ments performed by the hands and fingers.* If, however, in these cases, the several parts of the ideal sound-combination do cause such a slight and transient mental impression as to be almost unnoticed as distinct phases of consciousness, can it be wondered at that, in the process of speech, there should be so little evidence of the consciousness of words becoming nascent as remembered sounds?"

THE SOUDAN:

HALTING-PLACES; SICKNESS BREAKS OUT; TREATMENT EMPLOYED; QUININE AND BRANDY; METEMMA; BALWAHA.

By HENRY BLANC, M.D., M.R.C.S.E., F.R.G.S., etc.,
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PART IV.

THE selection of the halting-ground for the night is also of some importance. We preferred, when practicable, some rising ground—at all events, a clear, open space, where the grass was dry or burnt, free from trees, and at some distance from valleys and swamps. We never halted for the night on the banks of the few streams we crossed; and, although during the day-time we enjoyed immensely the cool shade of the well-wooded valleys of the Anseba, of the Gasch, and of the Atbara, at sun-set we moved our camp to some distance, afraid of sleeping at night too near those charming but dangerous localities. On a few occasions, when necessity obliged us to halt on some low, damp, unhealthy ground, after a few hours' rest we started in advance, allowing the camels to follow us. On other occasions, when wood was procurable, several large fires were kindled around our camp, and kept burning all night by the followers, who watched and slept in turns. This practice of night-fires is very extensively followed by the natives—not so much as a precaution against diseases, as to keep off the lions, very numerous and very daring; nevertheless, although the motive is somewhat different, the results are, all the same, favourable, and protect many from the evil effects of cold damp nights.

We avoided the midday sun as far as possible: at all events, we always protected ourselves, to the best of our ability, by following the rules which I described in the first chapter. I have explained our usual daily mode, our life, the care we took concerning the water, the precautions we adopted at night, etc. I believe that any one electing the same course, and following the same plan, will reap, under equally dangerous circumstances, the same immunity and benefits. A last recommendation before I conclude this part of my subject. Now and then, especially when our morning march led us through jungles or valleys, we took a grain or two of quinine in a wine-glass of sherry; and every third or fourth day we made our Indian servants drink half a cup of black coffee, with a few grains of quinine dissolved in it.

Up to Kassala, about half our journey, we had in our camp hardly any sickness at all. Strict orders had been given to our servants and followers not to delay, but to come to me at once on the slightest indisposition. Fear had made the order generally obeyed; and, in consequence, a few timely remedies had averted, in several cases, severe illness. But, after leaving Kassala,—with our forced halt of several days in that most unhealthy of cities, and our losing our way in the dark the evening we left that place, and having, in consequence, to encamp on a kind of island in the bed of the river Gasch, where we were overtaken by a severe storm of rain, together with the damp and green prairies we had to cross, and the greater scarcity in some places, and still more inferior quality in others, of the water—all these circumstances combined to bring on sickness: fever, diarrhoea, and dysentery made their appearance; and, before we reached Metemma, almost all our servants and followers suffered more or less from one or the other of these diseases.

On a quick march like ours, sick or well, every one must keep up with the caravan. For many, many miles, not even a roving Bedouin is to be met with, and we had no option but to carry our sick with us. This was no easy matter; we had only a few spare mules; all the camels were laden, and the camelers were very adverse to have any extra weight placed upon their beasts; but, as necessity left us no alternative, we had to make them submit, and consent to allow the sick to ride on the top of the baggage and boxes. A sharp attack of dysentery, a burning fever, are evils painful enough in themselves when the patient is surrounded by the best of comforts; what, then, must have

been the sufferings of those poor wretches, dangling backwards and forwards on the top of a camel, exposed to the sun by day, to the damp by night, often having to ride in that fatiguing position from 3 P.M. to 5 A.M., with, perhaps, in all that time, but an hour's rest! But we could not help ourselves. As we advanced, water daily became more scarce; and, even once or twice, we found none at all, and had to push on as fast as we could, contenting ourselves, sick and all, with the little turbid, nauseous fluid we carried with us.

For the medical man, every one will understand me, the difficulty was indeed great. I had to contend not only against severe and fatal sickness, but under circumstances that seemed almost to paralyse any efforts of mine. However, I did my best to make the poor sufferers as comfortable as possible; availed myself of every halt, and adopted an energetic treatment, followed, I am happy to say, with success in every case. The majority of the fever cases belonged to the simple remittent type. In a few instances, it affected a more continuous and serious form, accompanied by adynamic and ataxic symptoms, whilst in the simplest cases the fever assumed a mild intermittent type.

The fever began usually by severe aching pains in the limbs, headache, and prostration, soon followed by a more or less lasting rigor, the reaction (the intensity of which was in relation to the severity of the first symptoms) being more or less violent and persisting. The treatment which I adopted was the following. All, before starting, took a dose of quinine, varying, according to cases, from six to ten grains. At the halt, during the heat of the day, a mild emetic was given to those presenting a coated tongue—a small dose of castor-oil in such cases where the bowels did not act properly. When water was procurable, the heat of the body was reduced, and the skin's action increased by cold packing. Beef-tea or arrow-root, with port wine, was allowed to every one twice a day. In the evening, before starting, all received an ounce of brandy and another dose of quinine; and, when the night-march was long, another half-ounce of brandy, in cold tea, was given to the most debilitated. In a few severe cases, where the tongue presented a rough, red, dry appearance, a blister was applied on the epigastrium. The cry for water was indeed painful to hear; but I would not give in, and only allowed to each patient a couple of bottles of cold tea or rice-water, as the case might be; carried on the shady side of the camel; and strict orders were given to those who accompanied the sick, never to allow them to drink from any of the pools or wells they might come across.

Every one of them eventually recovered; and, by the time we reached Metemma, only three of the worst cases remained on the sick-list. After a few days' rest and a continuation of the former treatment, aided in its effects by a better diet, these also quickly improved; and, as all were only weakened by sickness, and not also by the treatment, the convalescence was, in every case, short, and with but few relapses; and, before many days after our arrival at Metemma, the whole party was in excellent health, and in good working order.

Diarrhoea, in some cases, was rather severe, accompanied by much griping, and with a tendency to pass almost at once into dysentery; in those who came at once to me, a grain or two of opium in half-an-ounce of brandy, or some thirty minims of chlorodyne in brandy, never failed to check, and soon to stop entirely, the disease. When mucus or streaks of blood had already made their appearance in the stools, or even when dysentery had actually declared itself, I adopted the following treatment. At the first halt, a mustard-plaster was applied for half-an-hour on the epigastrium, and twenty-five minims of tincture of opium were given at the same time; half-an-hour afterwards, from forty to fifty grains of ipecacuanha were administered in one dose. The result in every instance was so satisfactory that it never required a second application of the same treatment to modify entirely the character of the disease. In the evening, chlorodyne and brandy were given, as in the simple cases, to check the little diarrhoea that remained. In every case of diarrhoea or dysentery, beef-tea or arrow-root, with port wine, was given once or twice a day; and at night, or before sunrise, all received a small dose of quinine and brandy. In a few cases, where for several days afterwards a little mucus was still to be seen surrounding the faecal matters, an enema or two of simple cold water were sufficient to complete the cure. All the cases of diarrhoea and dysentery recovered even before we reached Metemma.

If now I sum up the medical portion of our journey through the Soudan, I believe I can advance that it is the only instance known of such a large party having performed that long and dangerous journey without the loss of a single life, and what was, on a mission like ours, almost as good, without having a host of invalids and broken-down followers to drag along or dismiss just when they began, by having learnt our habits, to make themselves useful. For awhile, our many precautions completely baffled sickness; and when at last it fell upon our party, situated although we were in the very midst of the most

* More than in the case of speech, where the words, when revived in the auditory centres, only come up as the symbols of thought, and would, therefore, naturally occupy an even smaller amount of attention, inasmuch as the person is engrossed with the thought itself. But in the case of the person improvising music, the several ideal sounds are at once both thought and symbol.

unfavourable circumstances, such as hot days, cold nights, bad water, exposure, constant fatigue, etc., the treatment employed was so successful that I felt in its very success the reward of my anxious exertions.

In any journey such as ours, be it in Africa, Egypt, Syria, India, or China, there are, considering the matter in its widest sense, but four diseases usually met with, but four diseases which we must avoid, fear, and, when present, contend with: these are fever, diarrhoea, dysentery, and ophthalmia. All are rapid in the march, disastrous in their effects all must be subdued at once, crushed, not nursed, not petted; no trifling must be allowed, no mild, roundabout ways; no expectant treatment must for an instant be permitted; an hour lost is often but a verdict of death. In fever, for the traveller in malarious lands, there are but two remedies that can be depended upon—quinine and brandy. Both are valuable; the first the more so; in the absence of the one, the other is still powerful; and, united, the effects are so certain, that even fear is banished. A dose of ipecacuanha or of castor-oil; wet towels, removed as soon as they become heated; cold applications to the head, a blister on the epigastrium, when the tongue is red and dry; a few cooling drinks, a tonic, and appropriate diet, are one and all useful and worthy auxiliaries; but, nevertheless, are mere trifles compared to the important antidotes, quinine and brandy. These, under any circumstances, must never be omitted, never put aside; whatever the general condition of the patient maybe, in these we must persevere. When delirium had set in, when the head was hot, burning, aching, the eyes bloodshot, the pulse rapid and bounding—in a word, when, according to the so-called authorities, quinine and stimulants ought to be carefully avoided, looking but at the cause, I increased the dose of both, and a favourable result always crowned my temerity. The cause is malaria, whatever that may be—a poison requiring an antidote; the old adage, that unless the cause be removed, the effects will remain, is here, more than elsewhere, never to be forgotten; it is a fight between the two; unless the first be conquered, no hope remains.

After diarrhoea has been checked, as I have indicated, a mild aperient generally proves useful; the same after dysentery; but here again, in both these affections, quinine and brandy, one or both—better both—should be prescribed and insisted upon for some days after the return of health. Malaria is here also, in some form or the other, the original cause; and, should those therapeutic agents be omitted, relapse is certain to take place before long.

In dysentery, ipecacuanha at high doses (recommended some years ago by a surgeon in India, whose name I unfortunately do not remember) is really wonderful in its effects. Should, however, the disease persist in a milder form after that treatment, a few cold water enema, quinine and brandy, will complete and assure a permanent cure.

In ophthalmia, such as is met with in those lands, produced by the glare of the sun and the flying sand (we had a certain number of cases on our journey), the best remedy is a few grains of sulphate of zinc, dissolved in a few drops of water, and dropped into the eye. I have never seen it once fail. Unfortunately for myself, I only learned the value of the remedy so applied but too late, otherwise I would have avoided a month of fearful sufferings when, at Massawah, I almost lost my sight from an attack of ophthalmia.

For the traveller, be he a medical man or not, a few very simple medicines are all that he requires; the simpler the better; quinine, brandy, ipecacuanha, castor-oil, chlorodyne, seidlitz-powder, sulphate of zinc, blistering tissue, nitrate of silver, ammonia, etc., are about the only things which he really will want. Admitting that calomel and mercurials may be useful in cold climates, in tropical lands they never, to my knowledge, do good, and but too often much harm. Let the traveller, should they have been fitted in his medicine chest, throw them away before he lands: all the mischief they do it would be out of place for me to discuss here. I only trust that the day will come when mercurials will meet in tropical lands with the same discredit as blood-letting; and that in presence of facts and experience, those remedies of a bygone age will be considered as dangerous, and be banished from climes where their effects are so noxious and baneful.

From Massawah to Metemma, the whole land is inhabited by Bedouins—tribes of such a purely Arabic appearance, that no doubt whatsoever can be permitted as to their origin. The language is Arabic; the Koran is read by the learned; and between these men and the Arabs of the opposite coast the difference is so slight that the traveller can hardly credit that he is wandering over an African plain instead of the smiling lands of Arabia the Happy. Diseases and medicine are very much the same as what I have mentioned when speaking of the tribes that inhabit nearer the coasts of the Red Sea. Like the people of Massawah and its neighbourhood, the Bedouins of the Soudan are very partial to snuff; none, or very few, smoke. The Bedouins suffer frequently from ophthalmia, and use, as a remedy, their favourite and constant companion, snuff; a pinch of it is dropped into the eye, and, when applied before the

inflammation is too intense, one application, as I have seen it done myself, brings on a cure in a few hours. The pain, however, seemed almost unbearable, and for more than ten minutes the patient was rolling on the ground in great agony; but here again I suppose the result justifies the means.

We arrived at Metemma, the capital of Gallabat, on the 21st of November, 1865. The town, about four miles from the Atbara, is almost surrounded by a small, dirty rivulet, the acknowledged boundary between Egypt and Abyssinia. The inhabitants, called Takruries, a negro colony from Darfur, number about 2,000, about 8,000 more being scattered in the many villages that arise for miles around. Be it town or village, the conical grass and wood-hut is everywhere the abode of both rich and poor, the size and better state of repair alone indicating the possessor to belong to the "upper thousand." The palace of the chief is, in many respects, inferior to his subjects' huts. Life is held cheap in those lands, and, should the chief be thought worth while to kill, no doubt his reign would soon be cut short: he, therefore, although rich, appears as poor as the poorest, and does his best to dispel the credited suspicion that he possesses immense treasures buried under the ground. Metemma is, with Kassala, one of the most unhealthy spots on the surface of the known world. We luckily arrived there in the would-be healthy season; nevertheless, applications for medicine, on account of fever, dysentery, or ophthalmia, were constant—almost importunate; but, before and immediately after the rains, only the tough Takrurie can resist; the Abyssinian is certain to die; the European most likely; and, should he survive, it is but to remain an invalid for life.

The chief placed one of his "summer palaces"—a wretched shed on a small hillock, near the town—at our disposal, until we should receive Theodore's orders to pass the frontier. As we knew that we would, in all probability, have to remain some time, and as sickness had, as I have said, been rather severe amongst our party, we did our best to place ourselves in the best hygienic condition possible, not only with regard to our present welfare, but also for the complete recovery of our convalescent followers. At the very first look of the place, we accused the water used by the inhabitants as one of the most serious causes of the unhealthy condition of the locality. The little rivulet from which all the water is obtained is a small running stream, receiving as it flows towards the Atbara every possible filth and pollution. Mr. Rassam, convinced as well as ourselves, that no one could possibly drink of such water and retain his health, at once made arrangements with some of the natives to have a couple of camels daily sent to the Atbara, thus affording to all a supply of good and wholesome water. The result was as we justly expected; every one enjoyed good health; a few who had contracted fever in the journey had a few relapses, but of no great importance; and, on the whole, every one, Europeans, Indians, and natives, enjoyed perfect health when, about a month later, we started at last for the highlands of Abyssinia.

On the 25th of December 1865, we trod, for the first time, on Abyssinian ground.

Although, a month later, the object of our mission (the delivery of Her Majesty's letter) had been secured, it was only after a residence of two years and a half in that land where we had to endure so many mental and physical sufferings, that, with thankful hearts, now once more steering towards the north, we saw receding in the distant horizon, and fade away in one dim outline, our old friends the towering peaks of Taranta and Gedem, the land of the wild Shohos and the burning sandy coast.

When I recall my first impressions, once fairly in Abyssinia, how vividly they still live in my mind; hopes not unmingled with fears, strange joys, almost feverish longings. We had crossed at last that forbidden circle which despotism had traced around the unknown that we yearned to fathom. A gallant officer, white men, our brethren, all a tyrant's victims, would be by us restored to life and liberty. The many perils and dangers which we would have to overcome, made the task only more attractive; and to travel heralds of such a noble cause, through a land of fairy tales; to conquer Theodore with words of justice and love, were indeed happy thoughts, and we justly felt proud and honoured to have been selected for such a generous errand.

Of our deceptions, of the misery we endured, of our long, painful captivity, the narrative has already been made known,* and needs no mention here. At last, like men returned from the grave, preserved by God's hand, rescued by our brave countrymen, we saw Magdala fall, and liberty once more our lot. Instead of a cruel death, we met with dear friends again; the past a dream of sorrow, made only more loving the embrace of those who had mourned for us; and if the delightful, adventurous feelings we had enjoyed some years before had their charms, it is only to those who, like us, have borne the crushing weight of ad-

* *A Narrative of Captivity in Abyssinia, etc.* By H. Blanc, M.D. Smith, Elder, and Co., 15, Waterloo Place.

versity, that these calm, quiet, but true emotions, can be understood—nay, conceived.

But I must apologise for having allowed my thoughts to have for an instant led me away from my subject; and, without further reflections, I will go on with the narrative of our journey, considered specially in its medical aspect. To give a description of all the diseases of the country, of the various native modes of treatment, of the peculiar native customs, of the geology, Flora, etc., would be quite beyond the limits of these papers. I propose, therefore, to select from my notes some as yet unpublished details, which will, under a more readable form than a long, dry dissertation, give, I hope, a clear idea of the several points most interesting to the profession.

After leaving Metemma, we passed at once into a hilly country, and on the 31st of December we encamped about half way between the high range above us and Metemma, now almost at our feet, at a place called Bal Waha. From the day we left the Soudan, we never had occasion to complain of the quantity and quality of the water-supply; although in certain localities it may be deemed insufficient for an army or a large body of men, we ourselves always found it good and abundant.

At Bal Waha we had to remain several days, until the escort and the bearers sent by the King arrived. Bal Waha seems to have been, during Theodore's reign, a kind of half-way house, a second-class "Hotel des Ambassadeurs"—first rank, of course—belonging to Magdala. A clear running stream (how we loved it!) divides the valley into almost two equal halves. We were shewn first the spot which poor Abdul Rahman Bey, the Turkish Ambassador, had a few years before selected for himself and party; and, by a kind of superstitious feeling, we moved further on, halting in the next open space, as yet associated with no record of treachery and unmerited misfortune. However, for all that our fate was even worse than our predecessors'. I have advanced elsewhere a fact that has been contradicted; namely, that Abyssinians, as a race, are cruel. Travellers but too frequently see but the smiles of those who constantly fawn on them, in the hopes of receiving presents; and, instead of studying the native *chez lui*, they judge him merely by his conduct towards themselves.

First impressions are generally true; and on New Year's day of 1866, for the first time, we saw a certain number of Abyssinians around us; and the manner they killed a cow which we had given them as a treat, made me feel that they must be cruel, or, what is very much the same, devoid of all sensibility, and taking pleasure in witnessing the sufferings of others, be they men or beasts.

In Abyssinia, every one who carries a sword is a butcher, and delights in the work. On the occasion I mention, the "amateur" butcher was one of our former messengers, named Hailo. Probably being of a poor family, he had not killed many cows before; and, to all appearance, was not well up to his work. Being in a great hurry to obtain, as soon as possible, a slice of the warm and thrilling flesh, he did not bind the animal's legs properly; and, no sooner was the cow knocked down, and kept apparently quiet and helpless by some five or six hungry fellows sitting upon it, than Hailo, in the name of the Father, the Son, and the Holy Ghost, proceeded with a blunt sword to cut the animal's throat. But the cow, not approving of the utter *sans gêne* displayed in an operation of such vital importance to herself, tossed off the fellow sitting on her head, and with a kick sent howling away a great big muleteer, who was at the time pulling on the tail with all his might. Imbued with fresh courage by her easy victory, the cow disengaged herself entirely from her terrified enemies, and, with the blood streaming from the wound in her neck, she made straight for a neighbouring thicket, seeking in its solitude safety against the crowd. The Abyssinians, after the first moment of surprise, rallied, and, exciting one another with shrieks and war-cries, followed after it. With a good deal of caution they surrounded her, and for some minutes the belligerents stood gazing at one another. Evidently with the loss of blood her warlike spirits seemed to have vanished, and her now pleading eye had nought of its momentary fury. One of the bravest Abyssinians advanced on tip-toe noiselessly from behind, and, with a blow of his sword, endeavoured to hamstring the poor brute. Too much caution, caused by a lurking fear that the cow might turn round, had somewhat arrested the violence of the blow; the cow was severely wounded, but the tendon was not severed. Off she started again, the crowd this time following closely upon her steps. Swords, spears, stones, were now freely used; and the poor brute, red with blood and covered with wounds, fell down in great agony. The Abyssinians, forgetting their hunger, enjoyed the fun immensely; they laughed, shrieked, in their delight danced around her; and for a while they were so excited that they positively refused to allow me to interfere and put an end to their sport; but I would not listen, and a bullet through her heart put an end to that disgraceful and disgusting scene. No sooner had I fired than a great rush was made; it was of all importance that before life should be completely extinct the

mystic invocation should be repeated, otherwise *no good Abyssinian Christian* could partake of the flesh without fear of eternal damnation.

But it may possibly be suggested that this is an exceptional case, and proves nothing. I will therefore, in the next paper, adduce some native customs and habits bearing upon this point.

ON THE MANAGEMENT OF DIET IN DISEASE.

By JOHN BEDDOE, B.A., M.D.,

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IN taking up this extensive subject, I have no intention of attempting to treat even a portion of it exhaustively: my aim is simply to bring forward a few general considerations bearing upon it, and afterwards to discuss, suggestively, some points in the dietetic treatment of certain diseases.

It is noteworthy how seldom and how sparingly the subject has been treated from this point of view. The dietetic management of diabetes and of gout has indeed been a favourite topic with writers on those diseases, and writers on continued fever have usually attributed its fair share of importance to the conduct of the dietary; but when other morbid states, not directly affecting the stomach, are treated of, the diet is usually dismissed as briefly as possible. It is not long since Dr. Fuller, in a paper read before the London Medical Society, complained with justice that the reporters of cases, while revelling in the minutest particulars of history or pathological anatomy, usually omitted or slurred over all account of the treatment—medicinal or dietetic—which had brought the patient to the *post mortem* room, or at least failed to keep him out of it. The fact was at once a cause and a consequence, Dr. Fuller implied, of the backward state of the study of therapeutics among us. Certainly this particular department of therapeutics is not in advance of other portions of that science. We have many works on food and diet—some written for the profession, more for the public; but they almost all conform, with more or less strictness, to one model. The classification and chemical constitution of various aliments are laid down positively, minutely, and copiously; but the instructions for their employment in disease are scanty and hazy in the extreme. The reason of all this is obvious enough. If the application of principles of dietary to particular diseases is, with the exceptions above mentioned, so very rare, we naturally conclude that such principles are uncertain or wanting. We have in truth almost as little exact knowledge about the use and effects of foods as we have about those of drugs.

The same conclusion is pointed at by what may at first sight appear to be contrary instances. When Dr. Edward Smith or Dr. Dobell publishes an exactly specified ration, or two or three such rations, for consumptive patients, we remember the great variety of conditions, as regards capacity to take and digest food, and to be favourably or unfavourably affected by various kinds of aliment, in which our consumptive patients exist; and the attempt to apply to them such Procrustean rules leads us to suspect the narrowness or one-sidedness of the views on which the rules are based.

It seemed, not long ago, as though all the questions connected with the use of alcohol were likely to be withdrawn from the realm of dietetics, by the discovery of Lallemand that alcohol was not a food, but a medicine incapable of decomposition in the system. Certainly the observations on which this theory was based did not afford a sufficient basis for it; but even if they had done so, one would have been justified in denying, or at least doubting, the accuracy of those observations, so contrary were the views that sprang from them to the evidence of common experience. But the experiments of Dr. Anstie, while diminishing the value of those of Lallemand, and utterly overthrowing the theory based thereon, promise to afford us, if confirmed, a new and most important principle in dietetics—nothing less, in short, than a practical rule for the administration or denial of wine, based on a pathological principle. It is, I repeat, a curious and lamentable consideration, how few such rules are the common property of the profession. Stokes's single and excellent rule for commencing the administration of wine in continued fever, when the first sound of the heart approaches the second in quality, is one of the most valuable and best known. The work of Fonssagrives on *Alimentary Hygiene*, probably the best of its kind in any language, certainly contains more of such practical and valuable precepts than any English one, though our national vanity may be consoled by finding some of them referred to our compatriots Huxham and Sydenham, such as the precept that in all fevers the patient should drink very much, very frequently, and but little at a time.

On the other hand, our national susceptibilities or prejudices may be shocked, on reading, a little further on in the pages of Fonssagrives, a