As regards the exact mode in which the palate deformity arises, I cannot find any help in a study of the mode of ossification of the upper maxillary bone, except in the cases where deformity consists in a depression or two depressions where the four centres of ossification meet. If the anterior lobes of the brain,—and that is the part of the brain that lies above the palate—become contracted through hereditary brain deficiency, and the skull base in front is therefore narrowed while the jaw must remain large enough to hold a normal number of teeth, it might naturally assume more the shape of the bow of a boat than a horse-shoe.

The alveoli of the bicuspid and molars on each side being drawn together by the narrow skull-base from which they hang and this process would throw up and deform the palate.

Clayshaw's measurements of the skull-base and pterygoid arch give much support to this hypothesis.

In congenital mental defect it is the anterior lobes that are found chiefly deficient, and in the microcephalic and Kalmuck class of idiots—where the brain has undergone most developmental lessening, the palate is found to be highest and most deformed.

Taking all the facts into account, it seems proved that the condition of the palate may be a most important index of brain development and of liability to developmental neurosis.

My second class of neurotic palates is apt to go with a nervous temperament—often with a neurotic diathesis; often with high mental qualities, but not all-roundness of capacity; often with keen sensitiveness or supersensitiveness of bodily feeling or emotion, and frequently with liability to the lesser functional neuroses—such as hysteria, neuralgia, migraines, headaches, etc.

It seemed to me that the consumptives are more apt to have neurotic and, many of them, deformed palates, than the sound in body.

I did not find any connection, hereditarily or otherwise, between my “deformed” palate and cleft palate.

They seem in a way to represent formative tendencies “in utero” in opposite directions.

In the case of the ossifying centres in cleft palates they had not been able to meet in the center and close in the floor of the nares, through perhaps excessive width of skull base; while in the latter, as we have seen, there was a greater width of palate bone than was needed to stretch across, and so it had to rise up in the center and form an acute angle or high arch.

Discussion.

Dr. J. Taft said the most remarkable effects noted in the paper were on the shape of the jaw and mouth due to hereditary transmission. These effects were important and undeniable, but the question arose in his mind whether the inebriate suffered any change in the conformation of these parts induced by the habit of drinking.

Dr. Crothers said there were very marked changes, but chiefly those resembling the changes usually brought about in the process of aging.

Dr. Barrett said he understood the essayist to refer to the V-shaped vault as a reversion to the animal type. He thought this was a mistake, as the high or V-shaped vault is not found among animals. It, however, might be true in regard to the V-shaped arch, as this, or rather the saddle-shaped arch, is common in animals, more especially those nearest correlated to man.

Dr. E. S. Talbot:—I am much interested in the paper of Dr. Crothers, especially as the author's long connection with an inebriate asylum gives him peculiar advantages for

observing these conditions. I will have to take issue, however, with his statements that these peculiarities of the mouth and jaws extend back to uterine life. Every observing dentist knows better than that. The author being a medical man, has not the opportunity for observing the mouths of all classes which we of the dental profession have. We know that this condition is never found during the existence of the first set of teeth. The deformity begins in the sixth or seventh year.

For several years I have been making a study of these peculiarities in the mouths of idiots, mutes, inebriates and criminals. In that time I have examined about seven hundred and fifty mouths of inebriates, and have found a larger percentage of badly formed mouths than among any criminal, idiot, or other defective class; but the defects are not so marked. There are fewer absolutely V-shaped arches among inebriates, but more of what might be called partial V-shaped arches; but I find plenty of V-shaped arches among criminals, idiots, the deaf and the blind. Now another singular thing: there are twice as many high vaults among inebriates as among any other class of degenerates. This proves that the inebriate is born; that it is impossible for him to live a straight, ordinary life. One born with the qualities that this formation indicates will become either an extreme egotist, a genius in business or some other direction, or he will be deaf and dumb, idiotic, blind, or an inebriate. I will show this in a paper I am to read before the Neurological Section, and will show that the inebriate is diseased.

If we examine a skull, we find quite a space between the hard palate and the brain. If the brain is arrested in its development, the osseous system will likewise be undeveloped, but the arrest of development in the osseous system will be caused by the want of development in the brain. I may say, however, that the lower jaw is developed independently of the rest of the face.

Dr. Fletcher asked whether the fact that both the teeth and the brain were developed from the epiblast had any bearing upon the defective teeth in the classes spoken of?

Dr. Talbot thought that as the arrest of development was from causes back of the birth of the child, it was reasonable to suppose that there was a defect in the tissue from which the organs originated.

CLINICAL LECTURE ON THE TREATMENT OF DIFFERENT FORMS OF BRIGHT'S DISEASE OF THE KIDNEYS.

Delivered at the Pennsylvania Hospital, Philadelphia, November 19, 1892.

BY J. M. DA COSTA, M.D., LL.D.
OF PHILADELPHIA, PA.

Gentlemen:—I shall this morning bring before you a series of cases of Bright's disease, illustrating several varieties of this affection. After discussing their clinical features and diagnosis, I shall make some remarks upon treatment. It happens that the wards are now rich in cases of kidney disease; so that I am enabled to group for you cases suffering with different types of the disorder.

Case I is a boy 16 years old, who was before you two weeks ago. I pointed out to you at that time the striking phenomena. I told you that he had the characteristic look of the affection. He was pale; his face was œdematous, as were his limbs; his mind was dull, and examination of his urine revealed the cause to be chronic parenchymatous nephritis. Not to repeat at length what we then discussed, I will merely speak of the treatment. I said that we should treat the case with the lactate of strontium, a remedy which is new in the treatment of these Bright's affections, and which, both last year and this, I have been testing clinically. Now here is a case returned after two weeks, and we may ask ourselves if this plan of treatment has been followed by any striking results; in fact, by any result that would make it worth while to continue the remedy. We observe that his general condition has improved; he looks

brighter, but there is still pallor and puffiness of the face. He passes from forty-two to sixty ounces of urine daily, and last week it ranged from sixty to ninety ounces. Nevertheless, the proportion of albumen remains high. The precipitate upon boiling the urine in a test tube is from sixty to seventy per cent. in bulk; and this proportion was found in the urine during the preceding week, even when he was passing such a large quantity. We further observe that his tongue is slightly coated; the bowels are daily moved; his appetite is good. His diet consists of milk, oysters, fish, vegetables, bread, and some tea and coffee. He has not been allowed to eat meat. He has been taking milk six ounces every two hours, and the other articles of food at meal times, so that milk forms the greater part of his nourishment; as his appetite is good, he gets quite enough in the way of food. You probably wish to be told what has been the result of the remedy in this case. The strontium has acted the part of a powerful diuretic; the urine at one time, as you observe by this chart, went up to ninety ounces. Nevertheless, the amount of albumen has not been decreased. His general health is fair; at all events it is not apparently suffering much at present.

The pathology of this case has been already referred to; it is recognized as one of parenchymatous nephritis. There is now very little dropsical swelling remaining. Under these circumstances, should we consider that he has had enough of the remedy? Or what conclusion can we form in reference to it? First, let me call your attention to the fact that the dose was even increased from thirty to forty grains, three times a day (or two drachms daily). I do not believe it proper to increase this dose or even to continue the remedy. I think, after two weeks trial, that we may conclude that this agent will not produce any specific effect upon the albuminuria. This is not my first experience of the kind with the strontium salts: I tried them last year, when they were first brought forward, and I may state that I had very much the same results last winter as we have had in this case. The effects of the lactate of strontium have been carefully studied in these cases. It is an admirable diuretic it is true, but as far as any specific effect upon the kidney or upon the excretion of albumen is concerned I cannot say that we have yet obtained any decided results. I therefore conclude that it is in cases of Bright's disease with scanty secretion that it is most applicable, since it will increase the amount of the urine passed without causing any irritation of the kidneys; but as for diminishing the amount of albumen, I do not think it will maintain the reputation it had at first, or accomplish what was then claimed for it; for you are aware that the French clinicians who introduced it did not do so because it possessed diuretic properties, but on account of its alleged effect in diminishing the amount of albumen. You have already heard that albumen still exists in large proportion in this boy's urine, associated with epithelial casts, that are largely granular. I will now give him some other remedy that I hope may prove more useful in diminishing the albumen. I will here try a remedy that I have found of benefit in similar cases; it is nitro-glycerine. We will begin with two drops of the one per cent. solution in alcohol, and gradually increase it as high as ten drops, given three times each day, carefully observing the effects. In one

case, I went above this as high as thirty drops three times a day; but I think that for the most part it is better to confine ourselves to smaller doses, say not over ten drops of the centesimal alcoholic solution. Its best results are shown in reducing the excretion of the albumen, thus diminishing the amount of drain from the blood of this important constituent. The diet of the patient will remain the same.

Case II is a man 65 years of age (carried in on a bed). Now, gentlemen, here is a case with which I am not so familiar; barring a short conversation with him yesterday, I see him now for the first time. The resident physician tells me that this patient has been in the hospital once before for the same malady, so that we may learn something of the early history of the illness. This also is a case of Bright's disease of the kidneys. His present attack began three weeks ago, or it may be more correct to say that he grew worse three weeks ago, for the doctor says that he was in this hospital from May until last June, and then went out better but not cured. He was dropsical upon admission on the former occasion, and his urine was scanty, eighteen to twenty ounces a day; it contained small quantities of albumen with granular casts. In his previous history I find a note of eye-changes; whitish, glistening spots seen in the right eye, and similar spots, but less marked, in the left eye—in other words the characteristic retinal changes of Bright's disease. Under treatment in the hospital, with digitalis, elaterium, followed by Basham's mixture, his dropsy disappeared. He was so much better that he considered himself cured and left the hospital; but he was not well. This was his previous history; now we come to his present illness. Three weeks ago he became worse; he complained of pains in the lumbar region, and of some dizziness, but had no dropsy at this time. He came back to be treated for his pain in the lumbar region and for vertigo. The dropsy has not reappeared. The urine has been examined since his re-admission two days ago. On the 17th it was 1020, clear, of alkaline reaction, and amounted to fifty-four ounces; yesterday (the 18th) it was thirty ounces. The proportion of coagulum after boiling in the test tube was two per cent. The small white sedimentary deposit consisted principally of phosphates; no casts were found.

His tongue is clean; the bowels are moved daily. His pulse is distinctly rigid, showing increased arterial tension, and his temporal arteries are prominent and throbbing. The heart has a sharply accentuated, second sound; the apex impulse is, however, to be felt within and under the left nipple. Notwithstanding this extraordinary accentuation of the second sound, and the forcible impulse which may be felt all over the cardiac region, I do not find any evidence of decided cardiac disease. There is no enlargement of the liver, nor of the spleen, and no oedema of the chest or extremities. Now, what is the matter with this man? This case is entirely different from the one you saw before. This patient has a cirrhotic or contracted kidney. The condition is readily recognized by three signs. In the first place, the absence of dropsy, or only its occasional appearance, and even that I infer from his history rather than from anything that we see at present. Secondly, the retinal changes found upon ophthalmoscopic examination. Thirdly, the signs of

increase of arterial tension shown in the pulse and the very markedly accentuated second cardiac sound. Finally, the urine record is most significant. The two per cent. of coagulated albumen we have here, is in marked contrast with the sixty to seventy per cent. in the other case. In that patient we had parenchymatous nephritis, in this cirrhotic kidney; in the former there was enlargement and in the latter contraction of these organs. This is the form which has been called chronic, interstitial nephritis. The urine usually has the specific gravity of 1005 to 1015; here it is a little higher, but this does not impair the general features of the case. Let me direct your attention to one more point. You recall the fact that casts were so frequently found in the other case that every examination showed them in profusion; here they are rare. Yesterday the resident examined four slides without meeting with a single cast. But this is not altogether a typical case. Is there anything lacking? Yes, the heart condition. When you have a case lasting as long as this, it is common to have more than mere increase of arterial tension, and accentuated second sound and marked impulse. It is common to find cardiac hypertrophy, and its absence here will give us a point of prognosis. On account of the absence of this lesion in the heart, the patient is very likely to have a longer life before him, and better health than if this change had taken place. Except for the accidental occurrence of uræmia or uræmic convulsions, the cases of interstitial nephritis which do best in the long run are just these cases that are free from cardiac lesion.

As regards treatment, it is very important to keep the bowels in a soluble condition. The cardiac overaction and the condition of the blood-vessels make it incumbent upon us to administer laxatives. Rochelle salts, repeated several times a week, may be given. We will avoid a routine treatment such as the administration of infusion of digitalis, because while it would affect favorably the dropsy, where it exists, it would aggravate the arterial tension. If we increase the heart's action, we run the risk of rupturing the vessels and bringing on an attack of apoplexy. What class of remedies would then be likely to do good in this case? I should not consider that the treatment by nitro-glycerine, given to the preceding case, would be of any value here, simply because the amount of albumen is extremely small, as it usually is in contracted kidney, though the nitro-glycerine would be of service for the arterial tension. If we could find some remedy which would reduce the amount of fibrous tissue forming in the kidney it would strike at the root of the malady. Corrosive sublimate is such a remedy, and I will therefore give this patient bichloride of mercury in increasing doses. I have tried iodide of potassium, but found it of certain efficacy; in some cases I have seen increased irritation and injury of the kidney following its administration. I believe that the bichloride is a safer remedy, and will commence with a dose of one-thirtieth of a grain three times a day, increasing it gradually to one-eighth of a grain.

Now, gentlemen, at the same time that we give the bichloride for the condition of the kidneys, we must pay some attention to securing the free action of these organs. The patient is now passing hardly urine enough, only thirty ounces a day. I will, temporarily at least, give him cream of tartar in the form of lemonade (made by dissolving the

cream of tartar in sweetened water, half an ounce or more to the pint), which he shall take daily until the secretion is freer. As a rule, you will not have much difficulty in keeping up the secretion in instances of contracted kidney; indeed, it is apt to be a little more than normal. He may also drink some mild diuretic mineral water, such as Poland water.

The diet is a very important part of the treatment of a case of Bright's disease. This patient has been put upon a milk diet almost exclusively. Is it essential that a patient with contracted kidney should be exclusively upon a milk diet? I answer, No. It is a nourishing, bland diet, and has diuretic properties, but in cases of contracted kidney where there is so little albumen as there is here, I give milk mainly, but I also allow toast, the yolks of eggs, and other light articles of food, such as oysters, fish and poultry. While keeping to milk diet as the main line of treatment, I do not make the patient's life miserable by insisting strictly upon milk as the sole article of diet.

We will watch the progress of these cases; one having a large amount of albumen, casts and dropsy, a case of parenchymatous nephritis; the other with a small amount of albumen, no casts, no dropsy, a case of interstitial nephritis, and the latter on a different plan of treatment from the former.

Case III.—Here, gentlemen, is yet another case of Bright's disease of still different character. It is fortunate that the rich material now in the wards will enable me to exhibit to you the principal forms of this protean malady in a series of cases, and to point out the different indications for treatment in each and the best course to pursue in the general management to secure the most benefit to the patient.

This man is about 70 years of age, of spare frame and at present confined to bed. He had a brother, he says, who died with dropsy. He himself, prior to his present attack, has been a well man, or at least in his ordinary health, as he is a chronic sufferer from hæmorrhoids, to which he attributes all his illness. We get the following history from the physician who attended him outside of the hospital: during last winter he had an attack of what was considered acute nephritis, from which he entirely recovered. He then was well as ever until six weeks ago, when he began to complain of shortness of breath, weakness, and swelling of his legs.

As you see his legs are œdematous; they pit upon pressure, although since he has been in the hospital, the enforced rest in bed has done him much good, and the swelling is less marked than when he came in. There is no abdominal dropsy; no disease of the heart can be detected upon auscultation of the chest. There is feeble respiration with slight relative dulness at the back of the lungs especially upon the left side, where I can hear some moist râles. His tongue is clean except towards the back, where it is slightly coated. The bowels are costive. The urine has a specific gravity of 1022, and it is acid this morning, but was not so yesterday. It contains albumen and a sediment composed of abundant epithelial casts and urates, but no blood.

Now what is the matter with this man? He is suffering from an attack of acute or subacute nephritis. The fact that he was in his usual health—for his ill-health before was his usual condition and due to hæmorrhoids which seem to have embittered his existence—it is fair to say, I think, that he was in

his usual health, when he suddenly became short of breath and dropsical with albumen in the urine, and casts. The only question is, Is the present attack one which can be traced back to the seizure which we learn from the physician who attended him he had last year, or is it a distinct attack? It is difficult to say, as we know nothing at all about the condition of the urine in the meantime, since he passed from medical observation until he applied here for treatment. If you ask my opinion as to the probabilities of the case I would say, that there has been since the former attack a slight amount of latent kidney disorder, and that the present is really a subacute attack of nephritis. If this were entirely an acute attack, we should have more albumen and perhaps some blood in the urine.

What is to be done for the patient in the way of treatment? We must first relieve the present condition of dropsy. His shortness of breath is due to dropsy of the lungs or serous effusion into the pulmonary areolar tissue. There is pulmonary congestion with effusion. There is no disease of the heart and we must look to the kidneys for the cause of the disorder. On account of the coated tongue, costiveness and congested internal organs, laxatives are indicated here as in the preceding case. Let him have half an ounce of bitartrate of potash every other day, and if it does not produce results, give it every day. Let him have diuretic mineral waters freely; He shall have infusion of digitalis, half an ounce every four hours, its effects being watched. We will dry-cup his lungs to relieve the pulmonary congestion, and he shall also have a few dry cups over each kidney. After the irritation from this has subsided, croton oil or tincture of iodine may be applied over the kidneys in the lumbar region. As this is an acute, or at least a subacute attack, we will put him upon a milk diet. He may have some toast with his milk because it will make his diet less monotonous; but the more strictly he keeps to the milk diet the better.

We have here indicated a different line of treatment from that of the two other cases—milk diet, diuretics, digitalis and laxatives. Under these precautions the acute condition will pass away and then we will be able to decide whether there was anything left from the preceding attack, or whether this was an entirely new seizure.

I have been enabled this morning to place before you, in these three patients, three different forms of Bright's disease of the kidneys, and to show you how they differed in their clinical characters, how they required different forms of treatment, and also how they differed in their prognosis and ultimate consequences.

[The treatment in Case III was followed by the happiest results. When he was shown to the class a week later, the albumen was reduced to a mere trace and all the dropsy had gone. In the first case shown, scanty urine coming on and symptoms of mild uræmia, the nitro-glycerine in a few days had to be discontinued, and pilocarpine, laxatives, caffeine and benzoate of sodium were substituted, under which he rapidly improved.—*Rep.*]

TO DEODORIZE IODOFORM. (*Pharm. Zeitung*):
R.—Iodoformi, 97 parts; acid carbolici, 1 part;
essent. menth. pip., 2 parts.

RICKETS, AND THE TREATMENT OF ITS RESULTING DEFORMITIES.

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In the consideration of a medical topic we must recognize its importance as depending on: first, the frequency with which the disease occurs, and secondly, the severity of the disease if left untreated. Taking this as our standard of test we must recognize in rickets a disease of considerable importance.

Frequency.—In Europe the disease is very common, especially is this so in England, and to such an extent that in some countries it is known as the "English disease." The proportion of all children, attending certain clinics, having rickets is given as follows: Dresden, 25 per cent.; Berlin, 11 per cent., Parague, 31 per cent. In the higher classes the proportion is much smaller.

Merei states that in Manchester one in five children of well-to-do families had rickets, and the proportion is about that great in the wealthier classes.

Its severity when left untreated varies considerably. In the milder cases the lesions are insignificant, and the ultimate damage done is of little importance. But in the severer cases the results are quite different; the changes in the spinal column and extremities modify seriously the contour of the body, and may even prevent locomotion; the changes in the thorax interfere seriously with the function of vital organs; the changes in the bones of the skull may even endanger the life of the child; while the deformities produced in the pelvis are a menace to future generations.

Climate.—It is stated by various observers that it is a disease more especially of northern climates, it being particularly common in Germany, Denmark, Sweden and England. But my own observations lead me to think that it is more common among the Italians and negroes than any other class of people. In the city of Cleveland the disease is quite common among the former, and I recently had a death among them from this cause.

Occurrence.—Rickets is mostly a disease of early childhood though it is observed at other periods of life. Enough cases of fetal rickets have been observed and recorded to establish its possibility. At the age of puberty changes may take place in the bones which are recognized as due to rickets. In girls at this age the preparation for the catamenial flow causes disturbances of nutrition, and if to this we add a sedentary life we have conditions favoring this disease. Vincent, of Lyons, considers the scoliosis of adolescence as late vertebral rickets.

A form known as senile rickets has been described, but the condition thus found is probably the same as that known as ossium mollities. But by far the greater proportion of cases are seen in children between the ages of six months and two years.

Pathological anatomy.—The pathological changes noted in rickets are mostly to be found in the ends of bone, in the cartilage and in the periosteum. Chemically, there is a change in the proportion of the organic to inorganic material, in the normal bone the organic matter constitutes about one-third of the bone. In rickets the organic material may compose as much as four-fifths of the bone.

Histologically there are many changes, the most