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Communications solicited on all Medical and Scientific subjects, and also Reports of Cases occurring in practice. Address, DR. J. L. DAVISON, 12 Charles St., Toronto.

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THE VALUE OF BEEF TEA AS A NUTRIENT.

In our last issue we referred to this matter and proposed to show that as a *food*, beef-tea is practically useless. In the manufacture of this article various methods are adopted, with a view to obtain the best results. Thus the amount of heat applied may be sufficient to coagulate albumen, or it may be less than that amount; or again cold water may be used to macerate the flesh. When cold water is used a larger percentage of juice is obtained, than when heat is applied, about six parts per hundred being the result from the former, and three in the latter process.

In some manufactories the whole body of the meat is macerated and strained, any portion not small enough to pass through the colander being again divided until all passes into the so-called extract. An analysis of such a preparation, when one pound of beef was used to four pints of water, gave the following results: water, 94.65 parts; albuminates and crystalline bodies, kreatin, etc., 4.25 parts; fat, 0.20 parts; salts, 0.90 parts. This compound must be of greatly more value than the ordinary beef tea, for the whole body of the meat is incorporated in it, but the difficulty is, that where solid food is not permissible it should not be allowed. In a sample made with *two pounds* of meat to *two pints* of water, macerated for four hours and subsequently simmered for six hours, the analysis show-

ed as follows: water, 98.48 parts; albuminates, and crystalline bodies, kreatin, etc., 0.90 parts; fats, 0.07; salts, 0.55 parts. In this case the compound was strained but the solid meat *débris* was not put in.

By a comparison of these two analyses it will readily be seen, how little value is to be placed upon either beef-extract or home-made beef tea when the solid parts of the meat are excluded. Dr. Hassal's experiments made long ago showed that, under the most favorable conditions, at least 14½ lbs. of meat would be required to yield enough nitrogenous material to supply the daily waste of one individual. This being the case we can see what poor results must the from the imbibition of the beef tea made from a "whole pound of beef-steak." It has been shown that Liebig's extract is valueless as a *food* by the fact that dogs fed on it died sooner than when left unfed, other conditions being the same in the two series of animals. Indle Liebig does not claim that his extract is a food at all. He states that "the greatest care is taken to exclude from his extract all fibrin, gelatine, albumen, and fat," and adds, "that its component parts do not give strength where there is none, and that to extractives and salts is due all the value it possesses; that it is to be classed with tea and coffee; and that it neither economizes carbon for our temperature, nor nitrogen for the sustenance of our tissues." He also states the only difference between ordinary beef tea and the extract is that the latter contains less water than the former.

These are facts which properly understood will prevent the exhibition of beef-tea, when *food* is necessary. If a *stimulant* only is required then beef tea has a rôle to play, as also it may have as a flavorer of other foods. But to give a patient, starving for nitrogenous compounds, beef tea or beef extract prepared in anyway whatever, is to give him a stone when he demands bread.

It might not be uninteresting here to note that the quality of meat used in the preparation of the various extracts is not all it might be, the enormous horns of the Texas steers shown in the engravings on the packages of beef tea notwithstanding. In a recent number of the *Edinburg Scotsman* it is stated that a seizure of diseased horses was recently made by Inspector Aplin at Newcastle-on-Tyne. The animals which were in the last