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REMARKS
ON THE
BILIOUS REMITTENT FEVER
OF
AFRICA:

ITS TREATMENT, AND PRECAUTIONS TO BE USED
IN DANGEROUS LOCALITIES.

BY
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in East Africa.*

FOURTH EDITION.

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PREFACE.

A LETTER written to the *Times** on the subject of African Fever and its treatment, has led to such a demand for further information, that, in order to meet it, a few additional notes seem called for.

In offering the following observations, the writer is met with this difficulty : he remembers he is *not* a member of the medical profession. On the other hand, the layman-like way of expressing himself to which he is in consequence forced to resort, may in itself be better understood by those into whose hands this treatise falls—for he only writes for the bush and the field, not for the surgery. Meddling, however, requires a serious justification. Such in his case he would venture to say is afforded by a continuous experience of fever and its treatment in very unhealthy regions of East Africa during nearly four years ; and he remembers, with deep thankfulness, the pains Dr. LIVINGSTONE, Sir JOHN KIRK, Dr. MELLER, and Mr. DICKINSON took, in their medical capacity, to instruct him in such a manner as to make their knowledge and practice available in his hands for the relief of some hundreds of cases.

*25th September, 1873.

INTRODUCTION.

THESE NOTES were thrown together, as the preface sets forth, in the year 1873: they are republished in accordance with a wish expressed by the Committee of the Central African Mission. I have to state my deep obligations to the Rev. Robert Laws, M.A. M.D. F.R.G.S. &c. who now enables me to multiply them, and permits me to turn to good use the results of his unique opportunities for studying disease in Central Africa, as medical officer in charge of the Free Church Stations.

Looking back on the past and also on the venturesomeness of to-day, it still appears to be a duty to harp continually on the same string, and to hammer away at the same facts—so it must be till some explorer more fortunate than the rest shall discover a new lake in Africa, full of common sense, making it no longer necessary to procure this indispensable as best one may, to be packed off in pamphlets for exportation from the mother-country.

TWYWELL RECTORY, NEAR THRAPSTON,

November, 1885.

SOME OF THE MAIN CAUSES OF FEVER.

FIRST amongst these we must take the overpowering presence of miasma. To choose camping ground, then, on which a *minimum* of it is generated, is very important. The worst of all situations is bright sand, such as is often found in watercourses where the torrents which run in the wet season, are dried up. The same may be said of any sandy ground subject to much moisture and disturbance from floods. Then, again, black alluvial soil covered with sun-cracks in all directions, which conduct exhalations upwards from the hot, clay sub-soil, is much to be dreaded. There is a deposit of vegetable matter far beneath the surface, which is continually giving off malaria, and it ascends with ease through porous soil. High ground is always to be desired; and although the change from low ground to high will very often develop fever-poison imbibed previously in the more unhealthy spots, the change is for the better: the type of fever is not so violent, and the patient sooner gets over it if he is attacked; moreover, the higher situation is not to be blamed, as is too often the case. One would avoid the vicinity of stagnant water, but running water need not make a place unhealthy.

It must be borne in mind that where malaria abounds, fever is always on the look-out for pretexts to attack. Amongst these, wet feet, that is, sitting in wet feet, meets its case exactly; a long tramp through wet grass will frequently bring it on; indigestible food; a night's worry from mosquitoes—these are mentioned as typical opportunities seldom neglected by fever; but there are other provocations, one of which we will now especially consider.

Chill whilst Sleeping.—Nothing is so likely to produce a seizure as this. Take the following example of what is meant. A man turns into his tent or hut (if he is amongst native villages) thoroughly tired by the heat. He finds it almost impossible to bear a blanket over him; he falls asleep, and the cooler the night becomes the more soundly he slumbers. But before 4 A.M. the thermometer falls rapidly, and he awakes with a chilly feeling; he pulls his blanket over him, but the mischief is done. In twenty-four hours he is most likely to be prostrate with fever. To obviate this, it is wise to have a few logs smouldering in the hut; and if by any possibility—and it is very possible—the habit can be acquired of

waking about 4 A.M. to secure oneself against chill, the chief danger is averted. The "lamby suit" of the Navy is an admirable provision against this disastrous early-morning chill, as is also the habit of wearing a common flannel sleeping suit.

Second to the above, perhaps, nothing is more conducive to fever than staying idle in a place for a few days' rest. Exertion, toil, and intense interest will fend off fever in a marvellous way. Relax all this and adopt the *dolce far niente*—you do it at your peril. Better go and shoot, or botanize, or what not; never mind about the heat, *always be active and stirring in mind and body*. The tendency to lassitude is very great, and a man is indeed on his mettle in overcoming it.

Wet feet have been mentioned; no man in his senses would sit in wet clothes if he could avoid it. Here, the precautions adopted by sensible men in England must be doubled in Africa; and it is astonishing how a little good management will render it quite possible to procure a change of dry clothes; nay, as a matter of fact, Dr. Laws assures the writer that he has not been wet through boots and socks, five times in seven years; and he has travelled thousands of miles by path and river. And yet Livingstone was, if possible, more emphatic than he upon this particular precaution.

Having thus touched on the main causes of fever, the disease itself may be considered.

FEVER.—The premonitory symptoms are seldom well marked.* Great exuberance of spirits, whistling, singing, "never-felt-better-in-my-life," and such-like indications of unusual excitement, are amongst the best defined. Lassitude, angularity of temper, "hargieing," and lying about on the bed or on the ground are bad signs. Confined bowels augur badly.

The onset of fever is in the majority of cases as follows:—

A man rises, feeling nothing unusual; he eats breakfast, but perhaps does not quite relish it. Soon afterwards he becomes violently sick, and this is followed by a fit of shivering. The thermometer may be over 90 deg. in the shade, but he begs for blankets, coats, and rugs, and his teeth rattle like castanets; at the same time he has a severe pain in the small of the back, and distressing headache over the forehead. So things continue for an

* Dr. Laws reminds me that "in many cases—especially when men have been some time in the country—the first symptom is only a slight feeling of chilliness, followed by heat, pain, &c. Some are misled by fancying they have influenza."—(Ed.)

hour or more. Now comes the hot stage, during which the mountain of covering is discarded, great thirst prevails, fever runs rampant, the brain is exquisitely active and the memory brilliant and uncontrollable, but one's misery is very great. The attack now passes into the perspiring stage, which affords instant relief; clothes and blankets are saturated, and if the patient has spent any time amongst mangrove swamps within a month or two, he will be reminded of what his system has imbibed in the way of surroundings by the sickly scent of the swamps thrown off in the secretion through the skin! The paroxysm has now passed, only the sufferer is still "ill." If it were simply "Intermittent Fever,"—"fever and ague," he might rise up and feel little the worse, or he would probably know by experience to an hour when it might be expected to return—not so with Remittent Fever; it may return at any time and with greater severity, and the pulse shows the mischief is not over.

Such, then, is a common attack of African Fever. The writer has seen a man in nine seizures in a space of fourteen weeks, yet during the intervals he was able to do work. It is not too much to say that in three years the same patient underwent some eighty repetitions of fever, and one mentions this instance to break down some of the fears connected with the subject. The person in question is still (although quite deaf) alive and active in Africa, but not in the unhealthy part. Complications will arise, and death is by no means rare, but the more serious forms of the disorder will be touched upon presently. How, then, is the ordinary seizure to be met? After first describing the treatment, reasons will then perhaps not be out of place in justifying the means used.

As soon as possible, that is as soon as vomiting subsides a little, administer ten grains of a mixture which we will call "Dr. Livingstone's Pills." On the Zambesi we named the pills "Rousers," and as such they were always administered to men who, from premonitory symptoms, became idle and lethargic.

This prescription consists of:—

Calomel	..	..	..	..	..	viii. Grains.
Resin of Jalap	..	..	..	..	..	viii. "
Pulverised Rhubarb..	..	..	..	..	..	vi. "
Quinine	..	..	..	..	..	vi. "

It is better to make it up in the form of a fine powder, which needs but a pair of scales or a small measure to hit off the right quantity: one or two drops of water added to it render it available

at once in the form of two pills; but if they are made up for any length of time they are sure to become mouldy. Resin of Jalap is too often shamefully adulterated. Corbyn and Co., of 140, Leadenhall Street, for years prepared this medicine for Dr. Livingstone and the various African expeditions, under our directions. It may be added that the powder should be kept well stirred together to prevent the calomel sinking to the bottom from its weight. The patient will in all probability find that a copious action of the bowels succeeds a dose in about five hours, or even less.* Immediately this is the case, let him take four grains of quinine dropped into a wine-glass of water. This quinine dose must be repeated in four hours, and again four hours afterwards, so that twelve grains in all are taken in the twelve hours succeeding the purgative medicine. It is not requisite to draw any hard and fast line in the above recommendations. For instance, if a man knows that aperient medicine easily acts upon him, let him take six or seven grains of the pill mixture. If he has any constipation, or is of full gross habit, let him have twelve grains. If necessary to give it to women, not more than five grains must be administered; but be it remembered, the compiler of these remarks supposes that a medical man is most likely within reach then, and he would far rather place these cases in his hands altogether, for his suggestions apply *only to men*. One thing, however, must be strongly urged: it is, that all ideas about not being able to "stand quinine," that "it flies to the head," and so forth, must be banished as utter nonsense: in Africa every one can stand quinine; *there is scarcely a disorder in which it is not positively required*, and in a desperate case very large doses must be given.

During the distress of the attack effervescing drinks may be given—kali, citrate of magnesia, or any other handy preparation. These are far better than oranges, lemons, or limes made into drinks. Cool and hot drinks alternately induce perspiration.

Coffee and weak tea may be used here, but not spirits or wine, except in extreme cases. Should the pain in the back be excessively severe, a mustard poultice across it is very useful, but it must not

* These pills, Dr. Laws informs me, can now be had coated with a preparation which preserves them well. If in powder, only half an ounce should be in each bottle from the tendency of the calomel to sink. Messrs. Maw & Co.'s wafer paper (in which to wrap either Rouser powder or quinine) is very valuable, as it obviates the nasty taste—a very important point when there is a tendency to vomit.—(Ed.)

be so strong as we use in England, and mustard leaves, which are generally very powerful, should be used cautiously.

The more obstinate cases are those in which the bowels can hardly be got to act. If in all probability no result is likely to follow the administration of two of the above pills—say in six hours—then repeat the dose, or give a good jorum of senna tea (made like tea, but stronger), Epsom salts, or castor oil; after this do not persevere, for it is no uncommon thing to find a partial paralysis of the intestines set in, and they are impervious to medicine of this description. Here the value of the Enema apparatus comes in, and injections of castor oil mixed in weak soap and water, in the proportion of three ounces of the oil to two pints of warm water, should be resorted to without loss of time. Cases are remembered in which salts, croton oil, large doses of calomel and senna succeeded the original pills with no effect whatever, but the necessary relief followed very shortly upon the use of Enemata: of course a proper instrument should be in the baggage: a simple brass syringe with a pewter nozzle is the handiest and most durable.

A second complication is incessant sickness. To relieve it, recourse must be had to small frequent effervescing draughts, and even a blister across the stomach may be needed; but in a case of this description the treatment is almost beyond the sphere of non-professional resources, and the sufferer's state is a critical one if it continues over thirty-six hours. It is said on excellent authority that small lumps of ice act like magic, but, unfortunately, ice is seldom to be had!

A third effect of fever may be epilepsy and mania. This, however, is a very rare occurrence,—so rare that it would not be mentioned except to afford an opportunity of again bringing forward *the absolute necessity of placing faith in quinine*. A case of epilepsy, succeeded by raving mania of four days' duration, was successfully treated by rapid doses of quinine in one instance, complete repose and consciousness returning in eight hours from its first exhibition. The symptoms were such as to clearly indicate any other treatment but this to the non-professional eye, but the fortunate arrival of Drs. Livingstone and Kirk at the critical moment saved the patient's life.

And now for a word on the rationale of the above method of treating the disease. The active purgative combined with calomel relieves the liver, which is in every case seriously involved. The calomel does not remain in the system longer than is needful.

That mercurial action is a most powerful adjunct to quinine is no new thing; the most obstinate cases of ague in England constantly yield to the combined treatment when the application of quinine, alone, fails. "We find nature getting rid of the poison by all possible channels, the lungs, the skin, the kidneys and the bowels; therefore in our treatment we must follow her guidance and endeavour to keep all these doors of escape open for throwing out the poison. By the purgative we act on the bowels; by the weak tea we assuage thirst and furnish a diluent, acting also on the skin and relieving the kidneys (even using sometimes a teaspoonful of sweet spirits of nitre also for the latter if required), and by careful ventilation we provide fresh air for the lungs" (Dr. Laws).

It is not for one moment maintained that this is a new mode of acting against Remittent Fever. Probably every one would say at once that to relieve the system by a powerful aperient dose was perfectly reasonable. But sufficient importance is not attached to time. Hours are lost with emetics and uncertain agents (such as Podophyllin), whereas the action of the pills is sharp and decisive. More cannot be said for it than that, as a rule, medical practitioners wish to substitute something else for a time, having theoretical objections at the outset, but in practice they come round to the opinion of their brethren in East Africa, and put their unqualified faith in Dr. Livingstone's treatment.

I will fortify this assertion by quoting Dr. Maclean, of Netley Hospital. He says:—"No better combination of a purgative with quinine can be given to begin the treatment than Livingstone's." This applies to Remittent Fever, but he urges certain considerations with regard to the prescription when treating of Intermittent Fever, which are also to hold good here:—"Common sense points to the necessity of caution in the use of such active purging in men much debilitated by disease or climate or both. . . . It is hardly necessary to add that this sharp treatment is not applicable to those who are labouring, or have previously laboured, under dysentery or any other form of bowel complaint."*

General Gordon, during his sojourn in the Soudan, used to place implicit faith in "Warburg's Drops," a preparation containing a list of powerful aromatics and quinine; and it is believed by many that Warburg is quite on the right track here in combatting Remittent Fever.† One notices that Dr. Maclean, after great

* Quain's "Dictionary of Medicine," pp. 1336, 735.

† Dr. Warburg's address is 11, Lichfield Road, Child's Road, London, N.W.

experience of the Tinctura Warburgi, is warranted in giving it his "strong recommendation," . . . "it is the most powerful sudorific known. . . . After opening the bowels half an ounce of tincture is administered, undiluted, all drink being withheld; a second dose is given in three hours."*

Dr. Laws informs me that on Lake Nyasa he has frequently followed Livingstone's treatment of fever, as described above. Without great biliary disturbance, he avoids the use of calomel, administering a simple purgative followed in the case of men only by five to ten grains of quinine, according to the state of the patient and the severity of the attack, and subsequently by additions of small doses of quinine. After a few months' residence in the country, there is usually some biliary disturbance, and then the treatment is most effectually begun by a "Rouser" dose, followed by doses of from one to two grains of quinine every hour till the "ears sing," or other symptoms of its action set in. He is strongly of opinion that injections of quinine under the skin, properly administered in severe cases, must prove very valuable, and intends to give this process a thorough trial on his return. I may add that he considers that miasmatic poison is thrown off from the system in three different forms of disease: Firstly, as "an attack of fever;" Secondly, as hemorrhage from the mucous membrane, (*a*) of the nose, (*b*) of the stomach, or (*c*) of the bowels, *i.e.* dysentery, the tendency to which may, however, stop short at diarrhoea; or, Thirdly, an outbreak of ulcers.

There are yet one or two more useful memoranda for those who may have to watch over a sick comrade. The first is—*never let him faint*. In a long-continued attack keep a vigilant watch for any approach of faintness, which will be indicated by a small and very rapid pulse, too quick to count; and if with intermissions in the beats, so much the worse. Champagne should be given at once, and by the by, this and bitter ale should be positively in the surgery of every doctor in these campaigns, not in the mere medical-comfort list as a thing perhaps to be omitted. Stronger stimulants, Chloric Aether and Brandy, should be available, and no exertion must be spared to save collapse, for it is the most desperate symptom, and the comatose state once established, death may be looked on as certain to ensue in nearly every case.

Bitter ale will be retained on the stomach when everything else is rejected. The time has arrived to set aside all notions of what

* Quain's "Dictionary of Medicine," p. 735.

is or is not wholesome ; the patient *must be* supported and kept from sinking into coma.

Again, a bottle of Eau de Cologne is most valuable. A little wafted over the face on a handkerchief will, from the surprise and old associations awakened by the scent, act as a stimulus of surpassing efficacy to the mind, and it has been resorted to with capital results when the above most dangerous symptoms appear.

Nothing has been said about the sick man's diet. Broths, tea, and effervescing drinks are needed, but so long as spirits, and manifestly questionable things, are avoided, this must be left to the common sense of those around him.

There is no necessity for detailing appearances assumed at different stages of very severe and prolonged attacks, but anyone likely to have much to do with the disease would do well to provide himself with " Woods' Practice of Medicine," an American work largely used in this country. The article under the heading " Bilious Remittent Fever " is exhaustive, and competent medical judges consider it the very finest treatise on the disorder and its complications which has ever been compiled.

In dismissing this subject, it may just be noticed that when the secretions from the kidneys become dark and brown it is a good sign ; a slight eruption round the mouth augurs favourably also. It is no unusual thing for the fever to temporarily paralyze the legs ; a man falls continually, and has to be assisted as he moves. Too much importance need not be attached to it. A painful and oft-times violent affection of the glands in the neighbourhood of the ear will arise ; in some cases it is almost an epidemic : fomentations must be used in these instances.

PRECAUTIONS.

It is hard to separate this topic from the above, and it will be requisite to lock up the medicine chest for a few moments, and turn to the daily routine of life in the bush or on the river. A man of unsteady habits will save himself and all around him a great deal of trouble by putting an end to his existence in England, for if he attempts to brazen it out in such districts as those to which these remarks relate, it is only another form of suicide, with no particle of extenuation about it.

It seems hard to raise one's voice vehemently against habits little less disastrous in their consequences, and coming under a totally different heading, yet it must be done unflinchingly. An exhaustive and unhealthy climate is not one in which to lead the constitution out to do battle, enfeebled in any wise. One feels unbounded admiration in witnessing the exercise of self-denial *within safe limits*; but alas! how often he deplores an infatuated determination on the part of the Missionary especially, to brook no limit in practising it. Does one put it too crudely when he points out that it is a phase of selfishness to indulge theories of abstinence, pinching, bare necessities of existence and so forth for personal satisfaction, when the united warning voices of a host of shrewd, experienced medical men, and observant lookers on are shouting "danger, danger," at every step? The Evangelist or the explorer is a very valuable piece of machinery by the time he appears on the scene—say in the Lake regions of Africa—and he has no more right to deny himself good wholesome food and plenty of it than the engineer, who helps him to get there is justified in fusing the bearings of his engines by withholding oil, or in allowing the current to catch him without a head of steam up, because he begrudges fuel.

Talking the matter of diet over with Dr. Laws, I find that the

numerous doctors attached to the very simple-living Scotch mission stations are unanimous in declaring that the system must be kept regularly and thoroughly nourished with good food, including bread or biscuit, meat, etc.; and that even something more is required in the way of rations than seamen would get on board a man-of-war, albeit these have an excellent dietary. Dr. Livingstone continually deprecated attempts to exist on the produce of the country, and he was by far the hardest man that ever entered Africa. The ill effects of trying the experiment in his great journey across the Continent never left him, and they finally laid him low. There can be no fear that one is here advocating luxurious feeding or dainty living, but the time has come to speak in no vague terms about debilitating abstinence—particularly when the tendency of climatic exhaustion is to develop fixed ideas and to encourage their morbid intensification. A wise man will so far lay aside self as to consult some one other than self, whose opinion must be worth having in the nature of things; and then, as an act of good discipline, he will carry out his suggestions, however contrary to personal inclinations.

Let all remember, however healthy they may be, that miasmatic tracts of country will always be heavy-going for the best of constitutions and the most regular habits; therefore, the plan is to *save oneself* as much as possible, and to this end the following further suggestions are put forth:—

One cannot too strongly impress upon those who are preparing to go to the malarious regions of Central Africa, that if they are aware of any tendency, hereditary or otherwise, to mental disorder, epilepsy or even somnambulism or loss of nerve force, the fact amounts to a stern command not to go thither. A long list of cases might be produced to show that malaria is prone to bring out constitutional tendencies of this sort in a most lamentable way, and it were well if physicians, to whom the examination of candidates for various appointments is committed, would rigidly make inquiries of those who come before them to procure information under this heading.

The men who die, as a rule, are those who think that to rough it as much as possible is the correct thing. They pooh-pooh all precautions, get wet and will not change, think mosquitoes won't bite them, that native food will do, and so forth; alas for the sad facts that memory recalls about this! Don't burn the candle of your constitution at both ends; your duties and the exigencies of

the situation will tax you quite enough without useless waste of strength : save some of it for a pinch. Don't go across country as if winning a wager or intent on beating some one else who took so many more hours than you think you can do the journey in. Push on when necessity commands, but remember that the tortoise goes ahead of the hare in Africa as a rule.

Let us jot down such little matters as these. Always have a cup of coffee before going out—that is, on rising in the morning ; if an egg is beaten up in it, so much the better.

Wear flannel next the skin, and a broad wrapping of bunting round the waist to keep the sun off the stomach, for the intense heat thrown off the black footpaths or alluvial land is very bad, and perhaps *coup de soleil* really arises from the effects of the heat on the vast sensitive system of nerves in this region far more than on the head, but protect the head well also.

Wear no tight button or anything round the neck that can press to the weight of an ounce on the large vessels which carry on the circulation to and from the brain. Flannel shirts invariably shrink after a wash in the river and a bake on the rocks ; have wide linen bands therefore round the neck, sewn on to the shirt with plenty of room to spare.

Coup de Soleil was almost unknown in East Africa with men who followed this plan. Smoke in moderation if accustomed to do so ; it acts as a soothing medium—no mean matter in the bush ; but do not flatter yourself for a moment that either mosquitoes or fever-poison object to it !

Be attentive to the state of the bowels. Constipation must be avoided, but do not be in haste to stay diarrhoea unless dysentery appears ; it may often be an effort of nature to throw off fever-poison.

Stick to coffee as *the* drink for tropical Africa : it agrees with all in Africa, though some think it does them harm in England. Tea is not so good ; natives *will* boil it for you, then it becomes deleterious : besides, if you can go five hours on tea you can go eight on coffee, especially up-hill.

Content yourself with a sponge-over of a morning rather than a plunge in a cold stream, and in the hill country streams are very cold. Dr. Laws assures me that very severe fever succeeded to his knowledge on the chill incurred in this way, and urges me to put in italics, “ *no bathing in a lake before 8 a.m., and no bathing in hill streams at all.* ” He especially urges that every one in these regions

should have in his knapsack an indiarubber hot-water bottle, 12in. by 8in., so that when a shiver or chill comes over him it may be filled and applied to the back or feet on lying down. In any native hut a pot of water can soon be heated, and fever is often fended off by this stitch in time. In ninety cases out of a hundred a chill means fever in Africa.

After having taken coffee through the day, take a little wine at night; it induces sleep if wakeful, but is by no means a necessary, and avoid "nipping" in the heat of the day as you would poison. On the whole those who abstain entirely do best.

Hard though it may be to forego the pleasure of superintending, clearing and gardening operations, it must be steadily borne in mind that nothing is so deadly as breaking up the virgin soil in the Tropics. If absolutely necessary to be near the spot, keep to windward of excavations and newly-dug ground: fortify yourself with some sherry and quinine, and don't spend a moment unnecessarily in such a pestiferous vicinity.

In making voyages, either by steamer or canoe, be excessively careful to have all bilge-water pumped or baled out, and never under any consideration use sand or shingle for ballast.

Always sleep under a mosquito curtain, whether there are mosquitoes or not. It keeps out miasma when damp with the dew and your own breath, and is the greatest preservative to your health that you can possibly have. To save trouble in describing the sort of curtain used by Dr. Livingstone and those whom he taught the art of camping out, Messrs. Thresher and Glenney, Outfitters, next to Somerset House, have one as a specimen set up to show to those whom the subject may interest; but again it cannot be too strongly urged that whether it be of one shape or another, it *must* be looked on as *utterly indispensable*. It can be set up in forest, in fields, amongst reeds, in a boat or canoe, on the deck or the bridge of a steamer, in short anywhere; and with a little care it will stand a great deal of wear and tear.

If possible sleep off the earth, lie in a hut or on a bundle of grass cut for the occasion. If stationary for any time, make a bedstead of cross sticks or what not, *but do not sleep on the ground*. On the march it cannot be avoided, and the risk is then less, owing to the constant exercise and excitement keeping one in better health than when in settlements. But by good management you will arrange to have a tent put up each night and sleep on a thin hair mattress spread on a light iron folding bedstead. This saves the deadly

risk of lying on the ground. Dr. Laws very properly says, "the saving of an extra man or two as carriers, by leaving tent or bedstead behind, is, I consider, about as bad economy as going on native food."

I learn that at the "Blantyre" Station on the Shiré Highlands no drinking water is used till it has been filtered and boiled, and as a consequence the health of those living there has been exceedingly good.

Take with you the best pair of blankets money can buy. Keep up your own spirits, and be cheerful with those who are perpetually afraid of fever. Tell them the truth, viz., that twenty consecutive attacks may be got over with no worse result than a common cold will produce in England: do not eternally be at the quinine bottle, for it will not always ward off fever, and it makes you in time nervous and feverish. True, a dose at night, when unable to sleep, will often prove the best sedative.

Finally, remember always that the curse of all African travelling, exploring, and campaigning, is *the tendency to quarrel*. This is the direct effect of the influence of miasma, and any great outbreak of it is a sure indication that fever-poison is pretty actively engaged. A man who is open to conviction—who will bear being told that he is really unreasonable and cantankerous, will mix two pills for himself at once, and most likely escape an attack of fever. If, on the other hand, he has to be the looker-on, let him be the peace-maker if he can; at all events let him try to be that which the writer has tried to make him—not a doctor, but a vigilant sentinel and the medicine-man of the party.

HORACE WALLER.

TWYWELL, NORTHANTS,
November, 1885.



