

the first stage of dental caries, viz., the decalcification of the enamel and the dentine, and I believe that in this stage we have by far the most important one in the whole process.

There is apparently during the process of decalcification a distinct reaction on the part of the dentine, or rather on the part of the fibrils of the odontoblasts. This is shown by the formation of a more transparent, more homogeneous and apparently more resistant layer of dentine just beyond the area of decalcification, but once decalcification takes place all resistance as far as the dentine itself is concerned ceases, and it behaves like any other dead proteid material in undergoing dissolution more or less rapid, depending upon the bacteria which have infected it. Decalcification having taken place, the destruction of the proteid part of the dentine must necessarily follow.

It will be seen then from this that the all important factor in dental caries is the fermentation of carbohydrates in the mouth, and in lessening that fermentation and preventing the products of fermentation from acting upon the teeth we have the all important factor in the prophylaxis of dental caries.

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### COMBINATION FILLINGS.\*

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By DR. MOYER, Galt, Ont.

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Yes, I believe in combination fillings, where they can be properly used, where there is room or sufficient depth of cavity for such a filling.

Combinations with gold are: Cohesive foil with non-cohesive gold foil, 1 to 2, the non-cohesive folded within the cohesive. Utility: Thermal changes not so severe, packs more readily, makes a solidier filling, with stronger and better margins than either form alone.

*Gold with Tin.*—The only filling that may probably exclude bacteria. Use indicated in deep cavities in posterior teeth, where the dentine is of low grade. If gold alone be used the tooth may not be preserved. Tin, being softer, is more easily adapted to the walls of the cavity, especially at the cervical margin. Gold may then be added, or gold and tin in alternate layers. Utility: Better adaptation, and moisture in soft dentine oxidizes the metal and the stannic oxide fills the tubuli, and covers the surface of the dentine with an insoluble lining, and decay is impossible; more economical.

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\*Read at eighth annual meeting of Ontario Dental Society, Toronto, Ont., 1896.