

Chicago, Ill., Dec. 31, 1909.

COMPLIMENTS OF
FREDERICK S. MCKAY, D. B. S.

Drs. F. S. McKay and Isaac Burton,
Colorado Springs, Colo.

Dear Doctors:-

I am sending enclosed with this an account of further studies I have made of mottled teeth since sending the report to you some time ago. I am also sending under separate cover lantern slides covering most of the work done to date. I do this, not only that you may be fully posted regarding this part of the work to date, but also that you may have the means of fully illustrating it in your local Society work at home or elsewhere.

I think that when you have read what I have written regarding the solubility of the brown stain, you will be interested in that phase of the question, and among you I should expect that you would find some teeth which you could legitimately send me for further studies of that feature.

After a careful consideration of the matter, I am inclined to the opinion that the histological phenomena have been fairly developed in what has now been done, yet some further material for that work seems desirable for confirmatory work.

P.S. Jan. 17, 1910.

I am very sorry that the sending of the lantern slides and this copy has been so long delayed, but I have been at home ill for practically a week, and came down now on purpose to get this

out of my system and into yours. The delay has been caused by the difficulty of getting two lantern slides, and now they are not quite as I should like them, but they will do effective service with a good light, and are very good as pictures in the hand.

Dr. Slocum wrote me that he had a gentleman visiting him, a physician, who had become interested in this matter, and probably it would be well for both he and Dr. Slocum to see these additional photographs on the subject of the brown stain, and the text also which I give you. I am sending two copies of this in order that you may each have one. I suppose that a copy of this later work will not be necessary to the committee of citizens, though there is no objection to their having copies if you think they should. I note today that there is one page less, so that the first page is (2) instead of (1).

Hoping this will arrive in time for your meeting, of which you spoke in your last letter to me, I am,

Very truly,

G.V.B. Black

G.V.B.

Lantern Slides sent by express today.

The lantern slides I am sending are divided into three groups, as follows:-

FIRST GROUP

185.1-----1,2,3,4,5 - 7,8 = 7

These are duplicates of the photographs by reflected light of the teeth cut centrally, showing the whitened areas of enamel, which I had with me last summer. *This picture is a little too dark for the best effect.* ^

SECOND GROUP - Photomicrographs

185.2-----1

White enamel in which the open spaces between the enamel rods are shown. This I had with me last summer. *This copy is a little too dark for the best effect.* ^ The rest are newly made since I came home.

185.2-----5

Brown enamel showing the coloring matter deposited between the enamel rods. *also a little dark* ^ The difference between this and 185.2-----1, you will find very striking.

185.2-----8

Floating Enamel Rods. You will remember that I spoke of the enamel rods getting away and floating in the balsam after mounting the first sections I made. This slide is a photomicrograph of some groups of these floating rods.

185.2-----9

A photomicrograph of the nearest normal enamel I have been able to find in the sections I have made from these teeth.

THIRD GROUP

185.3-----1

Distribution of the brown stain in the enamel tissue.

185.3-----2

The same from a portion of Number (1) made with a higher power.

185.3-----3 & 4

Shellac infiltration of white enamel.

185.3-----6

Infiltration of shellac, stained with Gentian violet, into the white portion of the enamel, while the normal, or nearly normal, portion resists the infiltration.

All of the slides of the second and third group are fully described in the additional text which I send, but I thought this brief list might be useful to you.

An Explanation.

The numbers of the slides I send you are the same as I place on the duplicate slides in my case. You will notice that it is a decimal numbering. That is, the whole number, as 185, represents a class. 185.1, 185.2, 185.3, etc., represent divisions of that class. The numbers on the righthand corners represent the individual slides in each of these divisions. In this way I am able to place new slides in any division of any class without disturbing the system in any degree. Of course you may change the numbering any time you may see fit.

My slides have become so numerous that I have been literally compelled to adopt such a system to be able to keep them in any reasonable order, or to return them to the case easily. 185 appears on the drawer front; when I find that on the guide card, I easily find any individual slide, or the place for it if returning them to the case.

Descriptions of Lantern Slides sent in this package.

Of these, those bearing the case number 185.1 are those shown while I was in Colorado Springs. There were eight of these, but I have placed but seven of them in the package because one of them seemed to me to be of no real value. They are photographs by reflected light from teeth split centrally, and the surfaces polished. They show the areas of white and brown enamel in its extension into the substance of the enamel. For the most part each of the two halves of the tooth are shown together in one slide. I had several pieces that had no mate, and these stand alone in the picture.

You will remember that I spoke of the case in which the enamel rods scattered in the balsam after I had mounted a section; slide 185.2-----8 is made from a group of these scattered enamel rods.

Other slides in the package will be described as I go on with the account of what I have done since I wrote the report which I sent you some time ago.