country in the practical instruction provided for degenerates. During the last year, however, Mr. Burden, assisted by Mrs. Hume Pinsent, has set a splendid example in the arrangements of the work at the boarding school at Sandwell. Gardening, carpentry, bootmaking, brush-making, laundry work, carpet weaving, and tailoring are all in full swing. It is anticipated that each of these departments with, as a rule, only one instructor, will soon be capable of meeting the requirements of the whole institution. One of the most satisfactory departments is the garden, where fourteen of the boys, working with two men, have at the end of nine months cleared expenses and made a profit, although the land was previously in a neglected state. As these unfortunate individuals must be segregated, it is of great importance that they should contribute something to their own support; Sandwell has demonstrated the possibility of accomplishing this, even in aggravated cases, for it must be remembered that as a rule only those children are admitted to Sandwell who are unfit for the special schools that now exist in most of our large towns. In conclusion, I have only to add that amusement has always been a recognized agent in training feeble minds and bodies; due provision for simple entertainments should be made in every institution for defectives.

AN OUTBREAK OF BERI-BERI ON BOARD A MERCHANT VESSEL.

BY STAFF SURGEON SIDNEY ROACH, R.N.

[Communicated by the DIRECTOR GENERAL, R.N.]

A SAILING ship left Rangoon on July 3rd, 1907, for Queenstown with a cargo of teak. She had 15 persons on board, all told, comprising captain, 2 mates, carpenter, sail-maker, steward, and 9 hands (10 Norwegians, 1 Dane, 1 Swede, and 3 negroes).

Soon after leaving Rangoon the carpenter was taken ill with what the captain described as bronchitis; but I am inclined to believe, from the account of his death given me by one of the mates, that the cause of death, which took place on August 18th, was a cardiac attack of beri-beri.

The ship arrived at Ascension on October 11th, as the captain wanted medical assistance. I went on board, and found that the captain realized the cases to be beri-beri and had been diligently treating them with tincture of digitalis. I found five well-marked cases of beri-beri, one of sore throat, one of secondary syphilis, and one of so-called rheumatism. Two of the cases of beri-beri were acutely ill, and these two the captain wished to land, and then proceed on his voyage. I advised him to give up all idea of proceeding to sea with such a sickly crew, and pointed out the danger of leaving cases of beri-beri in the ship where they had apparently contracted the disease. He accordingly took my advice, and anchored that evening.

With the captain's permission, I went over the ship in order to ascertain the condition under which his men lived. The crew lived in a deckhouse forward, which struck me as being very clean and airy and, under the circumstances, not crowded. The officers and one man working his passage lived aft in cabins.

The following itinerary will show the movements of the ship previous to her arrival at Ascension, and also the occurrence of the disease, which would appear to have started on the voyage from Rio de Janeiro to Rangoon.

Itinerary.	Length of Voyage.	Cargo.	Incidence of Sickness.
Left Sweden Nov. 9th, 1906	39 days	Wood	Nil.
Arrived Rio Jan. 17th, 1907		Goods	One accident at Rio.
Left Rio Feb. 26th, 1907		Stone	
Arrived Rangoon May 9th, 1907	72 days	Ballast	Two slight cases of beri-beri. Some illness; no beri-beri while in harbour.
Left Rangoon July 3rd, 1907	99 days	Teak	
Arrived Ascension Oct. 11th, 1907			Several cases of beri-beri.

It is worthy of note that the carpenter who subsequently died was one of the slight cases of beri-beri which

occurred on the passage from Rio de Janeiro to Rangoon. The former voyages of the ship are here appended. It is noticeable that the usual cargo of the ship appears to have been timber.

Former Voyages.

Leith to North America	...	Ballast.
North America to Buenos Aires	...	Lumber.
Buenos Aires to Europe	...	Quebrache wood.

Unfortunately, as the captain and crew only joined the ship before she sailed from Sweden, no information could be gathered as to whether beri-beri had appeared on board before this particular voyage.

It appeared that the cargo of teak was shipped in the river at Rangoon. The teak was brought down the river in rafts, taken alongside, and hoisted into the hold while wet and muddy. The hatches were taken off when about three weeks out from Rangoon, and the timber was then still hot, wet and steamy, so much so that the captain deemed it advisable to sprinkle carbolic acid over it. The presence of a damp, hot, steaming atmosphere may be sufficient to account for the outbreak of the disease, as it fulfils the conditions under which, according to Sir Patrick Manson, the disease occurs.

DIETARY.

The question of food revealed nothing that shed any light on the outbreak of the disease. The actual diet table differs little from that of any European sailing ship, and would appear sufficient so far as the food value is concerned.

The question of the use of rice was inquired into. The master informed me that rice was used in small quantities on board for ordinary purposes, such as stews, puddings, etc.; it was not issued as a vegetable or in any large quantities. The rice was of good quality, and was not weevily; it was used whole, and not ground. Bread was baked on board once or twice a week. The bread was made of wheat flour. Biscuit was, of course, in store, but the master being suspicious of its appearance, and noting that it was very hard and unpalatable, would not issue it to the crew. The master was well posted up in the theories of the origin of beri-beri, and was aware of the danger of the excessive use of rice. With reference to the biscuit, he was suspicious that it was made of rice flour, and on that account would not use it.

All drinking water used on board was boiled before being put into the scuttle-butts.

On leaving port the master was in the habit of taking on board fresh vegetables, fowls, pigs, etc., but necessarily these supplies did not last long. It will also be noticed that dry fish was used on board. No rum or spirit of any kind was issued on board; lime-juice was, as will be seen, issued regularly. The use of quinine was also inquired into. The master issued it whenever he thought it necessary.

Daily Ration.

	Grams	Ozs. Average.
Bread <i>ad libitum</i> per man	—	—
Salt beef, per man, per day, thrice a week	625	22
Pork with beef, per man, per day, thrice a week	101	3½
Preserved meat, per man, per day, twice a week	250	8½
Dry fish, per man, per day, once a week	350	12½
Fish balls, per man, per day, once a week	350	12½
Potatoes, fresh, per man, per week	3000	105
Vegetables, fresh or salt, per man, per week	1100	38
Dried fruits, per man, per week	150	5½
Condensed milk, per man, per week	150	5½
Coffee, per man, per week	225	7½
Tea, per man, per week	25	½
Sugar, per man, per week	350	12½
Butter or marmalade, per man, per week	500	17½
Oatmeal, per man, per week	500	17½
Lime juice, per man, per day, about	25	½
Peas, beans, rice, per man, per week, ½ litre	—	11½ fluid oz.
Salt, mustard, vinegar, as required.	—	—

The ship having anchored on the evening of October 11th, 5 well-marked cases of beri-beri were next day admitted into hospital; 2 were desperately ill.

Between October 12th and November 4th, 5 more cases of beri-beri and 1 of sore throat were admitted. Of the 11 cases admitted, the one of sore throat was discharged to his ship after a few days in hospital.

Of the cases of beri-beri, 1, unfortunately, developed tuberculous meningitis while in hospital, and died within nine days of its onset. He was admitted with undoubted symptoms of beri-beri, and appeared to be recovering from that disease. The remaining 9 rapidly recovered, and were discharged on November 7th to the mail steamer for passage to England.

The master, having obtained a fresh crew from England, sailed on November 4th. Before leaving he was supplied with some drugs, etc., to replenish his medicine chest. During the stay of the ship in Ascension, she was supplied twice a week with fresh vegetables and meat for the use of the crew.

I am inclined to the belief that every man on board, with the exception of the case of sore throat (a West Indian negro), was affected with beri-beri. The master was suffering from it, but would not give in owing to his responsibility, and I believe the first mate and the remaining deck hand were also labouring under the disease.

TREATMENT OF BRONCHIAL CATARRH BY ALKALIES.

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As I have elsewhere pointed out, Dr. T. H. Buckler wrote an article in the *American Journal of Medical Sciences* for July, 1882, in which he said that what he regarded as a special form of bronchial inflammation, and attributed to uric acid irritation or rheumatism, could be successfully treated by salicylates, but that if they were not given it was most difficult to cure the disease. He further said that the salicylates would succeed best in cases where the acidity of the urine was high, but would be likely to fail where it was low; he therefore advised examination of the urine before prescribing.

Since my attention was drawn to this article I have often been able to confirm Dr. Buckler's observations, and have used salicylates with good results not only in the special form of inflammation he described, but in all forms of ordinary bronchial catarrh or bronchopneumonia.

But salicylates do undoubtedly fail, as Dr. Buckler observed, when the urinary acidity is low; and as the effect of dyspnoea is to increase the alkalinity of the blood and lower the acidity of the urine, it follows that salicylates will often fail us just at our time of greatest need, namely, when dyspnoea is considerable and the heart is beginning to dilate. In fact, salicylates are only successful in early cases or in the special form described by Dr. Buckler, in which there is little dyspnoea, as it affects chiefly the large bronchial tubes.

Following this matter up and believing with Dr. Buckler that salicylates act in these cases merely as solvents of uric acid, it occurred to me that the condition (dyspnoea with falling acidity of the urine) which is unfavourable, as I have elsewhere shown, to the solvent action of the salicylates would, on the contrary, be quite favourable to the solvent action of alkalies. I therefore began to try these older solvents of uric acid, with results which soon demonstrated that my conjecture was correct. I found that it was only necessary to give alkali in sufficient dose to render the urine alkaline to cause an immediate fall of temperature and speedy resolution of symptoms in many cases of bronchitis and bronchopneumonia, besides those described by Dr. Buckler. That to do this it was necessary to give alkali almost alone (say sodii bicarb. grains 20 to 60 for a child, or 90 to 120 for an adult in the twenty-four hours) and on no account to give ammonium with it, as this raises the acidity of the urine and has been proved by others to do harm in rheumatism. If a cardiac tonic is required digitalis can be used, but everything that raises the acidity of the urine must be avoided, and even such flavouring matters as orange and sugar, which tend to raise acidity, are better left out.

I shall not take up space by narrating cases; I had hoped to show one illustrating this treatment at the recent clinical meeting of the City Division of the Association at the Metropolitan Hospital, but was unfortunately detained at the last moment.

If the alkali is going to do good, the temperature generally drops decidedly in from twenty-four to forty-eight hours, but it should not be given up as useless till the urine has been rendered alkaline. After the temperature has been normal for one or two days, I reduce the alkali to a small dose (gr. 10 ter.), and add a little belladonna to dry up secretions, and the trouble is at an end.

In conclusion, I will again point out the rules that must be followed if this treatment is to be used with success, namely: (1) Give the alkali in sufficient quantity to make the urine alkaline; (2) avoid combining it with drugs that raise the acidity of the urine, or in fact with anything which acts as a precipitant of uric acid, such as lime, the metals or their salts, or even the chlorides, sulphates, or nitrates of the alkalies. Ammonium, so often given in these conditions, is one of the worst things to combine with the alkali, for it not only raises the acidity of the urine, but its urate is insoluble.

The Goulstonian Lectures

ON

THE INFLUENCE OF PREGNANCY UPON CERTAIN MEDICAL DISEASES, AND OF CERTAIN MEDICAL DISEASES UPON PREGNANCY.

DELIVERED BEFORE THE ROYAL COLLEGE OF PHYSICIANS OF LONDON.

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ASSISTANT PHYSICIAN TO GUY'S HOSPITAL.

LECTURE II.—OTHER SUPPURATIVE RENAL AFFECTIONS IN RELATION TO PREGNANCY: TUBERCULOUS AND CALCULOUS DISEASES.

MR. PRESIDENT AND GENTLEMEN,—The pyelonephritis which pregnancy itself gives rise to having been discussed, there remain two other suppurative renal affections to be mentioned. These are the various degrees of kidney mischief that may be due to stone and to tuberculosis respectively. There is little evidence to show that pregnancy is itself liable to give rise to either of these, and in the case of a tuberculous kidney the patient is, as a rule, so invalided that pregnancy is but rarely to be found associated with it. There has been no case of pregnancy coincident with tuberculous kidney in Guy's Hospital in the last twenty years. With renal calculus, on the other hand, the symptoms may be in abeyance for longer or shorter periods, and the patient is not necessarily such an invalid that pregnancy may not occur. The question will then arise as to what the effect upon the kidney is likely to be in such a case. It is clear that if a previously healthy woman may develop pyelonephritis during pregnancy, as described in the previous lecture, a woman who already has a lesion which also predisposes to pyuria must be in a position of increased danger when pregnancy occurs. On the other hand, the degree to which the kidney, or kidneys, may be already damaged by the calculi is so extremely variable that it is almost impossible to say what is going to happen when such a case comes under observation. If the calculus is a small one confined to the renal pelvis, the general substance of the kidney being but little affected, it is quite possible for the pregnancy to run its course without any trouble arising from it at all. If the stones are confined to one kidney and have led to its conversion into a hydronephrotic bag, the other kidney may have hypertrophied by way of compensation, and the effect of pregnancy will be similar to that in cases where, after operation, only one kidney is left—a point to be mentioned again below.

Colic and hæmaturia may occur in either of these cases, just as they may in non-pregnant persons. Treatment should then be directed to the renal condition, and the