digested. The castrated animal affords the nicest and lightest meat. Lamb is less heating, though not so digestible as mutton, and richer in fat. "The fleece," says M. Pomet, "when newly taken off, and applied hot,

is admirable for easing pain, likewise to strengthen a weak part, and cure a fresh bruise. A strong broth made from it with Claret, if used for bathing the parts therewith as hot as can be endured, will assuage tumours, make weak joynts stronger, and restore a wasting of limbs from atrophy, or consumption; also some say it is powerful enough to remove a diabetes."

In South Africa broad-tailed lambs are produced for the sake of their tails, which consist almost entirely of firm fat, this fat being more solid than suet, and equal to marrow, though the flesh of the animals is coarse and poor. Even in this country lamb-tail pie is thought to be a delicate dish; but whether or not as a restorative animal substance it can develop anew the rudimentary human *cauda* remains yet to be proved.

Charles the Second, of England, was notably fond of mutton; and it was on this monarch, as his patron, the Earl of Rochester wrote the well-known epitaph:—

" Here lies our mutton-eating King
Whose word no man relied on:
He never said a foolish thing,
And never did a wise one."

In the *Merry Wives of Windsor* Shallow asks "Is not the grease of a mutton as wholesome as the sweat of a man?" At Christ's Hospital, poor Charles Lamb complains: "We had for supper bald bread and cheese in place of former smoking hot joints at that meal, which savoury meats were commuted by some pious benefactor for garments; who gave us "*horresco referens*, *trowsers* instead of mutton." Dean Swift was inspired to sing in favour of the sheep:—

" Gently stir and blow the fire,
Lay the mutton down to roast,
Dress it quickly I desire,
In the dripping put a toast,
That I hunger may remove;
Mutton is the meat I love."

Virgil talked of casting sheep's eyes amorously, "*transversatuentibus hircis.*" In the Colonies mutton ranks with daily bread as a prime necessity of life; mutton chops for breakfast; mutton boiled, or roasted for dinner; and cold mutton for supper; which speaks well for the wholesomeness of the meat that it can be thus eaten daily from year's end to year's end without producing disease, or satiety. The old doctors of gastronomy advised our forefathers to eat ginger with lamb; cinnamon with thrushes; mustard with mutton; vinegar with roast beef and goose; and a combination of sugar and salt with divers birds. Kibobs are sold in all the cheap eating houses of Stamboul: they are morsels of mutton roasted to a rich golden colour over a heap of wood ashes in the open air; these are next impaled on a wooden skewer, and dexterously seasoned with salt, pepper, and finely chopped onions; then they can be easily and delicately nibbled off the skewer. Dr. King Chambers thought there is very little odour in a single joint of good raw meat, and it is to most persons not unpleasant! When made powerful by accumulation, as in a butcher's shop, it may be described as refreshing, and exhilarating like a sea breeze. Certainly butchers and their assistants have a noticeable burly and sturdy aspect, though a bit greasy, as if with the precious ointment which ran down Aaron's beard; whilst their horses are proverbially swift-footed, and dashing, almost to a reckless degree. In Cambridgeshire a mess called "hack pudding" is made of sheep's heart chopped with suet, and sweet fruits.

As a remarkable instance of cure by the law of similars, or that of animal antitoxins, may be quoted the gad fly (*æstru*) which attacks the sheep. This fly deposits its eggs in the nostrils of a sheep or goat; they

excite a keen irritation, with an abundant discharge of mucus; then they are hatched, and the larvæ lose no time in burrowing; after penetrating to the brain through the roof of the bony nose they produce in the animal the malady called staggers. Now no remedy is so efficacious at the outset of this disease (which betrays itself by the violent defluxion from the nostrils) as an injection of the tincture of these very flies which cause the staggers; the larvæ are poisoned, and the sheep recovers.

TALLOW is the coarse fat of the sheep, melted down chiefly for making candles; and the dregs, known as graves, have been utilised as food for dogs, being manufactured into cakes.

Richard Boyle in his *Collection of Medicines* (1696), gives as "a vulgar, but often approved remedy for a cold, especially one that affects the breast,—take half a sheet, or a sheet of brown paper of as even a texture as you can get, and anoint it evenly and very well with the eldest tallow, or candle grease, you can procure, so that the paper may be thoroughly penetrated by it; then cover it thinly with nutmeg as you were to rub the spice upon a toast, and clap it warm to the pit of the stomach that it may reach a good way both above it, and beneath it." Another good old-fashioned application for a cold in the head with stuffed nostrils, was to tallow the nose at night outside across its bridge; but this practice, together with the tallow candles, and the snuffers to keep them from growing dim and guttering through length of wick, are almost beyond the memory of the present generation. Sir John Franklin, to his surprise and alarm, saw an Esquimaux youth consume fourteen pounds of tallow candles at a single sitting; and the young gentleman was desirous of

continuing the feast, when Sir John, who had offered to give him as many candles as he could eat, bought him off with a large lump of fat pork.

It is told of the learned Porson that one evening when he was growing quarrelsome his friends asked him civilly whether he would have some more punch, or take his chamber-candle and go to bed? Whereupon he replied: "Oudee todee, oudee tallo"; "Neither the one, nor the other" (neither toddy, nor tallow).

Chemically most of the Animal fats are compound ethers of Glycerine, which is put to so many medicinal uses that it may well be reckoned a Simple.

This GLYCERINE is the sweet principle of animal oils. It was first discovered by the Swedish chemist, Scheele, a hundred and twenty years ago. Next, in 1823, a Frenchman, Chevreul, showed that the "*principe doux des huiles*" is always separated when soap is made from such fatty matter as tallow. Technically Glycerine is a triatomic alcohol; and it has become a product of the very first economic importance. Twenty-five thousand tons of Glycerine are now made annually throughout Europe,—enough to float several ironclads. Its great medicinal value depends upon the remarkable solvent action which it exercises, and on its undrying character. Furthermore, it possesses to a singular degree the property of attracting water; whilst its viscosity adds much to its curative usefulness. If slowly swallowed it forms, because of this mucilaginous consistency, a coating over the inside of the hinder throat, which relieves when that part is dry, and tender, or when irritating dust has been inhaled. Likewise a small dose of Glycerine will serve admirably to quench intolerable thirst, when the amount of fluids allowed to a patient has to be restricted. If applied to the sore or raw

skin Glycerine is most usefully antiseptic; preventing fermentation also if added to milk, or to urine. Small doses of it help to fatten, and are well borne for a long time continuously; but a larger dose, as of from one to two fluid ounces, proves purgative. For arresting waste, and increasing the bodily weight, it can be safely given to a diabetic patient.

Locally for piles, Glycerine acts as an excellent astringent, causing them to shrink, and their inflammation to subside. Against gall-stones, and the colic which they cause by their obstructive presence, the daily taking of from one to four teaspoonfuls of Glycerine in some alkaline water has proved to be most efficacious. Perhaps, however, the best known application of Glycerine at the present time is for the purpose of inducing a speedy and painless evacuation of the bowels when costive. It is prescribed either as a small enema given by the aid of a special little syringe, or as a suppository to be introduced within the orifice of the fundament. As a rule a clearance of the bowels follows in from five minutes to half an hour after either of these methods has been employed. The suppositories are prepared with a mixture of glycerine and gelatine, solidified into small cones, and coated with some lubricating material. When combined with an astringent, such as tannin, glycerine is a highly serviceable unguent for fissures of the fundament, for chapped hands, and for cracked nipples. Mixed with a little water, or used pure, it will presently dissolve hardened wax in the ears. Its great affinity for water serves, when glycerine is applied on lint to a raw surface, to limit the secretion of matter therefrom. By atomisation it will act beneficially in various spasmodic ailments of the air passages. If taken medicinally in large excessive doses

it produces effects like those of alcoholic poisoning. When mingled with poultices it will keep them soft for a long time. The most modern service rendered by glycerine is that of preserving vaccine lymph for the use of public vaccinators. There seems little doubt that such glycerinated vaccine lymph will become universally employed in this country. For flatulent indigestion with acidity a dose of glycerine (from one to two teaspoonfuls) will generally afford immediate ease.

No case is yet recorded in which mutton has proved itself an offending form of animal food by developing germ life.

In the old English "cuisine" mutton chops were known as Collops,—slices, or lumps, of meat which had been beaten before being cooked. Don Quixote regaled himself every Saturday on collops and eggs, or, in an old version, "gripes and grumblings,"—"du elos y que brantos,"—the umbles of animals. Mutton fat is considerably firmer than beef fat, as it contains more of the glyceride of stearic acid.

The Africander sheep has a tail which sometimes weighs about twenty-five pounds, and which is cured in the place of bacon. A Transvaal roosterkook, or gridiron cake, if made with wheaten meal, and a small quantity of sheep's tail fat, says a traveller, is not to be despised; it is best if cooked on hot stones. Is it not strange, asks Benedick, in *Much Ado About Nothing*, that sheep's guts should hale souls out of men's bodies? Burns was eloquent in the praise of the *haggis*, or stuffed paunch of a sheep:—

"Fair fa' your honest souse face
Great Chieftain o' the puddin' race!
Aboon them a' ye tak' your place
Painch, tripe, or thearm:
Weel are ye worthy o' a grace
As lang's my arm."

In Norfolk, for severe ague it is held that a cure may be effected by taking as much of the snuff of a candle-wick as will lie on a sixpence and making it into an electuary with honey. This is esteemed a sovereign specific by the Norfolk rustics. The same practice is pursued elsewhere, but whilst using ginger instead of honey.

The testicular glands are allied in the sheep to the (thyroid) neck gland, of which the virtues have been discussed above; and by giving medicinally the substance of these (healthy and newly killed) testicular glands it is contended, especially by the disciples of Dr. Brown Sequard, that the sexual powers may be unmistakably resuscitated, also that persons prematurely old will become rejuvenated. The said substance (didymin) is given in tabloids, each containing five grains, one twice a day; as likewise for other perversions of the sexual functions. Darwin noticed the remarkable fact that black Sheep can eat with impunity a certain species of *Hypericum* (St. John's Wort), which is poisonous to white sheep.

SILVER.

SILVER is *Argentum*, or *Luna*: a metal which is sometimes found native, but more frequently mineralised with oxygen, sulphur, carbonic, and muriatic acids. The most celebrated silver mines of Europe are in Sweden and Norway. In its combination with nitric acid Silver is used medicinally, and forms the basis of hair dyes which are extensively employed, though often affecting the general health by absorption of the metallic salt through the skin of the head. For this, and other such reasons, some consideration may fairly be given to the metal among Animal Simples.

The *London Pharmacopœia* (1695) ordered as medicinal preparations of Silver, Potable Silver, a tincture, a spirit, and an essence; lunar Silver pills, and Silver crystals, also a precipitate of Silver, and the Silver hell-stone (our lunar caustic). Dr. Salmon officially characterized this metal as good against all diseases of the head, chiefly epilepsies, it being an absolute cure for the falling sickness, and convulsions, whilst comforting a weak stomach; also of great force in curing of the dropsie, and expelling all watery humours out of the body; these things it does almost to a miracle! In giving of the lunar pills wrap them up in a wet wafer, pap of an apple, or stewed prune, because of their bitterness. "With this medicament," affirmed the learned Horstius, "I have perfectly cured beyond expectation old headaches of near twenty years' standing." The Silver hell-stone is a caustick remaining for ever if kept from air, and consumed by touching warts, proud and dead flesh, cancers, ulcers, etc., if you wet them with a little water.

It is remarkable how closely these remedial effects, empirically obtained in times past, correspond to the results of silver provings, and the curative lessons taught thereby, at the present time. Metallic silver when triturated, and taken by experimentalists, has produced in healthy persons excessive urination, pains in the joints, hoarseness, and in women irritability of the womb; whilst if given of a much reduced strength in quite small doses it is found, *per contra*, to benefit diabetes (of the sugarless insipid sort), hysterical joints, chronic soreness of the windpipe, and certain troubles of the womb, including cancer in its early stage.

The salt of silver known commonly as lunar caustic (nitrate of silver) likewise exercises marked curative

effects when given in very small quantities, especially for irritable digestion, with internal soreness, and flatulence, even when these troubles have led to gastric ulcer within the stomach; likewise for venous congestions, particularly of the throat, and of the inner eyelids, for epilepsy, and for a generally defective state of the blood, with pallor, and weakness. Surgeons have been very fond of applying lunar caustic and its solutions externally for stimulating indolent sores, or subduing local inflammations; but the internal treatment strikes more effectually at the root of such evils; and (writes Dr. Hughes, of Brighton), "I venture to predict that as this becomes perfected, the local treatment will cease to be required, and the caustic case will take its place with the bleeding lancet among the doctor's disused instruments of torture."

A ring made from a piece of silver collected at the communion in church, or from small coins given by five bachelors unknowingly to one another, or contributed by twelve young women, and worn constantly on one of the patient's fingers, was formerly believed to protect against attacks of epilepsy. In Norfolk even now a ring constructed from nine sixpences given freely by persons of the opposite sex to that of the sufferer is considered similarly effective. About some parts of Northamptonshire if a female is afflicted with fits, nine pieces of silver money, and nine three-halfpences are collected from nine bachelors, and the silver money is converted into a ring to be worn by the epileptic, whilst the amount of the three-halfpences, thirteen-pence-half-penny, is paid to the maker of the ring, which he good-naturedly accepts. If the patient be a male then the contributions are levied upon females. In Hampshire the country people believe that a healing power exists

in the alms collected at the administration of the sacrament; and many use some of this money as a charm to cure diseases of the body by its being worn on the person.

As a recognised scientific fact Professor Charcot at the Hotel Dieu in Paris has wrought wonderful cures on epileptic and hysterical patients within recent years by discovering the metals to which their nervous systems displayed either a sympathetic attraction, or an unmistakable repulsion, and applying the same externally. Paracelsus had a ring made from a variety of metallic substances, and named it *electrum*. If it were put on for a patient in the night during an epileptic fit it would immediately stay the attack, and terminate the seizure. Cotta relates a "merrie historie" of some such an approved famous spell for sore eyes. "It was for a long time worn as a jewell about many necks, never failing to do sovereign good when all other helps were helpelesse; but no sight might dare to reade, or no hand to open it. At length, while the patient slept, a curious mind ript open the mystical cover, and found inside these Latin characters: '*Diabolus effodiat tibi oculos, impleat foramina stercoribus.*' 'May the devil dig out your eyes, and fill the sockets with turds!'"

In 1876, Dr. Antonio Curci, of Naples, introduced the chloride of silver as a sedative to the nervous system. It proved successful for epilepsy and allied nervous asthma. When medicinal silver is given in harmful doses the backs of the hands swell up. It has been already noticed that a solution of silver (the nitrate) is resorted to for making compounds to change the colour of the hair. This when applied recently to grey hair, after exposure to daylight, renders it black; but the colour

soon changes, and the grey roots of the hair begin to reappear, so that the person shows hair half grey and half black ; or sometimes the hair becomes purple, or in patches of purple and grey. Names such as Grecian water, Essence of Tyre, and other such pretentious titles are given to these hair dyes ; with regard to which the sad experiences of Tittlebat Titmouse in *Ten Thousand a Year* (S. Warren) may well be recited again here. His objectionable carrotty locks became vividly green under "Cyanochaitanthropoion," and were afterwards astoundingly empurpled by "Tetragmenon abracadabra," "at nine-and-sixpence the bottle." A singular blueness of the whole skin is sometimes observed after a protracted medicinal use of the silver nitrate, especially as to those parts which are most exposed to light. It is told in the third volume of *Transactions* (London College of Physicians), a man aged forty-six had epileptic fits from his infancy, and to save his tongue from being bitten during an attack he carried a silver crown piece in his pocket that it might be placed between his teeth when a fit was about to come on. He accidentally swallowed this piece of silver on March 12th, 1771 ; and in September, 1772, after twenty months, having taken emetics for fever, he vomited up the coin. On to July 6th, 1773, when this notice was published, the man had experienced no return of the fits. Sucking of a silver coin together with some table salt daily by an epileptic is certainly suggested by this case, so that chloride of silver in a small dose may reach the stomach, medicinally imitating the action on silver of the gastric juice when the coin had been swallowed. But to prescribe a crown piece as a tabloid would be a large order even in these days of compressed drugs, palatinoids, and similar solid doses.

SKYLARK (*see* MISCELLANEOUS).

SNAILS (and SLUGS).

THE Snail—*Limax*, a Gasteropod—has been used in medicine from very old times. In Pliny's day, when beaten up with warm water, these gasteropods were given for the cure of coughs. He advised that when the uvula of the throat becomes swollen it should be anointed with the juice drawn from a snail by a needle which has been suspended in smoke. The Romans were very partial to (Apple) snails, which they fattened in special cochlearia, feeding them with bran soaked in wine until they attained dimensions almost fabulous. Specimens were developed of which the shells would hold ten quarts.

In this country the early mediciners likewise prescribed snails. The *Rich Storehouse of Medicines* (1650) directs that, "For any manner of boil, fellin, or uncome, take twenty garden snales, and beat them, shells and all, in a mortar until you perceive them to be come to a salve, then spread a little thereof upon a linen cloth and lay it to the place grieved; and when one plaster is dry then take that off, and put on another; and use it often, and it will both heal the sore place and draw it, and it will kill the fellin." Again, as "A very sovereign remedy for the gout, take a good quantity of snails, and pick them forth of the shells, and stamp them in the mortar; then put to them a pretty quantity of salt, salet oyl, and sope, and stamp them all well together in the mortar with the snails; then take the same and make a plaister thereof, and apply the same to the place grieved; and so let it ly for the space of three days and this will destroy the gout." In the *London Dispensatory* (1696), concerning the Snail

(*Cochlea*) it is told: "The flesh cools, thickens, consolidates, is pectoral, strengthens the nerves, cures coughs, asthmas, spitting of blood, and consumptions; outwardly they ripen tumours, imposthumes, and carbuncles." Snails and slugs (especially the latter) have certainly found curative employment throughout many years for colds, a sore throat, and a liability to pulmonary consumption; they contain *limacin*, and eight per cent. of emollient mucilage; also *helicin*, and uric acid between the gasteropod and its shell. Mrs. Delaney, in 1758, recommended that, "Two or three snails should be boiled in the barley water which Mary takes, who coughs at night; she must know nothing of it, they give no manner of taste. Six or eight boiled in water and strained off, and put in a bottle would be a good way of adding a spoonful of the same to every liquid that she takes; this must be fresh done every two or three days, otherwise they grow thick."

On the Continent our common snail is not cultivated for the table or for medicinal uses, but the Apple snail (*Helix pomatia*) forms a favourite article of food, being eaten chiefly in Lent. These creatures are reared there and fattened in gardens called "escargotoires," or "snaileries," which are large enclosures boarded in, and having the floor covered half a foot deep with herbs. This particular snail is not common in England, and is said to be found only where there are Roman remains. But Apple snails have been met with in our country of such a size that the shell would contain a pound's worth of silver. They shut themselves up for the winter, each by its round, horny operculum at the entrance of the shell, and they hybernate either among dead leaves, or whilst fixed by their glutinous secretion to a wall or tree. It is during such state of hybernation they are taken for

use, being fed during the summer months with fresh leaves, bran, and potatoes; in the winter they are collected, packed in cases, and sent to market. The first importation of snails into England has been attributed to Sir Kenelm Digby (1645) for his wife; but they are mentioned as indigenous here before his time. This *Helix pomatia* may be found even now in abundance near Dorking, it having been brought to the South Downs of Surrey and Sussex as well as to Box Hill, in the sixteenth century by one of the Earls of Arundel for his Countess, who dressed and ate them for the cure of consumption. The shells are large and white, two or three times as big as that of the common (garden) snail. Snails boiled in barley water have been singularly useful for many cases of lung disease. Those fed on vines are most esteemed about France.

In 1854 M. de la Marr, of Paris, set forth the virtues of *helicin*, as a glutinous extract obtained from the snail and long given in broth for pulmonary phthisis, as a domestic remedy. In the neighbourhood of Dijon a small farmer has been known to clear three hundred pounds in the year from his cultivation of snails. For consumptive disease of the lungs the snails are not only eaten, but also crushed and rubbed on the back and chest, the snail juice being extolled by some as superior to cod-liver oil. Gipsies are great snail-eaters, but they first starve the animals, which are given to devour Deadly Nightshade and other such poisonous plants; and it is certain that snails retain the flavour and odour of the vegetables which they consume. The chalky Downs in the South of England are literally covered in some parts with small snails; and many persons think that the superior flavour of South Down mutton is due to the thousands of snails which the sheep devour there

together with the pasture on which they feed. According to a gipsy, the common English snail (*Helix aspersa*) is quite as good to eat as an Apple snail (*Helix pomatia*); but there is "less of him."

Borrow says (*Bible in Spain*): "Know then, O Gentile, whether thou be from the land of Gorgios (England), or the Busné (Spain), that the very Gypsies, who consider a ragout of snails (boror) a delicious dish, will not touch an eel, because it bears a resemblance to a snake; and that those who will feast on a roasted hedgehog could not be induced by any money to taste a squirrel." The Gypsy name for a snake is *Sap*; and the "bite of the Romany Sap" is *conscience*.

Snails and slugs are still sought out and eaten during the winter in some parts of Wiltshire, being soaked first in salt and water, then grilled on the bars of the grate. In France the *escargots* are dried and concocted into lozenges for a cough. To help weak eyes, in South Hampshire, snails are made into a poultice with soaked bread crusts. Schroder orders, "To prepare snail water take Red snails, cut and mix them with an equal weight of common salt, and put them into Hippocrates, his sleeve, that in a cellar they may fall into liquor, which is good to anoint gouty and pained parts, and to root out warts, being first pricked with a penfield." In Gloucestershire, to cure earache a snail is pricked, and the froth which exudes is dropped into the ear as it falls. During a time of long-enduring famine, when all persons had become attenuated and pale from low diet, two poor old women were observed with surprise to be fat and fair. A suspicion of witchcraft attached itself to them, so they were seized and examined, when they acknowledged that in the previous autumn, foreseeing dearth, they had

collected snails, and had salted them down as provisions. By a diet of these creatures, which supplied them with wholesome food, they had lived in comparative comfort all the winter. The barrel still containing some snails was found in their house to confirm the story, and they were set at liberty with no little approbation of their foresight. The common snail is found almost universally throughout each quarter of the globe.

About France a rustic application to scrofulous swellings is successfully used which consists of pounded snails and crushed parsley, applied freely every day. In a book of seventeenth century receipts "the Lady Honneywoode's snail water" is thus formulated: "Take a quart of shell'd snail's, wash them in salt and water; then scall'd them in boyling water; then distil them in a quart of milk upon white sugar candy, and a branch of spere mint."

Doctors Black and Hutton, of Edinburgh, the one precise and punctilious, the other impulsively boisterous and talking broad Scotch, determined to try a dish of snails together, each beginning the meal with a secret aversion. At length Dr. Black said in his quiet way: "Doctor, don't you think they are a little green?" "D—d green, d—d green, indeed!" vociferated Dr. Hutton, jumping up from the table and giving full vent to his feelings of abhorrence. "Tak them awa', tak them awa'; I'll ha'e nae mair of them."

In Cambridgeshire a snail shell is known as "Granny dod;" in Northamptonshire "Hod-dod;" in the East it is a "Conker;" and in Norfolk a "Dodman"; Suffolk men name it "Hodman dod," showing thus a distinction of county. A River snail in Oxfordshire is "Hoddy-doddy"; in Northamptonshire the Wall snail is "Packman snail," and "Sniggle"; in Kent, at Elham, a "Snagg."

The glutinous constituent, helicin, may be given in broths for pulmonary disease. Many quarts of cooked Garden snails are sold every week to the labouring classes in Bristol. For obstinate eczema of the skin a local application of Snails has frequently effected a cure within a short time when other regular remedies had failed. Subjoined is a curious old English recipe for "Syrrop of Snailes": "Putte House snailes in a baskett, putt fennel in the bottom, middle, and top of them; cover them very close; lett them stand twenty-four hours; wipe them very cleane with a coarse cloth; prick them with a bodkin, and stop their mouths with Lisbon sugar; putt them in a sieve with their mouths downwards, and sprinkle a little rose-water all over them. Let them stand till the sugar is dissolved, and the syrup drops clear in a dish; take it off for present use without boyling. For to keep, putt it on the fire, lett it just boyl, scum it very clean, take it off and keep it till the next day, then bottle it." Dr. Yeo says, "The edible snail has been called the 'poor man's oyster.'" Selected varieties, seasoned with herbs and condiments, form a costly article of luxury for Parisian gourmets. Montgomery quaintly moralizes of the *Limax*:—

"It cometh forth in April showers,
Lies snug when storms prevail;
It feeds on fruits, it sleeps on flowers;
I would I were a snail!"

The shells in powder, according to an old medicinal writer, are "lithontriptrick and good for the gravel, they cure clefts or chops in the hands, lips, or fundament. *Aqua Cochlearium* is distilled out of the flesh in May and October, being excellent against consumptions, and a cosmetick. The liquor, *Cochlearium*, drops from them

when cut in pieces and salted, and put in a sieve bag. It is good to anoint with in the gout, and takes away corns and warts."

The Latin people are the principal friends of the Snail, whilst for the most part it is rejected by all of the Scandinavian and Teutonic races. In Yorkshire, when the dew falls heavily, boys hunt the large black snails and sing:—

"Snail, snail, put out your horns!
I'll give you bread and bar'ey corns."

From Gay's *Shepherd's Week* we learn that snails were formerly used in rural love divinations:—

"Upon a gooseberry bush a snail I found,
For always snails near sweetest fruits abound;
I seized the vermin, home I quickly sped,
And on the hearth the milk-white embers spread:
Slow crawled the snail, and if I right can spell,
In the soft ashes marked a curious 'L';
Oh! may this wondrous omen lucky prove,
For 'L' is found in 'Lubberkin' and 'Love.'"

Sweet syrups are still made from the Apple snail for colds and sore throats, because of the emollient mucilage with which they abound, and their constituents, helicin and limacin. Among Sea snails the familiar Periwinkle (*Turbo littoreus*), and the small Whelk (*Buccinum*) are popularly eaten in this country. Common snails are equally good when cooked (after being first soaked in salt and water); being pulled out with a pin, and taken with pepper and vinegar.

Dr. J. Quincy (1728) pronounced about Snails: "They abound with a slimy juice; and are experienced very good in Weaknesses, and Consumption, especially for children and tender constitutions. To make a Syrup of Snails (*Limacum*), take Garden Snails, early in the morning while the dew is upon them, one pound; take

off their shells; slit them; and with half a pound of sugar, put them in a bag; hang them in a Cellar, and the Syrup will melt, and drop through; which keep for use. It possesses in the best manner all the virtues of the Snails."

For whooping-cough, in Warwickshire, the pretty round Stone Shell (*gryphæa incurva*), or devil's thumb, found abundantly about the gravel-beds there, when calcined proves a certain specific for this complaint, even in its obstinate form.

The *London Gazette*, of March 23rd, 1739, tells that Mrs. Joanna Stephens received from the Government then in power five thousand pounds for revealing the secret of her famous cure against stone in the bladder and gravel. This consisted chiefly of egg-shells and snails, mixed with soap, honey, and herbs. It was given in powders, decoctions, and pills. The decoction was made of chamomile, fennel, parsley, and burdock, together with some alicant soap. In 1851 a M. Benoit, of Paris, maintained that a sympathetic, imponderable fluid exists which, when set in motion, connects snails of different kinds by a sort of rapport, insomuch that if snails of a sort in one tank, each being in connection with a letter of the alphabet, be commoted, they will straightway cause a reproduction of impulse to the same letter in a second tank out of sight of the first, so that in this way words could be distinctly spelt out. Victor Hugo witnessed these phenomena with close interest, and expressed himself convinced of their good faith and credibility. A medicinal pottage of the seventeenth century was snail soup, made of Garden snails, earth-worms, a score or more herbs, and strong ale; these being boiled together and strained. An elaborate receipt for snail broth, as given for invalids stricken

with consumption, appears in the *Pastry Cooks' Vademecum* (1705). Another old recipe, "excellent for one that is in a consumption," ran as follows: "Take Garden snails, break their houses, and remove them whole; do not wash them but put them into the strokings of milk, and set them on the fire together till they be ready to boyl, but let it not boyl; then strain it and drink it warm, a draught each morning, and at four o'clock in the afternoon, and at night last."—Also, as an excellent remedy for the jaundice: "Take snail shells and roste them, or else drie them at the fire or in an oven; and when they are drie beat them to powder, and let the patient take half a spoonful thereof at a time, and let him drink it in ale, and let him use it for the space of eleven or twelve days together both morning and evening and this will cure the disease presently."—*Probatum est.*

In Gloucestershire a common antidote against ague is a live Garden snail sewn up in a bag, and worn round the neck for nine days. The bag is then opened and the snail thrown into the fire, when it is said to shake like the ague, and after this the patient is never troubled any more with the complaint. Also, a cure for warts is to pierce a snail as many times as you have warts in number, then to stick the snail on a black thorn in the hedgerow; as the creature dies, so do the warts wane and disappear.

Slugs, likewise, are highly emollient because of their much mucilage, and they are rendered medicinal by their limacin. The liver yields sugar. In country districts the Red slug (*Arion rufus*) is commonly made into a decoction for coughs. The great Grey slug (*Limax maximus*), the Black slug (*Limax ater*), and the small Grey slug, are to be found abundantly about most parts

of England, and when properly cooked are all equally good. The larger varieties may be treated as the Chinese do with their sea slug delicacies—cut open and dried for keeping. Slugs can be lured to the shelter of boards or tiles, beneath which are placed cabbage leaves or garden refuse as a bait by night, and they will remain in the trap for shelter by day. As a medicine, both snails and slugs will be best eaten raw because, like all their class, they consist chiefly of albumen, which is most easily digested when uncooked. Lister (*Historia Animalium Angliæ*) speaks of snails as served up, at his date, for the table, when boiled in spring water, and seasoned with oil, pepper, and salt.

Uric acid is produced in slugs, snails, and other molluscs by an organ, the *Saccus calcareus*, supposed to be the first vestige of a kidney; this uric acid has been turned (by Dr. Prout) into a purple colour of great beauty (*murexide*). The large Grey slug, spotted with black, is often found in dark cellars and gardens; and the small Slug (*Limax agrestis*), in kitchen gardens after a shower of rain.

Our schoolboys used to play at a game called "chasing," by pressing two champion snail shells one against the other until the weaker became broken, and the conquering shell was the "chaser."

"Four and twenty tailors went to kill a snail,
The best man among them durst'nt touch her tail:
She put out her horns like a little Kyloe cow:
Run, tailors, run! or she'll kill you all now."

"Sex quater exhibant sartores impete magno
Viribus ut junctis limax spumosa periret:
Nec fuit e numero qui auderet tangere caudam,
Cornua nam extrudens scævissima, sicut in agris
Vacca rubens et niger, croci contineta colore,
Illa suos hostes tremefecit. Abite fugaces,
Sartores! vos dira manent dispendia vite
Prosentemque viris intentant omnia mortem."

As "A tryed medicine for a whitloe," Boyle gives in his *Collection of Medicines* (1695), "Take House snails and beat them, shells and all, in a stone or wooden mortar so long till they be reduced to the consistence of a cataplastm, which apply somewhat warm to the part affected, and keep it on for sixteen or twenty-four hours, renewing it then if need be."

Our early mediciners were partial to ale as a vehicle for such remedies as snail-shells, turtle, hare, etc., even against jaundice or rheumatic complaints. Probably their beverage called by this name, when used for such a purpose, was a thin liquor not likely to provoke acid fermentation in the stomach. Until the time of hops (about 1525) ale was clarified with ground ivy, or ale hoof. Polydor Virgil called it "a most wholesome and a pleasant drink, with an especial vertue against melancholy, as our herbalists confess." By contrast, the Bohemian beer used in some parts of Germany was black and thick, of which it was said:—

"Nothing comes in so thick;
Nothing goes out so thin;
It needs must follow then,
The dregs are left within."

"I'm a reg'lar Dodman, I am," said Mr. Peggotty, in *David Copperfield*, by which he meant "Snail," being slow to go.

"Chafing of the skin is instantly relieved," says Southey's *Doctor*, "by the slime of a slug; put the slug on the sore place, it heals you; and you need not hurt it, the part once slimed the slug may be let go." In the *Paradise of Dainty Devises* are verses "in prayse of the Snayle":—

"Dame Physick craves the salve from thee to cure the crasèd sore," etc.

Dr. Turton teaches that after the snail has been extracted there remains at the bottom of its shell a glairy, transparent matter which affords one of the best and most durable cements in nature, resisting every degree of heat and moisture.

Ordinary snails will attack such poisonous mushrooms as agarici (muscarius, and phalloides) without incurring any harm. The common Garden snails will eat the bills posted on a London wall after a shower. Quantities of Garden snails are packed in old cases and sent to the United States of America as delicacies. The glass-men at Newcastle once a year have a snail feast. They generally collect the snails themselves in the fields and hedges on the Sunday before this anniversary. Petronius Arbiter twice describes among the old Romans a serving of snails at the banquets of Trimalchio (Nero), first fried, and then grilled on a silver gridiron. Mr. Wood makes mention of an old woman who used to search in the hedges for snails, by the use of which she could convert her milk into cream. This she did by crushing the snails in a piece of linen, and squeezing their juice into the milk.

SNAKES (*see also* **ADDER** and **VIPER**).

ALTHOUGH in England only one reptile of the Snake species is found possessing venom (the Adder or Viper), yet medicinal uses of importance are made, especially by our homœopathic doctors, of the virus (when sufficiently diluted) of foreign, deadly snakes, and much curative help is afforded by the same. The venom is reduced by admixture with glycerine, or by trituration with sugar of milk in powder. Experimental symptoms have been accurately observed under the toxic action of snake virus derived from the Lance-headed viper

(*Lachesis trigonocephalus*), the Rattle snake (*Crotalus horridus*), the Cobra (*Naja tripudians*), and from Italian and German species of the Viper (*Vipera redi*, and *torva*).

There are three species of the English snake, namely, *Vipera berus* (the Adder); *Coluber natrix* (the harmless Ring snake); and *Coluber chersa* (the Smooth snake, or Red Viper), found almost only in the County of Dorset.

It has been already stated here, when treating about the bee-sting poison, that those authorities best qualified to judge now fully admit the toxic effect of any such virus however it may reach the circulation (unless its specific qualities become altered during the process), whether by infliction direct, this being the most certain and rapid, or by being swallowed and absorbed slowly from the stomach into the blood. The more intense effects of serpent venom have been epileptic seizures, or profound nervous prostration speedily followed by unconsciousness, hemorrhages from the gums and the kidneys, and jaundice like that of yellow fever, the blood ceasing to coagulate: it being thus proved that the nervous system has been severely shocked, and that the blood has become seriously disorganized.

Locally, also, at the seat of the bite in victims of this or that venomous snake, erysipelas frequently supervenes, with secondary abscess, or mortification of the limb. Hence it may be justly inferred that these venoms, when carefully prepared in the form of very high but nevertheless genuine dilutions, become medicinally curative of morbid conditions resembling in a lesser degree the effects of snake poisoning. *Lachesis* (from the Lanceheaded viper), when thus administered (H.), is excellently remedial for a nervous sore throat with a dry, choking, hawking cough; also, as well as

Naja (from the Cobra), for chronic nervous palpitation of the heart; likewise for sick nervous headache with much depression of spirits, the feet being cold and the face flushed. Similarly for jaundice, accompanied with a liability to bleedings by stool, or from piles, or even by vomit, the serpent venom is a most efficacious medicine. Again, for local inflammations, with secondary blood affection tending to gangrene, the whole health being much depressed, these medicines have shown themselves to be singularly beneficial. The good results obtained have been wrought by a tincture (H.) of the sixth or higher attenuation, eight or ten drops being given for a dose, with water, as repeatedly as the urgency of the symptoms indicated. A bitten person, if recovering, tells presently of a violent, throbbing headache, often with nervous tremblings of varying duration.

American Indians will feast on the Rattle snake. By one or more of our leading chemists a solution of its pure venom—one part in a thousand—is now prepared, of which three drops, when given every three hours, with a spoonful of water, have proved a saving remedy against malignant scarlet fever.

“In the event of a man being bitten by a venomous snake,” says Mr. C. A. Robinson (*Fifteen Hundred Miles through the Central Soudan*), “which is by no means uncommon in this part of Africa, he is at once taken to a native doctor who inoculates him with the poison extracted from another snake, the result being to render inoperative the venom of the first bite. This cure for snake bite is practised not only in Hansuland, but all along the coast.” In India, for a poisonous bite by the red-streaked, viperine snake (*Echis carniata*), which is fierce, active and dangerous, a secret herbal remedy

is given with great success, this being the pangla, an herbaceous shrub growing on the Ghants, and identical with *Pagostemon purpuricaulis*,—a labiate plant, of a pungent aromatic odour; the fresh root has to be chewed, or is taken in infusion, and always saves the patient if given in time. The bite when fatal kills in from four to five days. A lizard worn round the neck is a supposed preservative throughout the tribes of Senegal; and snake-skin tablets attached to the arm protect the wild races of the Borneo group from sun-stroke, snake bite, and misconduct on the part of their wives. The Ophiogenes of the Hellespont were said to have acquired an immunity against snake poison, and to possess the faculty of healing a bitten person, by laying their hands upon the wound. Hasselquist tells that the famous serpent charmers of Egypt eat serpents, making them into broth, and they never omit to partake of this food when going out to catch the reptiles. Bruce speaks of a man whom he saw take a live *Cerastes*, and, beginning at the tail, eat it as one would do a carrot, or a stick of celery, without any seeming repugnance.

In the *Lancet* (1886) Mr. A. Bolton stated as within his knowledge concerning the natives in South Africa, who never seemed to suffer any inconvenience from the effects of snake bite, that they were in the habit of extracting the poison gland from the snake immediately on its being killed, squeezing it into their mouths, drinking the secretion, and appearing to acquire thereby an absolute immunity from harm by snake bite." He adds: "I can no longer refuse to believe in the efficacy of the snake virus itself as a remedy against snake poison." Quite recently Professor Frazer has cultivated the snake venom as an anti-toxic serum, wherewith persons may be protected by inoculation, or saved when

already bitten ; he calls this remedy "antivenene." It is administered by injections into the veins, or under the skin of the person bitten. A "True Snake Story," which is interesting and suggestive, was told in the *Spectator* (September 11th, 1897). In the Tugela Valley, Natal, it became necessary during public works that a huge stone should be removed, beneath which was known to lie a large black Mamba, the most deadly of the South African snakes. The superintendent, a white man, offered a reward for the skin of this snake ; but the gang held back in hesitation, until a slim youth sauntered forward and undertook the task. He unfastened from his neck what looked like a bit of shrivelled stick, chewed it, and swallowed some of it, spitting out the residue on his hands, with which he proceeded to rub his brown, glistening body and limbs all over. Then taking up his staff, and chanting a song of defiance, he advanced most confidently to the boulder. There he roused up the Mamba, who in great fury at being disturbed bit him most venomously in the lip. The lad took no notice of the bite, but broke the snake's back with his stick, and bringing him to the master asked for his reward. Having obtained this he went back to his work, and the bite of the reptile had no effect on him whatever ; but no offer of a bribe, not even that of a cow, would induce this native to disclose the secret of his antidote, which he said had been handed down in his family for generations.

It has been shown of late by pathologists that bile is able to prevent fatal consequences from venomous snake-bites ; also that there is present in the bile of serpents a constituent (or constituents) which possesses in a concentrated form the antidotal qualities of the bile itself. Snake venom, when introduced into the stomach,

is not rendered harmless by the secretions of that organ, and yet it fails to cause dangerous toxication, so that it may be assumed that the stomach walls cannot quickly absorb it. This would be done more readily by the intestines; but at the outset therein the venom encounters antidotal bile. Dr. Fraser (Professor of Clinical Medicine in Edinburgh University) has recently shown that the bile of venomous serpents is able, when mixed with poisonous serpent venom, to prevent deadly doses of the latter from producing fatal results; indeed, that the bile is so powerful an agent to effect this that a quantity actually smaller than that of the venom can be sufficient for the purpose; also, that the bile of the ox is able to antagonize poisoning by snake venom, this power being, however, only about one seventieth of that of the strongest of the venomous serpents' biles which have been tested. It may be assumed that the bile of all animals is anti-venomous in different degrees, and bile has been since found to possess antidotal properties against the toxins of disease, such as lock-jaw, and diphtheria. Serpents' bile enters into the composition of the medicines most relied on for the treatment of snake bites by the natives of Africa. It is not only given as a medicine but rubbed into the wound, as well as some of the venom. Dr. Fraser states that the native African medicines contain the bile of serpents, with their heads dried and powdered, the venom glands being retained.

The fact that serpent venom (and by inference the bile) certainly acts on the system when applied to a serous or mucous membrane, if swallowed, and thus taken into the stomach, was clearly proved by Drs. Brunton and Fayrer, as reported in the *London Medical Record* (1874). "The idea," say they, "that it is effective

only when injected directly into the blood is erroneous ; though without doubt it is more immediately and rapidly fatal when it enters the blood direct." African snake-doctors, as Dr. Fraser relates, use venom by stomach administration as an antidote to a bite ; but they consider that bile is more effective. Cases of snake-bite happening to children are not infrequent about the country districts of Australia, and the method of treating these by injecting strychnine under the skin, as introduced by Dr. A. Mueller, has now become firmly established throughout Australia, its success being beyond all doubt. In Cornwall the body of a dead snake bruised and placed on the wound which it has inflicted is thought to be an infallible remedy for the bite.

"The beauteous adder hath a sting,
Yet bears a balsam too."

Snake feasts are held in Australia, the reptiles being coiled up and tied together, and baked in an oven scooped out of the earth, in which a large fire is made serving to heat several stones. Some of these are removed, and upon the others a large quantity of green leaves or grass is laid, and thereupon the snakes are placed whilst covered with more green leaves, and more hot stones with earth pressed down tight over the whole, no steam being allowed to escape. When done the creatures are taken out tender and juicy, and served in the leaves as a dish, ginger leaves being specially used for this purpose. The Australian natives eat the fat first as the best part, then the heart, liver, and lungs ; finally the body is split, and the backbone crushed between stones and devoured. Every morsel is consumed, and every drop of the grease licked up.

In Saxon times a snake bite was to be cured with "wax from the ears, and a collect." About Sussex the peasants adopt an odd remedy for dispersing a large neck (goitre). A common snake, when held by its head and tail, is drawn nine times across the front of the person's neck who is affected, the reptile being allowed every third time to crawl about for a while. Afterwards it is put alive into a bottle, corked up, and buried in the ground, the idea being that as the snake decays the swelling will disappear. Not long ago an old man, calling himself the Duke of York, used to sit on the steps of King's College, Cambridge, and earn a living by exhibiting common English snakes, and selling the cast-off skins as infallible remedies for a headache if bound round the forehead and temples.

As the symbol of health the serpent was in classic times twined about the staff of Æsculapius, the god of Medicine. It has been said to signify prudence in the physician, who should be "wise as a serpent." In India this reptile is revered as betokening every kind of learning. Moreover, it was thought to express the power of the medical art to renovate. But serpent-worship existed long before the time of the Grecian Æsculapius, and was brought from Babylonia by Cadmus into Egypt. One of the favourite charms of the early Britons was the snake's egg, which was believed to possess many healing properties, besides being able to float against the current of a stream. The eyes of our English snake are protected by tough but transparent plates, and when the skin is cast off these spectacles go with it. In some of our counties cooked snakes are considered a savoury dish, not inferior to eels. In New England to keep a pet snake, or to

wear a snake skin round the neck, is held to prevent rheumatism. Our Water snake (*Natrix torquata*) is said to emit a disagreeable odour when excited to anger. Dr. Johnson declared he could repeat *verbatim* a complete chapter of the *History of Ireland* from the Danish, when it turned out that the entire chapter ran thus: "Cap lxxii., Concerning Snakes. There are no snakes to be met with throughout the island." The *Arabian Nights* inform us that Asiatic folklore teaches the art of cooking and eating snakes and serpents for the purpose of acquiring a knowledge of animals' language; this is in many cases imparted to the cook through his sucking a finger accidentally burnt when touching the hot snake during its roasting, or which is splashed with some of the scalding broth in which the reptile is being boiled. Instinctively the cook thrusts the pained finger into his mouth, and he thus becomes endowed with the gift of animal tongues. "It's an ill cooke cannot licke his own fingers."

A venomous snake which has been kept in alcohol for some time, say a year or two, ceases to be poisonous; but the venom of a viper may be kept dry in a phial for a long time without losing its poisonous properties. Gilbert White makes mention of the faculty possessed by a common English snake to stink as a means of defence. He tells of a tame snake which was quite sweet when not alarmed; but as soon as frightened by a cat or dog it fell to hissing, and filled the room with such nauseous effluvia as made it almost insupportable. Chandler's *Travels in Greece* speaks of a capuchin stung by a scorpion, when an attendant Turk proceeded to find the reptile, which he crushed with his foot and bound on the bitten part as antidote to its own poison. The remedy was entirely successful.

SNIPE (*see* MISCELLANEOUS).SPARROW (*see* MISCELLANEOUS).

SPIDER.

THE Spider was in Anglo-Saxon *Adercop*. Our most common English varieties of the Spider (which is not a true insect) are the Garden Spider (*Epeina diadema*); the Gossamer, or Field spider (*Aranæa obtatrix*), which can only spin in a current of air; the House spider (*Aranea domestica*), "one of the four things," says the *Book of Proverbs*, "which are little upon the earth, but exceedingly wise"; and the Hunting spider (*Salticus scenicus*), which is striped like the zebra and leaps for its prey. Spiders have been long supposed to possess marked medicinal virtues. The web has gained an established repute, externally to stay bleedings, internally for the cure of feverish ague; it has been shown to afford an albuminous principle allied to, and isomeric with quinine. Pills of the web, one before breakfast on three successive mornings, are to be given for ague. The Garden or Papal Cross spider (*Aranea diadema*), has been proved as a medicine (toxic or otherwise, according to the dose) by healthy experimentalists, and is now an official remedy (H.), the abdomen or the entire animal being used. It gets the name "Papal Cross" from the white and yellow spots marked like a cross on the green abdomen, being found on old walls in gardens. The tincture (H.) is made by using one live spider to every hundred drops of spirit of wine, and macerating for ten or twelve days.

Dr. Quincy said about the *Tela araneorum* (Cobweb): "It appears not in medicinal prescriptions, but as accident has taught its use to common people for

stopping blood in a fresh wound. And this it seems to do by its extraordinary fineness, which makes it adhere to, and stop up the mouths of the vessels."

Old Fuller writes: "When a spider is found about our clothes we say some money is coming toward us. Some who imitate the industry of that contemptible creature may, by God's blessing, weave themselves into wealth."

Likewise, the venom of certain spiders has been experimentally proved, especially that of the *Tarantula cubensis*, one result being great restlessness, so that the prover could not remain quiet anywhere or in any position, bringing to mind thoughts of the dancing mania supposed to be set up in Italians by the bite of this Spider. Its tincture (H.), made from entire living spiders, is given beneficially for St. Vitus's dance; also, in a high dilution, it is a great remedy for malignant carbuncle, as well as for diphtheria of the worst form. In the Life of the noted Mrs. Delaney two infallible recipes for ague are mentioned as having been commended by that lady to her daughter. One of these was to "put a live spider into a goose quill, and well secure the opening with wax; then hang the captive about the neck of the afflicted child, as near over the pit of the stomach as may be." It is a common village practice now in the West of France to enclose spiders in nutshells, and fasten them about the necks of persons suffering from fever and ague; and in this country the large Black spider of our barns is popularly held to be very efficacious in fever if well powdered with brown sugar and swallowed whole. Ashmore, in his *Diary*, states: "I took early in the morning a good dose of elixir, and hung three spiders about my neck, and they drove my ague away." In Somersetshire, to cure ague,

poor persons catch a fullgrown spider, and shut it up in a box; as it pines away so is the malady supposed to wear itself out. Dr. Oliva, a Spanish physician, in 1882, obtained *arachnidin* from spiders, and he has found it an agent capable of invariably curing malarial fever, whether quotidian or tertian, the dose being thirty grains for an adult, and fifteen grains for a child; it usually cuts short the disease at the second attack, but the action is less prompt than that of quinine. Being tasteless this remedy is better taken by children; and relapses occur less frequently with the arachnidin than with quinine. This practice was originally derived from the Arabs. In 1867 Dr. Donaldson, of Madras, successfully treated severe cases of malarious fever with spiders' web in pills, and thought the remedy in some respects superior even to quinine. He gave five grains of the cobweb in a pill every three hours, but occasionally began with a fifteen-grain dose.

Burton relates in his *Anatomy of Melancholy*: "Being in the country at my father's house, I observed this amulet of a spider in a nutshell lapped in silk as applied for an ague by my mother. But such, methought, was most absurd and ridiculous; I could see no warrant for it. *Quid araneæ cum febre?* What has the spider to do with fever? For what antipathy is this? Till at length, rambling amongst authors, I found this very medicine in Dioscorides, approved by Mathiolus, repeated by Alderovandus, and began to have a better opinion of it; and to give more credit to amulets, when I saw it in some parties answer to experience." Sir Thomas Watson, in his *Practice of Medicine*, commended Cobweb as a medicine for ague, with allusion to prisoners of war having been cured in the Isle of Man by the web of the Black spider, which was swallowed

when wrapped up in raisins. The same thing was done in 1700 by Dr. Gillespie (also afterwards, in the West Indies, by Dr. Jackson); two pills, each of five grains, were given every two hours, commencing six hours before the expected return of the fit, no paroxysm recurring afterwards. In *Notes and Queries* (vol. ii. p. 259), a lady is mentioned living in the South of Ireland who was famous among her poorer neighbours far and near for the cure of ague, the universal remedy which she gave being a large House spider alive, and enveloped in treacle or preserve. Cuthbert Bede bore similar testimony: from his own knowledge he could speak of a charm for the ague in which the Fen people put great faith, *viz.*, a spider covered with dough taken as a pill. About amulets, quoth Old Burton, "They have a secret vertue, and I say with Renodeus, they are not altogether to be rejected. Peonie doth cure epilepsie; pretious stones most diseases; a wolf's dung borne with one helps the colick; a spider an ague."

As regards fever and ague it seems certain that the infection therewith of human beings can, and probably does, take place through the Mosquito; and similarly through other kindred animal media. Hence may be learnt the importance to Europeans of protecting themselves against the attacks of these insects. "The turning-up of virgin soil, which is one of the most fruitful causes of malarial fever," says Surgeon Bowden, R.N., "is often followed by an influx of mosquitos." The same parasitic elements which the mosquitos are known to possess are found now-a-days in the blood of the malarious human subject; and "no discovery which has ever been made in the domain of medicine is likely to have such far-reaching effects as this."

With reference to the Garden spider (*Aranea diadema*),

Dr. Laville, in *l'Art Medicale* (1867), told that, "the poison of this spider resides in every part of the body ; plunge a lancet into it, no matter where, and prick a sparrow therewith under the wing he will soon die in convulsions ; its venom can cure chronic intermittent fevers, especially those of an essentially nervous type, above all, those fevers produced by the virus of animals. Its poison likewise cures epilepsy and mania, the antidote being its own toxic principle, or henbane. The dose of the tincture (H.), ninth dilution, is four drops in water. Birds that have become epileptic after eating too many of these Garden spiders cure themselves by swallowing henbane seeds until purging is produced ; from which fact it may be inferred that henbane should be an antidote to spiders' poison, and likewise an anti-epileptic medicine." Longfellow gives the admonition in *Evangeline* :—

"Only beware of the fever, my friends ! beware of the fever !
For it is not, like that of our cold Acadian climate,
Cured by wearing a spider hung round one's neck in a
nutshell."

Again, externally the web is a most admirable application to arrest bleeding. In *A Thousand Notable Things* (1815), we read : "There have been many men and women who have been cut and wounded, and for want of some to staunch the bleeding have been not only much enfeebled and their spirits quite spent, nay, oftentimes gangrene, and so the amputation of a limb, if not death, hath followed. For the prevention whereof, till the surgeon can be had, let the webs of spiders (the more venomous the better for that use!) be gotten and applied to the wound, and they will stop the bleeding of the wound, for they are of great force and stiptick of all fluxes of blood ; let it not be despised because it is easy

to be had, for the web of the spider is in many cases as good as silkworm. Proved!" The *London Pharmacopœia* of the seventeenth century told of spiders' web as, "helping against hemorrhages and other fluxes of blood, being binding and vulnerary. Some use it outwardly against agues and creeping ulcers; others adventure to give it inwardly." In French medicine cataplasms against hysterical spasms and pains were formerly made of spiders' web; and from this substance when distilled were prepared the famous *gouttes de Montpellier* as a cure for epilepsy, apoplexy, etc. In Norfolk and its neighbourhood when a child is attacked with whooping cough a common House spider is caught and tied up in a piece of muslin, and pinned over the mantelpiece; so long as the spider lives the cough will continue, but when it dies the cough will shortly be cured.

Kirby and Spence do not hesitate to declare that if one could rise above vulgar prejudices he would probably find some spiders a delicious morsel as dainty food. In New Caledonia the inhabitants seek for, and devour with avidity the large spider, *Aranea edulis*, which they roast over the fire. The celebrated Anna Maria Schurman used to eat spiders like nuts, which, she affirmed, they very much resemble in taste; the excuse she made for this propensity was that of having been born under the sign Scorpio. Reaumur tells of another young lady who was so fond of spiders that she never saw one without catching and consuming it. Rosel speaks of a German who was in the habit of spreading spiders like butter on his bread. But the practice is questionable as regards its wholesomeness, seeing that spiders are carnivorous feeders. "About West Sussex," says *Folk Lore*, "many an old doctor still prescribes in bad

cases of jaundice a live spider rolled up in butter to be swallowed as a pill."

In ancient times the spider was thought to envenom everything it touched. One of the witnesses examined with regard to the death of Sir Thomas Overbury alleged that the Countess wished him to get the strongest poison he could, accordingly he brought seven great spiders. In the *Winter's Tale* of Shakespeare, Leontes is made to say: "There may be in the cup a spider steep'd, and one may drink, and yet partake no venom." The bite of the *Tarantula* was to be cured by "musick and dancing, until a profuse sweating broke forth." Country folk generally think it unlucky to hurt, or kill a spider. In Kent they say:—

"If you wish to live and thrive,
Let a spider run alive."

At Westminster Hall in the timber work there is not to be found a spider or a spider's web, as it is thought, because the timber with which the roof is built was brought out of Ireland, where there is neither spider, toad, nor any other venomous thing. Wordsworth, with much simplicity, compared himself, as to his work, with the spider:—

"Both busily, our needful bread to win,
We walk, as Nature taught, with ceaseless pains;
Your bowels you spin,
I spin my brains!"

Quoth Dr. Johnson one day to a common acquaintance who was lamenting the condition of his inside, "Don't be like the spider, man, and spin conversation incessantly out of thy own bowels." St. Francis de Sales writes in his *Devout Life*: "Spiders do not kill bees, but they spoil and taint their honey; and if they remain in the hive they so entangle the comb with their webs

which they spin over it that the bees cannot go on with their work. So venial sin, when it takes up its abode in the soul, entangles the powers thereof with evil inclinations and habits. It may not be of great consequence provided that as soon as the spiritual spiders are entered into our consciences we chase and hunt them away, as the bees do the real spiders."

Popular names for the Spider are "Wevet," "Shepherd" (the Long-legged spider), and, in Devon, "Gramfer long legs"; also "Tent bob" (the small Red spider).

In a publication by Martin Lister, at London, 1678, "*De medicamentis ex araneis*," it was stated, "*Araneas stricte alligatas vulnere sanguinem sistunt; item ad narium hemorrhagiam, et ad menstrua intus forisve date. Quidam cinere telarum ad eadem uti malunt.*" Shakespeare, in his wisdom, evidently regarded spiders as objectionable for the bower, and as out of place at Titania's table; their fly-eating habits would forbid them her favour:—

" Weaving spiders, come not here ;
Hence, you long-legged spinners, hence !
Beetles black, approach not near ;
Worm, nor snail, do no offence."

When Saul went, with his life in his hand, at Engedi into the cave where David and his men lay in ambush against him (1 *Samuel*, xxiv.), "God foreseeing," says Dr. Adam Clarke, "that Saul would come to this cave, caused a spider to weave her web over the mouth of it; which, when Saul perceived, he took for granted that no person had lately been there, and so he entered it without suspicion."

SPONGE.

THE officinal Sponge is universally known because of its utility for many domestic purposes; it also

possesses, particularly when burnt, some valuable medicinal virtues. Sponge is found in the Indian, American, and Norwegian seas, generally adhering by a broad base to sub-marine rocks. On chemical analysis it yields an animal gluten, bromine, albumen, carbonate of lime, carbonate of ammonia, some phosphate of soda, and ioduret of iron.

Turkey sponge is the sort used curatively; the Bahama sponge, *Spongia usta*, is a distinct species. The cup-shaped best sponge of the shops is *Spongia tomentosa*, or *Spongia urens*, as found on the coasts of England, and of North America; it will raise blisters if rubbed on the hand, and after being dried in an oven it possesses increased faculties of stinging. This *Spongia tosta* (which is not to be confounded with *Spongia usta*) when taken experimentally in toxic doses has produced distressing heart symptoms, pain, palpitation, and difficult breathing, with livid lips, and faintness almost to syncope; given medicinally of a diluted strength, and in small doses repeated at regular intervals, it will materially relieve these several symptoms, especially the waking at night with a feeling of sudden suffocation. The living skeleton of Turkey sponge is imported dry, to be used for *Spongia tosta*; this is cut and roasted (H.) until friable, being then given in a triturated brown powder, or in tincture.

During life the canals of sponge are lined with a soft gelatinous animal matter as to the openings of the pores. The water circulates through these canals, and is expelled through the larger openings, oscula, its currents being generated either by a ciliary apparatus (like a brush of soft silky bristles waving to and fro) or by capillary attraction within the diminutive hairlike tubes. Aristotle was acquainted with the sponges, which are of

an animal nature, and subsist on the water circulating through their canals. When first taken out of the sea sponge has a strong fishy odour; and, unless squeezed immediately, and washed of its gelatinous matters, it soon putrifies. Crookewit on analysing a specimen of common sponge discovered in it the peculiar substance called fibroin (which has also been extracted from the silk of the silkworm). Sponge contains further a certain proportion of phosphorus, of sulphur, and of iodine, which are somehow combined with the fibroin. No albumen, or gelatin, has been found in sponges. Burnt sponge is specially of service as a medicine for bronchocele (or enlarged thyroid gland, *goitre*).

The *Spongia usta*, quite different from the medicinal *Spongia tosta*, is the West Indian Bahama sponge. This sponge likewise when carbonized has been long employed in medicine; its effects are generally supposed to depend upon the small quantity of contained iodine, of which such sponge in its natural state yields about one per cent. Arnold of Villa Nova introduced it in the fourteenth century as a remedy for *goitre*. Provers thereof in toxic quantities have experienced swelling, pain, and tenderness in existing *goitres*; also hardening of the region of the thyroid gland in front of the windpipe; but, as of more important significance, hoarseness and tenderness of the larynx, with a dry painful obstructive cough, just as in membranous croup; which distressing affection in its second and third stages, the *Spongia usta* will effectually relieve; also inflammation of the windpipe, simple or severe, when dryness is a prominent symptom, as in consumption, beginning at the windpipe. "A dry cough," says a Welsh prover "is the trumpet of death." Dr. Pereira refers the efficacy of burnt sponge to its bromine and iodine:

it was prescribed in his day as *Trochisci spongiæ ustæ*, burnt sponge lozenges, or in an electuary with honey, the dose of the sponge being from one to three drachms.

Natural sponge contains about one per cent. of iodine. The burnt preparation has been given with benefit for enlarged prostate gland at the neck of the bladder, such as occurs in old men from senile calcareous thickening. If good it should evolve violet fumes (vapour of iodine) when heated with sulphuric acid in a flask. Burnt sponge contains iodide of sodium, bromide of magnesium, carbonate of lime, phosphate of lime, and protoxide of iron. Well washed natural sponge affords osmazome, some fatty oil, common salt, animal mucus, sulphur, iodine, silica, alumina, and magnesia. It is composed of a horny flexible skeleton, the pores being strengthened by little siliceous, or calcareous needle-like bodies called spicula. The organic matter which lines the canals is Spongin.

Doubtless at various periods of the earth's history sponges have contributed largely towards the formation of agates, and flints. According to Dr. Bowerbank the flints of the chalk formation, and the beautiful moss agates are of spongy origin, that is to say, have been constructed by sponges become fossilized; in fact, agates and flints are petrified sponges. Formerly, says Dr. Phipson, before the time of percussion caps (not to speak of breech loaders) gun flints were in common use; and it is a curious fact that sponge, one of the softest of animal structures, should have contributed so much to form one of the hardest of mineral substances; and that men have made war, and slaughtered many thousands of their fellow-creatures by means of sponges and infusoria.

Flint (*Silex*), finely pulverised, and intimately mixed

with sugar of milk to a trituration highly diluted (H.) proves of singular medicinal value. Chemically it is an oxide of silicon, having been first used by Paracelsus, and praised by him against stone in the kidney, or bladder, for suppression of the breast milk, and in some nervous disorders. It influences nutrition rather than the functional activities of particular organs, having a deep and slow action which makes it specially curative in chronic disease. It exercises a really marvellous effect in checking long-continued discharges of matter from this or that part; also in healing simple ulcers, however chronic. Furthermore, the rickets, and other scrofulous diseases of children yield remarkably to the triturated powder of flint, or to its tincture. Strumous affections of the bones and joints are particularly amenable to this remedy: for whitlows it is strangely useful, and will blight them (says Dr. Hughes) if given early enough, sometimes checking their tendency to recurrence; for perspiration of the feet it is also of much service. In the American curative waters of Missisquoi, and Bethesda, which have a great reputation in their own country for curing cancer, tumours, diabetes, and albuminuria, this *Silex* is the principal medicinal constituent, though in quantity only to a high decimal fraction. Dr. Battye in the *Edinburgh Medical Journal* has reported a series of chronic cases which he treated with finely powdered flint. He found the pains of cancer to abate greatly, or to cease within ten days of commencing the drug, and sometimes a withering of the growth to occur. Fibroid tumours within the middle trunk greatly diminished; and both sugar and albumen disappeared from the urine, with a corresponding improvement in the general health. Single grain doses of the powdered flint were given each night and morning.

High dilutions have been mainly employed in homoeopathic practice. A method is now practicable for making by dialysis a moderately strong solution of pure hydrated silica, or flint.

In the *Rich Storehouse of Medicines* (1650), is to be found the following approved medicine for "the collick, and stone":—"Take a pottle of white wine that is pure and good, and put it into a pot; then take two great blue flint stones, and let them be as big as they will hardly go into the pot where the wine is; then cast the stones into the fire where they may be red hot; and take them forth, and quench them in the wine which is in the pot; and then take them forth from the pot again, and put them in the fire again as aforesaid; and so in like manner the three, four, or five times, or as often as need shall require, and until the one half of the wine be consumed away; and when you see it is half consumed then set it to stand where it may be well settled; and then let the party grieved drink of it, and continue to use it as you shall think good, or that you shall feel any pain; and this will cure you of (the collick, and) the stone: for by experience I know that it did help one Mr. Taylor, of Bristol, that was prisoner in the King's Bench, with divers others." Or, "Take a flint stone, and lay it in the fire, and there let it remain until it be red hot, and then put it into the ale that the party grieved doth drink; and then drink a good draught thereof whilst it is warm, and you shall find marvellous great ease thereby."

Concerning flint arrow heads, or celts, the common people in Cornwall believe that these are produced by thunder, and thrown down from the clouds; and that they show what weather will ensue by changing their colour. Also the notion prevails in many districts that

celts impart a virtue to the water in which they have been soaked, and that diseases have been cured by drinking it.

“Namque Aries capiti: Taurus cervicibus hæret;
Brachia sub Geminis consentur: pectora Cancro:
Te scapulæ Nemeæ vocant; teque ilia Virgo:
Libra colit clunes, et Scorpius inguine regnat:
Et femur Arcitenens, genera et Capricornus amavit;
Cruraque defendit Juvenis, vestigia Pisces.”

—*Manilius*.

The *Rich Storehouse of Medicines* further gives “flint” as “an excellent food medicine for the bloody flux.” “Take a stone that is white and hath red veins in it, and boyl it in a quart of new milk until the one half of the milk be consumed; and then let the patient drink often thereof, and he shall find great virtue in it.”

For a chronic swelling of either testis, the *Spongia tosta* proves highly efficacious. Also, as says Dr. Stacy Jones, of Philadelphia (1894): For croup, put ten drops of tincture of aconite, and ten drops of the tincture of *Spongia tosta* into a clean new bottle, with one fluid ounce of spirit of wine, and shake it well; then give one drop of this on sugar every ten minutes, and you will see magic. Recent sponge properly cleansed, and applied externally in small pieces, rather than in one single large piece, is an admirable means for arresting bleeding.

SPRAT (*see* MISCELLANEOUS).

SQUIRREL (*see* MISCELLANEOUS).

STAG (*see* HART).

THE famous gout ointment of Franciscus Jos. Borghi was made up of almost all the parts of a Stag. “It was inferred from the supposed longevity of this animal

that nature had stored it with a balsamic preservative salt, and that therefore all its parts, *even the excrements*, were endued with medical virtues." Dr. Gratz, of Jena, wrote a treatise upon this, entitled *Elaphographia*.

Concerning Animal dung it may certainly be said that recent medical science has made some explicit and instructive utterances in vindication of its sanative usefulness. In a lecture delivered at the College of Physicians (*British Medical Journal*, February, 1899), Dr. Poore asserted that "the organisms of dung, *Saprophytes*, are ubiquitous, and probably necessary, being presumably of service in bringing about the decomposition of complex organic bodies." One such, of the larger Saprophytes, the common Mushroom, commends itself to the taste of all classes as a savoury and nutritious dainty; and this is simply a product of horse-dung in dry pastures under favourable conditions of season and temperature. Likewise other fungi have a similar predilection for the dung of particular animals. Warrington has estimated that a grain of dung from a cow fed on hay contained one hundred and sixty-five million microbes: "Whether or not we should be gainers by checking the growth and multiplication of these facultative parasites outside the body is more than doubtful," is the conclusion formed by Dr. Poore. It cannot therefore be amiss to suspend the judgment before treating with supreme ridicule or contempt the old notions about animal dungs as curative medicinal agents.

STARFISH (*see* MISCELLANEOUS).

SWALLOW.

THE Swallow (*Hirundo domestica*) is a migratory bird which comes to this country in the first half of April,

and leaves us in November. It has a bold graceful flight, in easy curves, and long undulations, with a gentle warbling song, and a call of "Whit, Ceep, Cheep." It lays from four to six eggs. The ancient Rhodians welcomed its advent with festival and song. A notion generally prevails that ill luck befalls those who destroy its nest, the bird having been from Pagan times held sacred to the household gods. Older naturalists supposed that swallows remain in this country during the winter, hybernating in the mud of ponds, and in such other places.

Certain medicinal uses attach themselves to this bird. The *New London Dispensatory* said: "Stones are found in the ventricle of a young Swallow, about the bigness of pease, in the increase of the moon, or in August at the full; if these be hung about the neck, or ty'd about the arm, they cure the falling sickness in children." In some districts it is believed that if a Swallow lights upon a person's shoulder it is a sure sign of death. The nest is esteemed by people of Eastern countries as nutritious, and stimulating to the sexual functions, insomuch that these nests are articles of commerce. M. Payen shows that a glutinous alimentary substance forms generally the main part of such nests, and is a peculiar nitrogenous secretion, analogous to animal mucus, and with sulphur included in its composition. It is soluble, especially in hot water, and is named by the Professor, *Cubilose*.

There formerly existed a belief that the Swallow has sometimes two precious stones in its stomach, a red one for curing insanity, and a black one ensuring good luck to its fortunate possessor. Tied about the neck in a yellow linen cloth they prevented fevers, and cured the jaundice. According

to some these stones were to be wrapped in the skin of a calf, or a hart, and bound to the left arm. They were to be extracted whilst the young brood were still in the nest, it being provided that the fledglings did not touch the earth, nor their mothers were present when the stones were extracted. Vincent Holt declares that the Bird's-nest soup served at the Health Exhibition, in the Chinese restaurant, a few years since, was perhaps the most delicious soup he had ever tasted. "Yet from what was it made, ye dainty feeders?" "From the nest of a small swallow, which that bird constructed principally by the means of threads of a viscid fluid secreted from its mouth." This soup is reputed to possess great strengthening qualities, and to be an excellent specific for indigestion. "*Nids des Salanganes*" the French call Swallows' nests, as found adhering to rocks in the Isle of France, and as composed of a mucous humour secreted by the salivary glands of the birds: analogous to that with which the swallows in England solidify the structure of their nests. The "*nids des Salanganes*," resemble vermicelli in substance, and are thought very restorative, being made into potage with chicken broth, and into various ragoûts with spices. "The flesh of the Swallow" (*London Pharmacopœia* 1695) "helps dimness of sight; the nest outwardly applied is excellent against the quinsie, redness of the eyes, and stinging of serpents; so also the powder of it taken inwardly." But, by reason of its insect diet, the swallow possesses a very disagreeable flavour, and is quite unfit for the table. According to Scandinavian tradition, this bird hovered over the cross of our Lord, crying "Svala, Svala," "Console, Console;" whence it was called *Svalow*, the bird of consolation.

In the book of *Saxon Leechdoms* "A man trying to fight with his foe is told to seethe (staith), swallow nestlings in wine, then let him eat them ere the fight, or scathe them in spring water," *hirundines ripariæ*; Sand martins. "Also if hair be too thick, take a swallow, burn it to ashes under a tile, and then have the ashes shed on."

In the belly of a swallow, wrote old Burton, there is a stone found called Chelidonium, which if it be lapped in a fair cloath and tied to the right arm will cure lunaticks, mad men, make them amiable and merry. "*Dextro brachio alligatus sanat lunaticos, insanos, facit amabiles, jucundos.*" Robert Lovell (1661), alleged of the swallow, its aliment is hot and hurtful; therefore they are to be used as physie.

For the frensie in the head, wrote Peter Levens (*Pathway to Health*, 1664), "take a red stone that is found in a swallow, and let the patient carry it about with him, fast tyed in a linnen cloth, and put it under the left arm, and it doth heal all frensie and lunatick persons. Also a roasted mouse is very good for frensie." Ecclesiastical history relates that a swallow formerly defiled the head of Ekbert, Bishop of Treves, when he was performing mass at the altar of St. Peter's Church: "whereupon he laid a curse on the whole tribe that if any should enter the church it should immediately die." But strangely forgetful was this ruffled dignatary of the Psalmist's inspired words: "Yea the swallow hath found a nest for herself, where she may lay her young, even thine altar, O Lord of Hosts, my King and my God."

SWEAT (see MISCELLANEOUS).

SWEETBREAD.

SWEETBREAD, when genuine, is the thymus gland of the calf, taken from the front of the throat, (see "Veal," and

"Pancreas"). This is the true Sweetbread, a delicate tender gland found only in the young calf, whilst dwindling and disappearing as the animal grows into a cow. It may be known by having no gristly tubes, or ducts, in its substance, which is gelatinous, and easy of digestion. Certain earthy salts enter into its composition. The sweetbread does not afford much nourishment of meat nature, but serves to subsidise more solid food admirably for a delicate invalid, or a weakly stomach. As it does not furnish to the body any known secretion which might exercise some general medicinal effect (on the animal substance principle) it may be eaten with impunity as a non-toxic food. Of course if cooked in an elaborate fashion, or served with a rich sauce, it is rendered a questionable dainty. As it exists only during the developmental period of the animal's life, a suggestion has found favour that its administration, whether as food or in tabloids, may because of its earthy salts be useful to rickety children, or for defective growth. Therefore an extract of this thymus gland (or sweetbread) is now made by leading chemists, and doses of it are given to children; or the raw gland, thirty grains for a dose. It is said to protect from typhoid fever.

THRUSH.

THRUSH the (*Turdus musicus*), Songthrush, or Throstle, was named "Mavis" by the Anglo-Saxons. It is a handsome well-known bird, with notes of flute-like melody, "full of rich cadences, and clear, and deep." Its flesh has long been considered excellent medicinally for a weak digestion. Horace gave it as his opinion "*nil melius turdo*;" and Martial liked nothing better than a hare followed by a dish of thrushes. In the *London Pharmacopœia* (1696), it is said: "the flesh is of good

nourishment, hotter than that of the Blackbird, and preferred by many. Roasted with myrtle berries it helps the dysentery, and other fluxes of the belly." Like the Blackbird it is a great destroyer of garden snails, cracking the shell against a stone, and swallowing its tenant.

The oil in which Thrushes and Blackbirds were cooked was thought by the Romans to be good for sciatica. The flesh of thrushes is best for eating towards the end of November, says the French epicure, because it has then become aromatic by juniper berries on which the birds have been feeding.

The *Missel Thrush* (*Merula viscivora*—mistletoe eating) feeds also on ivy berries. It bears various names in different parts of the country, as Marble Thrush, Shircock, Stormcock, Thricecock, Holm Screech, Squeak Thrush, and Squawking Thrush. It sings best during stormy, blowing weather. The flesh is antiepileptic, probably because of the bird living chiefly on mistletoe berries. Robert Lovell said (1661): it is of laudable nourishment. The food of the Song thrush is chiefly insects, and of the animal sort. Its song has been syllabised as "Judy, judy, judy, bopeep, bopeep, bopeep, bopeep, how d'ye do? how d'ye do?" By some this bird is known as the Winnel.

TOAD.

THE Toad (*Bufo vulgaris*), is generally thought to be a mean, loathsome creature, and is almost universally disliked. But it has its highly valuable mission as a medicine, besides serving useful ends to the gardener by devouring numerous insects, grubs, worms, and slugs. In the winter it lies dormant, often in the mud at the bottom of a ditch. It possesses no teeth, either in the

jaws or in the palate. At times the Toad changes its skin, rolling up the old cast-off coat, as soon as a new one has been formed beneath, into a ball, and swallowing it at a gulp like a big pill. The skin of this reptile is warty, and covered with small tubercles which secrete an acid fetid humour, sufficiently sharp and unpleasant to prevent a dog from carrying a toad in his mouth, and serving to give protection from the hungry jaws of animals to whom the frog is a luxurious morsel.

The flesh of the toad is far from being poisonous, and affords as wholesome nutriment as that of the frog, its thighs being constantly sold in Paris for those of frogs. Formerly the flesh when dried and powdered was given against dropsy, to promote a free flow of urine. It was likewise applied externally to the navel for restraining floodings from the womb. "Etsi" writes Schræder (1854): "*Animal sit deterrimum, venenosum, ac abominabile, attamen non effugit usum medicum. Interne pulvere ejus hydropicorum aquas per urinam educi: desperatus quidam expertus est hydropicus qui præter spem attentatæ necis sanitatem illo acquisivit. Extrinsecus impositur parte quâ venter est anthracibus ad eliciendum venenum.*" It was further prescribed as a topical application to cancerous ulcers.

The natives of Surinam certainly eat the Toad, and make soup of it for the sick. In the *London Pharmacopœia* (1696), it is ordered that the ashes of a toad be hung about the neck as an amulet to cure bed wetting, or the not holding of the water. Wierus (1560) said the powder of a dried toad, taken half a teaspoonful at a time, cures diseases otherwise intractable, carrying away the water of dropsies by urine; and the ashes of them burnt is better. In old days the Toad was believed to be a powerful stayer of bleeding; it was thought that

any loss of blood would instantly stop if the sufferer handled a toad which had been transfixed by a piece of wood, and dried in the shade, or smoke, "horror and fright constrained the blood to run into its proper place for fear of a beast so contrary to humane nature."

Helmontius praised "*ossiculum brachii bufonis*"; toads, he says, were made into a powder called "Pulvis Ethiopicus" and much used internally, as well as externally, in cases of dropsy, and small-pox. Laid on the back of the neck alive, or dried, they were supposed to stop bleeding at the nose (perhaps by the contact of cold over the nuchal spine, just as a cold key acts when applied in the same way). Aubrey gives a process for preparing the toad when employed internally, directing that twenty great fat toads are to be stewed slowly while alive, in a pipkin on the fire; the calcined remains are to be again heated, and then finely powdered. Sir Kenelm Digby praised the virtues of toads, and ordered them for quinsy, bleeding at the nose, and above all as a most valuable remedy in king's evil, and scrofula. Within the last fifty years toad doctors were to be found visiting most country fairs, often selling bags containing the legs torn from the body of a living toad for six or seven shillings each. In old times when the art of black magic was exercised in this country one proceeding was to take a large toad, to baptize it with the name and surname of the person whom the desire was to curse; then to make it swallow a consecrated host whereon the formulæ of execration had been pronounced; the toad was next bound with some of the hairs of the victim, on which the operator had previously spat; and the whole was buried, either beneath the threshold of the bewitched person's door, or in a place which he was bound to pass over daily. The

best time for its use was supposed to be after the toad had lain dormant for a month, because the venom would then be most active, besides the advantage of catching him asleep, when he would not be so likely to throw off the toxic principle contained in his skin.

The life of James the Sixth of Scotland was once attempted by a woman named Agnes Sampson, who confessed at her trial that in order to compass the king's death she had hung up a black toad for nine days, and collected the juice which fell from it.

Dr. Leonard Guthrie has given an interesting account of a wicked Italian woman whose husband was dying from dropsy of the heart. He took so long about it that his wife became tired of the delay, and thought she would help him on; accordingly she caught a toad, and put it in his wine so that he should drink the draught, and die; but instead of dying he, to her astonishment, and disgust, completely recovered. This is precisely what the woman might have expected if she had only known the researches of modern physic, since the active principle of the secretion from a toad's skin is phrynin, with an effect much resembling that of digitalis (fox-glove) which is *par excellence* the remedy for dropsy depending on heart disease. A tincture for the purpose is made (H.) by treating with proof spirit of wine the secretion from the skin glands as obtained by irritating the animal. Professor Newton of Cambridge related (*Lancet*, March, 1888), that during a portion of last century live toads were applied as a supposed cure, or for affording relief, to cancerous breasts. The process was described by Mr. Patfield, a medical eye-witness (1776), to Dr. Lyttleton, then Bishop of Carlisle. The toad was put into a linen bag, all but its head, and that was applied to the sore, which the animal sucked

greedily. A woman supposed to be cured in this way was said to have toads on her, day and night, for five weeks without intermission. Concerning the Princess of Wales, in the reign of George the Third it is told in the "Handwriting of Junius," "nothing keeps her alive but the horrible suction of toads." White, *Selborne letters* (1768), did not for a moment credit the truth of this supposition. There is a superstition in Cheshire that whooping cough may be cured by holding a toad for a few moments with its head inside the mouth of the person affected; the toad catches the disease, and dies.

Strawberry growers in the environs of Paris encourage toads among the plants so as to get rid thereby of the insects; one of which toads being taken up by a gardener, and held depending by its hind legs ejected into the man's eyes a fluid which gave the sensation of boiling oil. He had to be led home; and on the next day violent inflammation of his eyes, with matter formed beneath the lids, set in, which could be subdued only by the most energetic treatment.

"Croak, said the Toad! I'm hungry I think:
To-day I've had nothing to eat, or to drink:
I'll crawl to a garden, and jump through the pales,
And there I'll dine nicely on slugs and on snails."

In Sir Kenelm Digby's *Discourse on Sympathy* (1658), he wrote: "In time of common contagion they use to carry about them the powder of a toad, and sometimes a living toad (or spider) shut up in a box; or else they carry arsenick or some other venomous substance serving to draw into it the contagious air which otherwise would infect the party." Also a notion of the fascinating powers exercised by the toad was formerly widespread. Cardan, of learned repute, wrote (*de rerum varietate*) "*fascinari pueros fixo intuitu magnorum bufonum, et maxime qui e subterraneo specu, aut sepulchris prodierint,*

atque ob id occulto morbo perire, haud absurdum est." It was said "there could be found in the heads of old and great toads a stone they call borax, or stelon, which being used as rings gave forewarning against venom; these stones always bear a figure resembling a toad on their surface." Lupton says (1635), a toad stone called Crepandia, touching any part envenomed by the bite of a rat, wasp, spider, or other venomous beast, eases the pain, and swelling thereof." It was alleged there were two kinds of this miraculous stone, of which the white was the best. Lupton instructs "you shall knowe whether the tode stone be the ryghte or perfect stone or not; holde the stone before a tode so that he may see it, and if it be a ryghte and true stone the tode will leape towards it, and make as though he would snatch it; he envieth so much that none should have that stone." If swallowed it was a certain antidote against poison; and it was usual to take it, by precaution, before eating. Some authorities add that if the stone be put into vinegar the toad will swim therein, and move its legs (probably effervescence is set up and causes some disturbance of the alkaline stone; or perhaps the stone was a lump of amber, containing some large insect). The toad stone was thought in the Highlands to prevent the burning of houses, and the sinking of boats; also, if a commander in the field had one about him either he would be sure to win the day, or all his men would die on the spot.

In like manner a "hag stone" was a stone with a hole in it to hang at the bed's head, being thought to have the power of preventing the nightmare as caused by a hag, or witch, sitting on the stomach. In reality the toad stones were frequently manufactured from fused borax, and other materials.

During Sir Walter Scott's time the toad stone was a noted amulet lent out only on a bond for a thousand marks, to protect mothers, and their new-born infants from the power of hostile fairies. It was semi-transparent, of a dark grey colour, and seemingly siliceous, being set in a massive silver thumb ring, and believed to be a specific in cases of diseased kidney. It was immersed for a while in water which was drunk by the patient.

"For getting the stone called Crampadine out of the toad it was a good way to put a great, or over-grown toad (first bruised in divers places) into an earthen pot, and put the same into an ants' hillock, and cover the same with earth; which toad at length the ants will eat, so that the bones of the toad, and the stone, will be left in the pot, which Mizaldus hath many times proved."

Frank Buckland declared "these toad stones are in reality the teeth of the fossil fish, *Acrodus nobilis*, being called "bufonites" by the quarrymen, out of the oolite formation. In Cheshire the toad stone was "whin stone," and in Suffolk a toad is "natter jack."

M. Sequin (1860) wishing to ascertain for himself the truth of the assertion that toads will live for an indefinite length of time imbedded in solid rock, enclosed some toads firmly in plaster, and left them for years in the middle of the blocks. At various intervals of time he broke the blocks, and found some of the toads still alive, one after ten years, another after twelve years, and another after fifteen years. Two of the toads still within their blocks were presented by M. Sequin when he was very old to the Academy of Sciences for future testing, and they were accepted.

Dr. Laville in *L'art Medical* (1867), recommended the venom of the toad as of strong medicinal power in such diseases of the great nervous centres as epilepsy, rabies,

paralysis, and somnambulism. He reported his labours first to the Medical Congress at Bordeaux, in 1854. Bartholomew Anglicus (1250), wrote: "In Ireland, is no serpent, no frogs, nor venomous adder-cop; but all the land is so contrary to venomous beasts that if the earth of that land be brought into another land and spronge on the ground it slayeth serpents, and toads; also venomous beasts flee Irish wool, skins, and fells. And if serpents, or toads be brought into Ireland by shipping, they die anon." Popular tradition says this is because of the curse of St. Patrick.

In the *Chinese Pharmacopœia* a toad's flesh is ordered for curing diarrhœa; also the bat is thought to confer long life on those who eat it, whilst its blood and bile will cure syphilis; the powdered scorpion dried, is a cure for rheumatism and syphilis; the brain of a horse will make the hair grow; its heart dried and powdered strengthens the memory; its bones overcome sleeplessness, but they must come from a white horse. The marrow from an ass's bones introduced into the ear during sleep will cause deafness; the horn of the rhinoceros will prevent somnambulism; the urine of the tapir is an antidote against being poisoned by copper, and the excrement of bats is to be used in the preparation of certain pills.

The ignoble name of Toady, or Toad-eater, signifies a person mean enough to eat moral dirt, submitting to abject degradation for the sake of favour, or a good dinner. It was first given to a gluttonous parasite so as to test his measure of stomach complaisance. One of his patrons had a toad cooked, and set before him, which he both ate and praised in his usual servile way. The little black slaves who formerly bowed down before the grandees of Spain were called by their owners "*mi todita*," my factotum, my toad-eaters. According to

a very old belief there is a violent antipathy between a toad and a spider, and that they venomously destroy each other, says Sir Thomas Brown, is very famous; "moreover, solemn stories have been written of their combats, wherein the victory is generally ascribed to the spider." Herrick gives the following charm against love:—

" If so be a toad is laid
In a sheep's skin newly flayed,
And that tied to man, 'twill sever
Him and his affections ever."

The Natterjack (*Bufo calamita*) is a smaller variety of the toad, common in some localities, and known by its olive tint of skin, with a pale yellow stripe running down the back. Toads, as is reported, will by no means come nigh unto the plant Rue, and an old writer admonishes "Be sure you wash your Sage for fear the toads, who, as I conceive, come to it to discharge their poyson, should leave some of their venom on the herb." It has been stated about Carp that at the beginning of spring numbers of the fish are found in well stocked ponds, not seldom, floating dead, and each with an enormous toad fixed on its head, the grip of the incurved front paws being closely applied against the eyes of the carp. Whether the venom of the reptile causes this mortality or not, is uncertain. Mr. N. F. Davey suggests that the sluggish carp basking on the bank is mistaken by the amorous male toad for its mate.

Toads, said Robert Lovell (1661), hate salt, and stinks; the cat, the mole, and the spider. "Like a toad under a harrow, I don't know which way to steer" is a saying of the Cornish peasant. A Lincolnshire lady showed Dr. Johnson a grotto she had been making, and asked him didn't he think it would be cool and pretty

to inhabit in summer. "I think it will, madam, replied he, for a toad!" The older poets clothed the toad in a garment "ugly and venomous;" whilst Milton likened Satan to this generally detested animal.

"Him they found
Squat, like a toad, close at the ear of Eve."

Chemists find in the venom of the toad "methylcarbamine," and "isocyanacetic acid," besides the active principle phrynin, "which is quickly fatal to dogs and guineapigs if injected under their skin." Juvenal tells of the lady who

"Squeezed a toad into her husband's wine."

And Prior has sung:—

LUBINUS MORIENS.

"On his death-bed poor Lubin lies:
His spouse is in despair:
With frequent sobs, and mutual cries
They both express their care.

"A different cause, says Doctor Sly,
The same effect may give:
Poor Lubin fears that he may die,
His wife that he may live.

"Sub exitu Lubinus in toro jacet:
Desperat uxor interim:
Suspiriisque, lacrymisque mutuis
Ambo dolores exprimunt.

"Diversa causa gignit effectus pares,
Mussat sacerdos callidus:
Mortis metu Lubinus anxius gemit,
Ne vivat uxor anxia est."

Another old rhyme tells of the toad as amenable to the voice of the charmer.

"I went to the toad that lies under the wall;
I charmed him out, and he came at my call."
"Bufonem accessi sub pariete semper agentem;
Vocibus elicui magicis, venitque vocatus."

The Chinese eat toads, believing them to strengthen bone, and sinew.

Gilbert White remembered that a quack in his village swallowed a toad to make the country people stare, and that he afterwards drank oil. Sir Joseph Banks to prove the harmlessness of the animal continually held one in his hand, and applied it to his face and nose.

An old English name for the Toad was Paddock (Anglo-Saxon, *Pada*); Robert Herrick has made use of the same in his sweet "grace" for a child:—

"Here a little child I stand,
Heaving up my either hand;
Cold as Paddocks though they be,
Here I lift them up to Thee,
For a benison to fall
On our meat, and on us all!
Amen."

Among New Englanders a person of supreme importance is "the biggest Toad in the puddle"; and "Toad-sticker" is a soldier's name for a sword.

TRIPE (*see* MISCELLANEOUS).

TURKEY.

THE Turkey (*Meleagris gallo paro*), is familiar to us as a domesticated farmyard bird; it hails from America, having been originally found wild there, and nowhere else. In common with tobacco the bird was quickly adopted in Eastern lands (to which they alike travelled through Europe), not having been known to the mediæval poulterers of Southern Europe, or once mentioned by them. No pre-Columbian writer on poultry has given a description applicable to the turkey. The birds were imported to this country by merchants, who, through regard to their more ancient and important

ventures, were commonly called Turkey Merchants in the sixteenth and seventeenth centuries. But turkeys did not necessarily come from Turkey any more than Turkey corn, which was in the same way brought first from America. At present it is universally allowed that we are not more certainly indebted to China for tea than to the western hemisphere for tobacco, turtle, and turkey. The month of October was commonly known to the Indians as "turkey month" from the flocks which then frequented the woods to feed on the mast, etc. The wild turkey was kept in Windsor forest as a game bird in the time of George the Third, but has long since disappeared. Young turkeys are so stupid that they have at first to be taught by the farm servants how to pick up their daily food; they will not fatten unless having free access to pebbles, many of which are found in their gizzards.

By the middle of Elizabeth's reign turkeys had become comparatively common at luxurious English tables. They began to appear as a Christmas dish about 1585. The fowl being named Turkey in London was likewise styled in Paris *poulet d'Inde*, or *dindon*; through the same misconception as to its origin. A story is told of some gluttonous invalid who, when becoming convalescent, was allowed by his careful physician, in writing, as a simple dinner, *une cuisse de poulet*. But scarcely had the doctor taken his departure when the patient caught up the prescription, and, cleverly imitating the physician's hand, added "*d'Inde*" after *poulet*. This order being duly obeyed by the cook, the gourmand had his reward in a big meal, and a laugh at his doctor. So says Jeaffreson in his *Book About Doctors*. The turkey-cock goes also by the names Gobble cock, Gobbler, Tulky, Lolly cock (in Devon), and Ganny. Some suppose it to

be the "turkey red" bird because of its deep red wattle, or joblock. Though inferior in plumage to the swan, or the peacock, the turkey excels each of these in texture and flavour of meat. Robert Lovell (1661) wrote of its flesh, "When young it recovereth strength, nourisheth plentifully, kindleth lust, and agreeth with every temper and complexion, except too hot, and troubled with rheumes, and gouts." On Thanksgiving day in the American United States every patriotic citizen eats turkey with cranberry sauce; and pumpkin pie. A proverb prevails there "As poor as Job's turkey, which had to lean against a fence to gobble." "The flesh," wrote Dr. Salmon (1696) "is most excellent food and of great nourishment. You may concoct broth, ale, or jelly of it against consumptions, for it restoreth strength plentifully, and agrees with all dispositions." Turkey pies of prodigious circumference and weight were made by the early English. Dr. Lister, physician to Queen Anne, stated that in the diocese of Durham a hundred squab turkeys were put into a single pie for the regalement of the Bishops' clerical visitors. What would they have thought of the old dame mentioned in Folk Lore, who lived far more simply, but none the less suffered from rheumatism, for the relief of which she had herself confirmed several times under the hands of her bishop?

In a "constitution," set forth by Cranmer, 1541, the "turkey cocke" was named as one of the "greater fowles," whereof an ecclesiastic was to have but "one in a dishe."

It is almost unquestionable that the name "turkey" (cock, or hen), was originally applied to that bird which we know as the Guinea fowl (*Meleagris*). Some think that by distinction the title "turkey" clave to the

bird from the New World because of its repeated call note "turk," "turk," "turk," "whereby it may be almost said to have named itself." To "talk turkey" there is to indulge in grandiloquent words; to "walk turkey" is to strut; and "never said turkey" is applied to a person wanting in hospitality.

TURTLE.

THE Turtle and Tortoise belong in common to the Testudinata. From the Hawksbillturtle, *Chelonia imbricata*, the tortoise-shell of commerce is obtained; whilst it is the Green turtle, *Chelonia mydas*, which is best known to epicures because of the delicious rich soup made from its flesh.

Horace described the creature as "*grata testudo dapibus decorum*," food fit for the gods. It comprises calipash, the large shield of the back, called by naturalists carapace; and calipee, the shield of the belly, known to naturalists as plastron; also turtle steak, and turtle fin. When plainly cooked turtle flesh is easy of digestion, but not equally so in the form of the highly esteemed soup. Serapion, a chief of the Empire School of Medicine (ninth century) prescribed turtle's blood, with crocodiles' dung, in epilepsy. The Romans reckoned the blood of the tortoise good for inflamed eyes. In its origin the turtle was clearly a West Indian dainty discovered by the buccaneers; and it must have been great master mariners like Drake, Hawkins, and Frobisher, who first taught the burgesses of London how to dress turtle. Dr. Pareira has described it as an appetising and wholesome aliment, nutritive, and easily digestible, yielding by decoction highly restorative broths which are much to be valued in consumptive and other ailments requiring concentrated light support.

“ Beautiful soup! Who cares for fish,
 Game, or any other dish?
 Who wouldn't give all else for two-p
 'ennyworth only of beautiful soup?”

—*Alice and the Mock Turtle.*

The Green Turtle is plentiful about the Island of Ascension; it lives upon vegetable substances, mostly algæ, and furnishes a very pure limpid oil, which is employed for burning in lamps, and other such purposes. The Llaneros of South America prefer to eat turtles in darkness, for the reason that the choicest bits would not be relished if seen. The flesh contains much less fat than is supposed. It consists of three parts water, and in the remaining solids fat occurs only in the proportion of one half. The flesh when cooked is rich in gelatine, poor in fibrin, and yields little or no osmazome. The fatty tissue, or green fat, is of a greenish yellow colour; on which account the animal bears the name, Green turtle. The softer parts of the shields, and fins, are when cold cut into squares, or oblong pieces, which constitute the favourite morsels in turtle soup, and are often erroneously supposed by turtle-eaters to be green fat. In some places the livers of turtles are esteemed as delicacies. “They who feed much on them,” says Sir Hans Sloane, “sweat out a yellow serum, especially under the armpits; the green fat will communicate a green colour to the urine.” In *Tabella Cibaria* (1820), the author regrets that the turtle was unknown to the ancients, and that the pens of Martial, Juvenal, and Horace, failed to describe the three-fold qualities found in the exquisite flesh of this fine amphibious reptile. “How harmoniously,” says he, “Calipash and Calipee, suggestive powerfully of Grecian origin, might have begun Hexameters, or ended Iambic lines!”

“Calipash hinc gustum languentem provocat, inde
 Novum ministrat appetitum calipee.”

In "The stone and its cure" (*History of Barbadoes*, by Richard Lygon, gent.), we read, "after the stoppage of urine for more than fourteen days, the following medicine did not only break, but brought away all the stones and gravel; and about three weeks after the like pains returning, the same medicine had the like effect within ten hours from the taking thereof: "Take the pizzle of a green turtle, or tortoise, which lives in the sea; dry it with a moderate heat; pound it in a mortar to powder; and take of this as much as will lye upon a shilling, in beer, ale, white wine, or the like; and in a very short time it will do the cure. These are to be had easily, both at the Charibee, and Lucaick Islands, where the fishes abound."

In New York the turtle is very plentiful during the summer; and when the supply is in excess of the demand they keep the Chelonidæ afloat, and feed them with cabbage, celery, lettuce tops, and the rinds of water melons. The creatures bask in the summer heat, which can scarcely be too high for them, since a temperature under forty degrees kills the turtle. They are chiefly got from the island of Florida, where the natives are born fishermen, turtle-hunters, and divers for sponge, or coral. It was probably during the first years of the eighteenth century turtle became a standing dish at civic banquets. Its costliness, and delicious character soon led to imitations by middle-class cooks, first with sturgeon, or "fish turtle," and afterwards by calves' head as "mock turtle," which is prepared with the scalp integuments. Sir Hans Sloane highly praised turtle soup, though he deprecated any free indulgence in the liver of the animal. Mrs. Rundell in her famous *Cookery Book*, and the American cookery books are unanimous in this, ordered the addition

to the seasoning of turtle soup of "as much curry powder as will lie on a shilling." A late Duke of Norfolk, having a tender regard for the British workman, who was scarcely grateful for the consideration, advised him to take for supper a pinch of curry powder in some hot water, which would "send him to bed warm, and comfortable."

To make plain turtle soup, soak dried turtle for twenty-four hours; then put a pint of water to a quarter of a pound of the turtle, and boil for twelve hours, adding only salt, with three pints of good stock.

"Once," said the Mock turtle, "I was a real turtle!!!"
"These words were followed by a very long silence."
—*Alice in Wonderland.*

"See how eagerly the lobsters, and the turtles, all advance;
They are waiting on the shingle: Will you come and join
the dance?"

It is said that a turtle will live twenty-five years. Southey learnt that "lepers from Portugal went to one of the Cape de Verds to be cured by eating turtles, and washing themselves in their blood."—*Herrera.*

URINE.

In his *Commonplace Book*, Southey has taken note of Michael Schupach, a urine doctor in the village of Langnau, Switzerland, who had among his patients there in 1776 two ambassadors, and several other persons of distinction; besides those who came in such numbers that he was obliged to erect buildings for their accommodation. How they were treated, whether through inspection of their urine, or by taking urinary medicines, is not stated.

Human healthy urine has been constantly credited with medicinal and curative virtues. It contains from

two to four per cent. of urea, which is found also in the urine of flesh-eating animals, and in that of birds, as well as in other animal fluids. This may be obtained in crystals by evaporating urine to the consistence of syrup, and then mixing it with strong nitric acid. The nitrate of urea has been given with success for dropsy after scarlet fever; and urea crystals, in doses of from two to three grains, though not causing any increase of the flow from the kidneys, have proved remedial for dropsy. Phosphorus, which is a prominent constituent of the brain substance, is deposited in the urine as phosphates after mental labour; and recent experiments have shown that by the chemical examination of these phosphates it can be determined whether the individual has been chiefly using the brain, or the bodily muscles. It was formerly believed to be peculiarly helpful for those suffering from epilepsy, jaundice, or ague, that the urine, or ordure, should be put into a pig's bladder and hung in the chimney as an excrement sausage.

The fresh urine of man was given medicinally for jaundice, and as an aperient from one to four ounces every morning whilst fasting. Waste, whether of the muscular elements after active exertion, or from an excess of animal nitrogenous food, if it accumulates as uric acid becomes the developing cause of rheumatism on any undue exposure to draughts or damp. An old Welsh maxim of the thirteenth century says, "Whilst the urine is clear let the physician beg." Uroscopy, or the art of judging diseases by inspection of the urine, was a great feature of Arabian, and of Greek medical practice, though connected in the former with some jugglery. In the fifteenth century at the court of a German Prince it was the duty of the chief physician every morning to examine the sovereign's urine, as

Sprengel tells. Pettigrew relates that ague in a boy was cured by a cake made of barley-meal, and his urine, this being given to a dog to be eaten; the dog had a shaking fit, and the boy was healed. In the *London Pharmacopœia* (1696), oil of urine was prescribed medicinally, thus: "Take of that gritty or tartareous matter which sticks to the bottom and sides of the chamber pot, and calcine the same: dissolve it; coagulate, and then calcine again. If given, twenty grains for a dose, at convenient times in some simple solution it perfectly dissolves the stone." Dr. Baas says that urine is drunk about the provinces of the Rhine for fever instead of taking quinine. In *A Thousand Notable Things* (1630), it is stated: "If one that have the dropsy, or jaundice, shall drink their urine for certain days it will help them marvellously"; again, "Wash your eyes in the morning with your own water, and at night rub about your eyebrows, and round under your eyes a little pomatum; and it clears and strengthens"; "Drink your own water in the morning nine days together, and it cures the scurvy, making the body lightsome and cheerful. Wash your ears with it warm, and it is good against deafness, noise, and most other ailments in the ears. Wash your eyes with your water, and it cures sore eyes, and clears and strengthens the sight." (But Surgeon Curran in his "Native Practice in India" warns against mattery inflammation of the eyes as seen frequently by him from the use of "virgin," and other worse urine, contaminated in the passages). "Wash your hands with it, and it takes away numbness, and makes the joints limber; wash any green wound with it, and it is an extraordinary good thing; wash any part that itches, and it takes it away; wash the fundament, and it is good against piles, or other sores; wash the nose, and

it kills worms that breed in it ; wash the teeth, and it keeps them sound ; snuff it into the nose, and it clears the brain and stomach ; wash your feet and it is good against chilblains, corns, or swellings."

For obstructions, wrote Boyle (1695), " Let the patient drink every morning fasting a moderate draught of his own urine newly made (if it can conveniently be) whilst 'tis yet warm, forbearing food for an hour or two after it." Also " as a rare medicine to take away gouty and other arthritick (rheumatic) pains, take highly rectified spirit of man's urine, and anoint the part with it, the cold being just taken off, once or twice the first day, and no longer unless the pains continue. The Salernitan school was careful to teach "*non mictum retine.*" " Never hold back your water." In flesh-eating mammals the urine does not contain uric acid ; in herbivorous animals such as the horse, hippuric acid enters into the composition of this secretion. In birds it consists chiefly of uric acid.

Human urine is considered by many to have valuable tonic properties. Daniel Beckherius, in his *Medicus Microcosmus* (London, 1660), commended a drink of one's own urine, taken while fasting, for obstruction of the liver and spleen, for dropsy and jaundice ; the urine of boys was prescribed in fevers, and a spirit of urine was distilled for the gout : " Take sage and mutton suet, boyle it in your own water ; make a poultess thereof, and apply it to the grief." Dr. Quincy (1728) wrote about "*urina hominis,*"—" the urine of a man " : " Some have got a notion of this being good for the scurvy, and drink their own water for that end ; some commend it boiled into the consistence of honey for rheumatic pains, rubbing it into the part affected : in which case it may do good, because it cannot but be very penetrating."

When the kidneys fail seriously in their powers of excretion through disease, albumen is found in the urine, but of a different nature from the urinary albumen which any excessive consumption of eggs as food will produce, this being consistent with perfect health. A limited amount of the first kind of albumen is rarely absent in healthy urine passed by day, but often absent in that of the night. It is curious that the day urine is somewhat narcotic, whilst that of the night is stimulating to the brain; insomuch that during wakefulness the body fabricates a substance which if accumulated would cause sleep: whilst during sleep it fabricates a stimulating substance which if accumulated would cause waking; so that narcotic matters are being carried off in the urine during all day, to keep the brain active; and exciting substances are being carried off in the urine throughout the night so as to let the brain remain at rest. Formerly in this country a foot-bath of urine was thought to be good against gout in the feet. The Indian Chinooks manufactured a delicacy which Captain Bourke designated as "Chinook olives," this being nothing more nor less than acorns soaked for five months in human urine.

About Lancashire the urine of cows is called "all flower water." "Some drink this *urina vaccae*," says Dr. Quincy, "as a purge: it will operate violently: but it is practis'd only among the ordinary people; and has nothing in its virtues to prefer it to more convenient and cleanly medicines." A person who judged of diseases by the urine was a "water caster." Herrick, who usually delights by the refinement of his lines, has given a "charm to bring in a witch," which though quaint is coarse.

“To catch the hag you must do this—
Commix with meale a little pisse
Of him bewitch't: then forthwith make
A little wafer, or a cake;
And it when newly baked will bring
The old hag in—no surer thing!”

The passage which occurs in Solomon's figurative description of senile decay (*Ecclesiastes* xii., 1-7), “or ever the pitcher be broken at the fountain,” refers to the incontinence of urine which is a common trouble of the aged; whilst “the wheel broken at the cistern” bears reference to the failing circulation through the heart. Thus Dr. Mead writes in his *Medica Sacra* (1749), alluding to the human bladder, “*fracta ad fontem urna*” a renibus enim quod in iis secernitur ex sanguine in vesicam profluit: quæ, ad debitum tempus (propter resolutum suum sphincterem), quasi “*fracta ad fontem urna*” id retinere nequit. “*Hinc fœdum urinae stillicidium assidue molestiam creat.*”

In South America Urine is a common vehicle for medicine; and the urine of little boys is spoken highly of as a stimulant against malignant small-pox. Among the Chinese, and Malays of Batavia, urine is used very freely. One of the most obstinate cases of nose-bleeding ceased after a pint of fresh urine was drunk, although it had for thirty-six hours, or more, resisted every form of European medicine. As a general restorative it is common for them to toss off the urine of a child, or of a young girl, by the glassful, with great gusto, and apparent benefit. In some parts of our own country the employment of human urine as a medicinal agent is not unknown; it being a fact that the same properties appertain to urine which give valuable powers to beef-tea; whereof the metamorphosed structures of the Ox-muscle would have been excreted as urine if the animal had lived.

Likewise the external application of urate of ammonia, represented by guano, has recently proved beneficial in consumption, as also for obstinate leprous skin diseases.

VEAL (*see* BEEF).

VENISON.

THE word Venison, from the Latin *venatio*, hunting, is now restricted to the flesh of deer, but was formerly applied more generally to anything taken in the chase. Thus Jacob told his son Esau to go and get venison such as he loved (*Genesis* xxvi., 3).

As a viand of to-day it is generally thought to be particularly digestible because of its looseness of fibre, and texture, which allows of such ready access to the gastric juices. But lovers of venison usually prefer that it shall be hung for tenderness until more or less tainted before it comes into the cook's hands. Hence the risk of corrupt ptomaines being formed afterwards in the body, unless the digestion and fœcal evacuation are quickly performed, is certainly incurred.

"*Quod olfactu fœdum est, idem est esu turpe,*" says the *Comic Latin Grammar*; that which is foul to be smelled is also nasty to be eaten (except venison, onions, and cheese). "All venison," writes Burton, "is melancholy and begets bad blood, though a pleasant meat in great esteem with us at our solemn feasts; for we have more parks in England than there are in all Europe besides. 'Tis somewhat better when hunted than otherwise, and well prepared by cookery: but generally bad, and seldom to be used." Several of the Elizabethan writers condemn venison for its "hardness," and accuse it of

breeding melancholy. Robert Lovell (1661), tells that the flesh of the buck is cold, and dry, and causeth the hæmorrhoids, except used with pepper, cinnamon, and mustard. In *The Country Housewife*, by R. Bradley, Cambridge, Professor, (1732), we read: "If venison stinks when you receive it, wash it with vinegar, and dry it; then pepper it, and having wrapped it in a dry cloth bury it in the ground, three feet deep at least, and in sixteen hours it will be sweet, fit for eating; then wash off the pepper with vinegar, and dry it with a cloth, and hang it where the cool air may pass, and the blue flies cannot come at it." "The fat of venison," as Fuller writes lovingly, is conceived to be (but I would not have our stealers hear it) of all flesh the most vigorous nourishment, especially if attended with that essential addition which Virgil coupleth therewith "*Implentur veteris Bacchi, pinguisque ferinæ.*" In the *Rich Storehouse of Medicines* (1650), is given, "A pretious good restorative syrop for him that is in a consumption." "Take stags' hearts, or sheep's hearts, cut the fat clean away; then soak them in fair water two or three hours; then cut them into round thin slices, and soak them in rosewater till the bloud be clear out; then take them from the water, and strew sugar in the bottom of a pipkin, and lay a lein of hearts, and then strew another lein of sugar, and thus do till all be done; then cover it close with paist, and set it into a pot of boyling water, and there let it boyle untill it come to a sirop; then strain it through a cloath into a vial; and take thereof as often as you please a spoonful at a time, either alone by itself, or in jelly, or in broth."

The Roman ladies ate venison as a preserver of youth, and a lengthener of days; but the Salernitan school has taught:—

“Persica, poma, pira, lac, caseus, et caro salsa,
 Et caro cervinā, leporina, caprina, bovina.
 Hæc melancholica sunt: atque infirmis inimica.”

“The peach, the apple, pear, milk, cheese, and salted cheek
 Of pig, with flesh of buck, hare, goat, and ox-beef steak,
 All these are melancholy foods, which hurt the sick, and
 weak.”

South African hunters esteem as a great delicacy when camping out “the liver of the bok (buck) just killed, either grilled on a gridiron, or roasted on large flat stones made red hot in a wood fire.”

“Venison,” says Dr. Yeo (*Food in Health and Disease*), “from young deer is tender, short-fibred, dark-coloured, being highly savoury, and very digestible; it is, however, rather too stimulating and full-flavoured for delicate stomachs. It consists of water seventy-four parts, albuminates (very little gelatin) nineteen parts; and fat one part, decimal three per cent.” In the *Merry Wives of Windsor*, Mistress Ann Page bids Sir John Falstaff and other gentlemen welcome! “We have a hot venison pasty to dinner: come, gentlemen, I hope we shall drink down all unkindness.” The umbles were the entrails of a deer, and became perquisites of the gamekeeper, or were made a dish at the second, or lower table; so that the phrase “To eat umble pie,” thus took its origin. The actual pie was concocted from buck’s umbles with beef suet, apples, sugar, currants, and spices. As venison is found when eaten freely to engender melancholy its animal extract if properly prepared may be well supposed remedial against this infirmity of disposition; likewise for the relief of piles. Formerly venison was seldom served without furmity, made from wheat (*frumentum*): which dish is popularly supposed to have been that wherewith Joseph regaled his brethren in Egypt, giving to Benjamin a double portion of the same.

VIPER (*see also* ADDER).

THE Viper (*Vipera berus*) is the only venom snake found in England, and has been already described under its commonly known name, the Adder. Dr. Salmon (1696) said: "In the viper's person there is nothing venomous but the head and the gall; whilst the flesh, liver, and bones have no poyson in them. The flesh being eaten or drunk cures the French pox and the leprosie, eating half a viper at once and fasting five or six hours after it. So also they cure all old ulcers, clear the eyesight, help the pulse and strengthen the nerves. The whole viper in powder (the head and gall excepted) cures perfectly the gout and king's evil, taken twice a day to a teaspoonful or more. Viper wine is to be made by drowning the vipers in the wine. It is powerful against leprosy and all impurities of the flesh and blood. The biting of the viper is sometimes mortal, and kills within three days at furthest if not speedily cured. At first the poyson may be sucked out by applying the fundament of a hen to the part after scarification." In this country we have varieties of the Common viper, the black, the red, and the blue bellied kinds. The creatures are torpid during the winter. About Devon the Viper is popularly known as Long cripple.

Dr. Quincy (1728) wrote: "That the Vipers are balsamic, and restorative, is confirmed by experience: through causing a free perspiration they render the skin smooth, and beautiful. For this reason they are given in all cutaneous foulnesses, against the Itch, Leprosy, and worst eruptions, and deformities of the skin, such as can arise from venereal causes. They in a wonderful manner invigorate the organs of generation, and render the impotent prolific. For this purpose the Viper Wine is in prodigious esteem, being very commonly made in

Italy, and in other parts where these animals abound. The fat which comes in plenty from the entrails is much commended by some in struma; as likewise for dimness, or decay of sight, gently to rub the eyebrows with it. Antonius Musa, the famous physician to Octavius Cæsar, ordered, as Pliny relates, the eating of Vipers for those whom he met having inveterate ulcers; and by this means they were quickly healed. Galen tells very remarkable stories of the cure of the Elephantiasis, or Lepra, done by the Viper Wine. Physicians in Italy and France do very commonly prescribe the broth and jelly of Viper flesh to invigorate, and purify the mass of blood exhausted with diseases, or tainted with some vicious and obstinate ferment."

Dr. Quincy further directs how to prepare "the distillation of vipers; the volatile salt of vipers (to which are attributed many great and wonderful virtues); the essence of vipers; the rectified oil of vipers; the compound tincture of vipers, blended with sulphur; the ethereal essence of vipers; troches of viper, with oil of nutmeg; and viper wine, made from live vipers put into Canary, and let to stand, close stop't, without any heat, for six months. This last is a wonderful restorative, and greatly renews the whole constitution, so as to provoke much to venery, as well as to other actions of vigor; it is an infallible remedy in skin eruptions, and even in a confirmed leprosy. It will to admiration repair the decay'd juices, and fill again the veins with a warm, generous, nutritive blood. In the last decays of life it will still supply the vital Lamp with some recruits."

In classic times the snake was consecrated to Æsculapius, the god of medicine; and the figure of a viper has often been sculptured on the busts of

eminent physicians in token of the skill which could avert danger from persons bitten by this reptile and its kindred. Formerly to eat a snake was a charm for growing young. Against venomous bites the treatment of the ancients, if the wound were severe, was cupping, or, if slight, the plaster of Diogenes was applied, or a salt fish bound over the wound. One of the favourite charms of the early Britons was the snake's egg (*anguineum*), which was thought to be produced from the saliva of snakes, and to possess special healing properties. This *ovum*, adderstone, or *glair*, was perhaps made now and again from some sort of glass, or of earth glazed over, being either white or variegated. Several such have been found at different times in Druidical barrows, or cromlechs. There is one in the Aldborough Museum, Yorkshire. Pliny, Galen, and other ancient medical writers were unanimous as to the remedial properties of vipers' flesh when eaten. "*Fiunt ex viperâ pastilli qui theriaci vocantur a Græcis.*" They who ate the flesh were thought to acquire the gift of understanding the language of animals. Sir Kenelm Digby (1650) used to diet his beautiful wife, Venetia Stanley, upon capons fattened with the flesh of vipers.

In Dr. Donne's *Devotions* (1624), occurs the prayer: "Thou, O Lord, who hast imprinted all medicinal virtues which are in all creatures, and hast made even the flesh of vipers to assist in cordials." In Madame de Sévigné's letters is an order for ten dozen vipers, two to be taken every day in the stuffing of a fowl.

Le bouillon de vipère was to be thus made "*Composé avec l'animal privé de sa tête, de sa peau, et de ses intestins.*" It was an energetic remedy in obstinate urinary purulent running, as well as a sexual restorative. Also

for an enlarged neck, even now in Essex, a snake is killed, and its skin, first sewn in a piece of black silk, is worn round the throat, when by degrees the swelling will disappear.

In 1876 Dr. Jitzki told the Imperial Society at Wilna (Russia), the important fact that a savage dog, after having been repeatedly bitten by vipers and bearing marks of the wounds, when subsequently bitten by a dog undoubtedly rabid, remained nevertheless perfectly well. He learnt that a woman living in the same locality had noticed a similar experience in her own case, and he was led to believe there is an antagonism between the virus of hydrophobia and that of vipers. "If this were true," said he, "young dogs might be inoculated and thus made insusceptible, and why not likewise the human subject?" Dr. Jitzki's savage dog was bitten by a mad dog which had also bitten several horned cattle, all of whom perished rabid. More than forty years ago (*vide Lancel*, August 18th, 1855), there was reported a striking instance of empirical knowledge possessed at that comparatively remote date about animal extracts acting curatively. At Cuba M. Humboldt found that the sting of a small reptile caused symptoms closely resembling those of yellow fever. He contrived to have a piece of sheep's liver bitten by six of these small vipers, and then he inoculated dogs with the liquid expressed therefrom. After some feverish symptoms had occurred and subsided, nothing further happened to the animals. Then the experiment was extended to six human beings under sentence of death, who felt at first a sort of feverish ague, and then recovered their previous state of health. More than two hundred persons were afterwards inoculated in this way, and escaped yellow fever for the next three years.

In 1862 Dr. Hastings made an enquiry into the medicinal value of the excreta of reptiles in consumption and some other diseases, these excreta consisting of solid urine which represents the fœcal excrement as well. "A gallon of water," said he, "will scarcely dissolve two grains of the same; yet half a teaspoonful of the solution rubbed over the chest of a consumptive patient will give instantaneous relief to his breathing." Dr. Hastings has given a long list of nine snakes, five lizards, and two tortoises, whose excrement he administered as medicine in singularly small doses with marked success for consumptive disease of the lungs. "The dung consists of urate of ammonia, plus some special animal matter which is supposed to confer the virtue. Bromine increases the solubility of the excrement and heightens its efficacy, the dose being a two-hundredth of a grain of the dung with about an equal quantity of bromine. The solid urine is found to contain a certain amount of phosphate of lime, and some hair, with perhaps an infinitely small residuum of fœcal matter which is of wonderful virtue." The heart of a snake or serpent being close to the head renders a severe "bruise" there fatal: "The seed of the woman shall bruise the serpent's head."

Brazilian wood was, and is thought a specific remedy against the bites of serpents. The Countess of Salisbury, in the reign of James the First, had a bedstead made of this wood, and on it was carved the legend, "*Honi soit qui mal y pense.*" Country persons, especially in the Isle of Wight, suppose the sting or bite of the dragonfly (*libellula varia*), to be as poisonous as that of the snake or adder, and therefore they give to this insect the name, "Snake stanger"; and the same fly is said to distinguish the good children from the bad when they

go fishing. That the eating of snakes afforded a receipt for growing young was a prevailing notion in Massinger's day (1656), who wrote in his play, *Old Law* :—

“He hath left off o' late to feed on snakes;
His beard 's turned white again.”

Viper fat is still used in agricultural districts for cuts, sprains, and bruises.

“Snake pennies” are yearly levied from most of those cottagers who inhabit the New Forest for their right of cutting peat and turf as fuel in the waste of the Forest.

WASP.

THE Common Wasp (*Vespa*), though generally obnoxious to man and persecuted by him, is a creature of untiring energy and industry. Our British wasps are of two distinct kinds, the Social wasp, and the Solitary wasp, which is frequently called “Sand wasp,” or “Mason wasp,” and does not often come into our houses. It is with the Social wasp we are more familiar, and of which we are so apprehensive, though this may be tamed and made a pet of, as Sir John Lubbock has shown. The Social Wasp will rarely attack unless provoked; yet it is not an easy matter to maintain an attitude of composure or indifference when the creature is buzzing about one's head, splendidly painted though it be with bars of gold and black. Wasps catch living insects in large numbers, especially flies. It has been observed in France that butchers are very glad to have wasps attend their stalls for the sake of their usefulness in driving away the flesh fly; and in some parts of the United States (say Kirby and Spence) farmers are so well aware of the hornet's utility (first cousin to the wasp) in the same respect that they suspend in their sitting room a nest of these insects, which prey upon the

flies without molesting the family. The sting of the wasp is saw-like, but notched backward; once thrust into the flesh it cannot be withdrawn, and the animal dies through its own vindictiveness.

When fatal stinging by wasps occurs, if the head has been attacked it becomes much swollen, then unconsciousness supervenes from effusion within the head on the brain, and death occurs therefrom as well as by reason of the shock. For the relief of such congestion when occurring as a distinct illness a tincture of wasp venom, diluted, and in small doses, is an efficient remedy, as well as for serous effusion within the heart bag, for simple erysipelas, and for nettle rash. Sweet oil is a capital remedy to apply when stung, or the juice of a freshly-scraped onion. The Wasp bears the rustic names "Whamp," "Wosbird," and "Wops;" also "Appledrane" in Devon.

Sweets of all sorts, including ripe fruits, are very attractive to this insect; likewise cakes, bread, and even meat; whatever man can eat that wasps can eat. "From bees," says Vincent Holt, our courageous advocate of edible insects, "we derive a delicious sweet in the form of golden honey; from wasps we may, if we choose, derive an equally delicious savoury. What disciple of Old Izaak Walton, when he has been all the morning enticing the wily trout with luscious wasp-grubs baked to a turn has not suspected a new and appetising taste imparted to his mid-day meal of bread and cheese or a sandwich? Perhaps this repast has travelled to the scene of action in the same basket with the rich cakes of grubs; or it may be that the fish are biting too well to allow time for a thorough hand-washing, and rapid mouthfuls are snatched from the lunch in the intervals between the bobbing of the float,

and the baiting again with nibbled grubs? At any rate it will sometimes so happen to every fisherman to get the taste and smell of cooked wasp grubs with his meal, and I have never noticed that it in any way spoils his appetite. Attracted by the said taste and smell, I have myself spread the baked grubs upon my bread, and found their excellent flavour quite sufficient to account for the fondness of the trout for this particular bait." "The saccharine fluid with which wasps feed their infant grubs is entirely composed of vegetable juices drawn from ripe fruits and flowers. Let us then welcome among our new dishes wasp grubs baked in the comb. The number of wasps' nests taken and destroyed in a prolific season is something extraordinary! I have known as many as sixteen or twenty nests to be taken by a gardener within a very short radius round his house. What a waste of good wholesome food is perpetrated, therefore, when cake after cake laden with fat grubs is stamped under foot or thrown away!" Our author gives as a "menu" the following suggestive list of curious courses:—

- Slug Soup.
- Boiled Cod, with Snail Sauce.
- Wasp Grubs fried in the Comb.
- Moths Sautés in Butter.
- Braised Beef, with Caterpillars.
- New Carrots, with Wire-Worm Sauce.
- Gooseberry Cream, with Sawflies.
- Devilled Chafer Grubs.
- Stag-Beetle Larvæ on Toast.

Dr. Salmon taught that powdered wasps are to be used in all cases where sows' or hogs' lice are advised, and with the same success. Gilbert White tells of an idiot boy who preyed upon wasps, honey bees, and humble bees wherever he found them; he had no

fear of their stings, but would seize the insects, *nudis manibus*, and at once disarm them of their weapons, then sucking their bodies for the sake of their honey-bags. He was a very *merops apiaster*, or bee bird, and would even overturn hives for the sake of the honey. The Wasp grubs are fed by their nurses, who disgorge for the purpose from their stomachs a mass consisting of insects, fruit, sugar, meat, or honey.

WAX.

BEES' wax, or *Cera flava*, is a secretion from the ventral scales of bees, with which they construct their comb. Chemically it contains cerin and myricin, being a softening and soothing medicament when made into an emulsion with mucilage or yolk of egg. Given thus for diarrhœa or dysentery, where ulceration of the membrane which lines the bowels is suspected, it has proved very useful. But its principal service is externally as a protective application, and it therefore is a constituent of all cerates made with this view. The vapour given off from wax placed on red hot iron has been inhaled for consumption of the lungs. Theophrastus Paracelsus (1525) ordered: "To make oyle of wax, take new yellow waxe as much as you shall think good and melt it on the fire, then poure it into sweet wine and wring it between your hands; then melt it againe and pour it into wine againe; and this you shall doe five or six times at the least, and everie time you must have fresh wine; then at the last you shall put it into a retort of glasse well luted, with his receiver, and distill it in sand, and there will come forth a faire yellow oyle, the which will congeale like pap when cold. You shall understand that for everie pound of waxe yee shall put thereto foure ounces of the powder of bricke into the

glasse. Raymonde Lullie greatly commendeth this oyle, approving it to be rather a celestiaall or divine medicine than humane, for because this in wounds worketh most miraculously which for his marvellous commoditie is not so well to be used of the common chirurgion ; because this precious oyle healeth a wound bee the same never so bigge or wide, being aforewise stitched up, in the space of eleven dayes or twelve at the most. But those that are small this oyle healeth in three or four dayes by annoynting onely the wound therewith and laying thereon a cloath wet in the same. Also for inward diseases this oyle worketh miracles ; for if you give one dramme at a time to drinke with white wine it stayeth the shedding of the hayre either on the head or beard by annoynting the place therewith. Moreover, it is excellent in provoking of urine which is stopped ; it helpeth stitches or paines in the loines if you drink the foresaid quantitie with white wine. It helpeth the cold gowt or sciatica, and all other griefes comming of cold. Yee shall understand that if you rectifie this oile it will congeale no more ; but then it will bee too hot to take inwardly, for it pierceth marvellously, and is good to bee mixed with other medicines to cause them to pierce the better."

In the *Storehouse of Medicines* (1650), is prescribed, "An excellent good oyntment for the gout : take a quart of strong ale and put it into some earthen pot or pipkin, and cover it close, and boyl it until it be consumed from a quart to four or five spoonfulls ; and let the party grieved anoynt his grief well therewith before a good fire ; then take dregs of strong ale, and unwrought wax, and a few crums of rie brede, and boyl them all together until they be thiek like a plaister ; and then spread it upon a piece of red woollen cloth that is

new and lay it to the place grieved as hot as possibly it may be suffered, and this will cure him in a short space." Rie, spoken of here, or rye (*Secale*), was at one time an article of common diet in this country. From its meal, which nearly resembles that of barley in chemical composition, are made the dark, sour breads of Northern Europe and Holland. The grain is apt to be attacked with a peculiar fungus which has powerful medicinal properties; and when rye affected with this smut is made into bread it causes a dry mortification of the limbs. The seed then becomes horned or slightly curved, and the grains, being medicinal, go by the name of "Ergot." In one family consisting of eight persons, seven lost one or more limbs from eating bread made with this spurred rye. The Ergot has a powerful effect on the blood vessels which carry blood to the extremities. Its tincture given in much reduced doses does admirable service therefore for chilblains, and for defective circulation, as in senile gangrene, also to arrest bleedings. It will likewise relieve dizziness and cold headache from a similar cause. Again, for difficult urination from paralysis it has effected fine cures.

WHALE.

THE Whale (*Balaena mysticetus*), being really a mammal and not a fish, affords flesh which may be cooked in various ways to make a wholesome and delicious article of diet. A large quantity is consumed every season by men engaged in taking the immense creature. From some of its parts may be prepared an excellent imitation of turtle soup, other parts resemble beef, and still others are almost as tender and white as chicken. The meat can be sold for half the price of our colonial tinned beef.

Nevertheless, Robert Lovell (1661), declared the flesh to be, "the hardest of all fishes, difficultly concocted, excrementitious, of evil juyce, and therefore to be eaten salted." In the fourteenth century high prices were paid in Lent for succulent morsels of the whale and the porpoise. The skin of the Whalebone whale, if boiled down to a jelly, makes a dish fit to set before a king. According to an old belief widely spread in Europe, dolphins will bring to the banks of rivers any dead human bodies found floating down them; "And," says M. Beneden, "the fable of Jonah reproduces this popular belief."

From the head of the Cachalot or *Spermaceti* whale is procured that peculiar useful medicinal substance which gives this species its name. The upper jaw has a large cavity containing an oily liquid which congeals after removal from the killed animal into a yellow mass, then the oil is expressed off and this residual cake is purified in water. If needed in powder, spermaceti is triturated in a mortar with a little alcohol. In the *German Pharmacopœia*, it is ordered to be rubbed up with white sugar. When mixed with white wax and olive oil it makes a bland cooling ointment (which is not apt to become rancid), for dressing wounds and abrasions; "Telling me the sovereign'st thing on earth was parmacity for an inward bruise" (1 *Henry IV.*, Act i. Sc. 3). Spermaceti made into an emulsion with yolk of egg or almond oil is a popular remedy for raw sore throats, and bronchial cough; also for an irritated state of the membrane lining the bowels, or the urinary passages. Spermaceti is nearly pure *cetin*, and contains an alcohol, *ethyl*. It may be given as a powder mixed with sugar, one part to three. Ambergris (which *see*) is likewise a product of the *Spermaceti* whale. It is

remarkable that, though an animal of enormous size, the Whale does not live generally on fishes, but on small molluscs, zoophytes, and the lowest marine creatures. Whalebone is not really bone, but the substitutes for true teeth, which the Whale does not possess. These plates form a fringe suspended from the upper jaw, and act as a sieve when the big mouth is closed, letting the water pass through whilst the small gelatinous and molluscous creatures are retained as the whale's food.

Three qualities of meat are said to be furnished by the Whale; the first resembling mutton, the second imitating pork, and the third representing beef. The milk of all whales is rich and thick. A ton of oil has been got from the tongue of a single whale. "Zo fat's a whale" is a Devon proverb. There are carnivorous (flesh-eating) whales, such as the Pike whale, and the large Rorqual.

WHELK.

THE Whelk (*Buccinum undatum*) of our deep sea waters is plentiful, and in Scotland is the Buckie: "A roaring Buckie, in which the roar of the ocean resides." The Waved whelk is almost identical with the *Murex*, from which Tyrian purple was made of old, and a variety whereof, the *Purpura lapillus*, is common on our English coasts, as on those of the Mediterranean. The entire mollusc (*Murex purpurea*) is used medicinally in trituration (H.).

Colouring matter may be squeezed out of the Whelk, this being at first almost colourless; but by the action of light it shortly becomes of a citron tint, then pale green, next emerald green, azure, red, and finally, in about forty-eight hours, of a magnificent purple hue;

but it must not be allowed to dry during the exposure. The colouring matter, which is not soluble in water, alcohol, or ether, may be rubbed up into a powder with sugar of milk. If given in large doses to provers it causes congestion of the womb, by stimulating that organ too powerfully, together with pain in the breasts, and a sense of sinking at the stomach as reflected from the womb, also a frequent desire to pass water, especially by night, with much limpid watery urine. Wherefore, in small reduced doses the triturated powder is of signal remedial service for engorgements of the neck of the womb, and for insipid diabetes with profuse urination (but no sugar in the urine). Drs. Jacobson and Blainville found uric acid in these shell-fish as produced by a sac or bag within them, similar to the organ which secretes uric acid in snails and other molluscs. It is supposed to be the first rudiment of a kidney. Dr. Prout transformed uric acid into a purple of great beauty, which he termed "purpurate of ammonia," and which Liebig has called "murexide." The ancient Tyrian purple, so magnificent of colour that it was worn only by kings and nobles, was the product of a marine whelk. Pliny supposed that the purple liquor from which the dye was made had its discharge from the mouth of the Murex, on which account the fishermen were careful to catch it alive. Horace says of those taken at Baia, "*Murice bajano melior*"; and Martial has written:—

"Non nisi vel cocco madidâ, vel murice tinctâ
Veste nites; et te sic dare verba putas."

At Jaffa is found the *Purpura patula*, a snail which is sought by the native Christians on fast days. When this creature is punctured there issues a greenish liquid which changes to purple if exposed to the sun.

Likewise, as stated above, on our British shores may be commonly found a shell looking like a small whelk, with a smooth whitish surface having well-marked reddish bands upon it, which is our *purpura*, one of those shells which went to form the famous Tyrian dye. Its "purple" is secreted, one drop at a time, in a small sac close to the throat. If a strip of linen be stained with it through a quill pen, and be exposed to the sunlight, its colour also goes through changes from light-green, yellow, blue, red, deeper and deeper to a rich purple.

WOMAN.

WOMAN (*Mulier*) physically, whilst between the ages of fifteen and fifty in this country, exercises a singular influence at monthly periods on the organized materials which she handles as food in cooking, and the animals which she tends. Moses in wise practical knowledge of this important fact ordained stringent exclusions by the Levitical law on women at the times of their "flowers" (*Leviticus xv.*). Pliny wrote in his *Natural History*: "There is no limit to the marvellous powers attributed to females. During the monthly period if a woman walk round a field of wheat in scanty attire, the caterpillars, worms, beetles, and other such creatures will fall from the ears of corn; if she touch young vines they become irremediably injured, whilst rue and ivy if likewise handled will instantly die. Bees will forsake their hives if she approaches them, and linen boiling in a cauldron will turn black at her touch." Also, both Pliny and Tacitus aver that nothing but the female flux at such times will act upon the bitumen found in Judæa. Both savage and classical peoples have entertained these same remarkable notions about the

touch of "floral" women. In Portugal it is firmly believed that a woman under the recurrent epoch will taint oil or wine by handling either of these, insomuch that if attempting to do so she is hooted out of the vineyard or oil mill. Wine and olives when subject to such a casualty are found to be spoilt and of a darker colour than usual. In the *British Medical Journal*, April 13th, 1878, the question was raised about the salting of meat by a "floral" woman, and it was stated as a well-known collateral fact that a sow when she is bremming, or "floral," will not take the salt; and a number of hams at a given place were tainted through the thoughtlessness of the cook in curing them during her own period. Dr. William Story bore witness to this as of undoubted truth, also that meat cured by a man labouring under venereal disease will be spoilt as much as if manipulated by a woman with the "flowers," as Scripture puts it. And yet, marvellous to say, many medical writers have attributed certain assured remedial properties to the periodical flux of women; though Pliny and other former writers, as well as popular belief in the present day, have declared it to be poisonous and harmful. For all bites of Centipedes the Portuguese people and Negroes apply the monthly flux, and the remedy is implicitly believed-in by everyone concerned.

Dried and powdered "after-birth" was formerly used against epilepsy; and the secundines voided from the womb immediately after parturition were given for the same purpose. The blood of innocent maidens was employed of old as a remedy against leprosy.

The question being raised (in August, 1878) as to whether butter making and meat salting are prejudiced by the manipulations of a woman at the floral times, the *Lancet* pronounced that women in Somersetshire,

Dorsetshire, and Wiltshire are careful not to salt meat under such conditions; but that probably the custom originated in some forgotten religious usage, or through a piece of obsolete folklore. Butter prepared in Scotland by a woman thus indisposed was found to be uneatable. The Hindus are quite alive to the pernicious influence of a woman at her monthly times on food which she handles, or other perishable matters; and they prohibit the contact. Ewald, in his *Antiquities of Israel*, relates that, "The monthly period of women brought with it the second grade of uncleanness, which lasted the space of seven days. Everything on which the woman sat or lay during this time, and everyone who touched such things, incurred the uncleanness of the first grade."

WOODLOUSE.

THE Woodlouse (*Oniscus asellus*) is not the Hoglouse, with which it is often confounded, and which *see*. By being discovered somewhat larger than the Pill Millepede (Armadillo), and with its body not capable of becoming contracted into a ball, whilst the tail is furnished with two prominent lateral styles, this Woodlouse may be at once distinguished. It is very common amongst old wood and dry walls throughout Europe; hence it gets the title, "*Murarius*," which it often bears, as well as "*Asellus*" (a little donkey) in allusion to the dull, brownish-grey colour. In former times it was known as "Lugdor" and "Sochetre;" and in common with the hoglouse it is familiar to rustics as "Churchlouse," "Carpenter," "Chinch," or "Cheslip."

Vincent Holt praises Woodlouse sauce highly, and thinks it equal if not superior to that of shrimps. "Take," he says, "a quantity of the finest woodlice

to be found (no difficult task, as they swarm under the bark of every rotten tree), and drop them into boiling water, which will kill them instantly but will not turn them red, as might be expected. At the same time put into a saucepan a quarter of a pound of fresh butter, a teaspoonful of flour, a small glass of water, a little milk, some pepper and salt, and place it on the stove. As soon as the sauce is thick take it off and put in the woodlice. This is an excellent sauce for fish. Try it!" The learned Bonnet relates that a young woman who had swallowed some of these animals alive, as was usually done, afterwards threw up a prodigious number of them, little and big, which must have multiplied in her stomach. The Woodlouse is supposed to exercise remedial actions similar to those with which the hoglouse is credited, because possessing the same constituents, but not of equal force or certainty. Woodlice, as found on some of our rocky coasts, are eaten with avidity by the Basse fish, or *Lupus*, which ventures to the shore in a tempest, and eagerly snaps up these insects washed afloat by the waves.

WOOL OIL.

WOOL OIL is the purified fat of lambs' wool, and is found to be more nearly identical than any other animal grease with the fat of the human skin and of the hair-glands; so that when applied as an unguent it readily penetrates the skin, making it soft, smooth, and pliable. Moreover, it has the advantage of being readily miscible with water. Thus this Wool Oil is now regarded as the only trustworthy basis for ointments which need to be quickly absorbed, whilst it is singularly free from all irritating properties, or those of a corrupt septic nature. Chemically, it is the prepared cholesterin fat of lambs'

wool. If locally applied to piles, even in severe cases, it proves decidedly beneficial.

In the *Rich Storehouse of Medicines* (1650), the following is given as "A good medicine to staunch the bleeding of the piles : take black wool and black sope and bind them to the place grieved, and this will presently help without all doubt; for it hath been duly proved. Or, take black wool and good ink (made with copperas and galls), and wet the wool in the ink, and then apply the same to the sore, and it helpeth." The "copperas" here ordered is not copper in any form, but the sulphate of iron under a perverted name. Of old this was thought, "A good medicine to take away the pimples out of one's face and the high colour, be it never so far spent and gone : take white coporas calcined in the fire a pretty while and powdered fine, and put them in a saucer of fair running water, and set it to warm on the coals (as hot as ever you can suffer it), and anoynt the pimples that are in your face therewith, or any other place of your face which is high coloured or red, and in using of this often it will help you. Also for the morphew, whether it be white or black." "*Mort feu*," "dead fire," tawny spots on the face.

Concerning Copper itself, this metal exercises such an assured and valuable influence against cholera and choleraic diarrhoea that it is well worth an incidental notice. There is abundant evidence of the fact that during the prevalence of cholera epidemics the workers in copper have remained singularly exempt from attacks, whilst others who have worn a plate of copper next the skin have likewise escaped. In 1883, Dr. de Noé Walker found during an epidemic of cholera which was ravaging Tuscany, that among a hundred and fifty souls at the copper-smelting furnaces in Prato, not only no case of

real Asiatic cholera occurred, but not even a sporadic case; not one of them was affected by even a slight gastric disturbance. Even one workman, through having his garments dusty with copper, served thereby to protect the other members of his household. Provers who have taken poisonous doses of copper have suffered from frequent vomiting, griping, and purging, with a patchy, red tongue, constriction of the chest, coldness of the extremities, a small frequent pulse, and cramps in the legs, all the symptoms, indeed, of a choleraic attack. The third decimal trituration (H.) of copper is an admirable preventive when an epidemic of cholera is prevailing; and "every soldier and sailor should then be made to wear, by day and night, a thin plate of copper fastened next the skin over the abdomen, or, if more convenient, across the loins.

In Pettigrew's *Medical Superstitions* it is shown how a true curative virtue may have underlain former remedial means now regarded as senseless and exploded. During the prevalence of cholera in Austria, Germany, and Italy, an amulet was superstitiously worn at the pit of the stomach in contact with the skin. He tells us one of these was sent to him from Hungary, and it was found to consist merely of a circular piece of copper, two and a half inches in diameter, without any characters impressed upon it. These amulets were adopted pretty generally in Naples. Dr. Salmon (1690) said about the "quintessence of copper," a medicine then prepared with elaboration: "*Sufficit hoc tibi; unum quod omnibus morbis accommodari potest*; it is the only remedy against leprosie for it cleanses and purifies the blood, it heals all excoriations of the skin, wounds, ulcers old and new, only by anointing." And recently, in singular confirmation of the same curative action, Dr. Clapton, of St. Thomas's

Hospital, noticed that workers in copper, though having to complain of habitual lassitude and giddiness, whilst of sallow aspect and dyspeptic, nevertheless showed a remarkable rapidity of healing when anyhow wounded; and there is no known instance of cholera having attacked them even during the worst epidemics. The sulphate of copper in much reduced doses proves specially useful in epilepsy, spasmodic nervous asthma, albuminous urine, colic, and some forms of paralysis. Concerning cholera it has been observed by both English physicians and Hindus generally that this disease prevails most when there is a change of the moon, whether from the crescent or from the wane. The influence of this planet over various diseases has been much remarked by doctors in tropical regions. Lord Bacon always fell into a syncope during a lunar eclipse, and animals have at all times been considered greatly under the influence of the moon. Captain Burton (*Arabian Nights*) says he has seen a hale and hearty Arab after sitting an hour in the moonlight look like a man just risen from a sick bed; and he knew an Englishman in India whose face was temporarily paralyzed by sleeping with it exposed to the moon. Bright open sunshine is, on the contrary, admirably restorative to the sick and weakly. "In Java," quotes Old Burton (*Anatomy of Melancholy*), "it is so hot that they that are sick of the poxe lye commonly bleaching in the sun to dry up their sores." Southey records the use of burning glasses as a solar cautery to cure ulcers; and M. le Comte (1750), surgeon at Arcueil, succeeded in healing a cancer of the under lip by the actual cautery of the solar fire. Ulcers, otherwise intractable, of long existence on the legs, have been recently brought to the desired healing by daily exposure to warm, bright, clear sunshine. It is said

of Methuselah, "all whose days were nine hundred and sixty-nine years," that he lived always in the open air. He may well be supposed to have taken the best means for preserving health. None the less the Romany (Gipsy) "will throw wide open the tent's mouth, and enjoy the light he loves most of all, the moonlight; 'chonesko dood' he calls it."

A noted *Sunlight Cure* is now carried out, by Herr Rikli, in the Austrian province of Veldes, sixteen hundred feet above the sea. The patient rises with the sun, and, taking with him some light food for the day, goes barefooted up a neighbouring hill. He doffs his clothes, one by one, as he ascends the hill until he appears at the top quite naked. Throughout the day he occupies himself in getting sun baths, notably a blazer at noon; and at sunset he goes to bed. The beneficial effects of this treatment on growth, and renovation of tissues, in the weakly, pale, and wasted, are found to be most marked.

"A Sunbeam," said the motto of Saint Augustine, "passes through pollution unpolluted"—"*Lux, etsi per immunda transeat, non inquinatur.*"

Reverting to Wool Oil, from which a long digression has been made, Waterton relates a quaint legend to this effect: "The cormorant was once a wool merchant, and entered into partnership with the bramble and the bat. Unitedly they freighted with wool a large ship, which was presently wrecked and went down with her cargo, so that the firm became bankrupt. Since which disaster the bat slinks about at midnight to avoid his creditors; the cormorant is for ever diving into the deep to discover their foundered vessel; while the bramble seizes hold of every passing sheep to make up his loss by stealing the wool."

Burton tells in his *Anatomy of Melancholy*: "That which is conducive to one man in one case, the same is opposite to another man in another. An ass and a mule went laden over a brook, the one with salt, the other with wool; the mule's packe was wet by chance, the salt melted, his burthen the lighter, and he thereby much eased; he told the asse, who, thinking to speed as well, wet his packe likewise at the next water, but it was much the heavier—he quite tired! So one thing may be good and bad to several parties upon divers occasions." In *Saxon Leechdoms* we learn that Sextus Placitus (1535) recommended for, "doing away with callosities and warts to take wool and wet it with bitche's stale (urine); bind it on the warts and on the callosities (corns), quickly they die away." Black wool was formerly in favour against deafness. In *A Thousand Notable Things* black sheeps' wool was advised mixed and chafed by the fire with fresh butter, and the deaf ear stopped therewith at night, and this "used nine or ten nights together, it helpeth the deafness perfectly." But the "classic" lore of the nursery excludes ill-behaved children from the benefits of this particular wool. Thus we read:—

"Pravis pueris quod accidit."

"Bis salveto, ovium phalanx nigrorum!

Lanam, delicias meas, habetis?

O quidni duo sacculos habemus!

En, unum domine, alterum magistro!

Sed, pravus puer est in angiportu,

Et pravis pueris nihil feremus."

"Ba! Ba! black sheep,

Have you any wool?

Yes, master, that we have,

Two bags full!

One for our master,

And one for the dame;

But none for the naughty boy

That lives in the lane."

Linsey Woolsey is a sort of coarse cloth spun by the cottagers' wives from the bits of wool which they have picked up on the common.

"To go a woolgathering": "*Dare le cervella a ripedulare*"; "*tu fac apud te ut sis*," is an expressive old saying. At the time of Pope's *Narcissa* (Mrs. Oldfield, the actress, who died in 1731) it was compulsory to bury in woollen, (double "u," double "o," double "l," being a comfortably warm word). Yet he makes her say:—

"Odious in woollen, 'twould a saint provoke!
 (Were the last words that poor Narcissa spoke).
 No! let a charming chintz and Brussels lace
 Wrap my cold limbs and shade my lifeless face!
 One would not, sure, be frightful when one's dead!
 And, Betty! give the cheeks a little red!"

—*Moral Essays.*

An Act of Parliament was then in force, since August 1st, 1678, entitled "An Act for burying in Woollen." Blankets took their name from one Theodore Blanquet, who established the first manufactory for this cosy article at Bristol about 1340.

Gilbert White noticed that confusion and bleating arise after ewes and lambs are shorn, neither the dams nor the young being able to distinguish one another as before; and this embarrassment seems to be due not so much to the loss of the fleece, which may occasion a change in their appearance, as from the effect of that *notus odor* or familiar smell discriminating each individual personally. After sheep have been washed there is the same confusion. The beneficial effects of woollen clothing over that of linen or cotton fabrics have been thoroughly demonstrated by Dr. Jaeger, whose leading maxims are that, "Health is fragrance," and "Disease is stench." His guiding principles teach that garments of pure wool, being oily, cannot absorb and retain watery fluids, which are always the vehicle for

stinks and disease. Oils and fatty fluids, on the contrary, absorb only fragrant ingredients from the air, or the body, and do not evaporate from woollen clothing. But linen habiliments wet with perspiration or rain, have retained the noxious odours of the body, which are re-absorbed ; furthermore, they dry slowly and cause chills by evaporation. To carry out the Jaeger system the entire clothing must be woollen alone, any outer garments made wholly or partially of vegetable fibre will stultify the main principle. Camel-hair wool is specially commended because of its musk-like odour and its soothing qualities. "It does excellent service," says Dr. Jaeger, "in cases of rheumatic and nervous complaints, neuralgia, toothache, headache, and earache." 'The Arabs look with contempt on our flannel clothing, standing up stoutly for that of camel-hair.

"All wool, and a yard wide," is a Yankee simile for thorough-going genuineness.

Wool-sorters are particularly liable to what is known as splenic fever (or a general blood-poisoning, often fatal), from their contact with the wool of animals which have died from such disease ; likewise from inhaling the infectious wool-dust. This malady was first noticed in the Bradford worsted district after the introduction of alpaca, and mohair, as textile materials, in 1857. Its attacks are due to the highly contagious microscopic germ of "anthrax," as discovered by Pollender, in 1849. Strict disinfection of the wool and hides imported into this country must therefore be held imperative.

WORMS.

EARTH-WORMS (*Lumbrici terrestres*) include the Lob or Dew-worm, the Cockspur, and the Ringtailed brandling.

The maiden Dew-worm has a very square tail, a small head, a long body, and no joints in the middle. An old name for the Earth-worm was "Mad."

In *Saxon Leechdoms* it was proscribed against erysipelatous inflammations, to "take an Earth-worm, rub it thoroughly fine, add vinegar to it, bind it on, and smear therewith." This worm is called "Amumadakr" because erysipelas is usually cured by it: "*His lumbricis probari et curari solet, cum applicati macrescant et moriantur.*" Also "against bursting of erysipelatous inflammation let the man sit in cold water till the sore becometh numbed; then get him up, then strike four scarifying slashes about the pocks on the outside, and let the lymph run as it will." In *A Thousand Notable Things* (1630), it is told that "Earth-worms slit and cleansed, and washed from their sliny and earthy matter (half a dozen of them at least), and cut in pieces or chopped, and a good mess of pottage made thereof from oatmeal and water, and so much every day eaten by them that have the black jaundice for the space of twelve days or longer, no doubt it will perfectly cure them thereof, though it be never so long rooted, and though it be past cure. It hath helped some in four or five days." "There is not a safer remedy to kill worms in children than to take six, or eight, or ten red Earth-worms, and let them purge in baysalt; then slit them open and wash them in fair water, and dry them in an earthen pot or dish. And when they are dried let them be beaten to powder, and so give them to the child in the morning fasting, and let them eat nothing for one hour's space; and the worms will void with the excrement." This is on the proverbial principle of setting a thief to catch a thief. "The Earth-worm" (*Lumbricus terrestris*), says Dr. Laville, "is a perfect poison to the human *lumbrici*, and consequently

cures convulsions produced by the worms. One may call it the true vermifuge of the poor. The human *lumbricus* may be prepared and employed in the same way; the dose of its powder, made from the worm after being washed and dried, is a tablespoonful in half a glass of red wine in the morning whilst fasting." "Earth-worms fried in goosegrease, and a little thereof dropt warm into a deaf or pained ear doth help the same. You must use half a dozen at the least." "For convulsions," wrote Robert Boyle, "in children, take earth-worms, wash them well in white wine to cleanse them, but so as they may not die in the wine; then, upon hollow tiles or between them, dry the worms with a moderate heat, and no further than that they may be conveniently reduced to powder, to one ounce of which add a pretty number of grains of ambergrise, both to perfume the powder, whose scent of itself is rank, and to make the medicine more efficacious. The dose is from one drachm to one and a half drachms in any convenient vehicle."

Earth-worms, as Dr. Quincy taught (1728), "are good in inflammations, and tubercles of the lungs; and are particularly used in affections of the Reins, and Urinary passages, which they cool and cleanse very much. There is an oil made from them in the shops which retains as much of the virtues as any such preparations are capable of; but they are accounted of much the same nature as the snails, though they contain more of the earthy or nitrous salt than snails, which makes them afford parts more penetrating and detersive."

Among the Chinese, Earth-worms are given to purify the blood. In the *Rich Storehouse of Medicines* (1650) as, "An excellent good medicine for deafness in the head, take earth-worms and fry them with goosegrease,

and drop a little thereof warmed into the deaf or pained ears, and this will help the same ; but it must be used nine or ten times at the least." *Probatum est.* Also, "For a most perfect and ready way how to know the king's evil, whether it be the same disease or not, take a ground Worm and lay it alive upon the place grieved, then take a green dock leaf or two and lay them upon the worm, and then bind the same about the neck of the party diseased at night when he goeth to bed, and in the morning when he riseth take it off again, and if it be the king's evil the worm will turn into a powder or dust ; otherwise, the worm will remain dead in its own prior form as it was before alive. This hath been truly proved by G. L. Furthermore, the powder of earth-worms, and axunge, grounswell, and the tender toppes of the boxe tree, with olibanum, all these being made up and tempered together to make an emplaster, he counselleth to bee applyed to sinnewes that are laid open." The Honourable Richard Boyle advises again (1696) as, "A good medicine to increase milk in nurses, take Earth-worms, wash them well, freeing them carefully from their excrements and from all adhering earth and filth ; then dry them so as they may not stink and yet be pulverable. Of these reduced to powder give half a drachm for a dose, in wine or any other proper vehicle." In the *Medical Times and Gazette*, May 21st, 1859, about earth-worms increasing the flow of mother's milk, it was stated : "Ætius in *Tetrabiblos* says, 'take about five or seven worms of fishermen, which are found in the mud of rivers (and are called *Lumbrici*), bruise them and add to them boiled dates, and mix them all together. Give this compound in beer to the woman on an empty stomach daily, and in about ten days you will be surprised at the quantity and excellence of the

milk found.' The author of *Gynæciorum* likewise recommends a similar administration of *lumbricorum vivorum*, two scruples; *tere, et cum mellis cyathis duobus libat, ut non cognoscat.* "The *Lumbricus terrestris* proves very diaphoretic, diuretic, and anodyne," wrote Mr. R. Bradley in *Lectures on Materia Medica* (1730).

Another old authoritative recipe says: "For the piles, take the powder of earth-worms and incorporate it with as much hen's grease as will serve to make it up into an ointment, and apply this to the part affected, whose pains it usually much and safely mitigates."

In the *Lancet*, April 5th, 1884, Dr. H. F. Walker, of New York, stated that it is well known to settlers on virgin soil in the United States that no earth-worms are found in the first tillage of the ground; even in the natural meadows called "Beaver meadows," no earth-worms are at first seen. After settlement has been established they are found earliest in the vicinity of the stable yard, then in portions of soil enriched by stable manure, and at length they appear in all soils, whether cultivated, or simply pastured by domesticated animals. Frontier Settlers in the Mokako (Dominion), which is wild land unsurveyed for settlement, have told Dr. Walker that until a place has been inhabited by man for five years it is useless to look for the Earth-worm. Vincent Holt says that the Wire-worm (Skipjack) larva is an excellent edible substitute for the shrimp. He has suggested as a capital dish, "Fried cockchafers with wireworm sauce," or as the menu may term it for fastidious guests, "fried melalonthæ with elater condiment." Respecting the silk-worm (*Bombyx mori*), of which the Chinese eat the chrysalids, it may be said that a Norfolk remedy for nose bleeding consists in wearing a skein of scarlet silk tied with nine knots

in front round the neck. And the fact is vouched for (*British Medical Journal*, October 1st, 1881), that to cover the face with a piece of common black silk (which the sufferer may always carry with him) whenever feeling an epileptic fit coming on will certainly prevent its development. This is the reliable device of an old Frenchman.

Itinerant worm doctors who patter at night in the commoner streets of large manufacturing towns, such as Manchester and Liverpool, fill their sample bottles generally from the intestines of lambs or sheep at a slaughter-house. One of these worthies prided himself on the cunning dodge of substituting a black leather shoe-lace suspended in water, and labelled, "A black worm passed yesterday from the stomach of a man aged forty-five years." Half the poor persons in that part of the country came to see this wonder, and "not one on 'em ever knowed but what it was a worrum. I never layed out a ha'penny better in my life."

"Therefore the vulgar did about him flocke,
And cluster thick into his leadings vaine,
(Like foolish flies about a honey crocke),
In hope by him great benefite to gaine."

The Earth-worm bores into the ground with its tail, head upwards, then contracts and shortens its body, making it bigger; and in this way enlarging the tunnel, which is at the same time hardened by a coating of slime. It thus works down to some considerable distance in the earth. Its power of reproducing portions of the body after mutilation is astonishing. "When earth-worms lie out a-nights," says Gilbert White, "on the turf, though they extend their bodies a great way, they do not leave their holes, but keep the end of their tails fixed therein so that on the least alarm they can retire with precipitation under the earth." The food of the

earthworm is wholly vegetable, and it is quite a mistake to suppose that this creature preys on the dead in church-yards, or devours other animal matters. Izaak Walton tells lovingly, in his *Compleat Angler* (1653), of, "Old Oliver Henley, a noted fisher, both for trout and salmon, and now with God, who used secretly to keep as bait a few worms in a small box in his pocket, having anointed the box with two or three drops of the oil of Ivyberries made by expression or infusion; whereby the worms incorporated a kind of smell that was irresistibly attractive, enough to force any fish within the smell of them to bite."

"Hic alias poteram, et plures subnectere,
Sed jumenta vocant, et sol inclinatur eundem est!"
—*Juvenal, Satire 3.*

"Many such Simples, much more could I say,
But that for provender my cattle stay;
The sun declines and I must needs away!"

At the East India House the fellow-clerks of Charles Lamb occupied seats known to them as "COMPOUNDS." He wittily styled his companions—(that which we now conclude)—

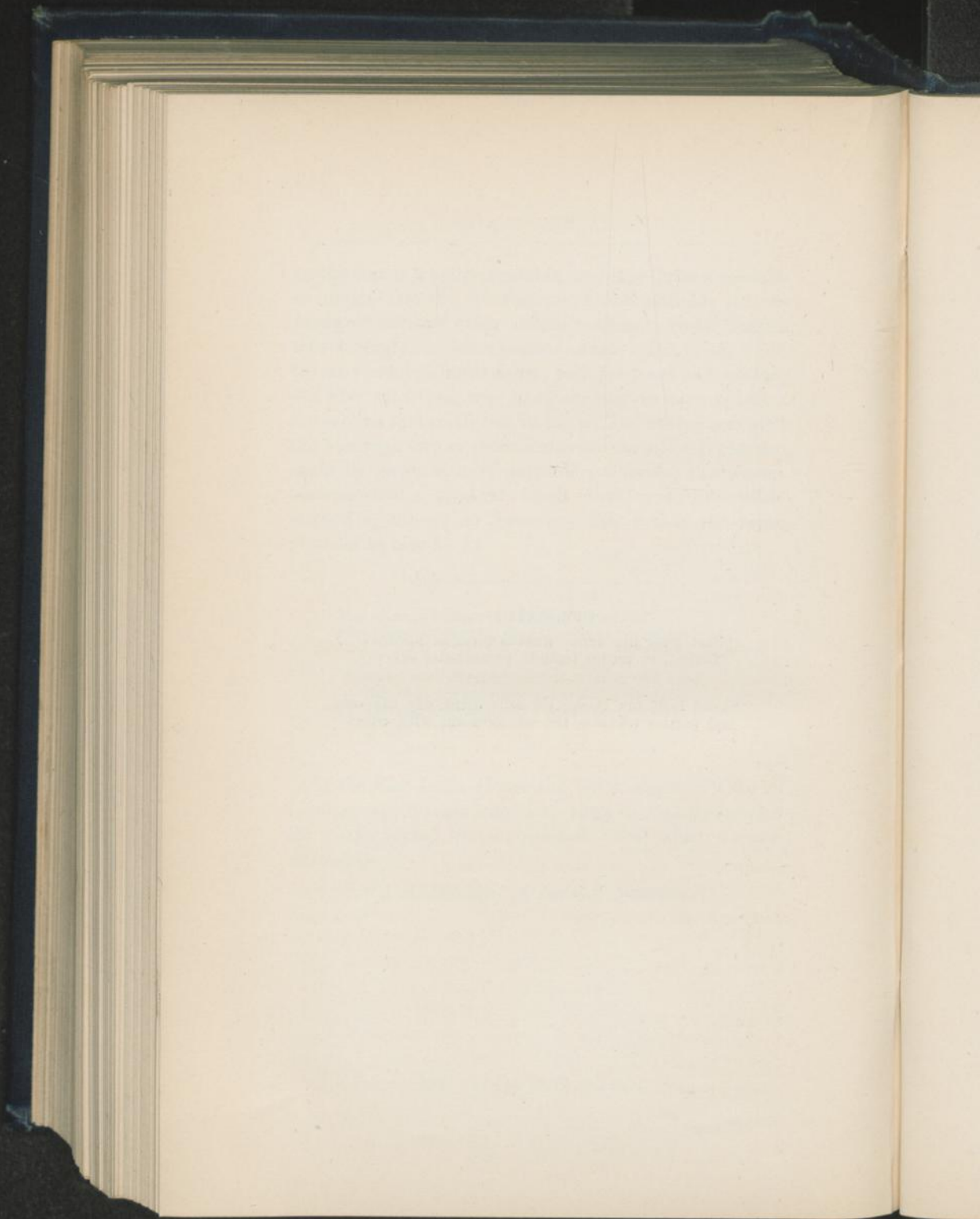
"A Collection of Animal SIMPLES."

HIC FINIS EST FANDI.

INVOCATIO.

“ Stet liber hic donec fluctus formica marines
Ebibat, et totum testudo perambulet orbem!”

“ Stand fast, my Book; till ants drink dry the seas,
And turtles traverse the whole world with ease!”



INDEX.

	PAGE		PAGE
ABSCCESS, Chronic.		Louse - - -	290
Flint - - -	475	Mosquito - -	175, 467
Lime sulphide - -	378	Pearl - - -	387
ADDER-BITE (<i>see also</i>		Pike - - -	163
SNAKE-BITE).		Salt - - -	416
Adderstone - -	20	Sausage excrement -	500
Ash leaf - - -	19	Snail - - -	452
Ear wax - - -	125	Spider and web - -	8, 464
Fat of Saint Paul -	21	Sprat - - -	348
AGE, Old, to Promote.		Urine cake - - -	501
Bat - - -	490	ALBUMINURIA (<i>see URINE</i>).	
Blood, human - -	68	ANTIDOTE TO POISONS.	
Breath of young persons	430	Butter - - -	77
Butter - - -	75	ANTISEPTIC, GERM-	
Butter milk - - -	307	KILLING.	
Fish diet - - -	157	Bezoar Stone - - -	58
Gold - - -	207-210	Bile - - -	194
Honey - - -	243	Butter - - -	75
Sheep's testes - -	439	Butter milk - - -	305
Stag ointment - -	478	Charcoal, animal - -	88
Sugar - - -	2 5	Coral - - -	107
Toad - - -	490	Earthworm - - -	534
Venison - - -	506	Fly, Blue-bottle - -	176-180
Viper wine - - -	509	Frog - - -	194
AGUE and INTERMITTENT		Gnat - - -	327
FEVER.		Gold (against infection)	206
Anchovy - - -	348	Ichthyol - - -	166
Ass Stone, quartan -	39	Juniper bark - - -	301
Bug - - -	71	Lady-bird - - -	273
Candle snuff - - -	89, 439	Lard, benzoated - -	395
Cricket - - -	259	Mummy - - -	297
Cuckoo - - -	325	Pearl - - -	387
Fish diet - - -	157	Pepsin - - -	155
Herring - - -	161	Pike - - -	163
Horse grease - - -	247	Saliva - - -	410

- | | PAGE | | PAGE |
|----------------------------------|---------|----------------------------------|----------|
| ANTISEPTIC, Germ-killing, | | BILIOUS Disorders, and | |
| <i>continued.</i> | | Jaundice. | |
| Sulphur - - - | 379 | Apple, with Saffron - | 75 |
| Toad - - - | 457 | Bezoar Stone - - | 58 |
| Urine - - - | 296 | Butter (jaundice) - | 75 |
| APOPLEXY. | | Cuttle fish (liver conges- | |
| Beaver - - - | 43 | tion) - - - | 115 |
| Spider's web - - | 469 | Duck - - - | 326 |
| APPETITE, to Improve. | | Dung of Geese (jaundice) | |
| Anchovy - - - | 348 | | 212, 213 |
| Garum (and Botargo) - | 172 | Earthworm (jaundice) - | 533 |
| Hoglouse - - - | 237 | Egg, raw (jaundice) - | 134 |
| Lobster - - - | 287 | Fat (causes gall-stone) - | 365 |
| Mussel broth - - | 333 | Fowl's liver - - - | 284 |
| ASTHMA. | | Fox's liver - - - | 281 |
| Bee sting and propolis | 46, 245 | Glycerine (gall-stones) - | 437 |
| Copper (nervous) - | 528 | Gold (chronic jaundice) - | 208 |
| Fowl - - - | 181 | Goose (for spleen) - | 212 |
| Hoglouse - - - | 237 | Hare's flesh - - - | 222 |
| Horse dung, fresh - | 249 | Hoglouse (liver congestion | |
| Milk - - - | 302 | and jaundice) - | 237 |
| Musk - - - | 363 | Liver substance, animal | |
| Mussel - - - | 333 | (jaundice) - - - | 281 |
| Pepsin - - - | 393 | Louse (jaundice) - | 289 |
| Pigeon - - - | 406 | Mullet's head (for piles) - | 172 |
| Rabbit - - - | 341 | Mussel broth (jaundice) - | 333 |
| Silver (nervous) - | 442 | Ox liver, and gall - | 195 |
| Sulphur - - - | 379 | Partridge, marrow and | |
| ATROPHY and WASTING. | | brain - - - | 337 |
| Animal oil - - - | 27 | Pig's bile - - - | 401 |
| Butter milk - - - | 305 | Raven's gall - - - | 407 |
| Dog, oil of - - - | 118 | Salt - - - | 416 |
| Goose liver - - - | 283 | Skate oil - - - | 345 |
| Louse - - - | 290 | Snail shells (jaundice) - | 452 |
| Marrow, red bone - | 300 | Snake venom—Cobra - | 457 |
| Mummy - - - | 297 | Spider (jaundice) - | 470 |
| Neat's foot oil - | 27, 366 | Swallow, stone in - | 479 |
| Sheep's broth - - | 433 | Urine, human, and | |
| Stomach-bread - | 383 | Sausage - - - | 500, 501 |
| Sunshine cure - - | 529 | Viper (yellow fever) - | 511 |
| BACK (see SPINE). | | Wolf's liver - - - | 281 |
| | | BLADDER (see also URINE). | |
| | | Bee sting (irritable) - | 46 |
| | | Blister fly (irritable) - | 178 |
| | | Hare (irritable) - - | 225 |
| | | Pig's bladder - - - | 396 |

	PAGE		PAGE
BLADDER, continued.		FROM STOMACH AND	
Prostate gland (for old men) -	29	BOWELS—	
Spermaceti (to soothe) -	519	Silver (with ulcer) -	441
Sponge, burnt (for old men) -	473	FROM WOMB—	
		Toad, apply -	484
BLEEDING, General.		BLOODLESSNESS, to remedy.	
Ant—formic acid -	31	Beef, raw -	53
Coral -	104	Blood to drink, animal's -	65
Cornish charm -	69	Marrow -	299
Crabs' eyes -	112	Scallop -	96
Cricket ashes -	259		
Duck (from bowels) -	326	BOILS.	
Hare's liver, and skin -	223, 225	Ant -	34
	247, 249	Charcoal, animal -	88
Horse turd -	284	Cockroach -	97
Liver substance, animal -	297	Hedge Sparrow (carbuncle) -	347
Mummy -	361	Herring -	168
Musk -	389	Honey -	245
Pearl -	163	Lime sulphide -	378
Pike -	518	Snail plaster -	444
Rye, ergot of -	432	Toad, apply -	484
Sheep's brains -	457		
Snake venom—Rattle-snake -	464, 468	BONE, Diseased.	
Spider's web -	484	Cod-liver oil -	100
Toad -	106	Flint -	475
Topaz -	80	Marrow, red bone of -	300
FROM NOSE—		BRAIN, to Strengthen.	
Cat's intestines -	149, 154	Fish—phosphorus -	155
Finger, pressure by -	200	Fowl's brains -	427
Goat's blood -	225	Goose's brains -	212
Hare's down -	356	Marrow, animal -	299
Mouse dung -	297	Musk -	361
Mummy -	154	Nightingale's flesh -	334
Pack thread round finger -	536	Viper -	508
Silk, scarlet skein -	485	CONGESTION OF—	
Toad to neck -	504	Bug (with lethargy) -	72
Urine -	356	Cat (with lethargy) -	78
		Wasp sting (stupor) -	514
FROM LUNGS—		IRRITABILITY, NERVOUS—	
Mouse dung -	416	Brain substance, animal -	69
Salt -	432	WATER ON BRAIN—	
Sheep -	379	Blister-fly tincture -	178
Sulphur -			

	PAGE		PAGE
BREAST, Affections of.			
Charcoal, animal (hard breast) -	88	Frog oil -	192
Gall, Ox (swollen, or tumours of) -	195	Gall, Ox (of breast) -	196
Glycerine (nipples cracked) -	437	— Sheep's -	426
Gum Arabic (sore nipples) -	230	Goat turd, and gall -	200
Hoglouse (swollen) -	239	Gold -	205
BRONCHITIS.			
Fox's lung -	187	Hoglouse -	240
Mussel (bronchial irritation) -	333	Horse wart -	248
CHRONIC—			
Charcoal, vegetable (for the aged) -	90	Hound's head -	200
Cockroach (difficult breathing) -	97	Lime—Gneiss -	135
Hartshorn -	230	Lizard -	330
Horse dung, fresh (laboured breathing) -	249	Milk (of stomach) -	308, 317
Lime sulphide -	378	Mouse fat -	356
Spermaceti -	519	Oyster shell -	376
Whey cure -	304	Silver (of womb) -	440
BRUISE.			
Animal oil -	25	Soot -	89
Beef, raw -	368	Star-fish (of skin) -	350
Fleece of Lamb -	433	Sun's direct heat -	528
Hartshorn liniment -	229	Toad (to breast) -	486
Salt -	422	CARBUNCLE.	
Viper's fat -	513	Mole -	353
BURNS and SCALDS.			
Egg yolk -	137, 140	Sparrow, Hedge, dung -	347
Fly, Spanish -	178	Spider—Tarantula -	465
Frog spawn -	192	CARP killed by Toads	
Goose oil, and dung -	213	159, 491	
Tallow -	426	CEMENT, Natural.	
CANCER.			
Ant (bleeding) -	31	Snail slime -	455
Charcoal, animal -	88	CHAPPED HANDS.	
Dung, human, fresh -	200	Goose grease -	212
Egg (of lower bowel) -	137	Snail shell -	449
— shell -	135	CHILBLAINS.	
Flint -	475	Glycerine -	437
CARP			
		Hart's grease -	231
		Rye, ergot of -	518
		Salt, to forbid -	415
		Sheep's gall -	426
		Spanish Fly -	180
		Tallow -	426
		Urine -	501
CHOLERA.			
		Copper -	526
		Salt -	422
		Serum, antitoxin -	425

COLD—Catarrh.

RECENT—

	PAGE
Butter, oyl of	75
Crab powder, Gascoigne	285
Salt	417

CHRONIC OF HEAD AND CHEST

Snails	444
Spermaceti	519
Tallow plaster (and to nose)	435
Tamarind whey	308
Whey (of bowels)	317

COLIC of Bowels.

Civet Cat	83
Cockle	94
Copper	528
Coral	106
Duck, apply	326
Earthworm oil	190
Flint Stone	476
Frog oil	190
Grasshopper	220
Hoglouse	237
Lark's heart	186, 346
Marrow (of Bull)	368
Musk	362
Salt	422
Whey (of infants)	311
Wolf's dung	467

CONSTIPATION of Bowels.

Anchovy	348
Asses' milk	38, 314
Butter milk	307
Cuttle fish (from torpid liver)	116
Egg, raw	134
Garum—injection	172
Glycerine	437
Gnats	14
Goats' milk	200, 203
Goose grease	212
Honey	245
Ichthyol (chronic)	167
Ink purgative	360
Manna	246

	PAGE
Mouse dung (for children)	145, 357
Mussel broth	333
Ox gall	194, 197
Pig's gall	397, 401
Pike eggs and roe	169
Salt	416, 421
Sparrow broth	347
Sprat	347
Star-fish	350
Stone on belly	360
Sulphur	379
Tamarind whey	308
Urine	500-502
Whey	311

CONSUMPTION of Lungs.

Animal oil, friction with	25
Asses' milk	36, 204
Beef, sur-alimentation	49
Blackbird	319
Blood	62, 63
Butter	74
Caviare	263
Clam juice	322
Cock broth	183
Cockle	94
Cod-liver oil	100
Cow's breath, sweet, to inspire	108
Crab, Sea-shore	110
Cray fish	112
Crocodile oil	101
Dog-fish-liver oil	102, 173
Egg	133
Finger nails	148
Fox's lung	186, 427
Frog's liver and broth	189
Gall, Ox, friction with	197
Goats' milk	200
Gold	204
Gold (night sweats)	208
Guano	505
Herring roe (of throat)	169
Horse dung	249
Koumiss, of Mare's milk	252
Lamprey oil	277
Louse	289

	PAGE		PAGE
CONSUMPTION, continued.		CORDIAL.	
Marrow, Ox	- 299	Ambergris	- 23
Meat, raw	- 49	Beef tea	- 51
Milk	- 302	Bezoar Stone	- 58
Morrhuel	- 101	Gold	207, 209
Mullet roe	- 172	Honey	- 242
Mummy	- 297	Ladybird	- 273
Oyster	- 371	Lamprey	- 276
Palm oil	- 101	Lobster broth	- 285
Paté de foie gras	- 283	Musk	- 361
Pearl, essence of	- 388	Pearl	- 387
Periwinkle	- 338	Sprat	- 348
Rabbits' dung pills	- 341	Stag, horn of	- 229
Ray-liver oil	- 102	Sunshine	- 529
Reptiles' excrement	- 146	Urine	- 504
Salt, to avoid	415, 420	Viper's flesh	- 509
Serpents' excrement	146, 512		
Sheep, flock, through	- 429	CORNS.	
Shrimp	- 259	Ant juice	- 30
Skate	- 101, 345	Snail	- 447
Skimmed milk (night sweats)	- 307	Sulphur	- 380
Snail	445-452	Unicorn	- 60
Sponge (of windpipe)	- 473	Urine	- 504
Stag's horn	- 231	Wool, with Urine	- 530
Sulphur	- 379		
Turkey	- 495	COUGH.	
Turtle	- 496	Ambergris (nervous spasmodic)	- 23
Venison	- 506	Animal oil (of consump- tion)	- 26
Wax, vapour of	- 516	Beetle, Donegal	- 57
Whey (chronic)	- 317	Butter, oyl of	- 75
Worms	- 534	Cochineal (spasmodic, and whooping-cough)	93
CONVULSIONS.		Coral, red (from teething)	104
Cat	- 81	Cow stable atmosphere	108
Coral, red (from teething)	8, 103, 105	Fox's lung	- 186
Earwig	- 125	Frog, Green	- 189
Earthworm	- 534	Hartshorn	- 230
Hare's liver	- 223	Hellebore, green (for beast)	- 61
Musk	- 362	Herring roe	- 169
Mussel	- 332	Honey	- 243, 245
Newt	- 331	Musk (spasmodic)	- 362
Rose Chafer Beetle	- 57	Silver (with sore wind- pipe)	- 440
Salamander	- 330	Slug	- 452
Saliva, night	- 409	Snail	- 445
Silver	- 440		
Spider, Garden	- 468		

	PAGE		PAGE
COUGH, continued.		Goats' milk	201
Snake venom (dry chok- ing)	456	Gold	206
Spermaceti	519	Guinea-pig	328
Sponge, charred (of windpipe)	473	Hartshorn jelly	231
Whey (laryngeal)	304, 317	Herring, Red	160
		Honey (in extreme)	243
		Isinglass	261
		Ivory jelly, and Salt	232
CRAMP.		Junket	306
Animal oil	25	Koumiss	252
Beaver oil	43	Lamprey	275
Eel skin, applied	128	Lobster broth	285
Hare's foot	227	Marrow, Ox	299
Rings, Royal	151	Meat, raw, scraped	49
Sheep's knee-bone	429	Milk	302
Sweat, human (of toes)	351	Musk (nervous)	361
		Oyster	370
CROUP.		Perch (for women in childbed)	173
Coral (spurious croup)	8, 104	Periwinkle	338
Flint	477	Pheasant	339
Musk	362	Pigeon's flesh	402
Sponge, tosta, and burnt	473	Pollack	170
		Poultry	183
		Sheep's fleece, wrap in	428
DEAFNESS (see EAR).		Shrimp	164, 259
		Silver (bloodless)	441
		Snail	450
DEBILITY, General.		Star-fish	350
Ant, White	33	Sturgeon	164, 170
Asses' milk	314	Sugar	245
Beef, raw	48, 53	Swallow's nest	480
Blood, animal	61, 65	Sweetbread	482
Breath of young persons	430	Tench	165
Butter milk	303	Thrush	482
Cat, Wild, skin to wear	80	Thyroid gland of Sheep	28, 432
Chatham Eel (for children)	167	Tripe (to make heroes)	351
Clam juice	322	Trotter broth	431
Cockle	94	Turkey (except for gouty persons)	495
Cod-liver oil	100	Turtle	496
Conger Eel	132	Veal broth	54
Craw-fish	113	Venison fat	506
Egg	133	Viper broth	18
Fat of bacon	395	Walrus liver	282
Fish diet	156	Whale flesh	518
Flea	175	Woodcock	337
Gelatine	261		

- | | PAGE | | PAGE |
|----------------------------|------|-----------------------------------|------|
| DELIRIUM TREMENS. | | DIVINATION, to learn the | |
| Beef tea, with Cayenne | | art of. | |
| pepper - | 52 | Mole - | 353 |
| DIABETES. | | DRINK, Alcoholic. | |
| Butter milk - | 307 | TO WEAN FROM, AND TO | |
| Flesh meat, of carnivor- | | PREVENT DRUNKENNESS— | |
| ous animals - | 188 | Gold - | 209 |
| Flint - | 475 | Herring, Red - | 161 |
| Glycerine - | 437 | Ox gall - | 198 |
| Lactic acid - | 315 | Screech Owl's eggs - | 395 |
| Lamb skin broth - | 433 | DROPSY. | |
| Liver substance, animal | | GENERAL— | |
| 281, 284 | | Bee sting - | 47 |
| Sheep's bladder - | 427 | Cochineal (renal) - | 93 |
| Silver - | 440 | Cockroach - | 97 |
| Spanish Fly (insipid) - | 179 | Hedgehog - | 235 |
| Stomach-bread - | 382 | Hedge Sparrow - | 347 |
| Whelk (sugarless diabetes) | | Herring, Red (from cold) | 161 |
| 521 | | Mussel broth - | 333 |
| DIARRHŒA. | | Pellitory milk - | 309 |
| SIMPLE LOOSENESS, | | Sheep's urine - | 426 |
| RECENT— | | Silver - | 440 |
| Copper (choleraic) - | 526 | Toad's flesh - | 6 |
| Milk, Cow's and Sheep's | 302 | Urea (after scarlet fever) | 500 |
| Spermaceti (catarrhal) - | 519 | Urine in sausage - | 501 |
| Suet - | 431 | FROM HEART— | |
| Toad flesh - | 490 | Bee sting - | 46 |
| Wax emulsion - | 516 | Cockroach - | 97 |
| CHRONIC— | | Toad - | 486 |
| Bee sting (in morning) - | 45 | Wasp sting - | 514 |
| Butter milk - | 307 | FROM KIDNEYS— | |
| Duck's liver - | 326 | Bee sting - | 45 |
| Goat's milk 201, 302, 309 | | Beetle oil, the - | 55 |
| Isinglass jelly - | 263 | Cockroach - | 97 |
| Meat, raw (of consump- | | Toad - | 484 |
| tion) - | 49 | Urine - | 500 |
| Spermaceti - | 519 | DROWNING, to protect from. | |
| Suet in milk - | 431 | Caul - | 321 |
| DIPHTHERIA. | | DROWSINESS. | |
| Bee sting (early) - | 45 | Bee sting (brain conges- | |
| Lactic acid, apply - | 315 | tion, passive) - | 45 |
| Serum, antitoxin 251, 425 | | Bug - | 72 |
| Snake's venom - | 460 | Wasp sting (brain stupor) | 514 |
| Spider, Tarantula - | 465 | | |

DYSENTERY.

	PAGE
Bezoar Stone -	58
Butter milk -	307
Cock broth -	183
Flint stone -	477
Frog's gall -	190
Hare's blood -	225
Milk -	302, 312
Pearls -	387
Pig's dung -	396
Spermaceti -	519
Suet in milk -	431
Thrush -	483
Wax emulsion -	516
Whey -	311

EARS, Affections of.

Camel hair (earache) -	582
Cockroach (earache) -	97
Egg yolk (wax in ears) -	137
Goats' urine (sore ears) -	200
Ox gall (wax in ears) -	195
Sheep's gall (running from ears) -	426
Snail (earache) -	447
Squirrels' fat -	348

DEAFNESS—

Ants' eggs -	31
Ass' bones -	490
Beaver -	43
Civet -	83
Earwig -	125
Earthworm -	534
Eel, Silver -	126
Frogs' fat -	190
Glycerine (for wax) -	437
Goats' marrow -	201
Goose grease -	212
Hedgehogs' grease -	234
Laurian oil -	366
Ox gall -	195
Sheep's gall -	426
Urine -	501
Wool, black -	126, 530

ECZEMA (see SKIN).**EPILEPSY, or Falling**

	PAGE
Sickness.	
After-birth -	523
Animal oil -	25
Ant, Red -	32
Ass, stone from -	39
Bear's testes -	318
Beaver -	43
Beetle, Rose Chafer -	58
Bezoar Stone -	59
Blood, animal and human	62, 65, 296
Brain, animal -	70
Butter milk -	307
Cats' blood -	80
Civet -	83
Copper -	528
Coral, red -	103
Crocodile's dung -	496
Crow's brain -	323
Cuckoo -	325
Dog's flesh -	118, 121
Dung of Goose -	213
Elk hoof -	229
Excrement sausage -	146, 500
Frog's liver -	189
Gold -	207, 209
Hedge Sparrow -	347
Henbane -	468
Honey -	243
Itch Insect—psoricum -	264
Jay -	328
Kingfisher -	269
Lark -	346
Lion's dung -	145
Louse (protective) -	291
Mackerel, to avoid -	162
Magpie -	293
Man's skull & blood -	3, 65, 295
Marrow, red bone -	299
Meat, refrain from -	51
Mole -	353
Mummy -	297
Musk -	361
Newt -	331
Partridge's liver -	337
Peacock's dung and tongue	385, 387

- | | PAGE | | PAGE |
|----------------------------------|----------|------------------------------|----------|
| EPILEPSY, continued. | | Dogs foresee death | - 122 |
| Pearl | - 391 | Ear rings | - 405 |
| Peony | - 467 | Egg, white, with alum | - 137 |
| Salamander | - 331 | Frog, lick, and spawn | - 192 |
| Salt | - 418 | Goat (cataract) | - 204 |
| Sheep's gall | - 426 | Gold (stye) | - 210 |
| Silk, black, kerchief | - 537 | Goose bone (for spot) | - 215 |
| Silver and Coins worn | 440, 443 | Grayling | - 160 |
| Snake venom—Rattle- | | Louse | - 289 |
| snake | - 456 | Magpie | - 293 |
| Sow's womb | - 396 | Milk | - 302 |
| Spider, Garden | - 468 | Ox gall (spot on cornea) | 196 |
| Star-fish | - 350 | Paper, oil of (growths in | |
| Swallow, stone in | - 479 | eye) | - 366 |
| Thrush, Missel | - 483 | Pigeon's blood | 403, 405 |
| Toad | - 489 | Saliva | - 410 |
| Turtle's blood | - 496 | Snow (blindness of Bear) | 318 |
| Urine sausage | - 500 | Toad (inflamed eyes | |
| Weasel | - 349 | caused by) | - 487 |
| Whey | - 307 | Tortoise blood | - 496 |
| | | Urine, wash with | - 501 |
| ERYSIPELAS. | | To STRENGTHEN VISION— | |
| Bee sting | - 45 | Adder | - 18 |
| Cow dung | - 108 | Cricket | - 259 |
| Earthworm | - 533 | Gall, Ox (growth on | |
| Frog spawn | - 192 | cornea) | - 196 |
| Mole by Flies | - 353 | Hare | - 225 |
| Snake venom | - 456 | Hedgehog oil | - 234 |
| Spanish Fly | - 178 | Hoglouse (blindness) | - 241 |
| Tick | - 14 | Louse | - 289 |
| Wasp sting | - 514 | Milk lotion | - 302 |
| EXECRATION, to Effect. | | Nightingale's gall | - 334 |
| Toad | - 485 | Partridge's gall | - 337 |
| EXTREMITY, of Illness in. | | Peacock's gall | - 387 |
| Blood (and in shipwreck) | 66 | Pearl | 387, 390 |
| Pigeons (to feet) | - 403 | Periwinkle | - 162 |
| Sheep skin, fresh (to | | Pheasant's gall | - 341 |
| wrap in) | - 428 | Rat | - 342 |
| EYES. | | Royal touch | - 62 |
| FOR WEAK AND INFLAMED— | | Saliva | - 410 |
| Ant juice | - 30 | Sheep's liver and brain | 431 |
| Calf's liver (snow blind- | | Swallow, and stone in | - 480 |
| ness) | - 282 | Umber | - 160 |
| Cat's tail (stye) | - 79 | Urine | - 501 |
| | | Viper | - 508 |
| | | CATARACT— | |
| | | Fox's tongue | - 186 |

	PAGE		PAGE
FAINTING.		FISTULA.	
Pearl - - -	387	Frog's heart - -	189
Sponge (from failure of heart) - - -	472	Gold - - -	205
FAT, to Reduce.		FLATULENCE.	
Sheep's gland—thyroid	30, 492	Bezoar Stone (infants) -	59
To PROMOTE—		Castor (distension) -	42
Beetles - - -	55	Charcoal, vegetable -	90
Butter - - -	74	Cinder tea - - -	380
Glycerine - - -	437	Gall, Ox - - -	198
Paté de foie gras -	212, 216, 283	Glycerine - - -	438
Walrus liver - - -	282	Hedge Sparrow - -	347
FEET, for the.		GANGRENOUS SORES.	
Badger skin (excoriation) -	39	Animal oil - - -	25
Egg, white of (if sore) -	138	Ergot of Rye (senile) -	518
Flint (against sweating) -	475	Musk (dry gangrene) -	362
FEVER.		Snake venom (Rattle-snake) - - -	457
Beef tea - - -	51	GIDDINESS.	
Butter milk (typhoid) -	305	Ambergris (in the old) -	22
Castor (low fever) -	42	Bezoar Stone - - -	58
Fleece, fresh, to wrap in -	428	Civet Cat - - -	83
Ladybird - - -	273	Finger nail parings -	149
Leech, charm for -	230	Glow Worm - - -	327
Meat, raw (for convalescents) - - -	51	Gold - - -	208
Musk (typhoid) - - -	363	Magpie - - -	293
Oyster (may cause typhoid)	374	Peacock's dung - -	387
Perch - - -	173	GLANDS, Swollen or Hard, and TUMOURS.	
Pheasant (restorative) -	341	Amber - - -	106
Pike - - -	163	Bear's grease - - -	318
Powder, Gascoigne, Crab	285	Calf marrow - - -	53
Sweetbread (protective from typhoid) -	482	Charcoal, animal (breast)	88
Urine, boys' - - -	502	Crab - - -	111
Viper (yellow fever) -	511	Flint - - -	475
Whey - - -	304	Gall, Ox (and enlarged tonsils) - - -	196
FISH-BONE, to Remove from Throat.		Gneiss-lime - - -	135
Egg, raw - - -	134	Gold - - -	210
		Hart's tooth - - -	231
		Hoglouse (tumours) -	237
		Marrow - - -	299
		Oyster shell - - -	376
		Salt - - -	422
		Snail - - -	448

	PAGE		PAGE
GLANDS, continued.		HAIR, to Promote Growth of, and to Prevent Falling Off.	
Sponge, burnt -	473	Bear's grease -	318
Sulphur and lime -	378	Dog's pad -	118
GOITRE of Neck.		Fly, Spanish -	179
Snake -	462, 511	Goose grease (baldness) -	212
Sponge, burnt -	473	Hair, human, oil of -	296
Thyroid gland of Sheep	11, 28	Hare's womb -	223
GOUT.		Horse's brain -	490
Ant -	31	Mouse's fat -	356
Bee sting (rheumatic) -	45	Ordure, human, fresh -	144
Blood, balsam of -	296	Rat's dung -	342, 344
Bullock's blood bath -	69	Wax, oil of -	517
Butter, oyl of -	74	To DYE DARK—	
Cat's dung -	145	Egg oil -	136
Cow dung -	107	Silver -	439, 442
Crow's flesh -	324	To REMOVE SUPERFLUOUS HAIRS—	
Dog's dung, whelp's -	123	Cat's dung -	82
Duck grease -	326	Frog's blood -	190
Finger, medical, free		Leech -	279
from -	154	Salt -	423
Frog spawn -	192	Snail -	82
Goose dripping and dung	212, 213	FOR BALDNESS—	
Honey (inden trees) -	247	Bear's grease -	318
Horse urine -	248	Mouse's fat -	356
Ivory -	232	Rat's dung, fresh -	343
Leather, fried -	369	Skate -	345
Lobster (indigestible by the gouty) -	286	Spanish Fly -	179
Milk -	312	HEADACHE.	
Milk, sugar of -	312-314	ACTIVE, WITH FLUSHED FACE AND HOT DRY SKIN—	
Musk -	362	Badger oil -	39
Mussel broth -	333	Herring to feet -	174
Pigeon's dung -	405	PASSIVE, WITH COLD SKIN, AND PALLOR OF FACE—	
Pig's blood bath for feet -	395	Camel hair -	532
Salt (to avoid) -	418	Cuttle fish (migraine) -	116
Snails, apply -	213, 444, 447	Louse (protective from) -	292
Spaniel whelp -	123	Owl's brain -	335
Sperma heminis -	296	Pigeon's dung -	405
Stag, and horn -	228	Rye, Ergot of (with dizziness) -	518
Sugar (not with acids) -	245	Salt (migraine, gastric) -	418
Turkey (bad for) -	495		
Urine foot bath -	502		
Viper essence -	18, 508		
Wax, oil of -	517		

	PAGE		PAGE
HEADACHE, continued.		HYDROPHOBIA.	
Sheep (skirt to wrap feet in) - - - - -	428	Antitoxin serum - - - - -	425
Silver - - - - -	440	Beetle oil, the - - - - -	55
Snake - - - - -	457	Cat, caused by - - - - -	81
Star-fish - - - - -	350	Dog, mad, hair and liver of - - - - -	12, 118
Vinegar of lime - - - - -	377	Glow Worm - - - - -	327
NERVOUS HEADACHE—		Goose dung (for bitten Fox hounds) - - - - -	148
Amber - - - - -	107	Mole, produced by - - - - -	353
Badger - - - - -	39	Musk - - - - -	362
Beaver - - - - -	43	Rose Chafer - - - - -	57
Brain substance - - - - -	39	Sea, to duck in - - - - -	124
Musk - - - - -	363	Shrew Mouse's tail (for dog's bite) - - - - -	361
Snake skin and venom—		Sweating - - - - -	124
Rattlesnake - - - - -	457	Ticks on Dogs, banished by - - - - -	120
HEART.		Toad - - - - -	489
TO STRENGTHEN WEAK—		Viper - - - - -	511
Gold—cordial - - - - -	210	HYSTERIA.	
Musk - - - - -	363	Ambergris - - - - -	22
Ox gall (enlargement) - - - - -	196	Animal oil - - - - -	25
Pearl - - - - -	387	Bezoar Stone, English - - - - -	59
FOR IRRITABLE HEART, WITH		Brain substance (Animal) - - - - -	70
PALPITATIONS; OR STRUC-		Bug - - - - -	72
TURAL DISEASE—		Castor (Beaver) - - - - -	42
Bezoar Stone - - - - -	58	Civet - - - - -	83
Gold (breast pang, or angina) - - - - -	209	Hare's liver - - - - -	224
Hare's leg bone - - - - -	227	Hartshorn - - - - -	231
Jelly fish (Cyanæa) - - - - -	263	Musk - - - - -	361
Musk - - - - -	363	Partridge feathers (burnt) - - - - -	337
Snake—Rattlesnake - - - - -	457	Peacock's feathers - - - - -	386
Sponge tosta (for suffo- cative breathing at night) - - - - -	472	Spider's web - - - - -	469
Toad - - - - -	486	INDIGESTION, DYSPEPSIA.	
Wasp sting (for water in heart-bag) - - - - -	514	Asses' milk - - - - -	36
HEARTBURN (see INDIGES-		Bacon fat - - - - -	365
TION).		Butter, hot, provoked by - - - - -	77
HICCOUGH.		Butter milk (in weakly children) - - - - -	303
Butter cake rhyme - - - - -	75	Charcoal—Animal and vegetable - - - - -	88, 89
Ears, stop with fingers - - - - -	153	Cheese (for languid stomachs) - - - - -	90
Musk - - - - -	362	Coral (against acidity) - - - - -	105

	PAGE		PAGE
INDIGESTION, continued.		Brain substance—	
Cow dung water (acidity)	107	Animal	- 69
Crab's eyes (for acidity)	110, 112, 285	Butter milk	- 307
Crawfish	- 112	Fish diet	- 169
Cuttle bone (for acidity)	114	Gold (syphilitic)	- 208
Gum arabic, suck (for acidity)	- 230	Hare, to eat a little	- 224
Hare, caused by	- 227	Leech, horse, the	- 279
Hartshorn	- 230	Magpie	- 293
Ivory	- 232	Owl and screech owl	- 335
Koumiss (severe)	- 252	Pearl	- 387
Lampreys (will cause)	276	Porpoise	- 163
Lobster (will provoke with the gouty)	- 286	Ptomaines, will cause	- 51
Lobsters' eyes (acidity)	285	Salt, induces	- 423
Oils, friction with	- 364	Sheep's brains	- 432
Oyster (easy of digestion)	372	Sulphur (mercaptan)	- 380
Pearl (for acidity)	386, 388	Thyroid gland of sheep	28
Pepsin	- 392	Venison	- 506
Pig's bile and gall (to digest fats)	- 397	INSECTS, NOXIOUS, to Destroy.	
Raven's gall (jaundice)	407	Aphides, by Ladybird	- 273
Silver (for irritable stomach, or ulcer of)	441	Butter, blue (with mercury) for head crabs and lice	74, 291
Stomach-bread (for fats)	382	Cabbage, lice	- 290
Swallow-nest soup	- 480	Calf gall	- 53
Thrush	- 482	Cockroach bugs, to expel	98
Tripe	- 351	Fleas, will avoid the dying	- 174
Unicorn (acidity)	- 60	Hedgehog	- 234
Whey	- 304	Lavender, oil of	- 289
INSANITY.		Menstrual flux	- 522
ACTIVE—		Saliva	- 410
Acid, lactic, of milk	- 315	INTESTINAL PAIN and SORENESS.	
Blood, dried, inject	- 67	Hartshorn	- 230
Fish diet	- 169	Jay	- 328
Goat's lights, apply	- 204	Spermaceti	- 519
Kingfisher	- 269	Wax	- 516
Mouse roasted, for frenzy	- 359, 481	Whey (from catarrh)	- 317
Porpoise	- 163	ITCH.	
Spider	- 468	Ant, Red	- 30
Swallow, stone in	479, 481	Frog spawn	- 190
Swine's lung ointment	397	Lavender oil	- 266
PASSIVE AND MELANCHOLY—		Poplar twigs in the bed	266
Bezoar Stone	- 59	Sulphur	- 266, 379
Blackbird	- 319	Viper	- 508

	PAGE		PAGE
JAUNDICE (<i>see</i> BILIOUS DISORDERS).		LOCKJAW.	
		Musk - - -	362
		Serum, antitoxin -	425
		Snake venom - -	460
JOINTS, Affections of (<i>see also</i> SCROFULA).		LOCOMOTOR ATAXY (<i>see</i> SPINE AND TESTICLE).	
Ant juice and eggs -	32		
Bear's grease -	318	LUMBAGO (<i>see also</i> RHEUMATISM).	
Cod-liver oil -	100	Bacon rind plaster -	401
Ear wig -	124	Spinal marrow—Ox -	367
Flint -	475	Wax, oil of -	517
Lamb's fleece broth -	433	LUNGS (<i>see also</i> COLD, and CONSUMPTION).	
Magpie -	293	Musk (extreme inflammation of) -	362, 363
Milk -	302		
Sheep's head (for weak joints) -	426	MEASLES.	
Silver (hysterical) -	440	Dog and hair of -	118
Toad, to strengthen sinews -	493	Goat's dung -	204
Urine -	501	MELANCHOLY (<i>see</i> INSANITY).	
KIDNEYS (<i>see also</i> URINE).		MEMORY, to Strengthen.	
CONGESTION, ACTIVE—		Horse's heart -	490
Cochineal -	93	Mouse flesh -	359
CONGESTION, PASSIVE—		MESENTERIC DISEASE (<i>see also</i> SCROFULA).	
Cockroach (albuminuria) -	97	Gold -	210
Kidney substance—		Ingluvin (gizzard) -	199
Animal -	269	MILK, BREAST, to Promote flow of.	
STRUCTURAL IMPAIRMENT—		Cow hoof -	109
Sheep's kidney substance -	269	Conger Eel soup -	132
Toadstone -	489	Crab, Sea shore -	111
LEECH.		Earthworm -	535
Bleeding from, to stop -	278	Flint -	475
LEG, INFLAMED.		Salt (for animals) -	421
Fox's tooth amulet -	186	Swine's flesh -	398
LEPROSY AND LEPROUS ERUPTIONS (<i>see</i> SKIN).		Whiting soup -	165
LIVER, Disorders of (<i>see also</i> BILIOUS DISORDERS).		MILK CRUST, of Infants (<i>see</i> SKIN).	
Charcoal -	283		
Hare's liver -	222, 281		
Skate, hardness of liver -	345		

	PAGE		PAGE
MONTHLY FLOW OF		NEURALGIA.	
WOMEN (<i>see also</i> WOMB).		Camel hair - - -	532
To PROMOTE—		Cochineal - - -	93
Bug, the Bed - - -	71	Duck's grease - - -	326
Castor (Beaver) - - -	42	Electric eel - - -	132
Cuttle fish eggs - - -	115	Ichthyol - - -	166
Gall—Ox - - -	195	Jelly-fish - - -	267
Goose dung and grease	212	Ray, Electric - - -	132, 345
Rat turds - - -	342	Spanish fly - - -	179
Salt, diluted - - -	416, 422		
To ARREST WHEN EXCES-		NOSE BLEEDING (<i>see</i>	
SIVE -		BLEEDINGS).	
Cricket - - -	259	NOSE, Ulceration of, Inside.	
Gold - - -	208	Gold - - -	208
Hartshorn - - -	231	Urine (with pimples) - - -	502
Horse excrement	247, 249		
Spider's web - - -	471	PAIN, Local, for.	
Toad - - -	484	Blister fly - - -	177
		Dog, black, ear (amulet)	118
MOTHS, to Prevent.		Duck grease - - -	326
Kingfisher - - -	272	Ichthyol - - -	166
		Pearl - - -	388
MOTHER'S MARKS, to			
Remove.		PALPITATION, for (<i>see also</i>	
Spittle (saliva) - - -	411	HEART).	
		Musk (nervous) - - -	363
MOUTH, SORE (<i>see</i> THRUSH).		Snake venom (Rattle-	
		snake) - - -	457
MUMPS.		Toad - - -	6
Snoek fish - - -	167		
		PARALYSIS and PALSY.	
MUSSEL POISONING, for.		Beaver oil - - -	43
Ether - - -	331	Boar's grease and lead	396
Pilocarpine - - -	331	Cat, black - - -	79
		Copper - - -	528
NERVES, to Strengthen.		Dormouse fat - - -	342
Beef extract - - -	51	Eel, Electric - - -	131
Brain substance—		Fox's blood - - -	186, 188
Animal - - -	69	Fleece of sheep, fresh	428
— of Fowl - - -	427	Gold - - -	207
Musk - - -	363	Hoglouse - - -	237
Nightingale - - -	334	Honey - - -	243
Snake venom—Rattle-		Jelly-fish - - -	266
snake (for nervous		Owl's flesh - - -	335
prostration) - - -	456	Rat fat - - -	342
Touch by hand - - -	152	Toad venom - - -	490
Viper - - -	508	Urine - - -	501
NETTLE RASH (<i>see</i> SKIN).			

- | | PAGE | | PAGE |
|--|--------|---|------------|
| PILES (<i>see also</i> BILIOUS INDIGESTION). | | Serum of eel's blood | 128 |
| Boar's grease | 396 | Toads, been used for | 486 |
| Earthworm | 536 | Veal | 342 |
| Eel | 126 | Venison, if high | 341, 505 |
| Egg oil | 136 | PREGNANCY (<i>see</i> WOMB). | |
| Frog spawn | 190 | Asses' milk | 37 |
| Glycerine | 437 | Puppy suckle, to prevent | 121 |
| Leather grease | 369 | QUINSY (<i>see also</i> SORE THROAT). | |
| Leech | 279 | Animal dung, fresh | 145 |
| Mouse dung | 357 | Herring pickle | 168 |
| Sulphur | 373 | Hoglouse | 240 |
| Urine | 501 | Toad | 485 |
| Venison, causes | 506 | RHEUMATISM (<i>see also</i> LUMBAGO). | |
| Wool and wool oil | 526 | ACUTE — | |
| PLAGUE , Given for. | | Bee sting | 45 |
| Amber | 107 | CHRONIC — | |
| Bezoar Stone | 59 | Amber | 107 |
| Cock dunghill | 182 | Animal oil | 25 |
| Frog lozenges | 194 | Ant | 31 |
| Gold | 207 | Bee sting | 46 |
| Pike | 163 | Beetle oil, the | 54 |
| Toad | 487 | Blood (osteo-arthritis) | 69 |
| PLEURISY , and PAIN in the Side . | | Camel hair | 532 |
| Duck's grease | 326 | Cat in bed | 80 |
| Fly, Spanish | 178 | Cod-liver oil | 100 |
| Horse dung | 3 | Eel, Electric | 132 |
| Peacock broth | 385 | Fat, human, rub in | 367 |
| Pigeons | 403 | Frog spawn | 192 |
| POISONOUS ANIMAL SUBSTANCES . | | Hare's foot | 226 |
| Cheese | 91 | Hartshorn | 229 |
| Game to be limited as food | 341 | Hen, black, the blood | 185 |
| Lobster, tinned | 287 | Horse urine | 248 |
| Meat, corrupt in body | 51 | Ichthyol | 166 |
| Mussel, at times | 3, 331 | Jelly-fish | 267 |
| Partridge, if high | 341 | Ling oil | 162 |
| Pheasant, if high | 339 | Marrow—Animal | 300 |
| Pork, and as used with arsenic | 398 | Milk, sugar of | 312 |
| Rabbit pie (without hole in top) | 342 | Ox blood | 69 |
| Sea-shore Crab, at times | 3 | Peacock's eggs | 385 |
| | | Ray, Electric | 345 |
| | | Saliva | 409 |
| | | Salt, leave off | 422 |
| | | Scorpion | 3, 14, 125 |

	PAGE		PAGE
RHEUMATISM, continued.		Frog broth	- 189
Spanish fly	- 179	Gizzard (mesenteric disease)	- 199
Sulphur	- 379	Goat's blood	- 200
Turkey, to avoid	- 495	Gold (mesenteric and hip disease)	- 210
Urine	- 502	Hog louse	- 237
Wax oil	- 517	Marrow, red bone	- 299
Whey	- 312	Serum of blood	- 63
RICKETS (see also SCROFULA).		Shell lac (ulcers)	- 94
Bitch's milk	- 120	Sweetbread (rickets)	- 482
Flint	- 475	Toad	- 485
Marrow	- 300	Touch, the royal	- 150
Sweetbread	- 482	Viper fat	- 508
SAINT VITUS'S DANCE, or CHOREA.		Wax oil	- 517
Musk	- 362	Whey, goat's (for children)	- 203
Spider, Tarantula	- 465	SCURRY (see also SCROFULA.)	
SCALDS (see BURNS).		Bullock's blood	63, 67
SCARLET FEVER.		Clam juice	- 322
Bee sting (the sore throat)	- 45	Cowdung water	- 107
Cockroach (the dropsy)	97	Goose dung	- 212
Goat's dung	- 204	Nightingale	- 334
Lard, inunction with	- 395	Salt Meat causes	- 414
Snake venom	- 457	Urine	296, 501
SCIATICA.		Walrus liver	- 282
Cat (the domestic) skin	87	SEXUAL DISORDERS.	
Saliva	- 411	FUNCTIONS, TO STRENGTHEN.	
Thrush oil	- 483	Ambergris (stimulates)	23
Wax oil	- 517	Ant juice; and winged ants	- 31
SCROFULA (see also GLANDS).		Badger's testes	- 40
Blood and serum	- 62	Beaver (excites)	- 43
Boar's dung	- 145	Civet (excites)	- 83
Clam juice	- 322	Cockle	- 95
Cod-liver oil	- 100	Craw-fish	- 113
Crab, the Sea-shore	- 111	Cuttle-fish	- 114
Cuttle fish bone	- 117	Egg	136-138
Dog's milk (rickets)	- 120	Fish (stimulates)	- 156
Ear wig (joint disease)	124	Gold	- 208
Earthworm (as test)	- 535	Hart's testicle	- 231
Fat	- 365	Hedge sparrow	- 347
		Koumiss	- 252
		Lamprey (stimulates)	- 276
		Loach	- 114
		Marrow, ox (for spine)	- 299

	PAGE
SEXUAL DISORDERS,	
<i>continued.</i>	
Mullet roe -	172
Musk -	363, 364
Oyster -	374
Partridge -	337
Pheasant's dung -	341
Skink (restorative) -	330
Sheep's testes -	439
Sparrow -	347
Sperma hominis -	296
Stag's testes -	231
Swallow's nest -	479
Testicle substance	
(Didymin) -	40
Turkey -	495
Viper broth and wine	19, 509
IMPULSES, TO REGULATE AND CONTROL.	
Ambergris, diluted -	23
Fig -	289
Glow worm -	327
Pearl -	387
Spanish Fly -	178
Starfish (after abuses)	350
Testicle, animal sub- stance -	40
SHINGLES (<i>see</i> SKIN).	
SHIPWRECK, In.	
Starvation, blood for -	66
SICKNESS, to Relieve.	
Beefsteak (Sea sickness)	52
Finger nails -	149
Ingluvin (Fowl's gizzard)	
sickness of pregnancy	199
Koumiss -	252
Lentils -	132
Salt, an emetic -	422
Whiting soup -	132
SIGHT (<i>see</i> EYES).	

	PAGE
SKIN, Affections of.	
FOR GENERAL SKIN—	
Bear's liver -	432
Butter milk -	307
Cat (favus caused by) -	82
Charcoal—Animal -	88
Cod-liver oil -	100
Copperas -	526
Cuttle-fish -	115
Fish, poor, to avoid -	155
Frog broth & spawn	189, 192
Isinglass bath -	263
Ivory, powdered -	142
Kingfisher's nest -	272
Lime sulphide -	378
Lizard oyl -	329
Rabbit (nettle rash)	341
Saliva -	409
Snake's skin -	18, 23
Sulphur -	379
Viper -	18, 508
FRECKLES—	
Citrine ointment -	329
Cuttle fish -	115
ECZEMA—	
Cod-liver oil -	100
Ichthyol -	166
Isinglass to raw surfaces	262
Snail -	449
Star-fish (if ulcerated)	350
ELEPHANTIASIS—	
Blood -	69
Ichthyol -	166
Partridge broth -	337
Skink, the -	330
Viper -	17, 509
LEPROSY AND LEPROUS ERUPTIONS—	
Adder -	17
Angel, or Monk's fish -	167
Ant, Red -	14, 30
Bath waters -	397
Blood -	62
Calf gall -	53
Cockroach -	97
Copper -	527

	PAGE		PAGE
SKIN, Affections of, continued.		RINGWORM—	
Cray fish	- 113	Cuttle fish	- 116
Fish-eaters, among	155, 393	Mouse dung	- 357
Gold	- 205	Spawn of frog	- 192
Guano	- 505	SHINGLES—	
Ichthyol	- 166	Blister fly	- 178
Kingfisher	- 272	Cat's blood	- 79
Lamprey	- 277	Church bell grease	- 325
Peacock's bones	- 385	Eagle's flesh	- 82
Pepsin	- 393	Frog spawn	- 192
Pork, will cause	- 394	COSMETICS FOR FACE AND	
Skink	- 330	SKIN—	
Snake's cast-off skin	18, 28	Bull's blood	- 368
Spanish Fly	- 179	Butter	- 74
Turtle	- 499	Cow dung water	- 109
Viper	17, 508	Cuttle juice	- 115
LUPUS, ULCERATION—		Fowl's grease with	
Cod-liver oil	- 100	sulphur	- 181
Frog spawn	- 192	Frog spawn	- 192
Gold	- 209	Ivory	- 142
Spanish Fly	- 179	Lizard oil for redness	- 329
Star-fish (cancerous)	- 350	Mouse dung	- 357
MILK CRUST, OF CHILDREN—		Pearl	- 388
Egg yolk, apply	- 137	Rouge	- 92
NETTLE RASH—		Saliva	- 409
Bear, woolly	- 85	Salt	- 417
Bee sting	- 45	Snail water	- 449
Crab's eyes	- 112	SLEEP.	
Mussel	- 333	FOR SLEEPLESSNESS—	
Rabbit	- 341	Ambergris	- 23
Wasp sting	- 514	Amylene (somnam-	
PIMPLES (Acne and others)—		bulism)	- 298
Charcoal—Animal	- 88	Animal oil	- 26
Citrine ointment	- 329	Beef, raw	- 53
Copperas	- 526	Brainsubstance—Animal	69
Psoricum (Itch insect)	265	Butter milk	- 304
Saliva	- 296, 411	Camel hair	- 532
Sulphur	- 379	Coral (against dreams)	104
PSORIASIS, OR BRAWNY		Dormouse	- 358
SCURF—		Duck grease	- 326
Angel fish	- 167	Fish diet, sedative	- 158
Ant, Red	- 30	Goat's horn	- 201
Cockroach	- 97	Hagstone (prevent night-	
Cod-liver oil	- 100	mare)	- 488
Ichthyol	- 166	Hare's skin and flesh	- 223
Kingfisher	- 272	Henbane bug	- 258
Lanprey	- 277		

	PAGE		PAGE
SLEEP, continued.		Salt	425
Horse, white bones	490	Serum, antitoxic (from horse)	251
Lactate of soda, from milk	304	Snake venom (and liver and bile)	197, 457
Ladybird	274	Strychnia, inject	461
Musk	362	Swallow	480
Rabbit pie	343	Toad and stone	488
Ram's brain (for lethargy)	12, 70	Viper's venom and fat	17
Rhinoceros horn (against somnambulism)	490	Wood, Brazilian	512
Spider, Tarantula	465	SORES (see also WOUNDS).	
Sulphur	379	Ants	34
Toad, to prevent night-mare	490	Beeswax ointment	47
Urine	503	Bull's dung	368
SMALL-POX.		Charcoal—Animal	88
Gnat	327	Citrine ointment	329
Mouse, fried	357	Cockroach	97
Toad	485	Dog to lick sores	121
Urine	504	Egg oil	136
Vaccination	369, 438	Finger, the ring	148
SNAKE BITE, against, and STINGS.		Glycerine	436
Adder's fat	17	Gold	205
Ash leaf	19	Goose grease	212
Bile—Animal	196, 459	Hart's grease	231
Cow dung, fresh	110	Honey	244
Diogenes' plaster	510	Oyster, apply	231, 371
Dog's hair (for dog's bite)	119	Pigeon, to plague sore	404
Ear wax	20, 425, 462	Saliva	411
Eel's blood serum	128	Shrew mouse (for inflamed part)	361
Egg, white of	137	Silver	441
Fat of Saint Paul	21	Slugs	454
Fowl's bare skin and fundament	182	Snails and shells	444
Frog's flesh	189	Solar heat, direct	528
Gall, Ox	196	Soot	89
Herb Pangla	458	Spermaceti	519
Horse serum	251	Suet	431
Louse (fig against)	289	Sulphur	379
Menstrual flux (against snake bite)	523	Tallow	426
Milpreve	20	Toad (when cancerous)	486
Pigs proof against venom	399	Urine	501
Saliva	411	Whelp, blind	121
		SPASMS (see also CONVULSIONS).	
		Animal oil	25
		Ant juice	32

- | | PAGE | | PAGE |
|-----------------------------------|----------|---------------------------------|---------|
| SPASMS, continued. | | STYE (see EYE). | |
| Castor (Beaver) - | 42 | SWEATS, Night (see CON- | |
| Musk - | 361 | SUMPTION). | |
| SPINE, IRRITABLE (see also | | SYPHILIS, or VENEREAL | |
| LOCOMOTOR ATAXY). | | DISEASE. | |
| Cuckoo (for pains) - | 325 | Adder - | 17 |
| Marrow of ox - | 299, 367 | Antitoxic serum - | 425 |
| Touch, by hand of | | Bat's blood and bile - | 490 |
| executed criminal - | 153 | Charcoal—Animal (to | |
| SPLEEN (see also BILIOUS | | sores) - | 88 |
| DISORDERS). | | Food tainted by - | 523 |
| Goat's dung - | 145 | Gold - | 207 |
| SPRAIN. | | Magpie, sores - | 293 |
| Beaver liniment - | 43 | Partridge broth - | 337 |
| Eel skin - | 128 | Scorpion - | 490 |
| Hartshorn - | 229 | Sulphur - | 379 |
| STAGGERS OF HORSE. | | Toad - | 490 |
| Excrement, human, | | Viper broth - | 17, 508 |
| fresh - | 147 | Urethral discharge - | 510 |
| Gadfly (in sheep) - | 435 | TEETH. | |
| STONE IN BLADDER. | | TOOTHACHE, TO RELIEVE— | |
| Ant juice - | 30 | Bitch's milk (for | |
| Cock (stones in maw) - | 182 | children) - | 121 |
| Cow's urine - | 109 | Blood (of a Keogh) - | 67 |
| Crab's eyes - | 110 | Camel hair - | 532 |
| Cricket - | 259 | Coral, red (convulsions | |
| Cuckoo - | 325 | in teething) - | 105 |
| Egg shell - | 136 | Frog's liver - | 190 |
| Flint - | 475 | Gold - | 209 |
| Hare's liver - | 222 | Ladybird (in hollow | |
| Hedge sparrow - | 347 | tooth) - | 273 |
| Hoghouse - | 237 | Mole - | 354 |
| Lamprey - | 277 | Salt - | 422 |
| Snail shell - | 451 | Whelp, to help in cut- | |
| Stone (from bladder) - | 296 | ting teeth - | 121 |
| Turtle - | 498 | LOOSE TEETH, TO TIGHTEN— | |
| Urine (human and of ox) - | 501 | Coral - | 103 |
| Viper - | 18 | Gold - | 209 |
| Woodcock - | 337 | Hartshorn - | 231 |
| STONES, Precious. | | Pearl - | 387 |
| Coral, sympathy of - | 103 | Urine - | 502 |
| | | TARTAR, TO REMOVE— | |
| | | Crab, Sea shore, the - | 110 |

- | | PAGE | | PAGE |
|---|----------|--------------------------------------|-----------|
| TESTICLE, SWOLLEN, for. | | Mummy | - 297 |
| Flint | - 477 | Musk (sloughing) | - 362 |
| Gold | - 208 | Pearl | - 387 |
| Sponge (tosta) | - 477 | Pork, salt, ulcer from | - 398 |
| THIRST. | | Salt (of skin) | - 417 |
| Glycerine | - 436 | Shell lac (scrofulous) | - 94 |
| THROAT, SORE. | | Silver (of stomach) | 440, 441 |
| Amber | - 106 | Skate (of head) | - 345 |
| Bacon rind poultice | - 400 | Soot | - 89 |
| Bee sting (if swollen,
puffy and red inside) | 45 | Spider's web | - 469 |
| Cocktail | - 184 | Star-fish (of skin) | - 350 |
| Dog's turd, fresh | - 122 | Sulphur | - 379 |
| Eel (for hoarseness) | - 128 | Sunshine, direct | - 528 |
| Egg, to swallow raw | - 138 | Toad | - 484 |
| Glycerine | - 436 | Viper | - 17, 508 |
| Hoglouse | - 240 | | |
| Honey | - 245 | URINE, Disorders of (see also | |
| Ox gall (tonsils large) | - 196 | KIDNEYS). | |
| Silver | - 440 | FOR INCONTINENCE OF | |
| Snail (uvula swollen) | 445, 450 | URINE— | |
| Snake venom (nervous) | 456 | Ergot of rye (from | |
| Spermaceti | - 519 | paralysis) | - 518 |
| Sponge, burnt (sore
windpipe) | - 473 | Goat's bladder | - 201 |
| THRUSH OF MOUTH. | | Hare's brain | - 224 |
| Honey | - 245 | Hedgehog (against bed-
wetting) | - 235 |
| TUMOURS (see also GLANDS). | | Mouse, roasted | - 357 |
| Flint | - 475 | Pig's pizzle | - 397 |
| Oyster shell (fibroid) | - 376 | Sheep's bladder | - 427 |
| ULCERS, to Heal. | | Toad (against bed-
wetting) | - 484 |
| Adder | - 17 | Wax oil | - 517 |
| Charcoal—Animal | - 88 | TO PROMOTE FLOW OF— | |
| Copper | - 527 | Ant | - 31 |
| Flint | - 475 | Bee tea and tincture | 46, 47 |
| Formic acid (of ants) | - 33 | Blister-fly (strangury) | - 177 |
| Gold | - 205 | Boar's bladder (in
strangury) | - 396 |
| Herring pickle | - 168 | Butterflies | - 355 |
| Hoglouse | - 237 | Cochineal (urinary colic) | 93 |
| Juniper bark | - 301 | Cockle | - 94 |
| Milk (of stomach) | - 308 | Cricket | - 259 |
| | | Cuttle eggs | - 115 |
| | | Earthworm | - 534 |
| | | Egg shell | - 135 |
| | | Ergot of rye (in
paralysis) | - 518 |

	PAGE		PAGE
URINE, continued.		YEINS, Congestion of.	
Goat's bladder -	201	Cuttle fish -	115
Goose dung -	212	Hedge sparrow -	347
Hare's brain -	225	VENEREAL DISEASE (<i>see</i>	
Hedgehog -	235	 SYPHILIS.	
Hoglouse -	239	WARTS, to Dispel.	
Louse -	289	Ant juice -	30
Mouse -	357	Cat's tail -	80
Oil, Beetle -	55	Eel's blood -	128
Pig's pizzle, bladder, and		Gold -	210
urine -	397	Horsehair -	249
Prostatic gland substance		Larded skin -	401
(for old men) -	29	Meat from butcher's stall -	52
Sheep's bladder -	427	Mouse dung -	357
Toad -	484	Saliva -	412
Viper broth (in urethral		Silver -	440
discharges) -	17	Snail -	447, 452
Wax oil -	517	Sulphur -	380
AGAINST GRAVEL—		Wool and urine -	530
Ant -	31	WATER ON THE BRAIN.	
Cow's urine -	109	Bee sting -	45
Crab's eyes -	110	Blister fly -	178
Cuttle fish -	116	Wasp sting -	514
Egg yolk, abstain from -	133	WEN, to Disperse.	
Perch stone -	173	Horse hair -	249
Snail shell -	449	Touch, by hand of ex-	
Turtle -	498	cuted criminal -	153
Urine, gritty sediment		WHITES, from Womb.	
of ox -	368	Charcoal—Animal -	88
Urine of horse -	248	Cuttle fish juice -	115
Viper -	17	Egg shell -	138
IN ALBUMINURIA AND		Frog spawn -	192
 BRIGHT'S DISEASE—		WHITLOW.	
Blister fly tincture -	178	Flint -	475
Cochineal -	93	Fox's tooth (amulet) -	187
Cockroach -	97	Snail -	454
Copper -	528	WHOOPIING COUGH.	
Egg, white of (and will		Amber, in "Roach" -	107
cause) -	133, 503	Ass and milk -	35
Flint -	475	Bear, ride on -	318
Kidney substance—		Beetle, Donegal -	57
Animal -	269	Caterpillar (hairy) -	86
Milk -	308	Chatham fish (blood of) -	160
Salt -	413		
Urine -	503		
Whey (when chronic) -	317		

	PAGE		PAGE
WHOOPING COUGH, contd.		Sugar (to determine sex	
Cochineal -	93	of offspring) -	247
Coral, red -	8, 104	Toad (flooding) -	484
Cuckoo spittle -	326	Whelk -	521
Dab -	160	WORMS, to Expel.	
Devil's thumb -	451	Animal oil (tapeworm) -	25
Dog, transferred to -	118	Earthworms (in children) -	533
Fox's milk -	187	Ox gall (round worms) -	196
Horse, piebald -	248	Salt -	422
Mouse -	356	Serum of blood -	63
Musk -	362	WOUNDS & SORES, to Heal.	
Owl broth -	335	Animal oil (gangrenous) -	25
Sheep flock -	431	Balsam of ox gall -	195
Spider, house -	469	Beeswax ointment -	47
Sugar candy -	248	Butter, boiled -	77
Toad in mouth -	487	Copper -	527
WIND, Direction of, to show.		Cow dung plaster -	108
Kingfisher -	271	Dog to lick -	121
WITCH, "to bring in."		Earthworm (wound of	
Urine -	504	sinews) -	535
WOMB, Disorders of.		Egg oil -	136
Badger (for conception) -	40	Finger, the ring -	148
Bee sting (ovarian		Honey -	243
tumours) -	47	Isinglass plaster -	262
Bug -	72	Juniper bark -	301
Charcoal—Animal -	88	Pike cured by tench -	171
Civet (for barrenness) -	83	Saliva -	411
Cows (by Buprestis		Skink (poisoned wounds) -	330
beetle) -	56	Silver -	441
Cuttle fish (with con-		Slug, slime of -	454
gestion of ovaries) -	115	Snipe, a good surgeon -	346
Gall, ox (indurations) -	196	Spermaceti -	519
Gold (cancer) -	207	Sun, direct rays of -	529
Hare heels -	224	Urine -	501
Hartshorn -	231	Veal -	53
Loach (makes prolific) -	114	Yarrow and goose turd -	213
Silver, irritable -	440	Wax, oil of -	517

[CONCERNING the *animal excrements* named above as former medicinal Simples, these, unless recent, and quickly dried, would undergo rapid fermentation, whilst giving off fetid smells in the presence of air and moisture: compounds of ammonia, phosphorus, and sulphuretted hydrogen, would be then evolved. But it is to be noted that no noxious excrement, such as human ordure produces, is contained in the droppings of herbivorous animals. A substance of the same nature is found, together with an acid of butter, in those of carnivorous mammals. Man discharges from the kidneys much of the phosphorus taken in his food: not so the cow, the horse, and the sheep, which reject this phosphorus in their solid droppings.]

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