

character may and often do occur in meats, milk, oysters, lobsters, crabs, and other moist albuminous foods. When these changes have gone so far that we are able to recognise them by bad-smelling gases, changes in colour, consistency or reaction, then the danger is not so great, for well-disposed persons know from experience that such foods are unwholesome and cannot be eaten without danger, although it not infrequently happens that they are prepared for the table by the ignorant cook.

The danger lies not only here but in the fact that without extraordinary care, undesirable changes may begin at once in all of these foods, and that in the hands of the average worker they must often contain poisonous matter in small quantities *which may not be destroyed by any method of cooking*, and that foods of such a nature tend to depress the powers of the body, and if eaten for a length of time may so disturb the economy of the system, either by direct absorption into the circulation or by causing digestive disturbances, as to give rise to actual conditions of sickness, or to put the body in such a state of non-resistance to pathogenic organisms that disease easily gains a foothold. In addition to this, in cases where actual *poisonous* matter is not produced, fermentative changes may take place which destroy desirable nutritive and savoury qualities in food. Changes of the last two kinds are the most to be dreaded because of their subtle nature and the difficulty of recognising them, therefore the ordinary worker should be taught by some one who does understand, the means of preventing dangerous changes, and the methods by which food may at all times be kept in a wholesome state.

An article recently published by Dr. Cyrus Edson, on "Some Sanitary Aspects of Bread-making," is in the line of this point. He says: "I have not the slightest cause to doubt that diseases have been and will be carried about in bread. I have seen journeymen bakers suffering from cutaneous diseases, working the dough in the bread trough with naked hands and arms. This is an exceedingly objectionable thing, from the standpoint of a physician, for these reasons: while it needs no medical knowledge to cause a person to object to having the bread he eats kneaded by a baker having cutaneous eruptions on his arms or hands, it does need this knowledge to understand that the germs of disease which are in the air, in dust, on stairways, and straps in street-cars, are most often collected on the hands. Any person who has ever kneaded dough understands the way in which the dough cleans the hands. In other words, this means that any germs which may have found a lodging-place on the hands of the baker before he makes up his batch of bread are sure to be in the dough, where they find all the conditions necessary for subdivision and growth. This is equivalent to saying that we must depend upon heat to kill these germs, since they are sure to be in the bread." He then adds: "I have not the slightest doubt that, could we trace back some of the cases of illness which we meet in our practice, we would find that germs collected by the baker had found their way into yeast-bread, that the heat had not been sufficient to destroy them, and that the under-cooked bread had been eaten with its colonies of germs, the call for the physician rounding off the sequence of events."

Whether this will bear scientific investigation remains to be seen, since bread is generally subjected to a high temperature in cooking; but whether it will or not, it is a valuable suggestion, as indicating a long line of possibilities in other kinds of food which are not subjected to so high temperature as that usually given to bread.

In addition to this there is always the possibility of getting into the system, through the medium of food (which includes water), the organisms of the various contagious and infectious diseases, such as tuberculosis—the organisms of which may exist in the air, be blown about with dust and settle upon fruits, food and dishes—typhoid fever, diphtheria, cholera, etc.

A purveyor, housekeeper, superintendent or other person whose duty it is to look after the affairs of a hospital kitchen should be able to recognise all of these points. Of much importance in hospitals is a supply of unquestionably good milk, which should be stored in sterilized vessels, in a clean, well-aired refrigerator. It should be frequently tested for fat, reaction and specific gravity, and in cases of epidemics, or when for any reason it is not above suspicion, it should be taken to a reliable chemist for analysis, or sterilized. A purveyor should be able to intelligently determine the quality of bread, to prevent the use of alum and alum baking powders in it, as also the use of stale eggs, decaying butter commonly called rancid, and carbonate of ammonia in cake; and he should be able to do for every other form of food what he does for milk and bread, that is, have an intelligent understanding of the nature of foods, and know the means by which they may be kept in the most wholesome condition. The question is here naturally suggested, where can be found a person for such a position who knows enough of chemistry and bacteriology to appreciate these things? My reply is, create the demand and the supply will be forthcoming.

Twenty years ago, when an Eastern State decided to have drawing taught in its public schools, the commissioners were obliged to send to England for teachers. Immediately, as soon as the demand was apparent, young men and women in this country began to study the subject, and in five years we had enough teachers of our own. Create the demand and the question of supply is only a matter of time.

I might mention here that which scarcely needs to be said, that is, that the demand must come from the trustees and officers of institutions, otherwise there will be no change, no progress. The servant of himself will not change. We cannot look to him to do so. He never elevates himself, no matter what stress of need or coercion may be brought to bear upon him. He cannot, without opportunity, encouragement, instruction, none of which are at present accorded him. He often struggles to do so, but it is ever a struggle in the dark, and usually ends in perplexity. As for the patient, his voice is not heard in such matters, except in those hospitals fortunate enough to have paying patients whose presence and criticisms are a stimulus to all.

Good, that is, wholesome quality, proper care of food materials and the most scrupulous neatness of workers, working-rooms and utensils, are the primary essentials for any good system of dietaries.

(To be continued.)

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