

great extent, upon the character of the antiseptic employed, and upon its chemical action upon the pulp apart from its antiseptic action.

The qualities desirable appear to me to be :

1. It must be a strong antiseptic.
2. It must be sufficiently soluble and diffusible to guarantee the impregnation of the whole pulp.

3. It must not be so diffusible that it will be completely taken up by the surrounding tissue and finally disappear altogether, as is the case with applications of carbolic acid. It is my impression that there is greater danger in too great solubility than in insolubility.

4. A coagulating action upon the tissue of the pulp appears desirable, though not absolutely essential. A pulp which is coagulated into a hard, insoluble body, is less likely to furnish nourishment for bacteria and offer irritation to the periapical tissue than one in a soft or semi-liquid condition. One cause of the failure of Baume's borax treatment is probably the conversion of the pulp into a liquid, or semi-liquid, soapy mass, with a strong alkaline smell and reaction, which can hardly be indifferent to the tissue about the apical foramen.

5. It is desirable that the substance employed have no irritating action upon the pericementum.

6. It should not discolor the tooth, although, as the treatment concerns chiefly molars, a slight discoloration need not be considered as a very serious matter.

7. Solid substances are better adapted to the purpose than liquids.

It is difficult to find a substance which fulfils all the above-mentioned conditions.

According to the results obtained from over five hundred experiments, I have divided dental antiseptics into three groups :

1. Those possessing in a high degree the power of imparting antiseptic qualities to root-pulps, such as cyanide of mercury, bichlorid of mercury, diaphtherin, sulphate of copper, salicylate of mercury, oil of cinnamon, ortho-kresol, carbolic acid, trichlor-phenol, chlorid of zinc. The last four are, however, decidedly inferior to the others ; they penetrate the pulp very rapidly, chlorid of zinc surprisingly so, but they are lacking in the necessary powerful antiseptic qualities, and are so diffusible that in the course of a few weeks they disappear altogether from the pulp.

2. Those of doubtful value : Thymol, salicylic acid, eugenol, campho-phenique, hydronaphthol, A and B naphthol, aceticotartarate of aluminum and some essential oils, resorcin, thallin, sulpho-carbolate of zinc, oil of birch, iodid of sodium, nitrate of sodium, etc.