

Correspondence.

SEL CLEMENT.

DEAR SIR,—It is a very easy matter (but deserving protest which I offer), to attribute to an adversary absurd allegations. Where did the "Analyst," in your pages, find that I pretended to classify hydrochloric or nitric acid in the organic chemistry, because they contain hydrogen or nitrogen? That suggestion can be, without difficulty, returned against himself. Is carbonic acid or oxide of carbon classified amongst organic bodies, because containing carbon—*matter sine qua non* (as he said) in every organic substance?

Carbon is not the exclusive matter constituting those kinds of bodies; hydrogen or nitrogen (as I say), often both (oxygen, of course, frequently), are necessary, in simultaneous presence with the carbon, for building every organic matter. All chemists and all authors are unanimous in that doctrine. Also I said, and again repeat, the apparatus was not properly arranged for demonstrating the presence of organic principles.

Because the "Analyst" obtained a precipitate of carbonate of lime with a piece of sugar, and did not succeed the same with the Clement Salt, he concludes to a deficiency of carbon! I there stop him. He supposes, then, the analysis of nitrates (containing some other reagents) must be conducted by the same way as the analysis of a piece of sugar. I must exclaim there, as he does: "Impossible!"

Did the learned gentleman not know that alcohol, ether, spirit of wood, acetic acid, &c., will go through his apparatus without being decomposed and without precipitating lime water? Nevertheless, the above-mentioned matters are certainly organic, and doubtless very rich in carbon. Meanwhile, starch, gums, resins, sugar especially, will be suddenly, on the contrary, decomposed, and give the characteristic precipitate in lime water, but characteristic only with those kinds of substances.

Now, being complaisant as possible, I will admit the heat was sufficiently strong in the combustion tube to decompose the Clement Salt in its immediate principles. Then I must repeat what I have stated in my last letter:—

"The nitrous red fumes have probably altered the little quantity of carbonic acid present in a nascent state, because the free oxygen taken partially for the oxidation of the carbon had found sufficient quantity of hydrogen to produce water." In the present case, where is the supposed oxidizing atmosphere? What will disturb, also, the reconstitution of the hyponitrous acid in nitric acid, taking one equivalent of oxygen from the nascent carbonic acid, and showing consequently oxide of carbon? Every day, and in every furnace or closed apparatus, we notice that phenomenon; viz., production of oxide of carbon at the expense of the carbonic acid by deficiency of oxygen. And what will be the matter with the nitrogen, laying aside that included in the nitrates, if some proportion of the Clement Salt? It will certainly be acid of oxygen.

In my special case I am compelled to declare the apparatus was not well adapted for a public analysis, the tendency of which was evidently, if not willingly, to pull down my recent industry, and which was presented as a challenge to the manufacturer of the Sel Clement. For such serious matters something more correct, something fulfilling better the purpose, must be presented, I think, to the scientific readers. Whatever remains of the chemical lesson given by the "Analyst" to the maker of Sel Clement, only his final assertion: "The nitrate of magnesia and a great amount of water are the essential compounds of Sel Clement." "It is virtually conceded," he said. Where has the "Analyst" read such a concession? I wrote in my last letter that part of the magnesia was very exaggerated in the newspapers. I can easily offer the proof of it, sending to him a salt producing exactly the same effects as the Clement Salt, and containing only 2 per cent. of nitrate of magnesia. With regard to the water, the Sel Clement contains strictly its water of constitution, and the proof of it, easy to verify, is its quick decomposition, drying it more on the fire.

Dear sir, some other matters, till now not discovered, are present in the Clement Salt. Those matters—organic, of course—losing reductive power with the silver salt when dissolved in certain reagents—although in a very minute proportion—are not the less important in the mentioned product.

In the same number of your estimable Journal in which I found the letter of the "Analyst," you have a striking example

of such phenomena. The first paragraph of "Talk in the Studio," entitled "Sugar in the Printing Bath," records a curious fact of an organic substance losing its reductive power, although in contact with nitrate of silver, in despite of scientific assertions. Adding some alcohol—organic and carbonic matter—the same phenomena persist.

Let me conclude in few words. The public certainly will be indifferent to a more prolonged doctrinal discussion, which I have not sought, and which obliged me to be disagreeable to the "Analyst," defending my right and my industry. Amidst all that noise and such contradictions, the direct and personal experiment of the photographers will be the only right and true criterion of the economical and technical properties of the Clement Salt. To the photographers I commit my product, if, as I hope, its French origin shall not be a stigma of reprobation amongst the employers of Rive's albuminized paper. Chemistry is, like all sciences, a cosmopolitan one, without native soil.

THE MAKER OF THE SEL CLEMENT.

Paris, 13th May, 1868.

INJURY TO NEGATIVES BY VARNISHING.

DEAR SIR,—There is one little piece of manipulation which may possibly be of service to some beginners in photography. Some year or two since, when varnishing my negatives, I was very frequently troubled with the varnish causing the dense parts of the negative to become extremely coarse and granular. Under a microscope, the appearance was as if the density was broken up and gathered together in granules, large and small. The consequent picture was very coarse indeed, and thoroughly unsatisfactory. Various samples of varnish brought the same disaster, and I was compelled to take to an aqueous solution of gum arabic to get the film to give me a passable positive. I at the time intensified with pyro, citric acid, and silver, preceded by the solution of iodine and iodide of potassium.

I am quite satisfied that using too much silver is one cause of this coarse deposit; but I have reason to believe there are others, as it has occurred when no excess of silver was used.

This continued for some time, and I could get no cure for the evil, when one day I attempted to intensify further a negative rather weak, with a varnish which contained a small portion of tincture of iodine, recommended by Mr. Jabez Hughes. Much to my surprise and delight, on the application of this, the negative resumed its normal state; the coarseness disappeared; and since then I have never failed in curing this evil by a similar application. The negative will, of course, be slightly further intensified by the treatment, which may, or may not, be a benefit; but I was glad to get rid of the coarse deposit at all cost.

Any one troubled with the annoyance may safely try this remedy; it will not harm his negative much, if it should not cure.

As I have very often indeed been greatly benefitted by sundry hints in the pages of the NEWS, I owe it to mention this, as I do not remember having seen it stated anywhere.—I remain yours, &c.,

KENT.

May 19th, 1868.

Talk in the Studio.

ACTINISM *versus* ILLUMINATION.—A curious illustration of the distinction between the actinic and the luminous quality of light recently brought under our attention by Mr. Rejlander. A few days ago he was producing a portrait in the open air, a little after seven in the evening. The setting sun, low on the horizon, illuminated all objects on which it shone with a yellow glow; whilst the opposite arch of the sky was bright clear and blue. On examining the sun-illuminated image on the ground glass, Mr. Rejlander was struck with the fact that the side which was practically in shadow was much more actinic in colour, and expressed a conviction that the side of the face on which the sun shone would, in the picture, be the darkest side, and the opposite and apparently shaded side the lightest. Singularly enough, such was the result, and a print of a very fine portrait, now before us, illustrates the odd phenomenon of sunlight being represented by shadow, and reflected light producing the actual lights of the picture. We have seen clever paintings of candle-light effects, in which one half of a face is brilliantly lighted by a candle or lamp, the other relieved from