

received in the winter house no one for  
no time has left his

my name that just Colnada Springs

Feb 13/1913

Dr. G. F. Black

Chicago Ill

Dear Doctor Black -

Your journal has been laid aside  
for a while because I have been expecting some important  
data and wanted to give it to you. The services at  
hand now and it will interest you I know. I  
to take up your letter as the first record will do  
just and say that I am very sorry indeed to  
hear of your enforced "lay off" and sincerely hope  
that you are well on the way back to your normal  
condition.

Regarding the publication of what you wrote as  
a report after your visit to us, so much has been  
added to the facts since then that my judgment  
is that you would not be satisfied to have it appear  
as you submitted it. and so far as the State Society is  
concerned I think that most of them don't know  
that a report was submitted by you and likely  
have dismissed the matter from mind. Only a few

of us are much interested in this problem  
and the rest don't care

I agree with you in thinking that what you  
might wish to write should be confined to the  
histological aspects of the condition and such an  
article would serve admirably as a basis of reference  
which could be referred to when the whole thing is  
written up.

I have had a growing feeling that when we have carried  
this investigation to the point where a definite  
conclusion is reached it ought to be written & published.  
I have gradually been accumulating data and facts  
relating to it until now I have a large mass of  
written material which could be put into favorable  
condition for a very interesting article which is upon  
an original untouched subject.

I appreciate your offer to allow the use of your  
histo-pathological material. From what I am to  
tell you later you will see I think that we probably  
have a long way to go yet before arriving at anything  
definite.

Regarding the work at Franklin Va. I wish you to  
keep the letter I sent you from Dr. Arthur. It was a  
copy and I have the original one to refer to  
I am in correspondence now with the Prof of

Chemist of the Medical School, Univ. of Virginia  
 at Richmond who in a letter received a few days ago  
 stated that he and Dr. Simpson, Dean of the Dental  
 School were arranging to go down to Franklin & go  
 examine the school children & collect water samples  
 for analysis and I hope that it will not be long until  
 I have some valuable data from there. It is almost  
 impossible for me to get any aid from the Dental  
 Profession in this matter. I asked Dr. Arthur Adams  
 Franklin to do the examination of children when I  
 got in touch with him last spring. My aid so far  
 has come from other professions, clergymen, Government  
 men etc. My experience is the same from the dentists at Amarillo  
 Texas. It is stated that they bear the condition there  
 and after repeated letters I was told a few weeks ago  
 that they had neither the time nor inclination to  
 make the examination. I offered to come down myself  
 if they would among them raise my expenses but then  
 the matter stands. Our fund is in such a shape  
 that the Treasury cannot spare me the expense of  
 money for the trip now. I hope to make it sometime.  
 You make the point that there might be a difference  
 between a tissue that is stained by being partially  
 dissolved one that had been developed in a faulty way.

I have been thinking along that line lately and had been wondering whether it might be true that the enamel rods and cementing substance had been originally laid down normally by the enamel organ and then some abnormal influence gets to work & dissolves the cementing substance out in spots over the superficial area. The discoloration might be a residue of some sort. It seems hard to understand how the enamel organ could functionate perfectly so far as the formation of the rods is concerned and "fall down" so completely in the development of another tissue which is so similar chemically & physically as the cementing substance is to the rods.

I believe the thought is worth following out. Have you ever heard any more from Dr. Wilson of Phoenix Ariz. whom you mentioned in the last letter and who described the red stain among Mexicans & Indians?

I have not written him yet but will do so very soon although I must confess that I think he is mistaken in his observations as I have never seen anything like what he describes in your letter states it.

I have some fragments of teeth from Franklin sent me by Dr. Arthur which I will send to you to section

They are dry, having never been in water since I  
received them some months ago

I have enclosed a copy of a letter <sup>a translation</sup> received from Rist  
just a few days ago which you may keep and when  
you have read it I may hope to hear your ideas on it.  
I must confess that it with some disagreement that  
I read what he says and I cannot believe that he  
is actually familiar with our condition. However don't  
let me prejudice you but read it carefully and tell me  
just what you think.

I am of course going to follow out his suggestions and  
write him again with great care and in detail and  
I believe that I can write him a letter that will contain  
facts that may make him "sit up and take notice"

I would rather have your reply before I write him  
again so I will hope to hear from you soon if your  
health permits. Also if you feel like it I will  
suggest that you write him in whatever way his  
letter to me may prompt. I am gratified that he  
has shown an interest and I will keep at him as  
long as he is interested. It is a pity I have to write  
him in English.

I am also waiting for a letter from Dr. Guerin  
at Naples who I have asked for fuller information  
and water analysis of that suburb of Naples that has

This same condition of the teeth.

I have a letter from him in which he seems interested but whether to the extent of making any examinations or getting a water analysis or not I don't know.

Don't you think it would be a good idea for you to write him asking him to interest himself? I enclose his address. I can't help feeling that data of great value and interest could be contributed by such men if they will interest themselves.

I have also written Prof. Pickvill of Otago Univ. New Zealand whose recent book on Prevention of Caries you have no doubt read but of course it will require some time to get an answer. He seems to have done a lot of work on enamel.

Now as to the work to date on water analysis I confess that recent developments seem to have brought me up against a stone wall.

I have been gathering analysis from the Railroad Companies Chemists of waters from endemic territory. They make analysis for locomotive boiler uses and I enclose a table which I have copied from mine. You will find that the sulphates & bicarbonates run high in all of them and I felt sure that this fact was going to be our clue to a possible physiological action that might account for the disturbance to the forming enamel.

But when we come to our own water here in this city where the % of mottling runs almost as high as anywhere, you will notice what becomes of the sulphate and bicarbonate constituent. It drops to a very low figure and it seems to completely upset our findings. It certainly is a hard thing to explain in view of what the other waters show.

I have also recently obtained some Govt. publications of analyses of the principal rivers east of the 10th meridian which show in many cases a much higher content of acid salts than our local water and yet we have never heard of the mottled & stained enamel in these districts.

I am going after the U. S. Hydrographer at Washington in several journals that I came across in the publications I have and may get some data there.

It seems an endless matter but the fascination and interest are just as strong as ever and I feel that in time we must uncover the cause.

I want to again express my appreciation of your interest and co-operation and assure you that it is of great value in stimulating our continued endeavor.

I have at present an analysis going on by the State Chemist of water from our adjacent mountains and expect the figures soon.

The head chemist of the Colo. Fuel & Iron Co. at Pueblo  
which runs a very large steel plant there has stated more  
than once that he cannot see the connection between the  
lesion and the water.

Also the chief chemist of the Santa Fe R.R. system has  
shown an interest and has been writing me, also sent  
me analyses of water that I needed along their line  
of railroad and his last letter just received after  
examining the table I enclose for you says that he  
fails to see any connection between the water and  
the stains.

Of course these two opinions cannot be taken as final  
because the exact knowledge from the dental standpoint  
is not possessed by them but from investigation, etc.  
data as herein contained I confess that I see little use  
in following the water analyses any further.

There is still the possibility that these waters contain  
something that is not commonly detected in the standard  
water analysis. The Santa Fe chemist says that  
it may be necessary to have special analyses made to  
determine such things as iron, silica, aluminum, and  
possibly some organic compound. He says that silica is  
not ordinarily determined very accurately & leans a little  
toward the belief that silica may have something to do  
with it. Aluminum he believes to be in the same category.

Regarding Dr. Rösé's suggestion as to the test for these  
onhite carbon particles by aluminum sulphate I had  
our city chemist take up the matter and he reports that  
no result whatever was obtained.

I have a very marked case, a central incisor which was  
knocked out in a foot ball game which I am going to  
send Rösé & see what he says. I am positive that he does  
not comprehend just what we have.

I also want to report to you a peculiar case that I  
observed just recently in a Colorado Springs patient aged 17.  
The four upper incisors were typically stained but a very  
good looking supernumerary lateral which was in regular  
position in the arch was but slightly mottled & no stain.  
The rest of the denture was mottled in the typical way.

As to the removal of this stain by grinding as I write  
you some time ago I am very well pleased with the result  
in several very bad cases. The stain and mottling are  
very superficial as a rule. There are places where the stain  
dips down deeply but so far has been able to remove all  
visible trace. The polishing afterward is very carefully done  
& the enamel surface left devoid of scratches & with a very  
lustrous beautiful surface without producing sensitiveness  
to changes of temperature. This method also removes the  
white areas which any chemical method does not do,  
I will wait for your reply before writing Rösé.

With kindest regards  
Very truly yours  
Frederick G. Meyer

I have my checked over a central nervous system  
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Keep the copy of Dr. Risé's letter but return  
the table to me. Copy it if you wish.

I shall mail for you my copy before meeting  
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