

## Thirst Proves Deadlier than War.

London, Sept 1.—Next to that of transportation the hardest problem in moving the British army across the South African veldt has been to cope with the thirst of man. Not in the march alone, but while lying in the firing line through a hot day the test has been more than many could endure. Certainly hundreds of deaths have been due to attacks on a riverbed held by Boers, when the struggle lasted through hours with the attackers on their faces waiting for a chance to rush for the cover of the bank. The agony of thirst was too much and every now and then a man would jump up, rush madly for water only to be shot dead in the open before he could get there.

It is a question that has evidently forced itself on the troops that marched to Pekin. In future warfare where the area of conflict is great and the water supply small, no matter in the transport of troops can be more important. Food rations can be carried with the column, but scarcely water. A staff correspondent of The Sun who went with the British troops to Pretoria is convinced that very much can be done in the way of going without water. Men can school themselves into enduring long hot days without drinking water, but it is not a habit that can be acquired by the mere willing of it. He has seen the Highland Brigade in an early morning having to wait till some pieces of artillery were taken across a dritt and until their transport was inspanned, the men waiting in their ranks with their water bottles full. They had had their coffee less than an hour before, but in the idleness of standing many emptied their bottles. In four hours, toward the end of their day's march, the same men would be lying unconscious and exhausted on the veldt, grasping convulsively at their kilt waist bands and their throats, almost dying of thirst.

Later in the campaign the same men have done much harder marching without water bottles at all. Some interesting scientific explanations have been given by medical men and travellers in a controversy in the Times on this subject of artificial thirst.

One writer practically assents to the assumption that the ordinary classes from which private soldiers are commonly derived are such as to render them unnaturally desirous of swallowing fluid at short intervals, and unnaturally impatient at the absence of opportunities for such indulgence. The alleged result is that they lose self control under the influence of their so-called thirst, and drink eagerly, without any real necessity, of any foul water which come in their way during a march or an engagement. To this practice a certain proportion of the energetic fever and dysentery which have prevailed in South Africa may be attributed. In order to judge of the question fairly, it is necessary to remember that the word "thirst" is commonly used to express two entirely different conditions—the condition in which the mouth and throat are rendered uncomfortable by dryness of their usually moist surfaces, and the condition in which the fluids of the body have ceased to hold their due proportion to the solids, and in which the performance of many functions important to life and health is seriously interfered with. Dryness of the mouth is a matter of small importance, but real shrinkage of the fluid elements of the body soon leads through agonizing distress, to painful death. Such a condition, however, is guarded against by many modifications of function, and is not very speedily produced. Fifty or sixty years ago complete abstinence from fluid for two or three days was frequently prescribed as an effective cure for severe "cold in the head," and full accounts of this "dry treatment," as it was called, may be found in the writings of the physicians of that day.

"While the functions of vital organs cannot be carried on without a sufficiency of fluid in the body, yet, on the other hand, these functions would be seriously hindered by excess, and hence an excess is often supplied, corresponding facilities for its removal are necessary and are easily brought into play."

The correspondence on the subject contained some interesting letters from acknowledged authorities. Dr. Joseph Kidd writes:

"To drink the right thing at the right time is often wrong, through mistake in the mode of taking it. In our ordinary life nature requires five tumblersful of fluid in the twenty four hours to carry on the circulation of the blood through the lungs, kidneys, skin, &c. During hot weather the need is increased to at least six or seven

tumblers in the twenty four hours. In hot weather the wise man risks taking much fluid at the regular meals. To sip two or four tumblers of fluid on an empty stomach is most hopeful. It anticipates thirst at meal times, and meets the need of the skin and kidneys.

"Taken in small quantities it satisfies the dryness of mouth and throat and does not irritate the delicate mucous membrane of the stomach. Of this we have a perfect illustration in the experience of Dr. Beaumont, a distinguished American physician.

"A Canadian hunter, through an accident, got a wound in the front of his stomach. Through this opening Dr. Beaumont watched for many months the process of digestion. On giving an ordinary meal with a moderate amount of drink, he could see a multitude of glands in the stomach throwing out little drops of white fluid—the gastric juice—and a slow moving of the stomach from left to right. After observing this process for an hour he gave a man a tumbler of water to drink. In about five minutes he saw the dots of white fluid begin to cease and the movement of the stomach from left to right to cease; gradually the tumbler of water was swept up by the absorbents and then and not till then the white drops of gastric juice again poured out."

Prof Flinders Petrie says: "At temperatures of 100 degrees and over, a gallon of drinking water a day is fairly requisite, but the time of taking it is all important. The opportunity to wash out muscular waste, without too much loss by the skin is at night. After freely drinking thus, there is nothing left to eliminate in the morning, and no need of water will be felt in less than five or six hours of hot exercise. During the day as little as possible should be taken, as it is lost in perspiration. The practical point is that an unstinted supply should be ready as soon as camp is reached, and always at hand until the morning. If, after that, none was allowed till noon it would be an advantage.

"The greatest safety against sunstroke is in free evaporation from the nape of the neck. When in good order the nape should be wet and quite cold to the touch in the hottest weather. If it is not perspiring, wetting it artificially will help to start it right. So long as it is wet and freely uncovered no discomfort is felt from any heat. It is obvious that high, tight-fitting tunics and collars are the worst clothing for such conditions. Other animals, such as camels, have also large and very active sweat glands on the neck at the base of the skull. The application of some obvious common sense to the difficulties found in hot climates would save constant suffering and a good deal of illness."

Sir Frederick Bramwell takes the other side and quotes a case where "many years ago the manager of a copper works used in hot weather to provide pots of water, with some oatmeal in it (said to be less dangerous for heated men than plain water), and from these pots the furnace men helped themselves to as much as they would. The manager arranged with one of the workmen to test the utility of this drinking. The man was weighed before beginning work, and one or two other men were weighed; they all had their usual meals, but the one man had not any intermediate oatmeal drinks. At the end of the day's work there was a reweighing, the man who had abstained had lost many pounds. The man who had drunk were not exhausted; the man who had not drunk was dead beat, and some days passed before he fully regained his strength."

But this instance is scarcely convincing in favor of drinking during exertion, for it is suddenly applied in the case of a man who has habitually done so. It is probable that the loss of fluid by the skin, consequent upon active exertion in a very high temperature, was really excessive, and that the man's health suffered accordingly. It is equally probable that this effect was at least partly due to his ordinary practice of drinking largely, and consequently of perspiring profusely, when engaged in work; and that, if it had not been for this practice, and for the activity of the skin produced by constant stimulation of its glands he would have perspired much less under the same conditions of work and of temperature, and would have escaped the consequences from which he is said to have suffered.

The man whose experience comes closest to what one saw in the South African campaign is W. J. Stillman, who writes: "The habit of drinking even cold water is one which is easily kept in the limits of the

actual necessity of the body for renewing its moisture. But the habit must be regulated by the exercise of a certain degree of self-control before the necessity arises. When a boy I had the ambition of exploration, and prepared myself by abstinence for privation. I used to abstain from drinking any liquid whatever for twenty-four hours at a time, knowing that thirst was the hardship most to be dreaded. I found the habit so acquired of great utility in my travels, and especially in the campaigns in Montenegro, which is a country of few wells and no spring, the main supply being rainwater collected in cisterns, and during the Turkish invasion their army could never maintain a force sufficient to hold the localities occupied for the want of water. I have seen the Montenegrin army on a forced march almost uncontrollable from thirst, and my groom lie down in the road to drink from the puddles after a passing shower, though the water was yellow from the tramping of horse and man, while I felt no inconvenience whatever. I have seen the soldiers drink the entire contents of a cistern, such as is provided by the way at convenient distances, down to the mud at the bottom as long as there was any liquid, huddling, crowding, almost fighting to get to the cistern, though I had made the same march (though on horseback) without the sensation of thirst. In the hottest weather of an Athenian or Italian summer I have rarely drunk anything between meals, and avoid iced water as the greatest provocative of thirst."

### Government Baking Powder Tests.

The Royal Baking Powder is an old candidate for favor with the housekeepers of the Dominion. Its patrons will be pleased to know that the recent Government report giving the analysis of baking powder sold in the Dominion show the Royal to be the purest of cream of tartar powders, the most healthful in character, and of greatest leavening strength.

It is shown that the art in baking powder making is to give a pure and healthful powder, of highest leavening power, which will keep indefinitely without losing its strength. These two qualifications—effective keeping and highest strength—it is impossible to combine in a powder except with the use of chemically pure ingredients. The report states that the only entirely cream of tartar powders which came up to this standard were the Royal and Cleveland's.

### Minot's Ledge Light.

On a dark night, the Atlantic coast of the United States from the easternmost point of Maine to Cape Lookout in North Carolina, is marked with lights like a city street. Bay Stannard Baker, in Mr. Clure's Magazine, describes some of the difficulties and dangers which were encountered by the men who built these light-houses.

The true sea-builder speaks with something akin to contempt of the ordinary shore light. He must have tides, breakers, ice-packs, wrecks, fierce currents and windstorms to test his mettle. Not only must he be a skilled engineer and builder, but he has need of the mysterious human elements of courage, foresight, resourcefulness in the face of danger and perseverance under perplexities and obstacles.

When Captain Alexander began work on Minot's Ledge, in 1855, he had an apparently impossible problem to solve. A bold, black knot of rock lay in the sea just off the southeastern coast of Massachusetts Bay. At high tide the water covered it entirely and its place was indicated by a few restless breakers, or if the water was very calm, by a smooth, oily, treacherous eddy. Within thirty years forty-three vessels have been dashed to pieces upon it. Twenty-seven of them had been totally lost, together with their crews.

Upon this ill-fated rock Captain Alexander agreed to build a stone tower one hundred and sixty feet high and thirty feet in diameter at the base. On his first visit to the reef, it was so slippery with sea moss and the waves dashed over it so fiercely, that he could not maintain his footing. Part of the ledge was covered with water, and the remainder, even at low tide, was never bare more than three or four hours at a time.

Captain Alexander sent a crew of men to the rock to scrape it clear of weeds and to cut level steps on which they could maintain a footing. Working in constant danger of death, continually drenched and suffering from the smarting of salt water, Captain Alexander's men were able to cut only four or five little foot holes in the rock during the whole of the first season.

In the second year the workmen succeeded in building an iron platform twenty feet above low water. Ropes were stretched between the pipes on which it rested, and when the waves were high the men clung to them to keep from being washed into the sea.

The next winter a big coastwise bark,

## "77" "Breaks up" COLDS Grip-Influenza.

The use of "Seventy-seven," during September, October and November, secures immunity from Grip and Colds all Winter long.

Dr. Humphrey's famous Specific, "77" restores the checked circulation, indicated by a chill or shiver, the first sign of taking Cold, starts the blood coursing through the veins, and "breaks up" the Cold.

"77" consists of a small vial of pleasant pellets; fits the vest pocket.

Doctor book mailed free.  
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driven in by a storm swept away the platform, crushed the face of the rock, and ruined the result of two years' hard work in a single night. In the third year the workmen succeeded in laying four foundation stones, and in the fifth year the six lower courses of the tower were completed.

In five years the light was finished, "rising sheer out of the sea," as Longfellow describes it, "like a huge stone cannon, mouth upward." It cost the government three hundred thousand dollars.

### Instructing the General.

General Chaffee, commander of our troops in China, is noted for his disregard of what his men call "frills." His dress in the field differs but slightly from that of the private, and oftener than not he wears no insignia of his rank. At Siboney, during the war with Spain, while dressed as above described and preoccupied in thought, he is said to have passed a young lieutenant of a Michigan regiment without saluting. This infraction of military regulations on the part of what appeared to be an ordinary soldier highly incensed the lieutenant. A sharp command—"Halt!"—awakened the general, and entering into the humor of the situation, he halted and faced about.

"Are you in the army?" asked the lieutenant.

"Yes, sir," was the reply.

"Regulars or volunteers?"

"Regulars, sir."

"Haven't you been in the service long enough to know that it is customary to salute when you meet an officer in uniform?"

"I know that, sir, but down here we've kind of overlooked salutes and ceremony."

"Well, I haven't, and I want you to understand it. Now, attention! The man stood at attention. 'Salute!' The salute was given.

"How long have you been in the service?"

"About thirty five years, sir."

"Well, you have learned something about army regulations and customs this morning. Remember who gave the lesson, and when you meet me in uniform, salute. I am Lieutenant—of the—Michigan regiment. Now, what's your name and regiment?"

The man who had received the lessons had been smiling slightly under his moustache, and when this last question was shot at him he straightened up, saluted again and replied:

"General Chaffee, sir, commanding the—h division."

The lieutenant was thunderstruck and for a moment was too dazed to answer or utter a word of apology. When he found the use of his tongue again and started to excuse himself, the general said, kindly:

"That's all right, my boy. You were right. Of course you didn't know me, and an enlisted man should salute an officer, even if we do overlook it sometimes. Always stick as close to regulations as that and you'll make a good officer."

And nodding to the young man, he walked away.

### Her Wedding.

A recent number of Lippincott's Magazine contains an amusing little story of the account given by Chloe, a young negro house servant in an Atlanta family, of a wedding she had attended.

The next day her mistress said to her: "Well, Chloe, how did the wedding go off?"

"Oh, la, missus, it was de grandest wedding I ever saw! It was jess lubly! Oh, yo' jess ought to ob seen de flowahs an' de splendid wedding s'uppah an' de bride—oh, de bride! She had on de longest trail, an' a white veil all ovah her, an' a wreath ob flowahs, an' oh, it was jess de mos' elegant wedding!"

"How did the bridegroom look?"

An expression of infinite disgust came

into the face of Chloe as she said, scornfully: "La, missy, dat good-for nothin' no 'count niggah nebbah come anigh!"

### Not an Ordinary Leg.

Surgeon-General Sir Joseph Fayer's recent book of "Reminiscences" contains this humor of the Crimean siege:

Colonel Blank was acting as a volunteer. He was wounded, and with several others was brought to be attended to. On being asked where he was wounded, he pointed to the leg. Surgeon Fayer took hold of the leg of his trousers and said to some one by him, "This must come off!"

The wounded volunteer immediately called out in great agitation and displeasure, "You shall not cut off that leg sir! That is Colonel Blank's leg!"

### Confusing.

A Western visitor in New England says it is evident that the educational power of Boston does not radiate as far as he had supposed.

In a small railroad-station, less than twenty miles from "the modern Athens," he read the following notice posted on the wall:

"The train leaving Boston at 1 30 p. m. will leave at 1 45 p. m. and at all stations along the road fifteen minutes later."



## PROGRESS.

Some time ago there was a notable automobile procession in the city of Buffalo, N. Y. It was notable for its size, and also for the fact that it was entirely composed of automobile wagons (like that in the cut above), built to distribute the advertising literature of the World's Dispensary Medical Association, proprietors and manufacturers of Dr. Pierce's medicines. In many a town and village Dr. Pierce's automobile has been the pioneer horseless vehicle. These wagons, sent to every important section of the country, are doing more than merely advertise Dr. Pierce's Remedies—they are pioneers of progress, heralds of the automobile age.

And this is in keeping with the record made by Dr. Pierce and his famous preparations, which have always kept in the front on their merits. Dr. Pierce's Golden Medical Discovery is still the leading medicine for disorders and diseases of the stomach and digestive and nutritive systems, for the purifying of the blood and healing of weak lungs.

Women place Dr. Pierce's Favorite Prescription in the front of all put-up medicines specially designed for women's use. The wide benefits this medicine has brought to women have been well summed up in the words "It makes weak women strong and sick women well."

The reputation of Dr. Pierce's Pleasant Pellets as a safe and effective laxative for family use is international.

It may be asserted without fear of contradiction that no other firm or company engaged in the vending of put-up medicines can rank with the World's Dispensary Medical Association, either in the opinion of the medical profession or of the intelligent public. "The Invalids' Hotel and Surgical Institute, which is connected with the "World's Dispensary," is alone sufficient to prove this supremacy. Here is a great modern hospital, always filled with patients, where every day successful operations are performed on men and women whose diseases demand the aid of surgery. No hospital in Buffalo is better equipped, with respect to its modern appliances, or the surgical ability of its staff. Dr. R. V. Pierce, the chief consulting physician of this great institution, has associated with himself nearly a score of physicians, each man being a picked man, chosen for his ability in the treatment and cure of some special form of disease.

The offer that Dr. Pierce makes to men and women suffering with chronic diseases of a free consultation by letter, is really without a parallel. It places without cost or charge the entire resources of a great medical institute at the service of the sick. Such an offer is not for one moment to be confounded with those offers of "free medical advice" which are made by people who are not physicians, cannot and do not practice medicine, and are only saved from prosecution by artfully wording their advertisements so that they give the impression that they are physicians without making the claim to be licensed.

Those who write to Dr. Pierce, chief consulting physician to the Invalids' Hotel and Surgical Institute, Buffalo, N. Y., may do so with the assurance that they will receive not only the advice of a competent physician, but the advice of a physician whose wide experience in the treatment and cure of disease, and whose sympathy with human suffering leads him to take a deep, personal interest in all those who seek his help and that of his associate staff of specialists.

Dr. Pierce's Medical Adviser (in paper covers), 1008 pages, is sent free on receipt of 31 one-cent stamps, or 50 stamps for the cloth-bound volume, to pay expense of customs and mailing only. Address Dr. R. V. Pierce, Buffalo, N. Y.