began to walk on crutches; I found him in the garden. The stimulants were gradually reduced. On the 23rd, he had dispensed with supports; all pain and swelling having disappeared; his appetite and strength were returning. He betook himself to his ordinary avocation, and my visits ceased. He informed me that he had never experienced so violent an attack, and never recovered so quickly or completely; and his delight was great at being spared the infliction of a single dose of medicine. Five days sufficed for the cure.

These cases, irrespective of their individual importance, afford subject matter for contrast and comparison. No. 1 is the prototype of thirteen published and many unpublished cases. No. 2 represents itself alone; for so far they agree in the simplicity, rapidity, and permanency of their cure, in its being effected by an external remedy, without any internal medication. No. 1 was free from perceptible cardiac ailment; No. 2 suffered from protracted weakness and rhythmical deficiency of beat; the fall of temperature in the first case was accompanied by immediate cessation of profuse perspiration, and by normal excretion of urine as to quantity and quality; while in the second case, with the fall of temperature, the hot dry skin became cool and moist with plentiful perspiration, and urine of normal quantity. The blister in the first case appeared to have restored the inhibitory power of the heat-centres, and to have reduced to their normal condition the powers of the centres which regulate heat-dissipation; while in the second case, the blister seemed to equalise the heat depression with that of production; the superficial vaso-motor and other nerves causing relaxation of the smaller vessels and secretion of sweat and consequent reduction of temperature. As to the pathology of rheumatism, my conviction is, that it is essentially a specific form of endocarditis of neuropathic origin, generally allied with myocarditis; that in its unchecked progress, it speedily modifies the composition of blood, the innervation and calorification of the body; in its ordinary course giving rise to lesions in the textures, the joints, pericardium, pleura, the neurilemma, the meninges of the brain; in fine, in any organ accessible to nervous or arterial influence. Pathologists such as Pfeuffer and Hueter, quoted by Senator in Ziemssen's *Cyclopaedia*, vol. xxi, also look upon cardiac disease as the primary change, and articular troubles as the consequence. Hueter states "that endocarditis may be present without giving rise to either subjective or objective symptoms; that it may very well precede the inflammation of the joints, even although not recognised till afterwards"; and says also that "its presence must be assumed in those cases which appear to run their course without any cardiac complication whatever". According to Watson, Hope, Graves, Fuller, and others, endocardial and exocardial inflammation may occur as the first, and be for some time the only, local symptom of the disease; and the cardiac complication sometimes precedes, even by several days, the access of articular redness and swelling (Aitken, vol. i, p. 805). Bouil-land taught that one-half, other writers one-third, or a less proportion, of rheumatic patients were always affected with endocarditis. This difference of opinion arose mainly from some of those observers mistaking the results of inflammation for the signs and symptoms, and consequently only recognising those as true cases of endocarditis in which they could detect by auscultation the changes worked by inflammation in the valves or lining membrane. This faulty procedure may, perhaps, explain the cause of the discrepancy shown in the returns of endocardial troubles exhibited at the meeting of the Medical Society of London referred to. Such returns, averaging from 3 to 76 per cent., can afford no guide on the subject of the incidence of heart-affections, and would suggest, in the majority, an absence of diligence in diagnostic work.

It is now generally admitted that the exciting cause of acute rheumatism, as of pleuritis or pneumonia, is a chill; and that the effect is produced through the medium of the nervous system; and that, although the integument alone may be directly chilled, the deeply seated internal organs also suffer. The immediate effect of cold upon the nerves of the surface is to lower their functional activity, and to increase the action of the nerves of the internal organ in relation with that part; endocarditis thus becoming the first step in the development of acute rheumatism after exposure to cold. If it be physiologically true that, when two parts of the same body are nervously in sympathy with each other, if we produce a powerful action in the nerves of one, we may withdraw vital energy from the nerves of the other, then it follows that, when a derivative in the form of a blister is applied in the nearest vicinity to the endocardial lining when in an inflamed state, it is but carrying into effect the principle that counterirritation is the most effective plan available to alter the excited condition of nerve-centres, and so to influence motor, sensory, and trophic nerves. Further, if experience tell me that counterirritation over the heart is a potent remedy for the cure of acute rheumatism in all its phases, this fact will

surely throw light on the nature of that disease. According to Dr. Peter Latham, "the treatment of diseases is in fact a part of their pathology. What they need and what they can bear, the kind and strength of the remedy, and the changes which follow its application, are among the surest tests of their nature and tendency." And Callen, in the preface to his *Nosology*, page 16, says that "remedies cure diseases only in so far as they remove their proximate causes". When, therefore, a blister over the region of the heart cures endocarditis and its articular complications, it would surely not be unsafe to infer that the proximate cause is located in the heart itself.

If, then, it can be satisfactorily established that acute rheumatism may be cured by a topical remedy alone, what becomes of all the theories based on the idea of its zymotic, its constitutional, or auto-genetic origin, and the sundry modes of treatment, and the antidotal remedies devised for the removal of the hypothetical condition of the vital fluid—eliminative, antacid, or otherwise? That it may be done—that it has been done in a number of cases—I have satisfied myself, and, knowing how prone human nature is to self-deception, I have guarded against the personal element by inviting the presence and co-operation of several medical men of the highest ability and scientific acquirements, as witnesses.

My chief desire is, that my simple plan for the cure of rheumatism shall be thoroughly tested by the profession at large; of its efficacy, my own experience, and that of a number of my professional brethren, assures me. I cannot expect, however, that every one who may be equally convinced by personal trial and experience, shall also accept my explanation of its *rationale*. The pathology and physiology of the nervous system are not yet established on sure grounds; its supposed laws are subject to many contradictions, which only a more extensive knowledge of its principles, and their application, can elucidate. Nor would I wish to appear as proclaiming its efficacy in every case. I am satisfied, indeed, that endocarditis will still claim a place in the sad category of fatal diseases; but I also feel that, in cases possible of cure, the abortive plan proposed must claim precedence as the most rapid, safe, and permanent; from its very nature, the most potent to anticipate or remedy functional or organic disorder in the heart and its appendages.

One other important result is likely to flow from its general adoption, viz., the reduction to very moderate dimensions of that class of applicants to whom the physician has so often reluctantly to refuse the benefits of life assurance, on account of the existence of permanent cardiac injury, caused by undetected lesion in cases of ordinary acute rheumatism.

MEDICAL NOTES OF TRAVELS IN EGYPT, THE SOUDAN, AND THE KUNAMA OR BASÉ COUNTRY: 1881 AND 1882.

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IN November 1881, I accompanied an expedition to the above-named places. I have recently returned, and, in view of passing events, I trust some notes, detailing some of my professional experiences, etc., will not be unacceptable to the readers of the *BRITISH MEDICAL JOURNAL*; and those who purpose making a similar journey may, perchance, pick out here and there an useful hint.

Having sent out my heavy baggage and medicine-chest by P. and O. steamer to Suez, I started off in the early part of November, and rambled through Italy, arriving at Brindisi on the 21st, in time for the P. and O. steamer *Tanjore*, bound for Alexandria, which we reached after a pleasant voyage of a little over three days. Alas! what was then a thriving handsome town, is now a heap of smouldering ruins. A few hours by rail soon took us to Cairo, so full of old world history, dirty Arabs, and flies. *En route*, everyone is struck with astonishment at the number of Arabs suffering from ophthalmia, and the loss of one or both eyes is very common indeed. Even children manifest the greatest indifference to these flies, and do not take the least trouble to brush away the swarm that settles all over their eyelids.

Various reasons are ascribed to the extreme prevalence of Egyptian or purulent ophthalmia—such as the glare of the sun, the fine impalpable dust and sand, etc. This may have something to do with it; but I think there can be little doubt that the chief reason is, that these people live in direct violation of all sanitary laws, and no effort whatever seems to be made to check or get rid of the disease. They live in mud huts, admitting no light nor air, except through the door-way; the earthen floor is sodden with filth and half-covered by pools of water; and even the calls of nature (in the case of children) are obeyed in the dwelling. Several people of all ages and both sexes, who seldom wash, and live

on almost anything they can pick up, live in each hut; and this in a hot climate, where evaporation and decomposition is rapid. It is, therefore, not surprising that strumous ulcers, fevers, purulent ophthalmia, etc., are common and much intensified. Wherever poor Arabs live in towns, this is their mode of life; and Dr. Mariotti of Suez tells me that fever is never absent there, and syphilis one of the most common complaints.

When I had been in Cairo about two days, I gave my donkey-boy a lotion for his eyes, consisting of alum and sulphate of zinc; the result of this was that, before I left Cairo, I met every day, in front of Shepherd's Hotel, a swarm of importunate Arabs, eagerly seeking the same lotion; and when I returned to Cairo in May last, many were the benedictions showered on my head by my old friends, who each came with a large bottle, and departed invoking the protection of "Allah" on me.

Wooded by the soft, warm, dry air of Cairo—where baskets full of lovely roses and other flowers are brought every morning under the windows of the hotel; where the turbaned Oriental is seen with his long flowing robe, and the camel stalks majestically along; where can be seen places of interest that will vie with any other city in the world—may be seen many of our countrymen, who have fled the rigorous winter of England, with unmistakeable symptoms of their disease (phthisis) plainly developed, endeavouring to keep off the hand of the fell destroyer yet a little while longer.

After a pleasant week in Cairo and its vicinity, a day's journey by rail takes us to Suez, where no one would stay more than a day if he could possibly help it; but here we were compelled to stay for about a week, on account of a block in the canal—a by no means unfrequent occurrence. At last, we got a steamer to Souakin, the port of Central Africa, and at Souakin we arrived after a four days' passage. Rain here is quite exceptional; but, unfortunately for us, we experienced about three or four days of it—the first rain for about eighteen months. The dwellings of the poorer Arabs here are not made of mud bricks baked in the sun, but of a thatched roof, walled in by the tall strong stems of the dhoom palm leaf, admitting a plentiful supply of air and a good deal of light. I saw fewer cases by far of ophthalmia here, but any amount of syphilis. There is a small place here called a hospital, and one doctor (a German); and I have no hesitation in saying that he deserves all he gets in the way of money for living in such a place. There were then eight cases of syphilis of the anus in men, which this doctor informed me was very common; but there was very little else of interest in the hospital at the time I was there. We remained at Souakin four or five days, and during that time I attended to about one hundred and fifty people, most of the cases being of a very uninteresting character; fortunately for me, my ministrations were successful, or rather not unsuccessful, inasmuch as no patient died under my hands. A little anecdote connected with the place will, I think, convey to the minds of my learned brethren some idea of what I mean. About two or three years ago, a doctor, who was in practice in Souakin, was called to attend a native, on whom he thought it advisable to perform some slight operation; but, unfortunately for the native, and also for the doctor, the native died. After this, "the doctor's lot was not a happy one:" for, in affectionate remembrance of the deceased, and to mark their appreciation of the doctor's efforts to relieve the sufferings of the dear departed one, the friends condescended to call on the worthy leech. They then escorted him to a large open space—where dhurra, etc., is sold—and there, without further ceremony, they fell upon and speedily made an end of him by chopping him to pieces with their knives.

The native treatment of syphilis in young girls is very primitive and very barbarous. Close to the town, in the Red Sea, is a little island, called originally Sana Gin, and from which the town takes its name. The girl is taken across to this island by six women; she is then laid naked on her back; on each arm and each leg sits a woman, another on her chest. The operator, another woman, who is provided with a sharp sea-shell, scrapes away in the vagina until she is satisfied that all diseased parts are removed, and then, utterly regardless of the shrieks of the girl, gets a handful of sand from the sea, and rubs that in. The disease is then supposed to be cured by this rather rough operation. I noticed here and elsewhere whilst travelling amongst the Arabs, that there was scarcely a man, woman, or child who did not bear scars on some parts of their bodies, and many frequently on the chest and back. I found the cause was this: if they had any pain persistently for two or three days anywhere—chest, abdomen, arms, legs, neck, no matter where—they apply a heated iron in one, two, three, or four places.

At last, we succeeded in getting together our camels—eighty in number, about thirty camel-drivers, six native servants for odds and ends in camp, a cook and assistant, a native from Cairo to look after the canteen, cups and saucers, etc., three European servants—all these

and ourselves, well armed with rifles and revolvers, completed a tolerably extensive caravan, I think; larger, in fact, than any I saw besides. Our first journey on camels was across the Desert to Cassala, a distance of about three hundred miles; and, if no hindrance happens on the way, the distance ought to be accomplished in about fifteen or sixteen days; but, for reasons which I will shortly give, we were over three weeks in doing it. About the middle of December, we started on our journey across the Desert; temperature 88° Fahr. in the shade. Within half-an-hour, we had left Souakin behind us, and we were in the Desert; down came the rain in torrents, and those who have been in the tropics will know what that means. It continued the whole afternoon; and, as soon as it ceased, about 4 P.M., we pitched our camp. I warned all the Europeans to change their clothing as soon as we were in camp. This everyone did except one—the strongest-looking man in build of anyone; change he would not, protesting he should take no harm from a wetting, he was strong enough, and so on. I told him to remember he was not in England, but in the tropics, where it behoved us all to be careful in such matters, and particularly careful to see that the drinking-water was all right. Within an hour after this, I saw this man working away at pitching tents, and positively drinking water, from a "zanzimeer" (a leathern bottle), somewhat the colour of pea-soup, but not quite so thick. I then told him he was going the right way to get dysentery, a particularly fatal disease in a tropical climate. I might as well have talked to the winds, so headstrong was this man. Three days after this, this man, J. B., came to me suffering from bilious vomiting and purging. I prescribed the usual remedies in such cases, and the vomiting ceased, but not so the purging, which now was accompanied with severe gripping pains, abdominal tenderness, and great prostration, with constant desire to go to stool. I at once suspected dysentery, and sought out his evacuation, a little way from his tent, where my fears were confirmed. The man's history was as follows. He had been for many years past a kind of privileged servant in the house of a wealthy family in England, passing an easy life, with plenty to eat and drink; besides what he got in the house, he habitually consumed large quantities of beer. He had been the victim of misplaced confidence on several occasions, having suffered severely from syphilis once, and gonorrhœa several times; he had indeed only just got over an attack of gonorrhœa, when he left England on this expedition. On the voyage from Venice to Suez, he suffered incessantly and severely from sea-sickness. During the few days that we were at Souakin, the weather was very hot, and he drank quantities of anything he could get—beer, bad claret, muddy water—and complained then of feeling very poorly, but not to me, for several days afterwards, when he was almost too ill to proceed. He was a strongly built looking man, about 5 ft. 7 in. in height, about thirty-two years of age, but looked too fat and flabby for knocking about in a tropical climate. Such a man was about the worst subject to be afflicted with dysentery, especially under such adverse circumstances as travelling across the Desert on camels for two or three weeks.

The history of the case was as follows, and I should be glad of the opinions of my professional brethren as to my treatment of the case. I have treated scores of cases in Turkey during the war in 1876 and 1877, but there they were in hospital, and could have proper diet and rest; but in this case he could have neither, and so I think and hope I did the best I could for the poor fellow under the circumstances. Nearly a week after we had started, J. B. complained of vomiting and purging, and I (knowing now what quantities of beer, bad claret, etc., he had been drinking) gave him some pills and medicine as for an ordinary bilious attack. Next evening, he felt better, he said, bilious vomiting having ceased, but still complained of purging, and this, again, continued on the third day, accompanied with great pain and constant desire to go to stool. I now found he had all the symptoms of acute dysentery, fever, great pain on pressure, frequent desire to go to stool, with intense tormina and tenesmus, the stools consisting of mucus or mucus and blood at first, then flakes of lymph, and shreds of disintegrated mucous membrane.

In the evening, when we halted, I gave him a quarter of a grain of morphia and a dose of castor-oil, and applied a large hot poultice over the abdomen, with a little mustard in it, and made him some barley-water, and had some broth made with part of a gazelle that we had shot.

On the fourth day, he passed a more comfortable night, more free from pain, but was up several times in the night, and passed a good deal of scybala. He was too ill to proceed on the journey, we therefore remained. During the day, he had thirty-two motions, sometimes great tenesmus without any evacuation, sometimes foetid, grass-green, and frothy, semi-gelatinous, semi-fatty looking matter, very like the green fat of turtle, with blood and shreds of lymph. The desire

to micturate was frequent; the urine was highly coloured and scanty, sometimes only a few drops coming away. He had an anxious countenance, great emaciation and prostration, feeble pulse, and great abdominal tenderness. The treatment during the day consisted in a water-compress to the abdomen, and twenty grains of powdered ipecacuanha thrice daily. The first two doses were rejected. In the evening, I administered an enema of starch with ten grains of nitrate of silver, and a drachm of tincture of opium. Half-an-hour afterwards he went to stool, and an hour after that felt very great relief, and no desire to go to stool for several hours. His diet was as before.

On the fifth day, he had slept better in the night, and was free from pain. He had no motion until two or three in the morning. During the day, I gave him three doses, each twenty-five grains of powdered ipecacuanha, which he retained, and in the evening did not feel sick. The motions had decreased from thirty-two to eighteen, and this evening he said he felt much better, more free from pain, and thought he would be able to go on the next day. As a matter of fact, we had to push on until we reached water, which was two days off. The enema was repeated.

On the sixth day, he had been only disturbed twice in the night. We decided to move the camp, and do the best we could with the invalid. Before we started, I administered another enema. He had a motion soon afterwards, but not another until midday. He had twenty-five grains of ipecacuanha. I gave him another dose on the march also; but in consequence of the motion of the camel, he soon rejected this. I made some beef-tea and put it in a bottle before we started, and gave him some every half-hour on the march. In the evening he was terribly prostrate, and there was an increase in the number of stools, the character of which had somewhat improved.

On the seventh day, the same line of treatment was continued; we were obliged to halt five hours in the day, and go on again in the evening. We lost the caravan track for about three hours. We made signals of distress by lighting a fire and firing off guns until we were found. My poor patient meantime was thoroughly exhausted, and lying on the sand with a rug over him. At this time of the year (December) the days were very hot and the nights cold. Next day we got to water, with the poor fellow more dead than alive, and here we resolved to halt with a part of the caravan; and we stayed here a week, about half way across the desert, and were visited by a fearful sand-storm which lasted two days and two nights, producing the greatest discomfort to every one, especially the poor patient, whose broth, milk, etc., would soon be filled with sand so what we would to keep it out. Here I was enabled to get a little milk; with this, custard powders, sago puddings, beef-tea, and broths, I fed him during the week, and continued the treatment as before with the very best results, for I do not think I could have a more severe case to treat or greater disadvantages as regards climate and procuring proper diet. The result was that, at the end of a week, he only had two or three stools a day, and much improved in character; the last day we were there, only two, and no pain for several days. I should say that when the stools were numerous, frothy, and bloody, I gave with the ipecacuanha some bismuth. The patient, at the end of this time, expressed himself quite ready to proceed on the journey, and indeed we were obliged to do so, as the camel-drivers were getting impatient at the delay, and their food running short, so *volens volens* on we must go. We rigged up an "augerip" (a native sort of bedstead), and covered it with matting and palm-leaves to keep the glare of the sun off, slung it across a camel's back, and so proceeded on our journey. From this time until the end of our journey—about seven or eight days—the poor fellow rapidly got worse, the worst symptoms again supervened, our daily marches were too long—although I remonstrated several times—the exhaustion was fearful at the end of each day's march, and during the last two days I was afraid he would not reach Cassala alive. When we halted in the evening, I could get him a custard pudding made from custard powders and Swiss milk, but on the march I had nothing but beef-tea and champagne to give him, and this I did every half-hour, and so was enabled to keep him alive until we got to Cassala. There I made some egg, brandy, and milk mixture, but he died from exhaustion two days after we reached Cassala, having partaken of scarcely any sustenance for the past four or five days. He could not retain the ipecacuanha on the march, so I gave him the liquid part of a grain of perchloride of mercury every half-hour, but I found it do little good. He required rest in bed and careful dieting, instead of which he was subjected to the unpleasant rolling motion of the camel, and scarcely any diet at all.

The old pathologists used, in all these muco-enteric affections, to rely on two or three grains of hydrargum cum creta, with three to five grains of Dover's powder, every four hours to subdue inflammation and produce healthy secretion, relieve spasm, and determine to skin. In

tropical dysentery, they used to bleed from the arm; that, in time, was discontinued, and leeches freely applied to the painful part, and eight or ten to the anus; but such things could not be obtained in the desert, neither could a warm bath. They used also to rely on scruple doses of calomel, with full doses of Dover's powder (ten to twenty grains), and said these scruple doses of calomel subdued inflammation by direct sedative action. Now, however, ipecacuanha, *per se*, is considered the best remedy to subdue vascular excitement, to relieve mucous membrane by secretion from it, and also to determine freely to the skin. After a simple enema, then inject starch, opium, and nitrate of silver. This I always found afforded marked relief, and no desire was evinced (for several hours) to go to stool.

The total disregard of human life in these parts, is quite shocking to an European. Whilst crossing the Desert, we came up to a man and woman on the second day, who had just accomplished the pilgrimage to Mecca, and were returning to their home, somewhere beyond Cassala. We allowed them to join our caravan, and gave them food; about two days afterwards, we missed the woman, and found that the man who was with her, in the rear of the caravan, had left her on the road the day before, saying that she was too ill and worn out to go any farther. A day or two afterwards, we caught up two brothers, men of about thirty-two or thirty-five, who were also returning from the Mecca pilgrimage; they both looked almost done up, one particularly so. They were fed by us every day, before and after the march. One day, during a sand-storm, where we halted for a day or two, one of our party happened to pass these two brothers about mid-day, one supporting the other; the man said his brother was ill. I was called, and found him dying—his ears, nose, eyes, mouth, and hair filled with sand; twenty minutes passed, and he was dead. His brother borrowed a spade, dug a grave, and buried him at once, not far from the camp. But the pilgrimage was accomplished, and I suppose he died a happy man.

We encamped just outside the town of Cassala, and remained there for several days, buying and hiring camels to proceed on our journey. It soon became known that an "Inglese hakeem" was in the camp; and every morning a large crowd of Arabs surrounded my tent (seeking advice and medicine), very many of whom suffered from syphilis or its sequelæ, and struma. They looked with awe and wonder at my well-stocked medicine-chest. As far as possible, I took everything in the form of pills, and I cannot speak too highly of the coated pills of Messrs. Richardson and Co. of Leicester; their composition is always to be depended on, and they are, without exception, some of the best-made pills I have met with, and never cracked throughout the journey, notwithstanding the damp at Sanakin and the subsequent great heat. Anyone travelling through that country would do well to be provided, amongst other things, with plenty of iodide of potassium, and different mercurial preparations; oil of male fern, as tape-worm is by no means uncommon; a good stock of quinine, alum, sulphate of zinc, liquor atropiæ, and ipecacuanha, carbolic acid, and several dozen bandages. Liquids are bulky, bottles easily break, and the heat is so great that, unless very carefully secured, evaporation is continuous. Therefore, I did not take more than I could avoid of these. It is most rare to see any natives, of either sex or any age, with bad teeth; their teeth would be the envy of any lady, so beautifully white, sound, and regular are they. This may probably be accounted for by their simple mode of life.

The natives like meat, when they can get it, but live almost exclusively on "dhurra," a grain resembling pearl-barley in size and appearance. It is to the natives what wheat is to us, but it contains one and a half per cent. more of gluten than wheat does. Dhurra contains eleven and a half per cent., and wheat ten per cent. It is the staple article of consumption throughout the country, and our camel-drivers and servants only took two meals a day of it, and yet were capable of great endurance. In the morning, say at 6 A.M., three or four would sit round a wooden bowl, full of boiled dhurra (looking for all the world like a large linseed-meal poultice), and with their fingers would scoop out great mouthfuls, and wash it down with water, and at 7 or 8 P.M. repeat the same process, then curl themselves up on the sand, and sleep like tops until morning. When we got into a game country where we shot antelopes, buffaloes, etc., they had plenty of meat, and enjoyed it; but this is exceptional for them. The Hadendowah Arabs are, almost without exception, fine good-looking fellows, erect bearing, and possessing well developed limbs, but much given to laziness and lying. They pay considerable attention to their teeth and hair; the former they rub with tooth-stick, the broken end of a twig of a tree, called in Cairo mossuack, and in the Soudan errack. Their hair they comb out with a scratcher (which they carry in their hair, shaped exactly like a catheter, but sharp at the point), and plaster it with fat whenever they have an opportunity.

[To be continued.]