2nd. Dyspepsia from irritative causes. The tongue is redder than usual; often of a bright florid color, or even raw-looking. It is often pointed at the tip, which, together with the sides, presents an extreme of injection, the papillæ standing out as vivid red points. This form is often associated with apthæ, and is most common in scrofulous children and phthisical adults.

3rd. Dyspepsia, from excessive or hurried eating, is apt to present a tongue uniformly covered through the greater part of its surface with a thick fir, whitish or brownish, with some degree of enlargement and redness of the papillæ at the tip and edges.

4th. Neuroses of the stomach display a tongue which, as a rule, is clean, though often pale, broad and flabby.—*Lancet.*

A NEW THERAPEUTIC AGENT.

A new method of treating cancerous growths, tumors, etc., consists in subjecting the parts to a stream of hot, dry air. This is proposed and has been successfully applied by Dr. G. A. Keyworth, of England. By means of a foot bellows he caused air to pass through a glass vessel containing calcic chloride, then through a heated iron tube, and thence directed the hot, dry air against the surface of a cancerous sore. The treatment was continued for an hour, the effect being to relieve the pain and cause the parts heated to shrink and dry up very considerably. It is believed that this new method will prove valuable when proper appliances are employed to maintain and disect the supply of air.

Milling.

CLEANING AND PREPARING WHEAT FOR GRINDING.

The cleaning of wheat preparatory to its reduction to flour is a matter of prime importance to the miller, as upon its condition when passed to the burrs, depends the quality of the flour product.

The impurities, which it is not only desirable, but essentially requisite to remove, may be divided into two classes, viz.: First, those that are mixed with, but form no part of the berry; and, second, those that adhere to and are an integral portion thereof.

The first class embraces all extraneous substances, straws, sticks, stones, other grains, seeds, dust, etc., and numerous devices for facilitating the operation of separation are offered the miller.

Little, if any, trouble is experienced in removing impurities larger or smaller in size, or of greater or less specific gravity than the wheat berry, but the complete separation of garlic (*allium sativum*) and cockle seed (*agrostemma githago*) has, under many circumstances, proved difficult of accomplishment, and, in many American mills all effort to eradicate these seeds has been abandoned.

Cockle, when ground with the wheat, imparts to the flour a bluish cast and a slightly bitter taste. Garlic imparts a pungent aroma, readily discernible before baking by a person with sensitive olfactory nerves, and obnoxiously apparent when the bread is taken from the oven, or during the process of mastication. Of course the presence of these foreign ingredients detracts from the market value of the flour, lessens the margin of profit if merchant milling is carried on, and detracts from the reputation of the custom miller; hence it is highly desirable that such deleterious substances should be thoroughly separated from the wheat before reduction.

The separation of the second class of impurities involves the necessity for nicer manipulation, and concerning it many theories and various practices are advocated and adopted.

Every miller admits the importance of removing the furze and chit from the berry, but how best to accomplish it without breaking the bran, is a question that has many answers, and each answer many upholders.

The old-fashioned beater principle has been very generally discarded as too harsh in action, with too strong tendencies to break the berry or the bran.

We hear many millers speak enthusiastically of the advantages to be derived by the "action of wheat upon wheat," but as yet we have no knowledge of any device where this much-lauded principle has been successfully elaborated, nor have we faith to believe that its action would attain all desirable results. That it would effectually remove the furze from the ends and exposed surfaces of the berry can hardly be doubted, but that any action would be had upon or in the crease of the berry is questionable.

In England the practice of "washing" the wheat obtains to some extent, but for reasons which should be obvious we cannot approve of it. If the wheat is sound, it can do it no good to soak it in water, and if unsound and imperfect, it must be evident that its capacity for absorbing impurities, which by the action of water may to some extent become dissolved, is greatly increased.

In Austro-Hungary decorticating by chemical process has been attempted upon limited quantities of wheat with very satisfactory results. The following is the *modus operandi:* In fifteen lbs. of English sulphuric acid one hundred pounds of wheat are allowed to stand from fifteen to twenty minutes; it is then removed and thoroughly washed in fifty pounds of pure water; it is then subjected to a second bath in water, in which a little soda has been dissolved, after which it is carefully spread out upon linen cloths to dry.

By this method wheat (with the exception of the crease) has been very nicely decorticated, but as its adoption would necessitate the erection of large dry-rooms, and as the process is necessarily slow and expensive, it can hardly be called practicable.

The ending-stone is quite extensively used in Austro-Hungary, and its use is classed by some as among the reducing operations, but by others, and we think properly, as among the cleaning processes, as by its use only the fibrous portion of the berry is removed. They are usually constructed of sandstone, and are set sufficiently far apart to allow the wheat to roll over in such manner that the end of the berry is brought into contact with the stone, by which it is denuded of the furze and a portion of the chit. Some millers of that country combine ending with the first reduction, but this practice is not adapted to present American systems of milling, as the first flour thus obtained is of too low a grade to be saleable in our markets.

The ending-stone, like every other device employed to clean grain, has its staunch supporters, and as staunch opponents, and while both sides can probably adduce plausible reasons for the positions they assume, it is barely possible that one may overestimate and the other underrate the advantages of this process of grain cleaning.

One writer advocates their use "down even to the exclusion of the germ." Another says in his "opinion the action of the ending-stone is even more detrimental than any 'beater' ever made." Without advocating or condemning their use, as American millers will undoubtedly satisfy themselves by practical tests of the benefit or damage to be derived from their employment, we would suggest that those who are in favor of their adoption state specifically why they do so, and those opposed do the same.

Ending-stones have been, as is well known, in use for a long series of years for hulling oats and buckwheat in this country, and the fact that for many years past, and even at the present day, they are in use in a number of the best mills in Austro-Hungary for the purpose of cleaning wheat, indicates that some of those who uphold their employment have substantial reasons for so doing.

The favorite cleaning machines of to-day in the United States are probably those denominated brush machines, and large numbers of them are annually exported to Great Britain and Ireland and the continent, indicating that they possess some one or more valuable features not obtainable in other classes of cleaning machinery, which meet the wants of many millers. In this country they sometimes follow the Smutter, and sometimes are used exclusively.

Many forms of brush, casing, and operation have been devised, but all are provided with a suction fan, which draws away from the grain the impurities as rapidly as they become detached by the action of the brush.

The action of the brush is not harsh, and as the machines are usually adjustable, so that the amount of brushing to which the wheat shall be subjected can be regulated at will, their use would appear to be both beneficial and desirable for some portions of the cleaning operation, and especially as the crease of the berry is by this process more apt to be acted upon than by any other with which we are at present acquainted. It is questionable, however, whether by the employment of the brush alone, satisfactory results will be obtained upon all varieties of wheat. Zealous advocates of the brush recommend that two, three, or even more of them be employed, and that the wheat be passed from one to the other until thoroughly cleansed or "scoured;" but we are of opinion that it will be beneficial to use the Smutter upon some of the harder varieties of wheat, as the operation of cleaning will be greatly facilitated without detriment to the bran.—*The Milling World.*