

action of the gastric juice) as the flesh of the salmon, the mackerel and the herring. The short fibre of the whiting, "the chicken of the sea," makes this fish especially digestible. Then come the flat-fishes, the haddock and the cod. They all are best boiled, for, if fried, care is requisite that the flesh be not soaked in fat—when it is highly indigestible. There are few more indigestible matters than a fried sole which has not been skillfully cooked. And the same holds good of birds. Chicken and game are digestible, while the duck and goose, greasy-fibred meats, are as certainly indigestible.

Potatoes have an evil reputation, but that again is largely a matter of cooking. A potato which is imperfectly cooked has a hard centre. A "stone" an Irishman calls it—and if palpable pieces of such hard indigestible matter be swallowed gastric distress is the intelligible result. But if the potato be well cooked and put through a sieve it ceases to be indigestible from "the mechanical point of view." It is the question of disintegration which militates against vegetables, and cooked fruit. Pieces of hard apple will sit lightly on the most irritable stomach. The flesh of the grape is in great repute in all conditions of gastric irritability and debility, whether primary or secondary, to some general sickness.

Fat is an offence to a susceptible stomach, even as liquid fat floating about in it; but still more as lumps of fat upon which the stomach can exercise no solvent influence. Hence many persons, children and adults, reject sweet pieces of fat, and (after the meal) take some fishy oil. As the digestion of fat does not commence till the food has left the stomach, it is not well to give fat till its "time draws nigh." Thin stale bread with butter rubbed well in and doubled is much more digestible than the same bread cut thick with a stout layer of butter plastered over it.

Pastry, when fat and flour are well rubbed together, form a most indigestible compound, resisting all disintegration except mastication. Suet puddings also are indigestible.

On the other hand, milk puddings, especially of made without an egg, are in repute, and not without reason, for dyspeptics. They are light and sit easily on the stomach, the farinaceous matter being readily disintegrated, and what escapes disintegration is soft and does not give offence to the stomach.

There is another matter not of accult, but of microscopic disintegration, or actual solution which has yet to be discussed—a matter of vital importance. As savage man sat grinding the cereals which form so large a factor in human food, the action of the jaws produced a free flow of saliva, and as fast as the finer particles were broken off the seed, by the crunching of the teeth, diastase of the saliva converted the insoluble starch into the soluble dextrine and grape-sugar. The toil of the miller produces disintegration and relieves the jaws of much of the labor. But disintegration

is only the precursor of solution. The starch granule remains. By heat the cook cracks the starch granule so that the solvent diastase can readily act upon it. So far, so good; but heat does something more. It has an actual solvent action, and heat will, if sufficient, cause conversion of starch into dextrine. A thoroughly well baked flour if subjected to the iodine test under a microscope will readily show this.

When a large quantity of raw unconverted starch enters the stomach it is a burthen to that viscus. The gastric juice has no effect upon starch, and the starch granules merely embarrass, the action of the stomach until they find their way out of it by the pyloric ring—and sometimes by the way they entered, viz., the gullet. Undigested starch hampers the stomach and makes the labor of that viscus a painful toil to it. New bread is a gross mechanical irritant, resisting disintegration. The impediment caused by isolated but numerous starch-granules is another matter. Biscuits and crackers, if insufficiently masticated, cause indigestion. So do cakes which have not long been exposed to heat. The cakes which are held in such favor by the breakfast table in American households have been regarded as indigestible, and a glance at an American cooking book explains why. These cakes are exposed to heat for from thirty to forty minutes only. [The language of England sometimes requires translation. For cakes read rolls, and for biscuit read cracker.—ED.] A good biscuit or loaf is much longer in the oven. Potatoes are indigestible as ordinarily eaten, because they are not long exposed to heat. But if well mashed potatoes be put into the oven to brown, or be placed before the fire for that purpose, the longer exposure to heat tells upon the starch-conversion.

Hominy that is well-boiled or subjected to the final heating process of cooking is decidedly digestible. Cereals that have been steam-cooked are in repute with dyspeptics either for adding to meat teas, or for preparing milk-puddings. Some cooks who have to cater for dyspeptics boil all their rice, sago, and tapioca thoroughly before making these up with milk for a milk-pudding. In Germany pearl-barley thoroughly well boiled and passed through a sieve is in request as an addition to meat teas for invalids. The porridge of Scotland, being made with coarse oatmeal, is boiled a long time, while in England a short boil is enough with the fine ground oatmeal in vogue there.

The advantage of the numerous prepared foods—whether babies' food or invalids' foods—which are all more or less compounds of starch which has been to a certain extent predigested either by baking or the malting process, lies in their ready digestibility. A touch of saliva is enough to complete the conversion of such carbo-hydrates, and the soluble matters pass out of the alimentary canal, and the stomach is not burdened with a weight of undigested starch impeding its work.

Gross and fine disintegration of food are cardinal matters in the dietary of dyspeptics.