

Colorado Springs
July 31/1910

Dr. G. V. Black
Chicago Ill.

Dear Doctor Black -

I received your letter saying that you could not come to Drum, just a day or two before the meeting, and was disappointed, as I had hoped to see you again this summer & compare notes.

I tried to get in touch with Dr. Koch in Drum but couldn't locate him. He evidently left Drum before the meeting was over & came to Colorado Springs. I was very sorry to have missed meeting him & showing him some of the mottled enamel.

There were several men whom I wanted to see in Drum regarding this condition but none of them were there except J. Leon Williams, of whom more anon.

I had a very typical case there during one of the clinic days, that was grown in Cripple Creek and we had some very interesting discussions.

We had some of the "big ones" looking it over & it was
fun to take the wind out of their sails.

Dr. Brophy had said some few things regarding
the condition before he had seen it, but when he
saw it he was a good deal like a little boy I heard
of "who didn't have a word to say". He merely looked
at it & went away.

He also had kick on it & he expounded very learnedly
about carbohydrate mouths & other salivary conditions
which are very interesting in their place but which
have about as much to do with our condition as
"Bath House John" has with a Methodist Sunday
School Picnic.

Thick's visit was quite brief owing I suppose to some
pressing engagement elsewhere, & he shed no light
on the situation.

The star performance however was with one
Meyer L. Rhein of New York who started in in his
cock sure fashion to tell us all about it &
he & I had it hot & heavy for about half an hour
much to the edification of some of the Spring boys
such as Gibson & J. Allen Smith who were standing
about the chair.

Rhino's first break was that he observed the same condition in New York very frequently & that it was not at all new to him. Also that it could be removed by prophylactic treatment

The discussion went on until he commenced talking about "the nutritional circulation within the cementing substance". He took me up on the statement that the enamel is put into the mouth a completed structure & never undergoes any change which I said was my understanding of your view on enamel. He said that you did not teach this & I said I was going to find out direct from you. He agreed that the enamel rods did not change but maintained that the cement substance did undergo a constant change.

These are only samples of the "tommy rot" that he spouted there and it certainly was the most brilliant example of "hot air" that I have listened to for a long time.

He was attempting to argue a subject the fundamentals of which he knew nothing.

With J. Leon Williams however I had a very different experience; Dr. Chambers & I took the patient

to Dr. Williams hotel & we had a very interesting chat with him for an hour or so. His grasp of the situation was very complete because of his having gone over it with you in Philadelphia. The tendency though even in his case was to get back into embryology which I cannot see the usefulness of. This was however during the early part of our talk & before some of the points had been brought out.

In the main he upheld all of our ideas in regard to the matter which was very gratifying to me & so coming right from him that same morning I was loaded for Rhein.

He suggested our importing some water for some test children & not allowing them to have a bit of our own water during enamel formation. This might be a difficult thing to do.

I have recently seen a case grown in Wabersburg, some 60 miles south of Pueblo which was very typical & was told that it was very common there: almost universal. This is a no potato country.

The last work I did just before the school closed was at Eastonville which is a town that you

visited on an auto trip with Dr. Burton. I haven't the cards here just now so I can't give you the exact figures but in the school of about 25 children of whom a large number were natives I failed to find even a trace of mottled enamel.

This is the first town within the radius of 30 miles that has shown a negative result. Monument you will remember showed that only 2 out of 12 natives were afflicted. This establishes a connection between Monument & Eastonville, which lie in a direct line east & west with the latter place 24 miles to the east. I was told that the water there was very hard.

Just as soon as the school opens this fall I am planning a trip to take in Eastonville again & then over the stretch of 24 miles through the timber on the Divide to Monument.

That intervening country has one school & there are several families of settlers who have raised families there & we shall go over that strip with a fine toothed comb to see if we can't get some interesting data.

I feel almost positive that we will find some

difference of some sort then to account for the disappearance of the mottling.

The next territory after that will be that lying between Palfrey Lake & Drum in which there are one or two fair sized places.

In the fall I expect to do some work in the Dental School in Drum with clinical orthodontia and that will put me in line for some more evidence regarding the prevalence of the lesion in Drum and I think I can inaugurate a plan whereby records can be kept even during my absence.

I am satisfied that the condition is more widely spread through the State than at first thought and by no means confined to Colorado Springs.

Now I would a two as to a theory accounting for the brown on which I want your opinion.

Given an area of forming enamel, in which ~~the~~ because of some nutritional deficiency the enamel organ is deprived of some material it should have, a certain area is lacking in the cement substance & empty spaces are left between the enamel rods.

Next assume that something happens in a

7

given case which allows an escape of blood into the area, and a deposit of haematin is laid into these empty spaces.

Afterward the tooth erupts & the laid in haematin or other substance undergoes a slow chemical change due perhaps to the action of light upon it and the brown stain gradually makes its appearance.

I say the action of light as a possible way of accounting for the stain on the labial surface & not on the lingual and yet this does not quite account for the brown not coming on the lower incisors, which as you know it rarely does.

I think I have pointed out to you that of scores of erupting incisors, some in $\frac{1}{2}$ to $\frac{3}{4}$, we have almost invariably found them white, but never carrying the brown stain in this stage.

Consequently we are coming to believe that the brown gradually makes its appearance after eruption & it is due to the gradual change of some substance that has been laid into these empty spaces between the rods, & which has been there all the time but only gradually become visible.

147

The fact that only a percentage of mottled teeth are stained makes this latter appear to me in the nature of an accident which happens to the child at some time during the enamel growth and if this brown deposit is not a blood deposit I can't see what it can be.

I think that we must absolutely abandon any theory that would account for the brown by the penetration of a normal horny tissue membrane from the outside after the eruption of the tooth.

I will be very glad to have you think this theory over & let me have your ideas of it.

I am very sorry to hear that your voice has been giving trouble & hope that you next will fit you for work again soon.

I hope that you will find an opportunity to write me ~~very~~ love & I will report to you again as soon as I have anything of interest.

Very Truly Yours

Fredrick S. McKay

700 Exchange Bank Bldg.
Colorado Springs.