REPORT

of the

MEDICAL DEPARTMENT,

4th SEPARATE BRIGADE, DEPARTMENT OF NORTH PHILIPPINES,

by the

BRIGADE CHIEF SURGEON,

for the Period,

July 1, 1901, to April 15, 1902.
HEADQUARTERS SECOND SEPARATE BRIGADE.
OFFICE OF THE CHIEF SURGEON,
San Fernando, Pampanga, P.I., June 30, 1902.

To the
Chief Surgeon,
Department North Philippines,
Manila, P.I.

Sir:-

In compliance with your letter of February 3, 1902, I have the honor to submit the following report of the Medical Department, of the Second Separate Brigade, for the year ending June 30, 1902, consolidated from reports of station surgeons and information gathered at inspections:

1. AMBULANCES are all in bad condition as the climate is rapidly destructive, and the life of any vehicle is probably one fourth or one fifth of what it is at home. They are generally housed and have been and are of great use. It has been necessary to use them for other passengers than the sick, and this practice is not objectionable as they are always available. Animals and harness are in possession of the Quartermaster's Department at all small stations.

2. BAKERIES are generally of the field type recently supplied, a few brick oven of simple construction have been built and are satisfactory. Native troops do not know how to use an oven and do not use the bakery, though they like bread and should have it. It was recommended to the adjutant general of the Brigade that a baker be sent to each native company to teach them how to make bread.

3. BOOKS, and files of papers are very few and have no protection from dampness or insects and will not last long. The metric system is a blunder and a failure as it is dangerous and impractical. It has to be followed in compliance with orders, but it is not understood by a majority of privates to whom we are compelled to give nursing directions in plain English measures. Men arrive in the Islands who have never heard of a metre, gramme or litre, and on one occasion I discovered a nurse giving ten times the amount of the medicine ordered, as he was not an expert on decimals. Medical officers have to be constantly on their guard to protect the sick from this danger and practically have to think in two systems always. It will never be universal, as it is unnatural to divide by tenths, the natural way is by 1/2, 1/4, and 1/6. It is proper and indispensable for science but unwholly unsuited for unscientific and common people who invariably, when they have forced on them, devise new measures, like demi-litre, more convenient.

The whole of our country is divided into square sections of a mile, and these in quarters by halving the sides, and the number of acres in a mile is 640, because it can be easily divided by 2, 4, 8, 16, 32, 64, etc. The quarter section is 160 acres and when again and again subdivided each square is a furlong on the side and is a ten-acre lot. This will never be changed, the roads and houses are on section lines and as long as there is an American in the west he will always say the roads are one-mile apart and he owns a quarter section of 160 acres. He will never use fractions of a kilometre. Hence the chance of having the metric system introduced is nothing and we ought to go back to Anglo-Saxon, grains, yards and pounds in the Medical Department, so we can agree with Americans, and be understood. Nearly all English Medical literature is in English measures and it is a waste of time to always be translating.
4. - BARRACKS are in convents and large native houses, and are all in bad repair. Ants are so destructive of wood that some floors are unsafe. They are all raised 10 or 12 feet from the ground, the houses by piles generally, but the convents are stone or brick. They are usually situated on the town plaza or nearby, dry upstairs but damp below so that no storage is safe for property. Only a few were crowded. All modern barracks should be built with a view of excluding the light which we now know is the harmful agent in the tropics.

5. - BATHING facilities are usually absent, the soldiers using rivers and ocean, in a few places wells are enclosed so that shower baths are arranged. The temporary occupancy of posts made it impossible to arrange proper bathing facilities. It is interesting to note that British experience in India is to the effect that cold showers and baths are too stimulating and harmful, while water with the chill taken off ( tepid) is far preferable. This is a refinement unsuited to barracks, but of value to know for officers and others having bath tubs. The warm water does not stimulate and thus increase the already too pronounced exhaustion. The proper hour is at night after the perspiring is over for the day and there is then a clear dry skin all night making the morning bath unnecessary. Too much bathing is exhausting. Too much soap removes the protective grease from the skin and causes eruptions which are cured by less bathing, less soap and the use of a little oil after the bath.

6. - BEDDING is the usual cotton sheets and blankets and is satisfactory, but it seems to wear out soon. The mattress is of course hotter than the native bed, but no one seemed to mind it. Pajamas are reported as of inferior quality and worthless.

7. - BUNKS are satisfactory but very shortlived owing to the rusting of metal parts. The gold medal cots are popular and very satisfactory.

8. - BURIAL OF DEAD is in the local cemetery, the usual data being enclosed in bottles. There is no permanency to these cemeteries as the removal by the burial corps is to follow.

9. - CLOTHING. Khaki is by all odds the most successful material, but in the field the blouse gets entirely too hot and must be taken off allowing the soldiers to wear the light weight blue flannel shirt open at the neck so as not to interfere with the circulation; the neck must be free. The canvas legging seems satisfactory and needed. This garb—blue shirt, khaki trousers, canvas leggings, and tan shoes—seems to survive as the fittest from all experiments, and is instinctively used by civilians. To compel the wearing of the blouse when at hard work is harmful to health. It would no doubt be better to have a khaki colored flannel shirt and under it a thin white cotton knit shirt. The khaki undershirt of thin drill is a ghastly failure, hot, wet and sticky. The leather legging for officers seems to have survived as fittest, as a boot is out of question, and though it is too hot there has not been devised anything better, unless it be the flannel pittee bandage used in India, which I consider the very best thing for the field for officers and soldiers. There must be a change in head gear. The campaign hat is the best for the field for it lasts in sun or rain, can be slept in and has survived every test, though the brim should be wider and more curved. But it is too hot, keeps the head in a continual stew and is a cause of much exhaustion and suffering and should be discarded in garrison, when the field work is over, and a helmet used as is found necessary by three centuries of experience of white men in the tropics. We cannot afford to ignore this experience and must adopt what others have found necessary. To say
that the men should get accustomed to the hat in garrison, is as unreasonable as to say that they should get accustomed to being killed by bullets in garrison. There are hundreds of dangers in the field which can and should be avoided in garrison and the deadly effect of the sun rays is one. Then the men will be better able to stand the work when it does come and not collapse as they have done. The khaki helmet is recommended, but the brim hangs too low and slopes too much. The cap is fit only for office workers, but dangerous for prolonged exposure to the sun. It must be tolerated than slippers for shoes. The need on the officers campaign hat is entirely too heavy, constrains the forehead and should be abolished in favor of a very light weight convenient to distinguish commissioned rank. It has been suggested that a straw hat be used like that of the Spanish soldier and the Insurgents, but it is doubtful if this protects blonder skins sufficiently from the direct rays of the sun. The British in all tropical countries seem to be unable to use it if exposed for any length of time to the sun. Native troops do not have enough clothing allowance, but have to buy from private funds; nor does their clothing fit as it is all built for larger white men.

With regard to cotton vs wool, it must be noted that all our former teaching to wear wool next to the skin was a serious error. No lower animal which wears wool over perspires and the wool is evolve for the express purpose of keeping external dampness from reaching the skin, hence no matter how cold and damp the air, sheep, birds, canine and feline species always have dry skins. Hence we should use wool for outer garments only, and to keep outside dampness out. All lower animals which perspire have some arrangement whereby the moisture evaporates at once to cool the body when cooling is needed. It is silly then for us to wear wool next to the skin and thus present evaporation, when nature intended it to evaporate and cool us, i.e. when we are heated and exercising. We carefully keep the moisture in the soggy, nasty woolen undershirt, so that it will evaporate when we cool down, and as to cool us more just when we don't want cooling and we thus get colds and pneumonia. Our dread of draughts is due to a wet skin, which is kept wet by wool. Men who wear cotton or linen mesh find the vegetable fibre absorbs up the perspiration at once, evaporates it at once, and they have dry skins and never take cold in draughts. Hence the Quartermaster Department should supply knitted cotton undershirts.

The wool undershirt seems also to protect from the sun rays, is used by stokers in firerooms and could be improved by being of a lighter color. Khaki cloth is only to protect from injury, in real

ly an armor. I found that native troops in Singapore wore native costume when off duty, as the uniform was only for protection from injury from the brush and from the equipment. Unless something keeps the khaki from the shoulders, it will blister as soon as tin armor would, and it must be considered simply as armor. Khaki issued to scouts (Native) is reported of poor material, wool.

That absurd hysteria which insisted upon a harmful/harmless band as a fetish which in some occult way was to act as a filter down near the neck to prevent us swallowing the gases of cholera, dysentery and typhoid has fortunately disappeared. No soldiers should be permitted to wear one. "Gallin of the navel" is merely a delusion.

Confusion is made of the poor quality and stretching of the "Quartermaster" soaks upon washing, there being too large, they wrinkle and make sore feet. A thin soolee sock should not be allowed though some people prefer it. It keeps the feet constantly wet.

At San Jose, along the road, it was reported that there was considerable difficulty in getting shoes and clothing for the Hospital Corps.
10. **COMMISSARY STORE ROOMS** are mostly in basements on the ground floor, damp in wet weather and wholly unsanitary. Some inspected were in bad condition of order and cleanliness.

11 a 12. There are no data on file as to deaths of officers and soldiers.

13. The only desertions were a few in the 35th Infantry. Causes unknown; all were rescinded.

14. **SPECIAL-DUTY** in hospitals is generally purchased from the 40¢ allowance and in a few cases from the hospital fund. Articles are mostly canned stuffs in the commissary and local purchases of eggs and chickens. No complaints have been made. A full report on this subject was forwarded from this office on March 31, 1903.

15. **DISCHARGES** for disability amount to about 30 in the 35th Infantry.

16. **DISCIPLINE** in the Hospital Corps has been generally good. The more work the men have to do the better off they are in this regard. It has always been a question how far we should go in disciplinary training of the Hospital Corps privates. Their responsible duties cannot be properly done if we expect the same discipline needed in the ranks, yet the results of being undisciplined men in such positions are serious. A short period in the ranks is desired for this preliminary training, and the sending of ignorant raw recruits from home for duties which are never trusted to a civilian until at least two years of study in a training school, is a bad system. Some of the men are too slow to be permitted in the Army.

17. **DISINFECTION** has to be limited to boiling articles whenever possible, or washing in 5% carbolic acid or 1/100 corrosive sublimate. Articles of little value are always burned. Sanitary disinfection (formaldehyde and sulphurous acid) are impracticable as there are no closed rooms in the tropics, and there is no quinoline, except in hermetically sealed cans, as the air sequesters it. Old slaked lime (hydrate and carbonate) seem to preserve cadavers in the ground not by germicidal action, but apparently assuaging them.

18. Chloride of lime is not practicable as it is liable to lose its chlorine as soon as opened. In small quantities as for disinfecting mummies and typhoid dejecta it is excellent.

19. **NATURAL DRAINAGE** in most of this Brigade is bad as the land is a flat valley between the two coast ranges. In severe rains the country is all under water. At the stations in the foothills there is less trouble.

20. **ARTIFICIAL DRAINAGE** is confined exclusively to shallow ditches and gutters around houses and leading to natural watercourses. Houses are never built far from streams, but usually over the edge of banks.

21. **DRILL** has to be limited as the corps is in very small detachments usually not enough for the litter drill. A half an hour a week is all that is necessary and is merely to keep the men from forgetting. In active work out here, it is as useless as target practice in time of battle.

22. **DRUNKENNESS** is not so prevalent and is usually a symptom of nervous exhaustion from climatic causes; fatigue, nervous strain and coarse food. Most of the cases are in men of rather unstable nervous system, the very ones to break down first. It seems that efforts to cure here are futile as the men cannot control themselves and moaningly demands that they be sent home as soon as the disease...
appears. Perhaps many, if not all, will promptly recover at home under rest and forced feeding, if the destructive nerve changes due to the toxic action of the alcohol, have not gone too far to be regenerated through nutrition. Death seems inevitable when the changes are extensive, and about ten cases have occurred in this Brigade. Laymen generally look upon all cases as vice and not disease, just as they looked on all mental diseases as diabolic possession calling for punishments or exorcisms instead of cure, and as it is practically impossible for us to separate the diseased drunkards from the healthy men of vicious or careless drinking habits, it may not be practicable as yet to consider any of these cases as due to tropical war service and in line of duty. So many nervous wrecks are caused by privations of war in the tropics that I believe serious injustice is done to many a poor sufferer by casting him out as vicious, simply because one symptom of his disease is mania for liquor and inability to stand any alcohol. Though we cannot yet decide a case to be in the line of duty, it is wise to discuss this point.

Prevention of drunkenness is found in every measure which will lessen exhaustion and increase nutrition, and the more the ration is liberalized the better. The effect of occasional excessive drinking on health is generally to be disastrous, but late reports show that it is not so bad as we once thought. The drunkenness we find is a result and not a cause of exhaustion. Total abstinence is not the cure for all ills in the Philippines and reports show that a larger percentage of abstainers break down or die than in other classes. A little alcohol may be good, and though it may be considered dangerous teaching, it is the truth. The Surgeon at San Paligae Neri, Rizal, recommends sale of beer and wine in the post exchange to reduce drunkenness in the neighboring saloons. Being technically in the field they have only candles for light, a few kerosene and oil, and the others are driven to the pleasant saloon from the unpleasant barracks.

28. ENEMIES are dysentery, malaria and small-pox, and no other recommendations are needed except the boiling of water, use of mosquito bars, and constantly repeated vaccination. In regard to the latter, my experience leave no room for doubt that ignorance, carelessness and neglect have characterized our management of vaccinations of troops at home, for not only has worthless lymph been used, but I have never yet gone to a Military Post, but that I have found many unprotected soldiers, some of whom have never been vaccinated in their lives.

The discontinuance of the old vaccination record was a disaster as it reduced the importance of this operation. I strongly advocate a special form to be printed on all descriptive lists, giving date of every vaccination, kind and age of virus, result, thus:

<table>
<thead>
<tr>
<th>Date</th>
<th>Kind of virus</th>
<th>Age</th>
<th>Result</th>
<th>Surgeon</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 13, 1901</td>
<td>Oly. Tube.</td>
<td>Two weeks.</td>
<td>Perfect/ or partial</td>
<td></td>
</tr>
</tbody>
</table>

As an illustration of this criminal carelessness on the part of some one who should know better, is the case of Private Smith, Co. "A", 25th Infantry, who contracted small-pox in Balaoan, Rizal, P. I. He was reported vaccinated in August 1900, at enlistment, and again on transport in October 1900, both unsuccessful. Every such case should be followed up and worked on until the operation is successful unless the character of scars of prior attempts leave no doubt of immunity. Every case of small-pox in soldiers is a reflection upon
the Medical Department.

The numerous outbreaks of malaria in Native troops after a hike in a country where there are no mosquitoes, makes it reasonable to assume that many of these Natives harbor the germ which is harmless until resistance is reduced by fatigue or exhaustion. If so, they are a source of danger, really contagious cases.

23.-DENGUÉ has been epidemic. It has strongly resembled influenza, except that the pains are in the joints and back and not in the bones. The fever lasts three or four days and convalescence is slow and patient very weak unless confined to bed during the attack.

Cholera has also been epidemic and every means has been taken to induce natives to boil water, eat freshly cooked foods and vegetables, and clean up their houses and grounds. In no place where Medical officers could reach in advance of cholera has it ever got a footing, but it was invariably very bad if it entered a town before we could organize, where it did get a footing a medical officer later took charge and it was always stamped out. (see 49)

Almost every case among soldiers has been due to a violation of the orders issued for their guidance, not a mere accident but a wilful eating and drinking in Native shacks. So far then our experience shows that the disease, like typhoid is very easy to avoid. Measles and chicken pox are reported from San Isidro, N. B. B. I.

24.-All Hospitals have hand grenades, water buckets and barrels. There have been no losses. When a fire starts it is apt to burn most of a town.

24.-The fatigue duty is the usual garrison work, and should be avoided from 11 to 4, if possible.

25.-The food is usually well cooked, of good quality and as well served as field conditions will permit. It should be liberal to counteract the exhaustion of the climate and every tendency to liberalize it favored. Reduction of the ration is unscientific and criminal. The recent reduction of the Native ration was a disaster, for these poor people cannot do work without fuel any more than a steamship. When on native diet they cannot possibly keep up with a white man, and when on regular rations they do well. In every dietary question the commissary department should keep in mind the well nigh evident fact that natives of all tropical countries are in a condition of chronic nitrogen starvation, with a hunger for nitrogenous foods which are unattainable. The Board of Officers which awarded a prize to the essay on the Best Ration for the Tropics, which advocated a reduction of nitrogen, committed an awful scientific blunder. The hunger for sugar and alcohol, so often noted is now known to be a cry of starved nerves for stimulation. The same fault is also the basis for the intense hunger for fats so common among tropical natives. The rule then is to keep up a good supply of meats, bread and legumes.

Insufficiency of rations have been reported at Pantabangan, and Bongalong, W. N., no fresh meat or vegetables for long periods. It was reported to be possible to supply these stations but it was not done. Dried fruit issued too often, aloya and should be varied with canned or fresh fruit. Rolled oats has been also recommended.

27.-FURNITURE is best of native wood, for the American woods seem to deteriorate rapidly and warp in damp season.

28.4 There have been very few attempts at gardens, and these have been mostly failures from unknown causes, probably unsuitableness of American seeds to the soil and climate.

30.-See preceding paragraph.
31.-All garrisons are small, the largest being of two companies and only two of that size in the Brigade.

32.-The guardhouse is usually in the basement under quarters or in a casemate and is therefore always damp and unsuitable.

33.-Horses and mules have been nearly wiped out in places by surra; but nothing is known beyond that reported by the board on this disease. Their food is said to be improper (fit only for native ponies) and this may have so reduced vitality as to have made them liable to infections. If fed properly they may have resisted surra.

34.-The hospitals are all established in native houses or in part of a convent. They are all in the upper story, dry, suitable, well ventilated, cool, and of sufficient air space, and sufficient size and bed capacity. A few native nipa and bamboo houses are used. Several needed repairs but it was difficult to get money for the purpose and the rent is not large enough to deduct cost of repairs. Those inspected were in good condition as to police and order. Store rooms were often on the ground floor and unsuitable. For isolation separate tents or shacks are used.

35.-The hospital corps allowance, 4%, is not large enough where the troops are divided into such small detachments occupying a country 5% would not be too large. When concentrated into regiments 3-1/3% is sufficient in war, and 3% in peace or even 2-1/3% or 25 per regiment in garrison. Likewise the number of non-commissioned officers is too small, 1/6 of total, when there are so many one company stations. It should be one-fifth or one non-commissioned officer to every four privates or one for every station. We have been hard pressed to get non-commissioned officers. There are no matrons.

The general appearance of the men is only fair, because it has been difficult to get clothing at outlying stations and their uniforms are somewhat faded. Discipline has been good as a rule, there being but very small percentage of confinements and Courts-Martial. Habits and efficiency were good as far as could be learned on inspections. Several cases of chronic alcoholism have occurred and I believe that these men are more prone to the diseased form than soldiers in the line, but the cause is unknown. The safety of the sick demands that alcoholics in the Hospital corps be eliminated and this is done as a rule. Equipment is generally complete, pouches in field use more than a year are generally unfit for further service. All are instructed five hours a week, but it is practically impossible to keep this up. There ought to be some limit to the matter where we can declare the trained in the elements. It seems to me that it should also be intermittent and not an interminable grind year in and out. To keep on as we now do is like compelling an officer to take a course of elementary arithmetic all his life, a lesson every week until he is sixty-four. We should be able to say a hospital corps man is a graduate sometime and omit further elementary work. Practically a hospital corps private though expected to be learned in everything from operating technique to driving the ambulance mules, is a specialist, as is every employee in a civil hospital, for no man's brain is big enough to make him absorb every detail of every position in a large hospital. Every man is kept on the work he can do best and this should be recognized and not compel him to ever and ever again, the lessons and lectures he will never have use for. There have been no desertions and only a few (colored) are married to natives as far as known.

36.-Ice in this Brigade is supplied from Manila to those in easy reach, and from San Isidro, N.E., Ice plant for the group of posts of which this station is the centre.

37.-Inspections are made at least once a year by the Brigade Inspector and the Brigade Surgeon. The work this year has been interrupted by the cholera epidemic.
39. THE INSTRUMENTS as a rule are sufficient at every station, and in a remarkably good state of preservation considering the quickness of rusting of metals in this climate. It has been necessary merely to dry the instruments as soon as used and coat them heavily with any impervious material, vaseline, paraffin, etc., While knocking around in the field it is impracticable and considerable loss of instruments is inevitable and one of the costs of this war.

40. KITCHENS, both in hospitals and barracks had to be placed in any improvised shed or room available. The regulation stoves were supplied as a rule, a few places having a field outfit.

42. The only library consists of a few standard medical books. For recreation nothing but the lightest literature, trashy novels, and frothy magazines are useful on account of the universal cerebral ataxia in the tropics. Heavy mental effort can be sustained for only short periods. Charitable people should confine their contributions to such games as dominos, cribbage, cards, etc., requiring a minimum of effort.

43. MALINGERING is as little, if not less than at home.

44. MARRIAGES are nearly universal among Native Scouts and a station is a little colony by itself, at least 500 people are supported by each company. The large number of negro soldiers living openly with Natives in a friable bond is the great blot on our Army and the sooner these regiments leave the better. Such temporary unions are honorable to the Malay and Negro mind and perhaps all of these women will readily find husbands after desertion, but a certain percentage will no doubt drift into harlotry. But it is all a sad commentary upon the high moral tone we have been pleased to assume in all our dealings.

There is no doubt that, white man's doom is sealed as soon as he takes up relations with a native woman. She drags him down to her level for she cannot rise to his as she has not sufficient brains.

45. MEDICAL OFFICERS in this Brigade have, as far as known, established a high record for efficiency as a rule. Incompetents are being weeded out as fast as possible. It has been the practice to detail officers so that they can use special knowledge or skill, but this has been impossible always. Hence there has been lack of efficiency as where a skilled Surgeon had little to do except make out papers with which he is not familiar. They do not seem to comprehend wholly the duties imposed by par. 18, 1575, & 1577, A.R.

46. MEDICINES were reported good and of sufficient quantity except at Pantabangan, W.E., where they were deficient on May 37, 1903, the supplies forwarded from the Manila Depot in February having gone to San Jose, W.E., but were never forwarded the remaining 18 miles over the trail. Very few drugs deteriorate in this climate if properly bottled. Chloroform is generally reduced by evaporation. Chloral tablets are reported unserviceable and deliquesced, mustard plasters mouldy and inert and the pills made by Zobel & Co., Manila, unserviceable, hard, mouldy and stuck together. Plasters (cantharides, tisanglass and rubber) are reported worthless at Panaranda, W.E., P.I.

47. OFFAL is usually carted to a distance and buried.

48. THE PERIODICALS received at this office are "New York Record" "New York Medical Journal" "Boston Medical and Surgical Journal" "American Medical Association" "American Medicine" and a few copies of "Tropical Medicine", not enough to go around to each post but distributed as evenly as practicable.
49.—There is nothing to report as to regulations concerning police, the usual fatigue being required of soldiers, but the emptying of earth closets is always done by contract.

50. No. 56, p.a., Division of the Philippines, which orders medical officers to take charge of sanitation of towns put them in conflict with the laws made by the civil government, but great test no serious clashes occurred. The system, the Boards of Health evolved, proved to be absolutely worthless, as the poor brown men did not know that there could be any improvement in conditions they were accustomed to since birth and as a rule obstructed every measure. There were nine provinces in this Brigade and the medical officer nearest to the capital of each province was directed to group his pueblos and assign them to the various medical officers in that province. The whole territory was thus fairly well covered, and policed. There was a wonderful change, and the death rates immediately were reduced and diseases of domestic animals disappeared. Cleansing of the town of San Jose, etc., was also followed by a marked reduction of the soldiers' sick rate. A detailed report was forwarded May 13, 1903, with copies of all circulars.

51.—There are no Post Exchanges in this Brigade as far as heard from.

52.—The punishments are exclusively fines and confinement at hard labor.

53.—The quarters of officers are exceedingly various, some nipa shacks and very comfortable, some of the most pretentious wooden buildings with iron roofs and no porches, no protection from heat and light and unfit for white men. Better than these were the convents with large well protected rooms. All buildings were private property and were rented unless seized from disloyal owners, (excepting convents).

54.—The records kept at each station are those required by regulations for permanent posts, although the troops are technically in the field, under regimental organisation and segmental reports technically required. It has caused much inconsistent ruling and the regimental organization had to be ignored in great part.

(a) A short experience in this office leaves no doubt that the tremendous amount of paper work is not only unnecessary, but actually interferes with efficiency, and that the hordes of clerks in all Military Headquarters are mere excrescences, a growth of a serious disease of administration. No large business in the world can be managed on our present plans, because we violate the first axiom of organised effort—details must always be done by subordinates. We should be a model, for an Army should be perfect in its concentrated and organised system which permits the whole to move instantly at the Will of the head. The higher we go in a Railroad system, the fewer details attended to, but we constantly refer our work to higher offices. The result is that clerks in one office in variable do the work of officers in a lower office.

(b) Formerly if a company commander wanted to re-enlist a good soldier who was married, the papers had to go all the way to the Secretary of War, and be fingered and acted upon by at least 50 different officers and clerks; it was a matter that the company commander himself should settle, and if he cannot be trusted he shouldn't be an officer. A Post Surgeon having a vacancy in the Hospital corps detachment should be authorised to enlist a man if one applies and not refer it. He is more able to select proper men than a recruiting officer of the line. A mere report on information slip of his action is all that is needed. This system works well in the ordnance detachments, and the Medical officer is just as capable of doing the same. Transfers
from the line approved by all officers concerned might be made by a Department or a Division Commander in the field.

(2) Annual and special requisitions might be made single and not duplicate or triplicate. Intermediate officers need only note its reception. After being filled by the Supply Depot it can be filed. That officer's report of issues on his abstract only duplicates the record of the property division.

Hospital corps returns need only be made in single copies to the Surgeon General, each office of transplant merely using it to verify the record of the changes occurring in the previous month, in the same manner that only one personal report is made.

The Hospital Fund Statement need go no further than the Chief Surgeon of a Department who regulates all expenditures and transfers of funds, forwarding an abstract to the Surgeon General, of receipts, expenditures and balances of each station.

The monthly report of examination of recruits only duplicates the data previously reported and could well be dispensed with.

Vaccine virus usually being needed in haste should be obtained by station or post Surgeons directly from the maker. The report of its receipt will check the manufacture's bill.

The only Medical reports required would be as follows:—

Daily: one morning sick report; Monthly, one personal report; one Hospital Corps Report.

Yearly, one requisition; one Property return.

Occasionally, one special requisition; one change of status of personnel; one Death of officers, one Death of soldiers; one sanitary report; one epidemic report; one wounded in action.

The increased efficiency of administration through having Brigade Surgeons transfer officers, men and supplies between stations in Brigade shows the benefit of not allowing such details to go higher than the Chief Surgeon of a Department or Division in the field.

Indeed every tiny bit of burden which can be taken from the shoulders of a superior officer and distributed on the shoulders of numerous subordinates makes the whole machine that much more movable and more easily managed.

55. RECRUTATIONS in the provinces are almost nothing, except cards and a little baseball. Reading in letters and the saloon is a relief as no exertion is needed to drink and talk and listen to others. This explains why American saloons spring up like mushrooms and flourish wherever troops are stationed.

56. No recruits have been received in the Brigade as far as known in this office.

57. THE SICK AND WOUNDED REPORT is usually well kept, a few minor errors were discovered in the Registers of some stations. It would lessen work at home stations to have surgeons make out but one copy forwarded through official channels and let each Chief Surgeon scrutinize and extract data he needs in his office. This system works well here.

58. THE SANITARY REPORT has been emasculated by making it stereotyped. Its present form only repeats month after month data which should already be known by each Chief Surgeon, and is a sop to laziness at the expense of more and useless clerical work. The Surgeon
should not render this report unless he find something unsanitary which must be remedied or placed on record for future action by higher authority. The reception of this report would then mean something—action—while now it means nothing, except routine clerical labor. A sanitary description of each post should be on file in the Chief Surgeon’s Office of each Brigade or Department.

59.-There are no post schools, nor any for the Hospital Corps, instruction for the latter reported under No. 35.

60.—No survey is reported.

61.—There is no sewerage in any station except at the prison at San Isidro, N.X. There are no sinks either, the dry earth system being used. The latter is always offensive as every company of soldiers contains some men who will not help voluntarily in any matter tending to the health or comfort of the others.

62.—THE STABLES are mere sheds, or in open corrals. As a rule they are suitable, and fairly dry.

63.—HOSPITAL STEWARDS and Actg Hospital Stewards are efficient except in a few instances where gross carelessness in paper work causes much annoying delay.

64.—STOREHOUSES are generally in cellars and are damp, and not infrequently in bad condition. Deterioration of stores is inevitable.

65.—HOSPITAL STORES also deteriorate rapidly, and this loss must be considered one of the inevitable expenses of war in the tropics.

66.—HOSPITAL TENTS are not on hand. Their use is dangerous in this climate and houses can be seized or rented wherever there are operations. Canvas also rots quickly.

67.—THE MEANS OF TRANSPORTATION of the sick are the regulation ambulance, the hospital car on the Railroad, and by boat on the Río Grande de la Panpanga. It is satisfactory. Transportation of rations could not be accomplished in the rainy season at Bongabong, because sufficient carabao were not supplied, and the troops at that place were not properly rationed.

68.—Troops are doing garrison duty exclusively. A few are guarding the Mariquina Valley to protect Manila’s water, and a few have been out in Bicol province after ladrones who have captured some soldiers and civilians at Morong and Cainta. There have been no movements of troops except withdrawals from stations to go home and minor changes of stations. Since March 1, 1903, the 24th, 25th, 13th and 34th Infantry have been ordered out of, and a squadron of the 11th Cavalry into the Brigade.

The morals of troops are invariably lowered by associating with lower races, who all have a lower standard than what we insist shall be the standard at home. The native women think nothing of urinating openly in the streets, or, if in the house, noisily behind a paper screen, even the educated wealthy mestizo element. Such a code of behavior can not possibly do else than injure young white men. The contact with suffering and the brutalities practiced on lower animals also begets a contempt for human life itself as well as an unwholesome contempt of lower races, instead of the healthier tolerance and paternal supervision of them as children, we must remember that the brown and yellow man of the Asiatic origin—like all Asians—has a different nervous system than Europeans. Sensations are transmitted more slowly and less acutely, it is a sluggish organism. Hence pains are
not felt as we feel them, and this undoubtedly enables them to recover from wounds which would be fatal to whites. They cannot appreciate our anxious feelings nor see their distresses. That appears unendurable brutality to us, is here accompanied to them, and our scale of punishments for white offenders does not fit the crimes of Natives. All these things inevitably blunt our own sensibilities in time and accustom us to conditions which cannot be endured at home. It is therefore certain that the term of service for soldiers should be short and none should be discharged here but all transported home, where have been numerous moral wrecks floating about this territory, physically unfit to labor like brown men, unable to find employment because mentally unfit for anything except coarse labor at home—care tramps—becoming victims of disease from eating the unsuitable native food which they buy or extort, scarcely a day goes by without several applications for work from each man. A stream of these tramps up and down the Railroad, common and a burden to the community. The universal loss of energy in a year or two, in all whites even those best cared for, renders active work impossible. Mental labor is generally painful. These tramps then are a sad refusal to leave behind.

69.—The supply of fresh vegetables is limited to potatoes and onions of the ration and sometimes not even that.

70.—Venereal diseases are almost universal among negro troops, far less common with white and practically absent from native troops. The common professional native prostitute is the medium of infection and many badly infected women travel from place to place.

71.—VENTILATION is unnecessary as all the houses are so open.

72.—WASHING is usually done by natives and liable to be infected. A laundry was established at San Felipe Fort on the request of the Surgeon, Chinese workmen being given a room in the basement and hired by the month, a scale of prices established and all soldiers ordered to use no other laundry. It is so excellent that I recommend it to the Adjutant General of the Brigade that it be established in all stations.

73.—WATER is taken from streams as a rule, in the foothills it is very good but the lower down the stream we go the more contamination. Forbes Waterhouse sterilisers were used everywhere, but as they do not boil the water long enough there were not trusted during the cholera epidemic when all drinking was boiled. The artesian water of Tan Farando, Pampanga, is considered water not so full of mineral salts as to be laxative to many people. Before cholera appeared it was not even considered necessary to boil it. The very small percentage of intestinal diseases and these being old cases—practically no new cases arising—shows the good result of sterilising water by boiling. Angeles, Pampanga, has artesian water.

The burner of the Forbes Waterhouse steriliser is reported defective and the apparatus is therefore unreliable. I am much opposed to any patent sterilisers, filters, etc., in the tropics. No filter is effective for bacteria unless its pores are so small that water has to be forced through against the capillary attraction, if it works easily it is no good. Even the Pasteur filter allows the smaller micro-organisms to pass. Sterilisers are liable to fail when needed most and there is something like a fetish about the word, which gives a false sense of security. One station commander said he not only boiled the water but sterilised it also in a Forbes Waterhouse steriliser.

74.—There are no male or female contract nurses in the Brigade.

75.—No medical officers have had the opportunity to distinguish themselves by acts of personal bravery such as is usually meant by that term, nor have any had hazardous service. In regard to parti-
The devotion to duty, I cannot speak too highly of their energetic and successful work in the prevention, and stamping out of cholera. The amount of work done was enormous and the results are highly satisfactory.

76.—The Commanding Officer at Balinsasayao, Bulacan, issued an order enrolling the devotion to duty of the late Private Joseph E. Bickle, Hospital Corps, who lost his life by infection caught from a cholera-stricken soldier whom he was nursing. The order also spoke of the courage and devotion of Private Leonard H. Stephenson, Hospital Corps who went to the assistance of Private Bickle when the latter was taken sick. Private Calvin R. Scott, Hospital Corps, has been recommended for a certificate of merit for rescuing A.H.S. John A. Harris, from drowning in a whirlpool in the river at Peraand, N.E., in which they were both caught.

77.—Diarrhoea, dysentery, Malaria, Small-pox, and Cholera are all discussed in Nos 28 & 38. There have been no Beri Beri, or bubonic plague at any stations. One case of leprosy, reported at San Mateo, Rizal.

78.—The troops are re-vaccinated when there is any fresh exposure. There has also been a vaccination of natives near stations but no general vaccination of the population.

79.—The Quarantine measures have been very severe during the cholera epidemic. All contacts have been confined in detention camp five days. All travel was stopped on roads and streams except for necessary supplies. A system of passes was devised in this office and printed by the Insular Board of Health, and have given fair satisfaction. Quarantine has undoubtedly kept cholera out of many places and has greatly restricted its spread.

80.—No Indigent Natives have been cared for. There does not seem to be any of that starvation and extreme poverty we find at home nor that pauperism which results from loss of moral tone. The native can always get something to eat. The only disputable and worthless indigents are white men, usually discharged soldiers and one of these had to be taken care of at a Military Hospital, as he had Beri Beri, no doubt due to improper food.

81.—Personnel of the Medical Department has been referred to above.

82.—There does not seem to be much choice as to healthfulness of posts in the Brigade. Those on the coast and the hills are coolest and those in Zambales have reputations for healthfulness.

83.—Mosquito Nets are used by every soldier except in four Native companies. In one of these companies' Malaria has been rife, and is rare in another company using nets. The Adjutant General of the Brigade was informed of this and recommendation made that the use of nets throughout the Brigade be made compulsory on the ground that Malaria is now proved to be a preventable contagious disease. This was issued as a circular.

84.—Very few use wine to excess. There is no reliable data at all to prove the newspaper stories of the dreadful effect of wine. Indeed it is a freshly fermented and distilled liquor, it is like new whiskey and there is no evidence that it is any different in effect. There is at home an idea that there is something fatal about wine an essence causing insanity, but it has no basis in facts. What has probably caused this idea is the fact that when a man becomes an alcoholic and has a typical craving for stimulants he will take anything con-
to the most convenient. It has thus been
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ADDITIONAL READINGS.

1. ANIMALS are wild, such as deer, hogs, swine, and a few of little or no importance.

2. There are a large number of different birds and many of beautiful plumage. I am not familiar with the names of but a few, these are the duck, rick birds, finches, wood pigeons, parrots, eagles, several varieties of hawks, a species of mall, larks, cranes, plovers and a large white bird sometimes called the orabao bird from its habit of lighting on the canoe.

3. An earthquake occurred about December 15, 1901, lasting about 20 seconds.

The rivers furnish excellent fish, of which are the following names the natives call them—Baloo, Mia, Alegasia, Padoqa muck, and ulung.

4. No remarks.

5. No remarks.

6. Insect life is prolific including mosquitoes, black snail and red ants, flies, grasshoppers, and locusts.

7. No remarks.

8. Gold is said to exist in the mountains in paying quantities.


10. No remarks.

11. No remarks.

12. The soil is an alluvial deposit, is very fertile and capable of producing all kinds of crops. It is an excellent rice and sugar country and also produces a fairly good quality of tobacco.

13. TEMPERATURE. Minimum ranges from 60 to 65, maximum from 80 to 100.

14. No remarks.

15. Inhabitants are the Tagalos, Masabaces, Alocana, Chinese, with a few Spaniards.

Photographs are enclosed from Mariveles, and San Isidro, and Talavera. The additional data from Mariveles is so interesting it is enclosed entire.

Very respectfully,

Major & Surgeon, U.S.A.  
Chief Surgeon.
Headquarters 4th. Separate Brigade, Department of North Philippines.

OFFICE CHIEF SURGEON,

Nueva Caceres, Camarines Sur, P.I.,

April 20, 1902.

To the CHIEF SURGEON,

Dept. of North Philippines,

Manila, P.I.

Sir:

I have the honor to submit herewith a Report of the operations of the Medical Department, U.S. Army, in the 4th. Separate Brigade, Dept. of North Philippines, during the period from July 1, 1901, to April 15, 1902:

1. AMBULANCES: There are twentyfour stations and sub-stations in this Brigade, and eight of these are supplied with ambulances, which are used for legitimate purposes only, viz.: transportation of the sick, etc. The Ambulance in use at the Brigade Hospital is out of repair, and it is recommended a new one be supplied. Ambulances at other stations are in good repair.

At some stations the use of an ambulance is impracticable.

2. BAKERY: Almost all stations in this Brigade are supplied with small bakeries, which are located in buildings suitable for the purpose. The baking is done mostly by enlisted men of the command, and with rare exceptions is of good quality. At some stations the Bakery occupies the rear of the kitchen, field ovens—large size—being used. At four of the smaller Posts there is no bakery, but these Posts are supplied from adjacent Stations.

The Post Bakery at Nueva Caceres is located in the central part of the town, in a 1-story brick building containing three rooms ample in size. Two Blodgett ovens—large size—are in use. Three hundred and eighty pounds of flour are consumed daily, the entire garrison, including Brigade Hospital, being supplied.

3. BOOKS: Except at small, inaccessible stations, Hospitals are fairly well supplied with the latest medical works as furnished by the Medical Supply Table of the Army, thus affording Surgeons opportunity for study.

Papers: Medical journals have been regularly received from the Office of the Chief Surgeon, Dept. of North Philippines, and distributed to the Medical Officers in the Brigade.

Files: Files of all Official papers, etc., are as a rule properly kept throughout the Brigade. There are no cabinets, but most Hospitals have improvised cases for the proper care of files.

The Brigade Chief Surgeon has taken every precaution to examine closely the files at the Hospitals on his inspections, and has given directions from his Office, from time to time, in the care and arrangement of files so as to facilitate easy reference.

4. BARRACKS: The troops in the Brigade invariably occupy the best class of buildings procurable. At nine stations troops occupy convent buildings of wood and stone structure, roomy and well adapted for the purpose. Sanitary conditions are unusually good. At six stations troops
occupy stone structures,—either municipal buildings # formerly the property of the Spanish Government. These buildings are in good repair, spacious and cool.

At four Stations Troops are quartered in native frame buildings which usually accommodate one Company. Sanitary conditions are good as circumstances and character of buildings will permit.

At three Stations Troops occupy a portion of a church; conditions good.

The Troops at Nueva Caceres, Headquarters of the Brigade, occupy three wooden buildings in different parts of the town. One Company is quartered in a convent next to the church. The space is ample and the conditions generally good.

The erection of permanent Barracks is regarded as of the highest importance for purposes of discipline and the assurance of the sanitary safety of the Troops.

The Administration buildings are the best in the town.

Throughout the year during the occupation at isolated Stations the Troops were indifferently quartered, but most of these stations have since been abandoned.

Buildings are regularly inspected and are kept neat and clean. Medical Officers are held strictly responsible for the sanitary condition of the Posts in their Command.

### 5. BATHING: Facilities for and Recommendations Concerning.

At eighteen Stations men bathe in rivers and the sea. One Station has a fresh-water pool one-quarter of a mile from the Barracks. Four Stations have shower-baths, and with few exceptions throughout the Brigade, men are required to bathe twice a week. At some Posts there are no rules requiring this, but it has been learned by personal inquiry and inspection that the men invariably avail themselves of opportunity to bathe at least two times a week. Would recommend that all Surgeons in Command of detachments and all Post Commanders be required to enforce semi-weekly ablutions. During the present cholera epidemic men have been forbidden to bathe in streams. Some cases of cholera among the Troops are believed to have been contracted infected water being in this manner introduced through mouths and nostrils.

### 6. BEDDING: All Hospitals in this Brigade are well supplied with bedding and with rarely an exception the supply of mattresses, blankets, sheets, pillows, slips, pajamas, etc., is adequate to the needs of the Service.

Owing to the abandonment of many Sub-Stations during the last four months many Hospitals have been found to be overstocked but arrangements have been made for the transfer of all excess supplies to Stations accessible from the places abandoned. With rare exceptions the Hospital bedding is in good condition.

### 7. BUNKS: Ten Hospitals are supplied with iron beds with wovenwire bottoms; eight Hospitals have adjustable folding cots and five Hospitals have "Gold Medal" cots. These are kept in good repair, the iron cots being protected with a coat of white lead frequently renewed. Owing to the abandonment of Stations during the year many Hospitals have bunks of each class in excess of present requirements. Pursuant to instructions from the Chief Surgeon of the Department, all Surgeons in the Brigade in charge of Hospitals have been required to maintain a minimum number of beds necessary to meet the maximum needs of their present Command under existing conditions. This ratio has been computed by the Brigade Chief Surgeon, and all Surgeons instructed to pack and store ready for shipment or other disposition all beds in excess of those required.

### 8. BURIAL OF DEAD: Where and HOW? Deceased Soldiers are placed in coffins and interred in native cemeteries. At Nueva Caceres and other large Stations bodies are placed in vaults, in native cemeteries, awaiting transportation to the United States. When a Soldier is buried a sealed bottle containing name and rank, etc., an Identification slip is placed in the coffin before being properly sealed. When placed in the ground bodies are buried at least six feet deep. Graves are usually marked with a headboard containing the name, rank, regiment, etc.,
Deceased natives are buried with coffins; some without.
Deceased bodies from smallpox, cholera, etc., are generally removed
to a safe distance and when lime has not been available, the bodies
of soldiers and others dead of latter disease, have been cremated in
the grave.

9. Clothing of Men. Character and condition of; Recommendations concern-
ing.
The Quartermaster issue of khaki is invariably used, with a
good supply of all essentials for field and garrison service. The
quality has been seemingly good, though repeated comments have been
received from Surgeons relative to the poor quality of the tan shoe.
At most Stations leggings are worn by all men.
The uniform of the Hospital Corps detachment has been incomplete;
it being difficult to obtain the prescribed insignia, ornaments and
shoulder straps of the Hospital Corps. It has also been observed in
several instances that the Quartermaster Department has issued to En-
listed men, blouses with folds in the back (intended as a pattern for
officers), and coats with collars of different uniformity. As a result
of these irregularities the dress of the Hospital Corps is not uniform.
At the Brigade Hospital men on ward duty and all men of that Detach-
ment are required by the Commanding Officer to wear leggings, heavy tan
shoes and the khaki uniform at all times.
It is believed if the members of the Hospital Corps in the tropics
were required to wear white—a light material, or that issued by the
Quartermaster's Department, with a light white canvas shoe—while on
duty in wards and at all other duty connected with the care and hand-
ling of the sick, the health and comfort of the nurse on such duty
would be greatly increased, while the appearance and neatness of Hos-
pitals in general would be much improved.
It is recommended that the practice of wearing leggings by Hospital
Corps men, on duty connected with the care of sick, other than drills
and inspections, be discontinued.

10. Commissary Storerooms: During the early part of the year when field
operations were active, slight difficulties in securing adequate sup-
plies were met with, but at present there exist well-stocked Commissary
Storerooms throughout the Brigade. At Nueva Caceres is a distributing
Commissary, located in the central part of the town, occupying two large
buildings,—issue and sales Commissary. The buildings are ample in cap-
acity, well ventilated and sanitary. At other Stations in the Brigade
it is learned from inspections that Commissary Storerooms are ample
and well kept.

11. Deaths of Officers: There have been no deaths of Officers in this
Brigade during the year.

12. Deaths of Men. Number and causes of: Records show deaths of Enlist-
ed men as classified below:
- Killed in action — 4
- Died of wounds — 2
- Accidental deaths — 1
- Drowning — 5
- Suicides — 1
- Executions — 3
- Diseases — 66
- TOTAL DEATHS — 82

13. Desertions: There is record of three desertions in the Brigade; caus-
es unknown.

14. Diet. Special of Hospital: The subsistence allowance of 40¢ per day
has proved ample at most all Stations in the Brigade to give to the
sick and wounded the special diet which they require.
At the Brigade Hospital and a few smaller Hospitals special diet
cooks are employed, and at still smaller Stations this diet is prepared
by competent Company cooks.
Besides, the stores procurable from the Commissary, poultry, fresh
fish, eggs, etc., can be purchased at almost all times in sufficient
quantity to furnish good, wholesome diet.
15. DISCHARGES FOR DISABILITY: Records show sixteen cases of discharge for disability in this Brigade during the past year.

16. DISCIPLINE: Inspections reveal the fact that with few exceptions the discipline of the Medical Department in this Brigade is excellent. Medical Officers have been frequently instructed to encourage every means of discipline among the personnel of their Command.

17. DISINFECTION. Mode of and Recommendations Concerning: In view of the fact that repeated directions have been given to Surgeons from this Office in methods of improving conditions which might affect the health of their Commands, little occasion has been found for the use of disinfectants other than those used in disinfecting excreta of patients. The Dry-Earth System of closets is universally used. Brigade orders are issued pursuant to Circular #18, Division of the Philippines and 8th Army Corps, 1900, enforcing strict compliance with these necessary provisions for sanitation. During epidemics, or outbreaks of smallpox, cholera, etc., every precaution has been taken, a judicious use being made of chloride of lime and carbolic acid.

During the present epidemic of cholera, the provisions of Circular #5, O.C.S., Division of the Philippines, c.s., are rigidly adhered to. In this Brigade orders have been issued to burn all excreta and infected articles of clothing, etc. Dead bodies from cholera are either cremated or buried in lime.

18. DRAINAGE, NATURAL. Character of: With few exceptions the sandy condition of the soil throughout the Brigade affords excellent natural drainage.

19. DRAINAGE, ARTIFICIAL. Description of: This is obtained by means of open and dug gutters with an outlet to river, sea or rice paddy, the gutters being frequently flushed by rains.

20. DRILL. Character and Amount of: The Medical Officers in this Brigade strictly adhere to the requirements of Circular Letter, O.C.S., Department, 1901, in rendering instruction in the litter drill; and with few exceptions, where a deficient number of men are found at small Posts or Sub- Stations, each Hospital Corps man invariably receives twenty hours drill and instruction per month.

21. DRUNKENNESS: The amount of drunkenness in the Medical Department of this Brigade is small; the percentage among troops is not large.

Orders have been issued from these Headquarters prohibiting the use of vino, to the extent that offenders be charged and brought to trial for conduct prejudicial to good order and military discipline. These orders are enforced by all Post Commanders.

The establishment of the Army Canteen at permanent Posts is recommended.

22. ENDEMICs. Nature and Cause of: Recommendations: These at the beginning of the fiscal year were more numerous than at present, owing to the Garrisons being largely composed of new organizations and recruits who had not been in the service a sufficient length of time to benefit from the instruction and practice of personal and general sanitation. Endemic cases of variola and varioloid among troops has been more or less prevalent in the Provinces of Albay and South Camarines; also a few cases of measles.


Cholera made its appearance in Nueva Caceres April 1, 1902, and soon spread into surrounding towns and country. April 15, 1902, there had been in Nueva Caceres 123 cases; sixty-eight deaths; Libmanan, twenty-six cases and eight deaths, and several adjacent towns infected from which no reliable reports were available. Up to this period there had been three
cases among Troops, with no deaths. A discharged soldier, however, had died from the disease.

A separate Supplementary Report of this epidemic will shortly be forwarded.

24. **PATIGUE**

**PUT**

*y* character and Recommendations concerning:

General Army fatigue duties are performed by all organizations, which consists of daily policing of grounds and quarters, and the carrying of water.

25. **FIRE**

**Extinguishing**, Means of; Loss by:

Most all Stations in the Brigade are accessible to river, stream, well or sea, and water could be readily secured in buckets, etc. Hospitals are well supplied with Medical Department grenades and water standing in buckets.

A very destructive fire originating in a native canteen, occurred at Libmanan, September 8, 1901, resulting in loss to the Quartermaster's and Commissary Department, but no loss to the Medical Department.

On September 17, 1901, fire broke out in one of the kitchens at Company Barracks, at Iriga, Camarines Sur, P.I., totally destroying all Officers quarters and Headquarters buildings; no loss to the Medical Department.

Damage to the roof of the Hospital by fire occurred at Pasacao, Camarines Sur, P.I., January 1902, necessitating the construction of a new roof.

26. **FOOD:** The regular ration is found to be sufficient in variety, character and quality. Several months during the year a scarcity of fresh beef, potatoes and onions was felt at most Stations, particularly those isolated, which could be reached only with difficulty. With these few exceptions, food has been abundant, and while fresh meat and vegetables were irregularly supplied, the stock of canned vegetables, etc., kept by the Commissary, met this want as well as could be expected. Poultry, fish and eggs are always procurable.

During the past three months a fine quality of refrigerated fresh meat had been furnished, and at most Stations fresh onions, radishes and lettuce may be procured.

Food is cooked in Hospitals by a member of the Corps and in Posts by a man from the Company having special qualifications for that art. At the time of Medical Inspections it was found that the preparation and quality of food, with few exceptions, was satisfactory.

Would recommend that Company and Detachment Commanders be required to frequently inspect the serving of food.

27. **FURNITURE:** Most Stations are well equipped with the ordinary Field and Garrison furniture. Some Hospitals and different Organizations throughout the Brigade have a supply of native lumber, bamboo furniture, the latter including chairs, beds, etc.

28. **GARDEN:** Hospital: None in Brigade.

29. **GARDEN:** Post: None in Brigade.

30. **GARRISON:** Amount of: American Officers, 63; Enlisted Men, 281; Native Enlisted Men, 176. Total 3050.

31. **GUARDHOUSE:** Condition and Description of: In most Stations this institution occupies the basement of some substantial building—some under Barracks buildings and others entirely separate. Americans and natives are confined in separate guardhouses. The sanitary condition and environments of these institutions have been found satisfactory.

It has been observed that natives kept in confinement, even amidst apparently good sanitary surroundings, have shown marked susceptibility to the development of beri-beri.

32. **HORSES:** Throughout the Provinces of Albay, Sorsogon and Camarines Sur, "surra" has been very destructive to both Government and native
33. HOSPITALS: During the early part of the year twenty-four Hospitals were maintained in this Brigade; at present there are seventeen, as follows:

1. Atimonan, P. A.—Two buildings (native frame), one on either side of the street, each about 17 feet long; condition good. The upper story contains a large ward, dispensary, and office. The lower consists of living quarters and mess hall for the Hospital Corps Detachment.

2. Atimonan, P. I. —Hospital occupies a two-story frame and native building having a stone back and glass door; condition good. The total capacity is 25; dispensary; office; and care of the sick adequate. The best possible measures are constantly maintained.

3. Atimonan, P. I. —A good native frame building of stone; condition good. The cold storage is in good condition and the mess hall for the Hospital Corps Detachment is maintained. It is not adequately furnished. The Hospital Corps Detachment uses native beds and "Gold Metal" acts interoperably. The mess and sleeping rooms are combined in one kitchen in the rear of the Hospital proper. The Office and Dispensary are in the basement of the building. Number of Beds, twelve.

4. Atimonan, P. I. —The Hospital occupies a two-story frame and native building facing "Plaza" and contains nine rooms: store rooms, 20 by 16 feet; ward, 19 by 16 feet; dispensary; office; kitchen; and operating room. The hospital is well equipped and in generally good condition. The best possible measures are constantly maintained. There is an ice plant here and the comforts of the sick are abundant.

5. Buena Vista, P. I. —A large brick building owned by a private individual, used as a College seminary. The building is in good repair and contains five large rooms: one for ward and dispensary, and a steward's room. There are always neat and orderly. Number of beds, eight.

6. Cagayan de Oro, P. I. —A good native frame building having a stone back and glass door; condition good. The upper story contains a large ward; dispensary; operation room; and H. C. quarters. Dining-room; kitchen and pantry. Bed capacity, eight. There has been no opportunity as yet to inspect this hospital.

7. Camarines Sur, P. I. —A good native frame building facing "Plaza." Heat and cold are well adapted for the purposes used. It contains eight airy rooms. Equipment, sanitary condition, etc., at time of inspection excellent. Bed capacity 24, though but twelve are maintained.

8. Camarines Sur, P. I. —A large nipa building in good repair containing six rooms: office; dispensary; store rooms; and kitchen. Equipment and condition good. Number of beds, eight.

9. Cotabato, P. I. —A good native frame building of stone and wood having a stone back and glass doors; condition good. The hospital is well equipped and in generally good condition. The best possible measures are constantly maintained.

10. Cotabato, P. I. —A native frame building used as a College seminary. The building is in good repair and contains five large rooms: one for ward and dispensary, and a steward's room. There are always neat and orderly. Number of beds, eight.

11. Gapan, Nueva Vizcaya, P. I. —The Brigade Hospital is a large brick building owned by the order of the Paulists Fathers and formerly used as a College Seminary. The part appropriated for hospital purposes is two stories high with a basement. The basement is the dining room and kitchen. The upper story contains: store rooms for patients and Hospital Corps: dispensary; store rooms and offices of the Commanding Officer and Post Surgeon. The second story contains four wards: Medical, Surgical, Venereal, and Operating room and Corps quarters. The entire hospital is neat, clean, and cheerful. The floors are of polished hard wood; ceilings high and ventilation excellent. At present eighty beds are kept equipped for patients, but in an emergency 100 or more could be ready for accommodation.

The total number of cases treated in the Brigade Hospital during the period, was 1283. Following is a list showing the daily average of patients, classified according to cause of admission:

<table>
<thead>
<tr>
<th>Disease</th>
<th>Daily Average</th>
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<tbody>
<tr>
<td>Typhoid fever</td>
<td>1.88</td>
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<tr>
<td>Malarial fever</td>
<td>5.71</td>
</tr>
<tr>
<td>Dysentery</td>
<td>2.63</td>
</tr>
<tr>
<td>Cholera</td>
<td>8.49</td>
</tr>
<tr>
<td>Other intestinal diseases</td>
<td>2.36</td>
</tr>
<tr>
<td>Gastric disorders</td>
<td>8.88</td>
</tr>
<tr>
<td>Wounds and injuries</td>
<td>3.51</td>
</tr>
<tr>
<td>Heat exhaustion</td>
<td>5.86</td>
</tr>
<tr>
<td>Venereal diseases</td>
<td>13.98</td>
</tr>
<tr>
<td>Smallpox</td>
<td>1.95</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>1.88</td>
</tr>
<tr>
<td>Cholera, Asiatic</td>
<td>0.98</td>
</tr>
<tr>
<td>Variola</td>
<td>0.38</td>
</tr>
<tr>
<td>Other infectious diseases</td>
<td>0.28</td>
</tr>
<tr>
<td>Undetermined</td>
<td>2.60</td>
</tr>
</tbody>
</table>
9. PASAOA, CAMARINES SUR, P.I.—The Hospital occupies an old convent building, the best available. It has been remodelled and has capacity for twenty-four beds, but only six are maintained. It is healthful, neat and well situated. (See plan drawn by the Surgeon hereeto appended, marked "Exhibit "F").

10. PARAMACAL, CAMARINES NOITL, P.I.—Hospital is a native frame building comprising eight rooms somewhat small for the purpose, although six beds are required to be maintained. The Office, Dispensary and Store-room are in the basement. On the second floor are the ward, 15 x 16 feet; squad-room, hall, mess hall, bath room and linen room. The abandonment of this station is anticipated.

11. SORSOGON, SORSOGON, P.I.—The Hospital occupies a large, substantial building at an inconveniently long distance from Headquarters building. It is two stories, well equipped, well cared for and the sanitary condition is excellent. Ice is supplied from Legaspi, Albay, P.I., for Hospital purposes. This Hospital has a capacity for twenty beds.

There has been no opportunity as yet for inspection and no report can be made of the Hospitals at GUINAYAHAN, Tayabas; LOPEZ, Tayabas; PICTO, Tayabas; MACHADO, Sorsogon; MASAITE, Island of Masbate, and RAGAY, Camarines Sur, P.I.

34. HOSPITAL CORPS AND MATRONS: The Hospital Corps personnel of this Brigade has varied greatly during the past year, owing to General Orders #312, Division of the Philippines, 1901. At this time the personnel numbers 154 present and four absent sick, etc.

There are no Matrons.

The personnel is distributed in accordance with existing regulations, and with rare exceptions the men are efficient and well disciplined. This is due to the fact that the men are instructed and rotated in the duties of a sanitary soldier. Many have received the benefit of field service during the year. There has been little sickness among members of the Hospital Corps. Seven deaths occurred during the year, three discharges for disability and one for general worthlessness.

35. ICE, HOW OBTAINED: There are two Medical Department ice plants in the Brigade—one at Nueva Caceres, Headquarters of the Brigade, supervised by the Commanding Officer, Brigade Hospital. It was established in the early part of the year.

This plant supplies the Hospital with 350 pounds of ice daily and furnishes at the established prices ice to the Commissary, Officers, Troops and civilians of the Command and this and adjacent towns.

The daily output averaged 1775 pounds during the last four months.

The Ice Fund on hand, March 31, 1902, amounts to $103.75, and the total quantity of ice issued and sold from July 1, 1901, to March 31, 1902, is 497,035 pounds.

The plant is successfully engineered by a Private of the Hospital Corps who has recently been appointed Lance Acting Steward, as appreciation of his excellent service.

The ice plant at Legaspi, Albay, P.I., was established in June, 1901, the location being less favorable than at Nueva Caceres, water being obtained from wells near the beach, while at Nueva Caceres the plant is situated on the bank of Rio Vicol, from which the water supply is obtained. The plant at Legaspi supplies small quantities of ice to garrisoned towns in the Province of Albay, but the daily output is not large, averaging only 992 pounds. The total quantity sold and issued from July 1, 1901, to March 31, 1902, is 272,006. Chartered vessels carrying fresh meat are frequently supplied.

At this plant much difficulty is experienced in keeping the boiler in approved condition on account of the briny character of the water fed into it. All of the wells in the vicinity of the plant are more or less impregnated with salt, and as this is the only source of water supply for the plant it is required to be used. It is recommended that an artesian well be sunk to supply the plant with water.
36. **INSPECTION.** Regular and Special: The following Stations in this Brigade were inspected by the Chief Surgeon during the year, reports of which have been forwarded to the Chief Surgeon, Dept. of North Philippines: Atimonan, Capulanga, Paracale, Davao, Lembangan, Lu • • •, Legaspi, Bacon, Sorsogon, and the following which have since been abandoned: Pilil, Tabaco, Virac, Pandan, Iriga, Guat, Camalig, San Jose de Lagony and Guinobatan.

All Surgeons in this Brigade are required to make weekly inspections of the Stations and Sub-Stations within their command. This includes a thorough supervision of the police of buildings and environments; wards and kitchens, latrines, etc.

Special inspections are made when required.

37. **INSTRUMENTS.** Supply and Condition of: There has been found to be a sufficient supply of instruments in all the larger Hospitals, and these are well cared for under existing conditions. It is noted in many instances that instruments have been received from the Medical Supply Depot in irreparable condition.

38. **KITCHENS:** Kitchens throughout this Brigade are invariably in good condition, adequately equipped with few exceptions. Stoves, in a few instances, were found in all repair.

Would recommend that Company and Detachment Commanders make more frequent inspections of all kitchens and make timely requisition for kitchen utensils, etc.

39. **LIBRARY.** Of Hospital and Post: Efforts were made by this Office during the early part of the fiscal year to secure magazines, books, periodicals, etc., for distribution to Hospitals, but this was not accomplished. Authority has been given to the Brigade Hospital, Nueva Ecija, to expend a small sum for the purchase of magazines for the use of patients. Most Hospitals and Posts have a small collection of books and magazines, obtained at random, but scarcely worth the mention.

The Brigade Hospital has a small library and reading room for members of the Hospital Corps.

40. **MALARIA.** Causes and Prevention: The number of cases of malaria has, within the last ten months, materially decreased. Mosquitoes of the anopheles variety are everywhere and at all seasons present, but the universal employment and insistence in the use of mosquito nets on all beds has done much to control the malarial infection.

41. **MALIGNERING:** Records show eight cases of malinger during the year—from malaria, 5; melancholia, 1; epilepsy, 1; dysentery, 2; diarrhea, 1.

42. **MARRIAGES:** This Office bears no record of marriages among troops during the year.

43. **MEDICAL OFFICERS:** Chief Surgeon of this District and Brigade during the year: Major Henry D. Thomas, Surgeon, U.S. Vols., from July 1, 1901, to October 4, 1901; Major Henry F. Hoyt, Surgeon, U.S. Vols., from October 5, 1901, to December 12, 1901; Major Henry D. Thomas, Surgeon, U.S. Vols., from December 13, 1901, to the present date.

The Medical personnel of this Brigade July 1, 1901, was as follows:

- Regulars: 1
- Volunteers: 12
- Contract: 21
- Total: 34

The Medical personnel of this Brigade April 15, 1902, was as follows:

- Regulars: 2
- Volunteers: 17
- Contract: 10
- Cont. Dental Surgeon: 2
- Total: 31

44. **MEDICINES.** Supply and Quality of: Throughout the year Medical Supplies at a few Stations have been found inadequate but this was due partly to the inexperience of Surgeons in preparing timely requisitions and partly due to irregular and inaccessible means of transport-
9—Report.

During the last four months I found on inspection of Stations, Medical Supplies greatly in excess, owing to accumulation due to abandoned Posts and Sub-Stations. These are being distributed and transferred to Stations that are deficient.

Surgeons are instructed to prepare for the action of an Inspector all property requiring such action and to have property in excess of present needs ready for whatever disposition may be required.

It is believed, this Brigade is at present well supplied.

45. OFFAL, Disposal of.—The Dry-earth closet system is universally employed by all organizations throughout the Brigade. The contents are emptied at least once daily—dumped into the sea when practicable to be carried off by the tide, or carted to safe distances from Posts. Other refuse, from kitchens, quarters, etc., is collected in receptacles and removed daily. Weeds, grass, leaves, etc., are collected into piles and burned. The natives of different Stations are rapidly and intelligently adopting this method.

46. PERIODICALS: Since the early part of the year some monthly allotments of Medical Journals have been received at the Office of the Chief Surgeon for circulation to the Surgeons under his direction. This included (from twenty to thirty copies each), The Journal of the American Medical Association, The New York Medical Journal, The American Medicine, The Medical Record and the Boston Medical and Surgical Journal. These are distributed as soon as received at this Office, with instructions to Surgeons that care be taken to avoid undue mutilation. When the circuit is completed they are received back to this Office and returned to the Chief Surgeon of the Department.

47. POLICE. Regulations Concerning: Daily police duties are in vogue throughout the Brigade, which includes cleaning of quarters and grounds by the removal of wastes, refuse, weeds and grass. At all Stations visited by the Chief Surgeon regular police of Barracks, Hospitals and vicinity, was established by Post order.

Since the cholera situation in this Brigade, the most stringent sanitary measures have been in force, and countless unsanitary evils among the natives of the different barrios and outside towns have been remedied by the adoption of compulsory measures.

48. POST EXCHANGE, Etc.: None in the Brigade.

It is believed that if the Army Post Exchange were re-established, supplying a good quality of light drinks at a normal cost, excessive use of the native drinks, which are most injurious, would be diminished.

49. PUNISHMENTS. Character of: For minor offenses, Summary Court fines and short-term confinement, or both; for grave offenses, confinement and labor with fines; dishonorable discharge, etc.

EXECUTION: Three soldiers, sentenced by Military Commission and General Court Martial, for desertion to the enemy and murder, were executed during the year by hanging, and five natives in Nueva Caceres by Military conviction.

50. QUARTERS OF OFFICERS: Suitable buildings are to be found in most all Stations. Officers throughout this Brigade invariably occupy the second story of a substantial native frame house. The sanitary condition of the interior and surroundings of these quarters is universally good under the circumstances. In Legazpi, Albay, P.I., it was found that there was some difficulty in securing sufficient accommodations for the number of Officers present at the time of the inspection, March 13, 1902. However, the number of troops at this Station has since been reduced, and the deficit thus remedied.

51. RATION: The ration is the regular Commissary issue, and with rare exceptions has been ample and satisfactory. During a few months of the year fresh beef and vegetables could be procured only irregularly and in meager quantity. This defect has recently been remedied, and the ration is now found to be full and abundant. Fresh fish and poultry are always procurable in emergencies. At most Stations fresh meat...
10—Report.

is supplied twice a month, transported from Manila in refrigerators.

32. RECORDS: The Records kept at the different Hospitals throughout the Brigade are those prescribed by the Manual for the Medical Department and existing Orders, Department of North Philippines, and Division of the Philippines. Inspections have shown these Records properly kept at the following Stations: BRIGADE HOSPITAL, Nueva Caceres; LEGASPÍ, DAVAO, ILOILO, SORSOGON and TABACO. The same were kept with irregularities at ATMÓNAN, WIRAC, PANDAN, PARACALE, LIEBANAN, LUPI, GUBAT, CAMALIA, GUINOBATAN, SAM JOSÉ DE LAGUNAY, PASAGAO and RAGAY.

A few of the prescribed Records and Record Books were found missing at these Stations, and others carelessly kept, but proper instructions have been given in these instances, and it is believed they have been remedied.

The Department Chief Surgeon has recently furnished the Brigade Office with a sufficient supply of Record Books to fill requisitions from different Stations. This method was a long-felt want, and it is believed to greatly facilitate administration.

53. RECREATIONS: Most organizations, particularly Hospitals, have a small portion of the quarters set off as a reading room where checkers, chess and other games may be indulged in. Others indulge in athletic sports as base ball, rowing, swimming, etc.; horseback riding and hunting among troops.

The Officers at this and other Stations have a tennis court.

The troops at this Station have a billiard table.

These diversions are believed to be properly indulged in.

54. RECRUITS: Character of: The total number of recruits from re-enlistment among troops during the year is 169; enlistments in the Hospital Corps, 9. These are usually re-enlistments from discharged soldiers; character generally good.

55. REPORT: Sick and Wounded: This Report has been rendered from all Stations and Sub-Stations in this Brigade, the Report of Sub-Stations and isolated Posts being consolidated in the Report of the Station to which it is subsidiary. This Report has, with few exceptions, been indifferentily prepared.

The per cent. of sick since the cessation of active operations has greatly decreased, being about 17.6 per cent. in present strength XX XXXXXX of 3050, as against 29.7 per cent. in the strength during the first few months of the year.

56. REPORT: Sanitary: The Regular Monthly Sanitary Reports have been timely received, and inspection of the different posts bear out the statement that the work of cleaning and policing the towns garrisoned has progressed very satisfactory during the year, considering the filthy habits of the natives.

Special Reports are also occasionally rendered and the Sanitary condition of the Brigade at the present date is good, and improvements in it are constantly being made.

57. SCHOOLS: The Paulist Fathers at their Monastery at Nueva Caceres conduct a school for 200 young men and boys, including forty theologians. The convent of the Sisters of Charity at Nueva Caceres has a school which is attended by 100 young women and girls, both day and resident pupils. Both of these Institutions are Spanish.

Early in July, 1901, with the advent of American school teachers, the school system among natives was inaugurated generally throughout the Brigade territory. There are now employed in the Provinces of Albay, Sorsogon and Ambos Camarines, 61 American, and 82 native teachers. The average attendance of scholars is 4220 daily.

The increased number of English-speaking children encountered throughout this section as a result of school instruction is very noticeable.
59. **SCURVY.** The Surgeon at Lupi, Camarines Sur, P.I., made report January 16, 1902, of eleven cases of scurvy among the Command at that place, which he attributed to improper and inefficient diet. This matter was investigated in person by the Chief Surgeon of the Brigade, who found the diagnosis of the Surgeon faulty and the dietary of the Command abundant in variety and quantity. No other authenticated reports of scurvy in the Brigade have been received at this Office.

60. **SEWERAGE.** Condition and Description of, and Recommendations Concerning: There is no system of sewerage throughout the Brigade. The method of disposal of excreta in use at present, is that of the Dry-Earth closet; hard-wood boxes and barrels for kitchen refuse and wastes, which are emptied daily.

61. **STABLES.** All corrals and Cavalry commands are provided with abundant shed space, usually constructed with nipa roofs, with open air space on all sides. Stock protected from the sun and wet by this means normally thrive.

62. **STEWARDS.** Hospital and Acting Hospital: There are five Hospital Stewards on duty in the Brigade, as follows:

- Patrick Haughey, Detention Camp, Nueva Caceres, P.I.
- Adam Korn, Sorsogon, Sorsogon, P.I.
- Clifford H. Perry, Brigade Hospital, Nueva Caceres, P.I.
- Theodore Schumann, Military Hospital, Legaspi, Albay, P.I.
- Herbert Thompson, Guinobatan, Albay, P.I.

The following Acting Hospital Stewards are on duty in the Brigade:

- Arbery, William, Pasacao, Camarines Sur, P.I.
- Babat, Charles S., Masbate, Island of Masbate, P.I.
- Barber, Ernest C., Libmanan, Camarines Sur, P.I.
- Bradbury, Charles K., Brigade Hospital, Nueva Caceres, P.I.
- Donohue, Fitz W., Atimonan, Tayabas, P.I.
- Graw, Erick W., Guinayangan, Tayabas, P.I.
- Gwinn, Arthur C., Guinayangan, Tayabas, P.I.
- Hofstedt, Edward, Ragay, Camarines Sur, P.I.
- Taran, William, Daet, Camarines Norte, P.I.
- O'Neil, Charles, Brigade Hospital, Nueva Caceres, P.I.
- Patterson, Charles J., Bulan, Sorsogon, P.I.
- Pierce, David M., Paracale, Camarines Norte, P.I.
- Przyliski, Herman A., Catanauan, Tayabas, P.I.
- Robison, Ewan W., Legaspi, Albay, P.I.
- Sink, Wymond G., Board of Health, Nueva Caceres, P.I.

Number of Hospital Stewards on duty July 1, 1901, 6; number present April 15, 1902, 5.

Number of Acting Hospital Stewards on duty July 1, 1901, 14; number present April 15, 1902, 7.

63. **STORE HOUSES.** All Hospitals have a certain apartment for use as a storeroom. Some have storerooms separate from the Hospital proper. These are neat in arrangement, and their sanitary condition is good.

64. **STORES.** Hospital: Hospital stores, medical and commissary, are kept in sufficient quantity and well cared for in most Stations.

65. **TENTS.** Hospital: There is little occasion for the use of Hospital tents at present, except for the purpose of isolation and segregation of contagious cases. These tents, after exposure, are burned.

66. **TRANSPORTATION.** Means of: There are various methods of transportation of Medical Supplies and the sick throughout the Brigade. There is communication by water to a majority of the Stations. Inland Stations, with a few exceptions, may usually be reached by ambulance; in
a few instances, isolated points via trail, by litter only. Pack trains and escort wagons are used in the transportation of Medical Supplies overland.

66. TROOPS, DUTIES, MORALS AND MOVEMENTS: The Organization constituting the 3rd. District, July 1, 1901, was as follows:


The organization at the present date, constituting the 4th. Separate Brigade, is as follows:


During July, 1901, the troops performed the usual garrison duties and occasional scouting. From the 4th. to the 8th. inst., Insurgent General Belarmino surrendered his Command to the Commanding Officer, Legazpi, Albay, P. I., thus ending hostilities in the Province of Albay.

August, 1901—Troops performed the usual garrison and field duties, participating in scouting, patrol duty and mail escorts. Companies "E" and "I" 38th. Infantry, encountered small engagements with the insurgents during the month.

September, 1901—The usual military duties were performed. Company "D" 35th. Infantry had several engagements with insurgent bands in the Province of Sorsogon, between the 2nd. and 30th. of the month. During this scout eighteen insurgents are known to have been killed; no American casualties. On Sept. 1, the Insurgent General, Angelis, surrendered to Capt. Rosenbaum, 35th. Infantry, with 21 Officers, 50 men, 8 rifles, 10 pistols, and a number of bolos.

October, 1901—The troops participated in small scouts and the usual military duties. There were no engagements. Companies "H" and "I" 38th. Infantry, October 10.

November, 1901—Designation of the Command changed November 1, from Headquarters 3rd. District, to Headquarters 4th. Separate Brigade, Dept. of North Philippines. The usual garrison and military duties were performed during the month. Company "I" 2nd. Infantry had an engagement with insurgents on the 21st. in Tayabas Province on the morning of that date. No casualties on the American side. The 32nd. Company of Native Scouts was organized and proceeded on a scouting expedition through the Province of Albay. The 33rd. Company of Native Scouts was also organized during this month, and performed the usual military duties.

December, 1901—The troops performed the usual duties, furnishing numerous escorts and patrols and small detachments in the field.

January, 1902—The troops performed regular duties, sending out scouting detachments and furnishing escorts and patrols. The 15th. Infantry had numerous detachments in the field; no casualties. Company "K" 2nd. Infantry, engaged the insurgents January 13, in Tayabas Province. Three Americans were wounded in this engagement, one dying from wounds received. Two insurgents were killed and others wounded. The 32nd. Company of Native Scouts was constantly in the field in Tayabas Province during this month.

February, 1902—Troops performed the usual garrison duties. The 2nd. Infantry encountered a band of "ladrones" at Narcesias, Tayabas, February 19, and the 32nd. Company of Native Scouts captured a number of arms during the month.

March, 1902—Companies "A" and "D" 15th. Infantry, embarked for Samar, March 7. Troops performed the usual garrison duties. The 32nd. Company of Native Scouts had several skirmishes with insurgents at the barrio of San Miguel, Tayabas, killing 10 and wounding several more. No arms were captured. No casualties to the Scouts.

The morals of the troops of this Brigade, generally good.
67. VEGETABLES. Fresh Supply of: While operations were more active in the early part of the fiscal year, fresh vegetables of many varieties were procured only with difficulty and were poor in quality. Several months during the year fresh vegetables could not be procured from the Commissary, but at present, and during the past four months, the ration issue has been complete and occasionally fresh native potatoes, radishes, etc., are procurable at open market purchases.

68. VENEREAL DISEASES. Prevalence and How Propagated: Venereal diseases are mostly acute gonorrheal and chancroidal, the per cent. being higher among colored than white troops; and greater during the early part of the year than at present. Several cases of syphilis in the different types have been observed. Rare cases of chronic gonorrhea and chancroids have been observed, which were contracted prior to arrival in the Philippines, but most cases are propagated from association with native prostitutes. The enforcement of G.O. #101, Division of the Philippines, series 1901, has done much to prevent excessive venery and its results. Monthly reports show that these inspections are uniformly and properly conducted.

69. VENTILATION. Recommendations Concerning: Owing to the open character of all structures, the high air space beneath all buildings and the open character of the same, with very few exceptions the ventilation problem is solved. In all buildings occupied by troops air-space and ventilation are all that can be desired.

70. WASHING. How Done: Washing for the Medical Department has been done almost exclusively by natives, but recently, in larger organizations, it is done by contract, under the provisions of G.O. #99, A.G.O., series 1901, at a price varying from 1 3/60 to 2 1/20, gold, per piece.

In some instances, troops do their own washing; this also applies individually, at the Brigade Hospital and other Hospitals next in size. Washing is sold at auction to the lowest bidder. By this means washing is done at less cost and wear, boiling water being used. The delay in the payment of natives for Hospital laundering rendered necessary by the present "laundry voucher" system, has in many instances, been a source of much embarrassment to Surgeons, and has caused much difficulty in getting the work done at the maximum price (2 1/20).

It is recommended that some system be adopted whereby the Surgeon is supplied with a "laundry fund" with which to pay cash on delivery of work, and for which he can make return similar to that of the Hospital Fund. By the adoption of some such plan it is believed the cost of laundering can be materially reduced.

It is also recommended, in the interest of both economy and efficiency, that small steam laundries be established at permanently garrisoned Stations, where boiling water may be used and thus prevent the transmission of various mycotic diseases, incident to the crude method practiced by the natives. This could be successfully done from the same boiler that furnishes power for the ice plant at both Nueva Caceres and Legaspi, and washing could be done at these Posts for adjacent Stations.

71. WATER. Supply, Purification and Analysis of: Water is mostly obtained from wells, running streams and rivers, and is boiled and filtered. Some Stations obtain water from mountain springs and this water is of excellent quality. Well water of doubtful quality is also obtained, but all stations and sub-stations, with barely an exception, are supplied with Waterhouse-Forbes sterilizers, sixteen having been supplied at one time from the Office of the Brigade Chief Surgeon.

Department and Division orders relative to the boiling of water for drinking and cooking purposes have been rigidly enforced at all stations. Orders have been issued to all Surgeons from this Office to
have boiled water stored in suitable covered receptacles free from contamination, and such receptacles to be scoured and scalded frequently. These orders originated in Headquarters 4th Separate Brigade, and have resulted beneficially.

73. CONTRACT NURSES: Male and Female: No contract nurses have been on duty in this Brigade during the fiscal year.

73. NAMES OF ANY MEDICAL OFFICERS WHO HAVE BEEN Distinguished BY PERSONAL BRAVERY, HAZARDOUS SERVICE OR PARTICULAR DEVOTION TO DUTY, GIVING INCIDENT: With few exceptions the work of Medical Officers throughout the Brigade has been efficient and highly satisfactory—the exceptions having been duly reported to the Department Chief Surgeon, and appropriate action taken.

Few opportunities for distinguished bravery have been presented. The Commanding Officer at Pitogo, Tayabas, P.I., commends the services of Contract Surgeon Samuel A. Springwater for his behavior and attention to the wounded under fire in action with insurgents near Catanuan, Tayabas, P.I., January 15, 1902.

Contract Surgeon A. M. Chase, on duty with the 32nd Company of Native Scouts, has seen exceptionally difficult and long field service, and on several times under fire has demonstrated his personal courage as well as efficiency as a Medical Officer.

74. SAME FOR THE HOSPITAL CORPS: The Hospital Corps men, Stewards, Acting Stewards and Privates on duty in this Brigade, have been found equal, with few exceptions, to every emergency, and have done excellent work. Special mention should be made of the faithful and efficient services of Hospital Steward Patrick Haughey, U.S. Army, for his organization and management of the Cholera Isolation and Detention Camp for natives, located just beyond the limits of Nueva Caceres.

The following Privates of the Hospital Corps are deserving of mention for their special services in the recent cholera epidemic: Privates Otho B. Coward, John C. Walker, Daniel M. Hoggatt, Herbert L. Hoggatt, William F. DeVo and George Hogan, from Brigade Hospital, Nueva Caceres; Private Benjamin J. Saumenig and Charles C. Lawrence, at Detention and Isolation Camp, outside of Nueva Caceres.

75. CHARACTER OF PREVAILING DISEASES, CAUSATION, ESPECIALLY IN REGARD TO DIARRHEA, DYSENTERY, MALARIA, SMALLPOX, LEPROSY, BERNI-BERNI AND BUBONIC PLAGUE: Diarrhea and malaria in its different types and the prevailing skin diseases, cause by far the greater number of admissions to Sick Report at most all stations. Only a small per cent. of dysentery cases are found to exist and these are generally amenable to treatment. Some have to be sent to Manila for treatment. Only a small per cent. are cases of amoebic dysentery.

Smallpox is quite common at various stations and it raged considerably throughout the Brigade about five months ago, but at present the disease is less prevalent.

Beri-Beri is frequent during the rainy season, and leprosy exists throughout the Provinces of Albay and Camarines Sur.

The Spanish Government, under control of ecclesiastical authority, had established at Palistina, four miles from Nueva Caceres, a Leper Hospital. During the insurrection this institution was largely deserted by the inmates, where they no longer found a comfortable home, scattering over the country in all directions. In July, 1901, the then Civil Governor of Ambos Camarines authorized the Brigade Chief Surgeon to assume charge of the Hospital. Acting under this authority a native physician was placed in charge, the Division Commander authorizing the issuance of indigent rations until such time as the civil authorities could make proper provisions for the lepers. This institution was thus controlled and renovated until October 1, 1901, when the Provincial Civil Government assumed full control and responsibility. There are now about fifty inmates thus segregated.

76. WORK DONE IN THE WAY OF VACCINATIONS, GIVING RESULTS, ETC.: Medical Officers are required to report monthly by Information Slip to this
Office the number of troops and natives vaccinated, giving results, etc. Instructions have been issued from this Office in the method of vaccination, and treatment, care, etc., of small-pox patients.

A supply of vaccine virus is kept constantly on hand, stored in ice at these Headquarters, and Surgeons are directed to make timely requisitions, whenever same is needed. At many Stations native vaccinators are employed, and their work has been satisfactory, although in many instances this work is done by members of the Hospital Corps.

77. QUARANTINE MEASURES: In most instances tents are employed for endemic cases of contagious diseases. The methods adopted in regard to the recent Cholera Epidemic will be the subject of a special Report.

78. REPORT ON INDIGENT NATIVES: Under the provisions of G.O. #91, Office Military Governor, series 1900, and Circular #15, Headquarters, Department of Southern Luzon, series 1900, monthly requisitions were made for the necessary medicines, vaccine, etc., for the care of the sick and indigent natives. This was pursued until January, 1902. It is believed that at present the civil authorities have this matter in hand.

79. PERSONNEL OF THE MEDICAL DEPARTMENT: The Medical Personnel of this Brigade to April 15, 1902, was as follows:

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<thead>
<tr>
<th>Rank</th>
<th>Name</th>
<th>Rank</th>
<th>Name</th>
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<tbody>
<tr>
<td>Major</td>
<td>Henry D. Thomason</td>
<td>Major</td>
<td>George B. Lawrason</td>
</tr>
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<td></td>
<td>(Surgeon, U.S. Vols.)</td>
<td></td>
<td>(Surgeon, U.S. Vols.)</td>
</tr>
<tr>
<td>Major</td>
<td>W. L. Whittington</td>
<td>Major</td>
<td>W. M. Winder</td>
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<td></td>
<td>(Surgeon, U.S. Vols.)</td>
<td></td>
<td>(Surgeon, U.S. Vols.)</td>
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<tr>
<td>Capt.</td>
<td>Robert E. Caldwell</td>
<td>Capt.</td>
<td>C. S. Driver</td>
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<td>Capt.</td>
<td>J. O. Cutliffe</td>
<td>Capt.</td>
<td>John Gilbert</td>
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<tr>
<td>Capt.</td>
<td>J. K. Graves</td>
<td>Capt.</td>
<td>C. S. Long</td>
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<tr>
<td>Capt.</td>
<td>C. E. Means</td>
<td>Capt.</td>
<td>T. K. Mallins</td>
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<tr>
<td>Capt.</td>
<td>T. V. Palmer</td>
<td>Capt.</td>
<td>Shannon Richmond</td>
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<td>Capt.</td>
<td>W. T. Smith</td>
<td>Capt.</td>
<td>E. M. Trook</td>
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<tr>
<td>1st Lt.</td>
<td>Wilfrid Turnbull</td>
<td>1st Lt.</td>
<td>H. A. Webber</td>
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<tr>
<td>Contract</td>
<td>W. E. Chapman</td>
<td>Contract</td>
<td>A. M. Chase</td>
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<tr>
<td>Surgeon</td>
<td>(U.S. Army, Indian)</td>
<td>Surgeon</td>
<td>(U.S. Army, Lopez)</td>
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<td>Contract</td>
<td>C. P. Clayton</td>
<td>Contract</td>
<td>H. G. Gemmell</td>
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<tr>
<td>Surgeon</td>
<td>(U.S. Army, Resolute)</td>
<td>Surgeon</td>
<td>(U.S. Army, Matnog)</td>
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<tr>
<td>Contract</td>
<td>L. S. Hughes</td>
<td>Contract</td>
<td>E. M. Gullough</td>
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<tr>
<td>Surgeon</td>
<td>(U.S. Army, Atimonan)</td>
<td>Surgeon</td>
<td>(U.S. Army, Paraña)</td>
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<td>Contract</td>
<td>L. M. Evoy</td>
<td>Contract</td>
<td>J. W. Reddy</td>
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<tr>
<td>Surgeon</td>
<td>(U.S. Army, Guinayangan)</td>
<td>Surgeon</td>
<td>(U.S. Army, Ragay)</td>
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<tr>
<td>Contract</td>
<td>A. Springwater</td>
<td>Contract</td>
<td>A. J. Short</td>
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<tr>
<td>Surgeon</td>
<td>(U.S. Army, Pitogo)</td>
<td>Contract</td>
<td>D. E. Foster</td>
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<tr>
<td>Contract</td>
<td>J. W. Reddy</td>
<td>Contract</td>
<td>A. Carpenter</td>
</tr>
<tr>
<td>Dentist</td>
<td>E. A. Means</td>
<td>Dentist</td>
<td>(U.S. Army, Legaspi)</td>
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</table>

The work of the two Dental Surgeons on duty in this Brigade has been in every respect satisfactory and a source of much comfort to both officers and enlisted men.

It is recommended that the Dental Corps be made a permanent adjunct to the Medical Department of the Army, and be given actual and not quasi rank. The same recommendation relative to rank is applicable to the Contract Surgeon System in general; it is at best an anomalous status, prejudicial to good discipline, professional dignity, and good results. The status is entirely at variance with the dignity, responsibilities and requirements demanded, and until actual rank and its privileges are accorded all Medical Officers, it is useless to expect that the Army can secure the services of the best professional material, or the best attainable results.
15—Report.

80. IS POST LOCATED IN A HEALTHY SECTION OF THE ISLAND? The climate in this part of the Island is believed to be healthful.

81. ARE MOSQUITO NETS USED AT POST? Orders were issued from these Headquarters during the early part of the year requiring that all troops at Posts and Sub-Posts be provided with mosquito bars. Upon inspections it was found that mosquito bars were supplied and in use with rare exceptions.

82. WHAT ARE THE HABITS OF THE MEN IN REGARD TO THE USE OF VINO? Reports show that about 4 per cent. of the strength of white troops are addicted to the use of vino, and 6 per cent. of the colored troops.

It was learned at these Headquarters a few months ago that a number of the proceedings of Courts Martial show that in the course of trial evidence is produced to show that the accused sets up in many cases as a defense for his crime, the fact that he had been drinking vino, and General Orders were issued from these Headquarters prohibiting the use of the native drink. Violation of this Order is now met with prompt punishment of the offender.

83. DO ANY OF THE PERSONNEL LIVE ON THE 40¢ FUND, OR ANY PART OF IT? The above was made a subject for personal inquiry by the writer on his inspection throughout the Brigade, and it has been invariably found that no part of the 40¢ Fund was utilized by members of the H. C. personnel.

84. ANIMALS, Wild, Vicinity of: The wild animals found in this Brigade territory are few. Deer abound in the thickets, especially in the North and South Camarines. Water Buffalo (carabaos) are found in the wild state only in small numbers. The wild boar is found mostly in Tayabas province, and occasionally in Albay province. There are numerous species of monkeys and mountain cats throughout the Brigade territory, and in the mountains in Albay province are to be found mountain sheep and goats, some of the former being of immense size. A species of raccoon, which the natives prize highly for its meat, is also found in the Province of Albay.

85. BIRDS, OF VICINITY. Names and Migration of: Almost anywhere throughout this part of Luzon may be found pheasants, snipe, pigeons, woodcocks, wild ducks, various water fowls, turtle doves, hawks, cranes, herons, crows, parrots, cockatoos, kingfishers, parrots, and others, but their migration has not been observed.

86. EARTHQUAKES, Description of: There is no record of destructive earthquakes. Several light shocks of brief duration have been observed during the year, in general throughout the Brigade. In October and December, 1901, there were several waves, apparently from northeast to southwest, lasting one to two minutes, during which the vibrations were distinct in the vicinity of Nueva Caceres. Others of briefer duration occurred January and February, 1902. These invariably occurred early in the morning or late in the evening.

87. FISH, Vicinity of: In all rice-paddie fields small fish (Ophiocephalus vagus), are caught by natives for food. Rivers, streams and lakes throughout the territory abound in fish of all sorts. The most commonly seen in the markets are the Bacoco, Espoda, Rompocandado, Atun, La Bala, Ballimo, Tiberon and many others. Small fish, as the shrimp or crab, are abundant, and along the seacoast in the Province of Albay, fine large lobster are obtainable. Sharks, porpoise and some species of cod, mackerel, flounder, perch, flying and semi-game fish abound in the larger waters.

88. FOSSILS, Vicinity of: Along the south bed of Rio Vicol the soil is composed of limy loam, containing a large quantity of fossils. Tophus and loam containing fossil plants may be found almost anywhere near the volcanic territory.
GEOLGY. Post and Vicinity: A great mountain range traverses the territories of Tayabas, Camarines Norte, Camarines Sur and Albay, which has two principal volcanos—Mayon and Bulusan. The smaller volcanic mountains are the Malinao, the Iriga and the Isarog, all in the Province of Camarines Sur. The first is composed of dolerite, the second of dolerite and olivenite, and the third of andesite and hornblende.

The eastern volcanic region is prolonged in the Province of Camarines Norte by Mount Laboo. In this region are found conchiferous lime, andesite and trachyte in abundance.

There is a mountain ridge extending from Camarines Norte and Camarines Sur, to Mount Banajao, which is an extinct volcano, and in this region tophus, yellow limestone, andesite and coral lime, as well as coral reefs, are abundant.

Diorite, protogenetic gneiss and chloric slate are abundant in the Provinces of Camarines Norte, Albay and Tayabas.

INSECTS: Insects of infinite genera and species are found in houses and surrounding fields, and along banks of stream and river. Centipedes, tarantulas and scorpions are not altogether common, the centipede being seen most frequently of this trio, varying in length from one inch to twelve inches. The common beetle, green beetle (elator noctilucus), and others of the vaginopennous order; red ants, etc., are common. The "anay" a sort of ant very destructive to the woodwork of houses, etc., may be found everywhere. The mosquito is also conspicuous in all damp and swampy localities. Cockroaches, and many beautiful moths and butterflies are abundant, and at certain seasons locusts swarm the whole country.

METEORS AND METEORIC SHOWERS. Description of: Meteoric showers have not been observed but sporadic showers are occasionally seen from these Headquarters.

MINERALS. Vicinity of: Valuable coal deposits are to be found in the Province of Albay and on the Island of Masbate. Gold washings of value are to be found in the vicinity of Baracela, Camarines Norte; sulphur is found mixed with copper, iron and arsenic near the volcanic regions in the Brigade territory. Gold, silver, iron, antimony, lead sulphur, etc., occur in the form of sulphides in the gold-bearing veins in the mountains in the Provinces of Albay and Camarines Norte.

PLANTS. Indigenous. Blooming of: The flora of this part of Luzon is rich and variegated. The most common of the flowering plants are given below in Spanish and Filipino terms:

<table>
<thead>
<tr>
<th>Name</th>
<th>Blooms</th>
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<tbody>
<tr>
<td>Manostan</td>
<td>August</td>
</tr>
<tr>
<td>Palo Maria</td>
<td>November</td>
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<tr>
<td>Malvas de Castilla</td>
<td>September</td>
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<tr>
<td>Guamila</td>
<td>June</td>
</tr>
<tr>
<td>Secreta de Amor</td>
<td>May</td>
</tr>
<tr>
<td>Cana</td>
<td>May</td>
</tr>
<tr>
<td>Yang-Ylang</td>
<td>May</td>
</tr>
<tr>
<td>Arbol de Pueblo</td>
<td>March</td>
</tr>
<tr>
<td>Almendro</td>
<td>June</td>
</tr>
<tr>
<td>Lemon de China</td>
<td>June</td>
</tr>
<tr>
<td>Cedrata Odora</td>
<td>April</td>
</tr>
<tr>
<td>Lemon Site</td>
<td>April</td>
</tr>
<tr>
<td>Fili</td>
<td>August</td>
</tr>
<tr>
<td>Maranjas</td>
<td>June and September</td>
</tr>
<tr>
<td>Mamungal</td>
<td>February</td>
</tr>
<tr>
<td>Enjo</td>
<td>September</td>
</tr>
<tr>
<td>Bilogo</td>
<td>April</td>
</tr>
<tr>
<td>Guayabas</td>
<td>May</td>
</tr>
</tbody>
</table>
94. **RAIN:** The wet season lasts normally six months—from about the first of May until November—the rains being slight during the months of June and July, when the hottest days are experienced. During the latter part of the wet season the rivers and streams swell, often overflowing their banks. The mountain torrents carry away bridges, etc., rendering travel in some parts dangerous and difficult. The rainy season in the Camarines is not marked by lines as well defined as in the country about Manila. Dec., 1901, a heavy rain inundated towns and country.

95. **REPTILES:** Vicinity of: Reptilia, such as lizards, snakes, iguanas, frogs, and other batrachian species, are found almost everywhere. Boa constrictors have been seen in Ambos Camarines, Albay and Tayabas Provinces. The Doghorn-polay, a rice-paddle snake, is found in small numbers throughout the territory. Leeches are commonly found in stagnant pools and in the swamps.

96. **SOIL.** Character of: The soil near the volcanic regions is mixed with lava. Tophus and loam are frequently observed. Throughout the Provinces of Ambos Camarines and Sorsogon the soil is mostly composed of clay containing remnants of seashells. Feldspath sand abounds about the mountain districts. Coral lime is found along the bed of the Vicol river in the Province of Camarines Sur. The soil in the uplands is believed to be very fertile if properly tilled.

97. **STORMS:** Slight thunder storms occur from June to November, most frequently in August and October. On the eastern border during the southwest monsoon, the sea is calm, but in the middle of the northeast monsoon navigation is suspended. Occasionally hurricanes, accompanied by torrents of rain, occur during the height of the rainy season.

98. **TEMPERATURE:** The hottest season is apparently during June and July, the greater heat being felt before the rains set in. At this period the temperature ranges from 85° to 95° in the shade. The coolest weather occurs in the latter part of December and in January and February. Sometimes the temperature falls at night to 60° and 65° seldom raising during the day above 75°.

The mean annual temperature during the cool, hot and wet seasons...
is approximately 32°, 33° and 34° respectively.

99. **Tornadoes:** No tornadoes have been observed in this Brigade during the year.

100. **Whirlwinds:** Occasional waterspouts of brief duration and small volume have been observed at seacoast towns.

101. **Winds, Prevailing:** The prevailing winds are the monsoons, or trade winds—northeast from December to April, and southwest from May to November. In January and February the east winds begin and terminate the monsoon.

102. **Inhabitants:** The inhabitants of this territory constitute approximately Bicolos, 76 per cent.; Tagalogs, 18 per cent.; Chinese, Spanish and others, 6 per cent. of the total population. The Bicolos are apparently peaceable and will work under American direction; but many of the mixed tribes are intolerably indolent.

Respectfully submitted,

[Signature]

Major and Surgeon, U.S. Vols.,
Deputy Chief Surgeon.
EXHIBIT "A"

GROUND FLOOR OF HOSPITAL

Office of the C.O.

Dispensary

Hall

Dining Room

Steward in Charge

Commissary Stores

Property

Kitchen

Scale: 1" to 1'

1: 1: 3: 1
BRIGADE HOSPITAL,

Nueva Caceres, Camarines Sur, 4th Separate Brigade, D.N.P., P.I., April 19th, 1902.
SECOND FLOOR OF HOSPITAL

Scale 1:80

EXHIBIT "B"

VENTILATION WARD

Not used by Hospital

Operating Room

Medical and Surgical Ward

Ward

Offices

HQ. Quarters
BRIGADE HOSPITAL,

Nueva Caceres, Camarines Sur, 4th Separate Brigade, D.N.P., P.I. April 19th, 1902.
EXHIBIT "D"  HOSPITAL CORPS QUARTERS.

CONVALESCENT SMALL POX WARD.
Inmates at Leper Hospital, Palestina, Nueva Caceres, P.I.
Brigadier General Frederick D. Grant, U.S. Army, and Staff, 4th Separate Brigade, Dept. of North Philippines, Division of the Philippines, Nueva Caceres, Camarines, Sur, P.I., from October 5th, 1901, to March 19, 1902.
Office of Contract Dental Surgeon, Nueva Caceres, P.I.

Calle Real, Nueva Caceres, P.I.
An Extinct Geyser at Hot Springs of Tivi, Albay, P.I.

Hospital Building, Legaspi, Albay, P.I.
In Accordance with Circular "6-A" Office Chief Surgeon, Dept., North Philippines, January 20, 1902.

Native School at Tabaco, Province of Albay, P.I.
Magarao Native School Taken at Nueva Caceres, P. I.
ADDITIONAL NOTES.

FROM MARIVELES.

ANIMALS WILD. Deer, Hog and Mongoose.

BIRDS. Wild Chicken, Carribao Bird, Crows, Blue Cranes, White Cranes, Duck and Jack Snipe are the principal ones.

EARTHQUAKES. The province of Bataan is marked on the Manila Observatory Seismic Maps as being a part of the district of most frequent Earthquakes. A very severe Earthquake was experienced here last January with some subsequent slight shocks.

FISH. Salt water, plentiful. No Fresh water Fish.

FOSSILS. None found.

Geology, POST AND VICINITY. The soil in the immediate vicinity of the Post is sandy. Mariveles is surrounded on all sides by very high Mountains all of volcanic origin. The Mariveles quarries close by contain a fine building rock resembling Granite somewhat in grain; it is a volcanic Tufa. About a mile to the rear of the Post is a hot Mineral Spring of Alkaline reaction, chiefly Carbonate of Soda. Temperature, 102 degrees F.

INSECTS. Mosquitoes are scarce. No observations made on other insects.

MINERALS. Have seen specimens of Copper said to have been found in this Province, but no other Metal.

PLANTS. Can make no report.

RAINFALL. Owing to the position of Mariveles, being as it is on the Coast and closely surrounded by high hills, among which stands Mariveles Mountain, 5000 feet high, it is natural that the rainfall should be greater than at most other places, but I have no accurate data.

REPTILES. Snakes and a variety of lizards, among which is the large Iguana. These Iguanas inhabit the swamps, and together with the Crows are excellent Scavengers.
SOIL CHARACTER OF. Sandy.

Storms. Thunder Storms very prevalent during the months of May, June and July. The town and bay are very well protected against the North West Monsoons or Typhoons.

TEMPERATURE. The Temperature ranges between 65 and 90 F.

Tornadoes. We are well protected against Typhoons, and also against South West Monsoons. There is good anchorage in the Bay at all times.

WHIRLWINDS. None.

WINDS PREVAILING. North East to South West in the Spring and North West in the Fall.

INHABITANTS. The inhabitants in the towns are Tagalogs. The Towns in this Province are all situated on the Coast, the interior being very Mountainous and thickly timbered. They are Peaceable and Friendly, but insufferably lazy. In the Mountains of the interior live a good many scattered tribes of Negritos. These curious people are supposed to be the aborigines of these Islands. They are dwarfs, being rarely over five feet in height. They have very dark skin, flat, broad nostrils, and short, Kinky hair like the African Negro. The length between the tips of the fingers with the arms stretched out always exceeds the length of the body. They are absolute Savages but peaceable, always living in the Mountains near some native Town. They live almost entirely on wild hogs, deer and fish which they are very adept at catching. They also eat wild roots and Camotes, but do not plant or cultivate anything for themselves. They wear no clothing except the "Gee" string, the women wearing a small piece of cloth in its place. Polygamy is practised, the men buying or trading for their wives. The girls marry at 12 or 13 years of age. Each tribe elects a new Chief yearly. They rarely live to any great age, and the tribe is decreasing year by year.
REPORT OF A CASE OF "WET" BERI-BERI
TREATED AT THE INSULAR QUARANTINE STATION; MARIVELES, P.I.

This case was received and treated at the Insular Quarantine Station at Mariveles, P.I. by Dr J.D. Long, U.S.M.C., by whose courtesy these notes are transmitted.

Early in February last notice was received by the Chief Quarantine Officer for the Philippine Islands that the Bark Evie J. Ray was helpless at Olangapo, all her crew being down with Beri-Beri. A Government Launch was sent after her and she was brought down to the Quarantine Station. The Captain and First Mate were American, and the Boat-swain was a Bermuda Negro. The Rest of the Crew were Asiatics. They had left a Borneo Port six weeks previously loaded with lumber having on board a Japanese Crew. Nine of these Japanese died inside of two weeks of Beri-Beri. They then touched in at a Chinese Port where they took on a Chinese Crew. She arrived
at the Quarantine Station with Seven of her Chinese Crew suffering with Beri-Beri. They were all cases of the Dropsical form or "Wet" Beri-Beri. Six recovered out of the Seven and were placed back on the boat which proceeded to Hongkong. The Boat which was in a most horrible condition was thoroughly disinfected and fumigated.

The case represented in the Photograph was the most Typical of them all. A Chinese Sailor, 35 years of age. Had been a Sailor most of his life. Was well acquainted with the disease from which he was suffering, but had never had it before. Was in good health when he joined the Ship. Smoked Opium a good deal. Was a well developed muscular man.

**Symptoms:** The whole body was oedematous. The Urine was scanty and high colored but did not contain Albumen. For the first few days he suffered from retention of Urine which necessitated the use of a Catheter. Heart dilated, with considerable pericardial effusion; the sounds muffled but with a distinct Systolic Bruit. Heart easily overtaxed with the least exertion. Lungs normal, but the breathing greatly embarrassed by the Dropsical effusion in the Abdominal cavity. There was also slight hydro-thorax. It was necessary for him to be propped up in bed in order to breathe at all easily. Complained of pain in the chest. Appetite good, tongue clean, and had no abnormal temperature. When stood upon his feet he was almost helpless. He could not move except with somebody's help or with the use of a stick. No Knee-jerk was obtainable, and Ankle-drop was very marked. No Ankle-clonus. His gait on trying to walk was markedly ataxic. The toe would be dragging on the ground, and then the foot raised high in the air and brought down with a jerk. At times, usually at night he would suffer from serious palpitation and difficult breathing.
The pose in the Photograph is Characteristic. His legs are held well apart, and he's not only leaning on the stick, but his hips are also pressed against the rail of the house. The Dropsical condition of the body is well shown.

**Treatment.** He was at once removed from the filthy Fore-castle of the ship where, undoubtedly, the disease was contracted, into a large airy ward of the Quarantine Hospital. Rice and fish were eliminated from his diet which consisted principally of Nitrogenous foods, such as peas, beans, Oatmeal and Corn meal mush. He was also allowed eggs, milk and occasionally a little meat. He was kept strictly in bed on account of the Cardiac symptoms which followed any exertion. The bowels were kept fairly loose by Saline purgatives, and the heart was kept up by alternating doses of Strychnia and Digitalis.

The change in the man's condition in ten days time was quite remarkable. The dropsy had nearly disappeared, and the ataxic walk was not nearly as noticeable, nor the Cardiac bruit.

It was necessary to return him to the ship before he was quite well.

**NOTES ON NATIVE PRACTISE AND SUPERSTITIONS.**

The mortality among puperal women is very great, chiefly from Puperal septicaemia. After childbirth a woman will not allow cold water to touch any part of her body, nor will she drink any cold water for thirty days. I was called into a case some time ago and found the following condition:— A woman lying on the floor suffering intense pain from Puperal Peritonitis, the baby 24 hours old. On one side of her kneeling on the floor was a man, and on the other side a woman. Both of them had their doubled fists pressed down on the woman's abdomen as hard as they could bear, and in addition to this a cloth was
tied around her bowels in which a stick had been inserted, tourniquet fashion, and this had been twisted down to its utmost limit. It was with great difficulty that I could make them desist, and was informed by them that the woman's trouble was due to an accumulation of wind in the womb, and that it had to be kept pressed out or else she was liable to die.

In another case of the same disease, the woman had just died. The neighbours assured me that she had been bewitched, and that they knew the woman that had bewitched her. On enquiring into the matter, I found that a witch's stock in trade consists of a Doll, (Мунека,) and a needle, (Агуя,). These articles she is supposed to have bought from his Satanic Majesty himself, and paid for them with the price of her soul. When she has an enemy that she wishes to harm, she simply sticks the needle into some part of the Doll, and that particular portion of the Doll's anatomy immediately becomes "infermo".

Monkeys are eaten by the Negritos, and stewed monkey flesh is used as a poultice for ulcerations.

The only medicines that the Practicantes seem to know anything about are Quinine and Salts. They use all sorts of herbs chiefly in the form of poultices.

In grave fevers the skin is burnt in some manner in a ring around each arm and a half circle around the back of the neck. In Tonsillitis a white cross is painted across the throat with lime.

Respectfully Submitted,

William St. James.
Capt. & Asst. Surgeon, U.S.V.

Mariveles, Bataan, P.I.
April, 18th, 1902.
General view of the Military Post, Mariveles, Bataan, P.I.

(A) Soldier's Quarters.  (B) Officer's Quarters.
(C) Commissary Store-room, Hospital and Guard House.
The Soldier's Quarters. (Front view.)

The Soldier's Quarters. (Rear view.)

(A) Bakery. (B) Forbes-Waterhouse Sterilizer. (C) Kitchen. (D) Dining-room.
The Commissary and Hospital Building.

(A) Hospital.  (B) Commissary Store-room.
(C) Guard-house.

Looking towards the Post from the Quarantine Reservation.

(A) Soldiers Quarters, (B) Company Bath-house and Closets.
(C) Officers Quarters.  (D) Mount Mariveles.
The Quarantine Pier and Wharf showing buildings containing the Disinfecting plant. Mariveles Bay.

(A) Mariveles, Quarries. (B) Corregidor Island.

Another view of the Quarantine Wharf with the U.S.A. Transport Kilpatrick in the Dock for Fumigation.
A piece of virgin Tropical Forrest near Mariveles, P.I.

The Mariveles Native School.
A variety of White Corals from the China Sea near Mariveles, procured by diving.

The Mariveles Rock Quarries. Rock is being taken from here to build the Manila Breakwater.
A Negrito Chief and family with Court Musician. The Silk Hat and cane are handed down from one Chief to another and are worn on State occasions.

Negrito Men. The Chief usually puts on a few clothes when he comes to Town.
Negrito Women with their "Picanninies."

Negrito Children. They sleep in wood ashes every night to keep themselves warm.
Typical Negrito Boy and Girl. The Girl has her ears pierced and Blue Bachelor Button Flowers stuck in them.

Hot Mineral Spring, (Alkaline,) near Mariveles, P.I.
HEADQUARTERS FIRST SEPARATE BRIGADE,

Chief Surgeon's Office.

Dagupan, Pangasinan, P.I., April 17th., 1902.

To the

Chief Surgeon,

Department of North Philippines,

Manila P.I.

Sir:—

I have the honor to submit the following report of the Medical Department of this Brigade during the period from June 30th., 1901, to April 21st., 1902.

Having just reported for duty as Chief Surgeon of the 1st. Separate Brigade, I am compelled to found this report upon the data furnished by others.

1. There are 23 ambulances in this brigade: 16 in good condition, and 7 in need of repair.

2. All regular posts have bakeries. Some use the field oven furnished by the Quartermaster Department, and others have ovens built of stone or brick. They are well kept, cleanly, and the bread in most cases has been satisfactory.

3. Books have, as a general rule been kept in accordance with existing orders. A large number of reports and papers have been returned for correction, due to the fact that many of the Medical Officers and others preparing them, have had little experience in such clerical work. Files of orders and circulars are properly kept.

4. No regular barracks have been erected. The troops are housed in convents of stone or rubble structure and nipa houses. They are kept in good condition.
It is recommended that as soon as conditions warrant, suitable barracks be built for the housing of troops, in places where permanent garrisons are to be retained.

5. There are few bathing facilities. The men, as an almost universal rule, bathe in streams and at beaches where the garrisons are located near the sea shore.

It is recommended that shower baths, in some form, be erected at all permanent posts.

6. The bedding consists of hair mattresses, hair and feather pillows, sheets, and light woolen blankets. All of which are furnished in abundance and kept in good condition.

The men are as a general rule, of good character and seem to be in good physical condition.

7. Bunks for the hospitals are the regulation bedsteads with wire woven mattresses. Those for the troops are the Gold Medal Quartermaster cots. All are in good condition.

The dead are interred in plots set aside for this purpose and are buried from four to six feet in the ground.

In many places water is found from a depth of four feet or less.

9. The material used for clothing is well adapted to the climate, but the khaki suits have not been uniform, either in make or quality.

It is recommended that all material from which khaki uniforms are made be of the best quality and that a uniform pattern be adopted.

10. Commissary store rooms are of many different kinds, generally rubble structures and are kept in a good condition.

11. The records of deaths is incomplete for the period covered by this report. There are no records in this office of deaths in the 1st and 2nd Districts, D.N.L. The following are from the records of the

Total deaths, enlisted men, 36, from the following causes. 1 Alcoholism acute, 1 Anaemia pernicious, 1 Burns, 1 Cachexia malarial, 1 Cancer of stomach and liver, 1 Delirium tremens, 8 drowning, 3 Dysentery, acute 1 Enteritis atropic, 2 Fracture of vertabrae, cervical, 1 fatty degeneration of the heart, 1 fever malarial hemorrhagic, 1 gastritis chronic 1 gunshot wound suicidal, 1 Icterus hematogenous, 1 Jaundice malignant, 1 Morphinism chronic, 1 Peritonitis tubercular, 1 Pharyngitis gangrenous 1 Pneumonia, 1 Pyaemia acute, 2 Small pox, 1 Urinary suppression, 2 Cause unknown.

13. No record of desertions has been kept at these headquarters, and the number and cause cannot be given.

No desertions have been reported since I have been in charge of this office.

14. The special diet consists principally in the Brigade, of canned soups, beef extracts, condensed milk, malted milk, eggs, and a few farinaceous substances.

It is impossible to obtain fresh milk, and in many cases the supply of fresh beef for such uses as is called for in special diets, is irregular and limited.

A fairly good light diet, sufficient for the needs of patients too sick to use the ration, has been secured and prepared in a satisfactory manner.

15. There is no record for discharges for disability at these Headquarters. Enlisted men who are to be discharged on Surgeons Certificate
of disability are sent to Manila for final disposition.

16. Discipline has been good.

17. There has been very little necessity for disinfection, as all stations have been kept in a good sanitary condition.

In cases of Typhoid fever and malignant dysentery, the stools of patients have been disinfected by solutions of corrosive sublimate, chloride of lime or carbolic acid.

18. The natural drainage in some posts is good, some fairly good, and in a few there is practically no drainage.

Nearly all stations have rivers or small streams running through or near the towns where they are located.

19. Very little artificial drainage has been attempted, owing to the temporary nature of some of the stations and a sufficient natural drainage in others.

20. The prescribed hours (20 per month) of drill and instruction do not seem to have been carried out, judging from late inspection reports.

The arrival of the present Chief Surgeon has been too recent to enable him to make an answer to this question from personal observation.

Steps will be taken at once to remedy this omission.

21. There has been a noticeable increase of intemperance since the closing of the post exchanges, caused by the men frequenting saloons near the stations, where stronger and adulterated drinks are sold.

It is recommended that the post exchange be reestablished.

22. Beri-beri, malaria and intestinal disorders are the principal endemic diseases.

In the cases of troops, intestinal disorders should be avoided as much as possible by the use of boiled water, where such can be procured.
23. There have been no epidemics among the troops.

There is an epidemic of smallpox at Tuguegarao, Cagayan, at the present time among the natives.

24. The fatigue duty in nearly all the posts is limited to the proper policing of the garrisons and is made as light as the exigencies of the service will permit; in a majority of places, three hours from 11 A.M. until 2 P.M. is given as the resting time, and a respite from the heat and it is recommended that this rule be made universal.

25. Hand grenades are supplied to all hospitals, and in wooden buildings, would be of service, but a great many of the hospitals are built of nipa, and in these, hand grenades are useless, as they cannot be broken on the material from which these houses are constructed.

Fire buckets filled with water is the principal method used, and is satisfactory in most cases.

There has been very little loss by fire.

26. The cooking has been well done in some instances, and fairly well in all, but there is considerable waste, and unpalatable and indigestible food served, on account of lack of cooks who understand the handling of the Army ration.

The supply has been good and abundant, except during short periods in the rainy season when it could not be transported.

28. The furniture in the hospitals consists of practically everything in that line on the supply table of the Medical Department, except desks, revolving chairs, cabinets for blanks and extension dining tables, and it is impracticable to furnish these articles at present, owing to difficulty of transportation.

29. Gardens have been tried at a few hospitals but have never been a success, owing to lack of experience in the cultivation of vegetables in a tropical climate.
30. No attempts have been made at post gardening have been reported.

31. There are 29 principal garrisons in the Brigade with a few small detachments as sub stations.

32. The guard houses are usually a part of the buildings occupied by the troops and are kept in a good condition.

33. Horses: The condition of the horses throughout the region pertaining to this Brigade has been good on the whole. No surra has appeared north of Bayambang. Just at present there are some cases of surra at the place just mentioned, having made its appearance in the cavalry horses there. Glanders and farcy have appeared quite generally throughout this brigade, but are not prevailing to any serious extent. Anthrax has made its appearance among the government horses at San Fernando, Union. This disease was contracted from the native cattle. The health of the horses at Dagupan has been excellent. No serious disease has developed here, all cases of glanders and farcy having been imported. On the whole the condition of the horses in this Brigade may be pronounced as most satisfactory.

34. The hospital buildings are of three principal kinds: Nipa, wood and rubble, and it has been impossible to get a history or plans in the time at my disposal.

   Ventilation is entirely by windows and doors.

   It is recommended that suitable buildings for hospitals be erected at all permanent posts.

35. There are 14 Stewards, 18 Acting Stewards and 136 privates in the brigade. There are no hospital matrons.

   All duties assigned to the different members of the Hospital Corps have been very satisfactorily performed.
36. There are two ice machines in operation at the present time. One at the Brigade Hospital, Aparri, Cagayan. Capacity 2,400 pounds per day. and one at the Brigade Hospital, Vigan, Ilocos Sur. Capacity 1,800 pounds per day.

The ice machines supply two Brigade Hospitals and the troops stationed near them.

Cold water from wells and springs is used as a substitute for ice.

38. No regular or special inspections of the hospitals of the Brigade by the Chief Surgeon, has been made since the Brigade has been established.

39. The supply of instruments is abundant. They are very prone to rust and become unservicable in a very short time in this climate, but are kept in a good condition by frequent cleaning and oiling.

40. The kitchens are in rooms that are a part of the buildings occupied as hospitals, and are kept in a good condition.

Considering the temporary character of the garrisons, no recommendations are deemed necessary.

41. There are two Post libraries and three small Hospital libraries in the brigade.

42. The low swampy character of a considerable portion of the country falling within the limits of this brigade, excessive moisture a part of the year and the rank vegetation, with a certain amount decaying at all seasons, furnish all the conditions for the propagation of malaria.

Extensive breeding grounds for mosquitoes exist, and many varieties of this pest are found in this section.

As preventatives the men should be required to use mosquito bars as far as practicable, and coal oil should be used on the smaller ponds.
in the immediate confines of the garrisons or camps, camps, or more permanent stations, should be located as far as possible from swamps or marshes, and the tents or houses should be raised as high as possible above the ground. These means of prevention, with the prophylactic use of quinine in certain cases, are those principally used in this Brigade.

43. There have been very few cases of malingering, only two having been brought to my notice.

44. There is no record of any marriages in this Brigade during the time covered by this report.

45. There are 20 commissioned Medical Officers, 14 Contract Surgeons and three Contract Dental Surgeon in the Brigade.

No complaint has been made of any Medical Officer or Contract Surgeon having failed to perform, in a satisfactory manner, all duties required of him.

46. The supply of medicines has been abundant and usually of good quality.

47. Dry earth closets are used throughout this Brigade, and all wastes are dumped into a running stream, the sea, or buried or burned.

48. A number of suitable periodicals are subscribed for out of allotments of the Hospital Fund, in a number of the Hospitals.

49. All garrisons are thoroughly policed daily.

50. There are no Post Exchanges in the Brigade.

51. Punishments are limited to forfeiture of pay and confinement.

52. Buildings of different varieties are rented for officers.

Owing to the temporary condition of the garrisons no recommendations are deemed necessary.

53. Rations have been abundant with the exception of fresh meat and fresh vegetables, which cannot be furnished to some of the posts regul-
larly on account of difficulty of transportation.

They have been excellent in quality.

54. The following records are kept at all hospitals: Letters sent and received, Medical History of the Post, Register of Patients, Deaths and Interments, Morning Report—Hospital Corps, Morning Report of Sick and Wounded, Stock Book, Register of the Hospital Fund, and return of durable property.

Clothing and Descriptive Book, Medical Examination of Recruits, Prescription Book, Information Slip Book, and Information Slip Book of Deserter.

55. Owing to the temporary character of the posts, no gymnasiums have been supplied. Considerable interest is taken in the game of base ball by a limited number of men.

56. Recruits as a general rule fulfill all physical requirements.

57. Sick and Wounded Reports are usually properly prepared. It is difficult, however, in many instances, to obtain full and correct diagnoses owing to lack of experience in Army paper work of many Medical Officers.

58. Sanitary Reports are generally properly prepared.

59. There are no post schools in this Brigade.

60. There has been practically no scurvy in the Brigade. One case has been reported from San Fabian, Pangasinan.

61. There are no sewerage systems in the Brigade. Dry earth closets being used for fecal matter and large cans for other wastes, all of which are carted away from the posts.

Considering the temporary character of the garrisons, no recommendations are deemed necessary.

62. The stables are long sheds open on all sides, covered with nipa.
No recommendations are deemed necessary.

63. There are 14 Hospital Stewards and 18 Acting Hospital Stewards in the Brigade.

Their services as a general rule, have been faithful and efficient.

64. A room or rooms of the hospital building, usually in the basement, have been set aside as store rooms, and are kept in good condition.

65. Hospital stores have been abundant and of good quality.

66. The Hospital tents are kept in good condition.

67. The regulation red cross ambulance is used for the transportation of the sick.

There are 23 ambulances in this Brigade.

Teams are furnished by the Quartermaster's Department.

68. The duties of the troops in this Brigade, during the period covered by this report, have been mainly police duty, little or no field service having been performed.

The morals of the troops have been as good as usual.

69. Fresh vegetables have been supplied to nearly all stations in abundance. Some stations have not been supplied regularly, on account of difficulty of transportation.

70. Venereal diseases have been very prevalent in some localities, while others have been comparatively free from them.

These diseases seem to have had their main source in Manila, and are gradually moving outward into the provinces. At Dagupan, Pangasinan, which is accessible to Manila by rail, there is always a large percentage, while at isolated posts in the Brigade, the percentage is very small.

71. Window ventilation is the only system that has been tried, and as the buildings now occupied, are temporary barracks only no recomen—
dations are considered necessary.

72. The washing is done by natives and Chinamen, under contract, or by personal service in a fairly satisfactory manner.

73. There are no reports of analyses of water at this office, but from information received in Sanitary Reports, the water supply is good and abundant at all stations.

At Dagupan, Aparri and Vigan the water is distilled for drinking purposes, and for cleansing dishes and kitchen utensils. At all other stations water is either boiled, or sterilized by the Forbes-Waterhouse sterilizer.

74. There are 11 Female Contract nurses, Army Nurse Corps, in the Brigade and no male nurses.

Their services have been performed in a satisfactory manner.

75. There is no record of distinguished service by medical officers in the Brigade during the period covered by this report.

76. There is no record of distinguished service performed by the enlisted men of the Hospital Corps during the period covered by this report.

77. The prevailing diseases are malaria, diarrhea, and dysentery.

The low swampy character of a large portion of the territory covered by the Brigade affords extensive breeding grounds for mosquitoes.

Diarrhea and dysentery are due in a great extent to eating poorly prepared, indigestible food, and green native fruits, and the drinking of unsterilized water by a part of the men contrary to instructions.

There have been a few scattering cases of smallpox among the troops but no epidemics.

Some cases of lepersy have been reported among the natives but none among the troops.
A few cases of beri beri have been reported among the troops and a considerable number among the native military prisoners.

No cases of bubonic plague have been reported among the natives or soldiers in the territory covered by the brigade.

78. All of the soldiers and practically all of the natives have been vaccinated in this part of the island, but a large proportion of the vaccinations have been unsuccessful.

Smallpox has not been so prevalent as formerly, and this is due to the fact to a great extent, no doubt, to vaccination. The rigid enforcement of isolation has also accomplished much toward eliminating the disease.

79. All cases of contagious or infectious diseases have been thoroughly isolated.

80. No indigent natives have been reported to this office.

81. There are 20 commissioned medical officers, 14 Contract Surgeons, 3 Contract Dental Surgeons, 14 Hospital Stewards, 18 Acting Hospital Stewards, 1 Lance Acting Hospital Steward, 11 Female Contract Nurses Army Nurse Corps, and 136 Privates of the Hospital Corps in this Brigade.

82. The posts are located in as healthy sections as is practicable under existing conditions.

83. Mosquito nets are used at all posts.

84. The habits of the men are good in regard to the use of "Váno," only a small number are addicted to the use of it.

85. None of the personnel live on the 40ct. fund or any part of it at the present time.

Additional Headings.

1. There are deer and wild hogs in the vicinity of some posts.
2. There are wild ducks in the vicinity of some posts.
3. There has been one earthquake during the period covered by this

report but no description was recorded.

4. There are a number of varieties of fish in the vicinity of all posts but are not plentiful.

5. No information obtainable.

6. No information obtainable.

7. There are mosquitoes and numerous varieties of other insects at all stations.

8. No information obtainable.

9. No information obtainable.

10. No information obtainable.

11. An abundance of rain from July to October inclusive, practically none the remainder of the year.

12. No information obtainable.

13. No information obtainable.

14. No information obtainable.

15. No information obtainable.

16. No information obtainable.

17. No information obtainable.

18. Northerly.

19. Practically all the population are natives.

Very respectfully

(Sgd. J.M. Banister.)

Major and Surgeon, U.S. Army.

Chief Surgeon.
Headquarters, Post of Manila,

Office of the Surgeon,

Manila, P.I., April 18, 1902.

To the

Chief Surgeon,

Department of North Philippines,

Manila, P.I.

Sir:

In compliance with instructions from your office I have the honor to submit the following report for the fiscal year ending June 30, 1902:

The Post of Manila, at present time, comprises eight substations, as follows:
- Cuartel de Meisic
- Fort Santiago
- Cuartel de Espana
- Exposition Barracks
- Malate Barracks
- Pasay Barracks
- Camp at Santa Mesa
- Emergency Hospital

Camp Wallace and Trozo Barracks have been temporarily discontinued during the prevalence of Cholera in the city, as precautionary measures the proper sanitation of the former being difficult, and the surroundings and location of the latter had.

There are on duty at the various stations, one major and surgeon, three assistant surgeons with the rank of captain, and three with the rank of 1st lieutenant, all of the regular establishment. Also one contract surgeon for temporary duty. In addition to their duties at their respective stations, these officers also act as attending surgeons in various districts in the city of Manila, and in compliance with instructions from Division Headquarters, as sanitary inspectors for the various depots, storehouses and corrals in and around the city of Manila.

1. Ambulances:— Pasay Barracks and the camp at Santa Mesa each have an ambulance, completely equipped and in good condition. None of the other stations are supplied. There is little necessity for ambulances at the other stations, and when required, one can always be promptly obtained from the 1st Reserve Hospital.

2. Bakery:— Bakeries are in operation at Cuartel de Meisic and Fort Santiago. At the other stations bread is obtained by the exchange of flour with civilian bakers.

3. Books, papers etc. The records are as a rule well kept as prescribed by orders and regulations. None of the stations have complete files of general orders, circulars etc.

4. Barracks:— Nipa Barracks are in use at Pasay, Exposition Barracks and Santa Mesa. These all need more or less repairs. The Surgeon at Fort
Santiago reports that the roofs of the Barracks at his station leak badly and that the floors are need of repairs. At the other stations Barracks appear to be in good condition.

5. Bathing Facilities: There is an absence of proper bathing facilities at the Emergency Hospital, and at the Hospital at Fort Santiago. The troop at each station are well supplied with shower baths.

6. BEDDING: Exposition and Malate Barracks have no hospitals. The Hospital at Santa Mesa was established as a temporary measure. These transfer their patients to the 1st Reserve Hospital, and in consequence have only a sufficient quantity of bedding for Emergency cases. All the other stations have the regulation allowance of hair mattresses, sheets, blankets and other bedding.

7. With the exception of the station enumerated in the preceding paragraph iron bunks with woven wire bottoms are used in the hospital. The balance of the command is supplied with cots provided with mosquito bars.

8. BURIAL of the DEAD: The dead are sent to the U.S. Morgue in the city of Manila.

9. CLOTHING for MEN: The uniform clothing worn is adapted to the requirements of the climate. The American dyed khaki is unsatisfactory as it fades badly in laundering.

10. Commissary store rooms: condition of satisfactory; sales stores obtained from the Division sales commissary.

11. DEATH OF OFFICERS: None reported.

12. One case of drowning (accidental) has occurred at the at Santa Mesa. The death of one enlisted man is reported from Cuartel de Espana, and one general prisoner was shot and killed at the station while trying to escape from the guard. In as much the more serious cases of illness are transferred to the 1st Reserve Hospital no estimate of the mortality among the troops of the Command can be based on the reports of deaths from the stations composing the post.

13. DESERTIONS: Only four desertions are reported, three from Malate Barracks, and one from Cuartel de Espana.

14. DIET SPECIAL: Patients too sick to use the ration are subsisted from the forty cent fund. At some of the sub-stations this fund seems to have been used to a greater extent than was absolutely necessary, and it is possible that at one time patients who were not entitled to its benefits, and possibly members of the Hospital Corps were using article purchase therefrom. The matter was taken up by the surgeon of the post and subordinate medical officers, and it is believed that the orders and regulations governing its use are now being complied with in both letter and spirit.

15. DISCHARGE for DISABILITY: None - Men recommended for discharge for disability are transferred to the General Hospital for observation.

16. DISCIPLINE: Generally good.

17. Disinfection: Since the appearance of cholera in Manila, Disinfectants have been liberally used in general post sanitation in compliance with the provisions of Circular 5, Chief Surgeon's Office Division of the Philippines, March 25, 1902, solutions of chloride of lime being used as therein directed, this being supplemented by crude carbolic acid. Prior to this the use of disinfectants has been restricted to occasions where the know existence of infectious diseases have furnished special indications therefor.

18. DRAINAGE NATURAL: The elevation of these stations being only a few feet above the sea level, the natural drainage is only fair.

19. DRAINAGE ARTIFICIAL: The Emergency Hospital, Cuartel Meisic, Cuartel de Espana, Fort Santiago, Malate and Exposition Barracks each have under ground sewers of their own, or are connected with the sewer system of the city of Manila. These are heritages of the days of the Spanish age.
occupation, and many are known, and all are suspected to be seriously defective

20. Drills there are daily drills at each station, comprising calisthenics, bayonet exercise, manual of arms, Company and battalion movements. During the cool season short practice marches were made by troops at some of the sub-stations.

21. Drunkenness: The various surgeon report the habits of the men as being good in this respect. The worst offenders have been men of the various casual detachments waiting transportation to the United States for discharge. The natural tendency in such cases is the throwing off of the restraints of discipline and the indulgence in excesses of various sorts.

22. Endemics: The most important endemic diseases are malaria and dysentery. The former is not of a malignant type and the latter is ordinarily catarrhal in character, by the use of mosquito bars and sterilized water these are kept within reasonable limits and anaerobic dysentery has been almost entirely prevented.

23. Epidemic: None: although there have been received into the post a large number of men who have been exposed to measles and other infectious diseases thus far there has been nothing like an Epidemic.


25. Fire: Means of extinguishing most of the station have connection with the city water works, and are supplied with fire hydrants, hose and buckets. Hand grenades are on hand at the hospitals. Nearly all the stations are within the fire limits of the city of Manila.

26. Food: Cooking, serving and supply of. The messes are generally well supplied and the cooking well done. Fresh meat and vegetables of good quality are regularly issued. Owing to the small size of the detachment at the Emergency Hospital it is impossible to make any saving, and there being no hospital fund available this Mess is not entirely satisfactory.

28. Furniture: Folding field furniture is in use at most of the hospital supplemented by odds and ends largely of home construction.

29. Gardens: Hospital None.

30. Gardens: Post None.

31. The composition of the garrison of the post of Manila is constantly changing, it being in a measure a temporary resting place for troops enroute to and from the United States. At the time of making this report it consists of 11 Companies of the 13th Infantry, 4 Companies of the 24th Infantry, 2 batts. field artillery, 200s engrs, and 3 Cos. Coast Artillery. Its strength now is 104 officers and 2152 enlisted men.

32. Guard Houses—At most of the stations the guard houses are fairly well adapted to the requirements thereof, and are in good sanitary condition.

33. Horses: The Camp at Santa Mesa is the only station having horses under the direct control of the medical department; there being one satisfactory ambulance team there. The only station having mounted troops is Pasay Garrison. The Surgeon at that station reports considerable sickness among the stock, both from "Surra" and "Glanders." The average number of horses and mules at the station has been 378, of which 70 were mules. Twenty three mules and ten horses are reported to have died from the above causes during the year.
34. **HOSPITALS:** Malate and Exposition Barracks have no hospitals. A dispensary has been established at each station to meet emergencies and provide for the treatment of duty and quarter cases, all others being immediately transferred to the 1st Reserve Hospital. When Camp Wallace is occupied the same course is pursued. As the Emergency Hospital six floored tents are in use, providing office, dispensary, store room, quarters and kitchen for the detachment and a reception ward. As in the previous instances, all cases requiring hospital treatment are transferred to the 1st Reserve Hospital. At the Santa Mesa Station a set of nipa barracks is used as a hospital. This station also transfers its more serious cases to the 1st Reserve Hospital. Paseo Barracks has a complete tent field hospital of twenty beds capacity. This answers the purpose during the winter months, but during the typhoon season is ill-adapted to its purpose. It is recommended that a more permanent structure be provided, and it is believed that a suitable nipa structure could be provided at a comparatively slight expense. At Cuartel de Meisic the hospital is situated in the north east wing of the Cuartel. The rooms are of a common Spanish type, having high ceilings and a free ventilation. One ward about 42x22 feet; dispensary 17x23 office 10x17 a room 11x18 used as quarters by an Acting Steward and an attendant; and a store room 11x18. The kitchen is on the east front of the Cuartel 200 feet distant from the ward. Between the kitchen and the balance of the hospital is a squad room 15x15 feet. Dry earth closets are in use. Inasmuch as there is a sewer system in the Cuartel it is recommended that water closets be installed in the hospital. At Fort Santiago the Hospital is situated in the second story of a building used as quarters for the troops, the office and store room being in small rooms on the lower floor. The ward is a large well ventilated room having a capacity of 14 beds. There are four other rooms used respectively as a dispensary, squad room kitchen and mess room. The side of the ward is enclosed by a movable lowered panels, and the ventilation can thus be regulated according to the requirements. At present the bathing facilities are limited, but an estimate has been prepared and forwarded for the installation of a tub and shower bath. At Cuartel de Espana the hospital comprises two wards, squad room and bath room. The wards have a combined capacity of 35 beds.

35. **Hospital Corps and Matrons:** The Hospital Corps personnel consists of four Hospital Stewards, 7 Acting Hospital Stewards, 1 Lance Acting Hospital Steward and 40 privates. Six privates have been examined for the grade of Acting Hospital Steward, of this number three have been appointed, one withdrew before the completion of the examination, and two are awaiting information as to the result of the examination. With authorized exceptions these men are being instructed in compliance with existing regulations. Taken as a whole the detachment is in a satisfactory condition, the men being as a rule intelligent, efficient and well behaved. There are no hospital matrons on duty in this post.

36. **ICE:** Ice is purchased from the cold storage and ice plant at a present cost of 1 3/4 cent per pound.

38. **INSPECTIONS:** In addition to the inspections prescribed by Army Regulations, daily sanitary inspections are made at all stations. The surgeons on duty in the post are also charged with the sanitary inspection of all depots, store houses and corrals in and around the city of Manila, but not forming a part of the post.
39. INSTRUMENTS: All operative cases of gravity are transferred to the First Reserve Hospital; in consequence there is no necessity for a complete surgical ammunitarium at the stations of the Post. The supply is sufficient to meet all requirements. The instruments on hand are generally in good condition.

40. Kitchens: Fairly well adapted for their purposes, clean and well policed.

41. NO POST LIBRARY. Professional libraries in hospitals incomplete.

42. MALARIA. The Surgeons at certain of the substations report that all cases of malaria have been contracted elsewhere. Pasay Barracks, Quartel Meisic and Fort Santiago report cases of local origin, mostly tertian intermittent in type. No cases of pernicious malarial fevers are reported. Mosquito bars are in use throughout the post.

43. MALINGERING: NONE REPORTED.

44. MARRIAGES: NONE REPORTED.


46. MEDICINES: Supply ample. Quality good.

47. OFFAL, disposal of, by city sanitary carts.

48. PERIODICALS: Medical Journals furnished by Chief Surgeon of the Division and distributed from this office.

49. POLICE: Ordinarily by prisoners. General fatigue when required.

50. Post Exchange: Fort Santiago and Pasay Barracks are the only stations conducting Post Exchanges.

51. PUNISHMENTS: As prescribed under the provisions of Par. 1027 A.R. and inflicted by sentence of summary and general courts martial.

52. OFFICERS QUARTERS: At Exposition Barracks, Santa Mesa and Pasay the officers quarters are of Nipa, in fair condition. At Fort Santiago, Quartel Meisic and Quartel Espana the officers are comfortably quartered in stone buildings, legacies of the Spanish occupation. At Malate Barracks, a wooden building divided into rooms, is in use; this is insufficient for the accommodation of all of the officers of the station, the surplus living in rented houses in the vicinity. There are no quarters in connection with the Emergency Hospital.

53. RATIONS: The regular ration is supplemented by articles purchased from company funds. The messes are amply supplied with an abundance of well prepared food. Since the appearance of cholera in these islands, the variety has been somewhat lessened by the restrictions placed upon the use of vegetables and fruit. The meat supplied is excellent in quality and condition.

54. RECORDS: The prescribed records of the medical department are kept at all stations.

55. RECREATIONS: No special provisions, baseball is indulged in to a limited extent, as is also sparring, wrestling, etc.

56. RECRUITS: The recruits recently received seem to be physically superior to those received some time ago. There is still room for improvement.

57. REPORT SANITARY: A monthly sanitary report made from each station
as prescribed by par 1571 A.R.

59. **SCHOOLS**: No post schools.

60. **Scurvy**: No cases reported.

61. **SEWERAGE**: All stations are either provided with an independent system of sewers or connected with the city sewer system. Where these terminate no one knows; one recently dug up at Fort Santiago was found to terminate in a dead end near the wall. In many instances they probably empty into the moat about the walled city; in others into cess pools. Like the general sewer system of Manila, they are, to put it mildly, unsatisfactory.

62. **STABLES**: Sanitary condition good. A new stable has been recently completed at Fort Santiago.

63. **STEWARDS**: Hospital Stewards, 4 Acting Hospital Stewards, 7 Lance Acting Hospital Stewards. Efficiency and attention to duty satisfactory.

64. **STOREHOUSES**: Well kept, and generally in good condition.

66. **TENTS**: In good condition.

67. **TRANSPORTATION**: With the exception of the ambulances at Pasay Bks. and Santa Mesa, there is no transportation under the direct control of the Medical Department. At each station there is a limited number of saddle horses and draught horses and mules, ponies, spring and escort wagons, etc., for the routine performance of the command. The greater part of the transportation in use in and around the city of Manila is furnished by and is under the direct control of the Chief Quartermaster of the Division.

68. **TROOPS**: Duties, morals and movements of—All guards in and around the city of Manila are furnished from this command. The morals of the men are fair. The average moral tone of the command is lowered by the large number of casualties continually at the post awaiting transportation to the United States. Coming as they do from the provinces to the city, and feeling that they are about to escape from the restraints of discipline these men are very prone to rush into alcoholic, venereal and other excesses.

69. **VEGETABLES**: Fresh, supply of: Potatoes and onions furnished by the subsistence department. Prior to the appearance of cholera, these were supplemented by vegetables purchased from the company funds.

70. **VENEREAL DISEASE**: Venereal diseases of all kinds are extremely prevalent, contracted from native prostitutes.

71. **Ventilation**: The ventilation of quarters, barracks and hospitals is good. These buildings, constructed according to the local custom with large windows, allow the free perflation of air, and are in most cases ideal in this respect.

72. **WASHING**: All hospital washing is done at the Medical Department Laundry. Post laundries with Chinese laundrymen have been established at Malate Barracks and Quartel Meiser, and the establishment of a similar construction is under consideration at Fort Santiago.

73. **WATER**: All stations have connection with city water mains from which the general supply is drawn. Only distilled water is used for drinking purposes. This is obtained from the various Government distilling plants.

74. **CONTRACT NURSES**: No contract nurses on duty in the post.

75: Names of any medical officers who have been distinguished by per-
bravery &c. Nothing to report.

78. Same for hospital corps. Nothing to report.

77. Character of prevailing diseases, causative etc. Aside from venereal diseases, diarrheas and other gastro-intestinal disorders preponderate. These are generally mild in character, and yield readily to treatment, and may ordinarily be traced to indiscretions on the part of the sufferers. The cases of dysentery are not numerous, and are ordinarily catarrhal. But a few cases of the amoebic form having been reported. A limited number of cases of measles and also of mumps have occurred at Cuartel Mejic, Cuartel de Espana and also at Santa Mesa; the latter camp having been re-established as a detention camp for troops arriving on a transport with measles on board. Two cases of beri-beri have occurred among native prisoners at Cuartel de Espana. No cases of cholera, bubonic plague or small pox have thus far occurred in the post. As previously stated the cases of malaria have been mild and usually of the tertian intermittent type, yielding readily to treatment.

78. VACCINATION: The entire command has been recently re-vaccinated with good results; none of these cases being primary vaccinations the proportions of "takes" has not been large, but the exact percentage is not known.

79. QUARANTINE MEASURES. Since the occurrence of cholera in the city of Manila, the men have been kept within the limits of the stations except such as have duties outside, the only native allowed inside being such as are actually employed and who can be kept under supervision.

80. Indigent Natives: The city of Manila being under civil control, the military has no official cognizance of this class of cases.

81. PERSONNEL of the MEDICAL DEPARTMENT—Surgeons with the rank of Major 1, Assistant Surgeons with the rank of Captain, 3, Assistant Surgeon with the rank of 1st. Lieutenant 3, Contract Surgeons (temporary duty) 1, Under orders to depart, but not yet joined, Assistant Surgeon with the rank of 1st. Lieutenant 1; Casually at Post, Assistant Surgeons with the rank of Captain (Volunteers) 2, Attached—Hospital Corps—Hospital Stewards 4, Acting Hospital Stewards 7, Lance Acting Hospital Stewards 1, Privates, 40; With few exceptions, officers non commissioned officers and privates have performed their duties in a satisfactory manner.

82. IS POST LOCATED IN HEALTHY SECTION OF THE ISLAND? All these substations are located within the City of Manila and its suburbs. While probably not in the most healthy portion of the Philippines, the health of the command has generally been good.

83. Mosquito nets are used at all stations.

84. HABITS OF THE MEN IN REGARD TO USE OF VINO: The surgeons at substations report that very few men are addicted to the use of this intoxicant.

85. DO ANY OF THE PERSONNEL LIVE ON THE 40 ct. FUND OR ANY PART OF IT? It is not believed that any but the sick in hospital derive any benefit from this fund, and efforts are made to restrict its use to those entitled to its use; i.e., those too sick to be subsisted on the regular ration.

ADDITIONAL HEADINGS

Nothing to report.

Very respectfully
(Sgd.) Charles M. Gandy
Major, Surgeon U.S.A.

Surgeon.
To the Chief Surgeon,
Department North Philippines,
Manila, P.I.

Sir:

In compliance with your letter of March 31, 1902, I have the honor to submit the following report of operation of the Medical Department of the 2nd Separate Brigade for the period from June 30, 1901, to April 15, 1902:

Up to November 1, 1902, this territory included the 3rd and 4th districts of the Department of Northern Luzon, but upon that date the troops (except those in Pangasinan) were consolidated into the 2d Separate Brigade of the new Department of North Philippines. The officers of the districts Chief Surgeons were merely officers of transmittal and though their records of endorsements are filed, they give little information for report.

On June 30, 1901, there were in this territory (including Pangasinan) 74 posts with one Surgeon to each two posts, and 33 with one Surgeon to each three posts, and 5 with one Surgeon to each five posts. The number of troops has been so greatly reduced that there are 33 stations in all, and these so scattered that they cannot be attended from adjacent stations except in three instances and then only two stations to a Surgeon, so that the percentage of Medical Officers needed is greater than before.

All the stations have one troop or company or a detachment, except four each of which has two companies or troops. The average garrison being about three officers and 92 men. Thirty of these should have a non-commissioned officer and three to seven privates of the Hospital Corps according to size, or a total of thirty non-commissioned officers and 188 privates. If we include the extra men needed at the ice plant, chemical laboratory, prison hospital, Brigade medical supply depot, and the Chief Surgeon's Office, we should have 32 non-commissioned officers and 144 privates, whereas we have 30 non-commissioned officers and 144 privates. The allowance is 4% of the 3300 troops in the Brigade or 133 (23 non-commissioned officers and 110 privates), and would be sufficient if the troops were stationed in larger garrison, but the allowance is not sufficient in the present circumstances and the privates in excess are all at work.

The territory covered is quite large extending from coast to coast, North of Manila as far as Pagasinan, and includes the nine provinces of Zambales, Tarlac, Nueva Ecija, Pampanga, Bataan, Calabarzon, and Bulacan. The outlying stations are difficult of access and report are generally delayed, and the southern stations are reached only via Manila causing some further delay, though the condition of profound peace makes rapidity of intercourse less important.
The commands in the Brigade:

5th Cavalry, 7 troops
13th Infantry, 1 company
24th Infantry, 4 companies
25th Infantry, 13 companies
Philippines Scouts, 6 companies

Officers 35, Men 558.

7 troops
1 company
4 companies
12 companies
6 companies

Total.

Medical Officers:

Regular ................. 6
Volunteer ............... 18
Contract Surgeons ....... 3
Contract Dental Surgeons .. 1

Hospital Corps.

Hospital Stewards ....... 10
Act'g Hospital Stewards .... 19
Lance Act'g Hospital Stewards .. 1
Privates ................ 144

There being peaceful conditions throughout the territory the Medical administration has approximated that of Army posts in the U.S., but as the troops are technically in the field it has been impossible to equip all and at times a little difficult to arrange for the care of the sick at isolated posts. To avoid sending cases to the already crowded hospitals of Manila for treatment, it has been the rule to transfer them to the nearest post having the proper equipment. This has worked very well, and only cases needing a specialist or transfer to the U.S. have been recommended to go to Manila.

There has been no necessity for Brigade hospital. The regimental hospitals have been nothing more than post hospitals and have had little to do with the sick, of the regiment except those at regimental headquarters.

Medical supplies have been ample as a rule because of the abandonment of so many stations. There is much surplus which has been collected at San Isidro, and at posts along the railroad, most of it being at Caloocan, Rizal, which thus becomes virtually a Brigade Supply Depot to which requisitions are sent for filling. There is enough of some drugs for several years and I recommend that, in view of the deterioration of many bales, the further destructive effect of climate, and the existing orders which may further reduce the troops, that all the smaller articles for which there is storage room in Manila be sent to that depot for use elsewhere before they deteriorate. Much of the Medical property turned in is so injured by the climate and rough usage inevitable in present means of transportation and in field use, that it is doubtful whether it would not be better to have most of it destroyed at once after inspection.

Sanitation has been good. The dry earth system is in universal use, water is boiled or sterilized. Food are as good as the Army ration permits. Refuse is brought to a distance and burned or buried. Quarters are an exception and are universally bad. The houses, convents, etc., in use are not fit protection from heat or light as the natives does not need as much protection.
as a white man and the former leaders and rulers did not understand what to build, but rather adopted something from Spain. Though I have no data to prove it, I am convinced that much deterioration of health and actual illness can be prevented by building quarters on plans found good by the British in India, and I cannot too strongly recommend that a capable sanitarian who knows something of tropical necessities, be placed on all boards which are making plans for permanent posts. I am convinced that much of the immense sums to be used will be wasted, if we do not insist upon structures which will protect white men from the destructive effects of strong sunlight, and also insist upon proper planting of trees around all quarters and barracks. As a rule one year of strong sunlight removes all energy and I am quite sure that we will have better work and more of it and fewer men disable if permanent posts are constructed properly, and not on plans found good in Texas or Arizona.

Hospital as far as inspected are in good sanitary condition but in bad repair. As this climate requires constant repairing to keep houses habitable, much money will have to be spent. The Medical officers have been exceptionally efficient, in no instances have there been indications of anything except an earnest desire to do right, except in one or two cases where errors may have been due to inexperience and not neglect.

The necessity for exactness in reports is hard to learn, there being too many of them, so that a great many papers have to be returned for correction.

As far as know the Hospital corps have done good work, the inefficient or bad characters being gradually weeded out.

There are no data upon which report of diseases can be made but it may be appropriate at remark on the subject of Malaria, that as blood examinations in Africa show that the natives harbor the germ and remain well as a result of racial immunity, the germ can live a commensal existence, non-pathogenic but ready to take on pathogenic action as soon as vitality is lowered, just as the bacillus of pneumonia may remain in the mouth for years and be harmless until resistance is destroyed through fatigue, exposure or alcoholic excesses. I suggest work on this line to show why the scouts in the mountains districts will all get malaria in a short march in a country having no mosquitoes, at some posts as high as 50% go on sick report after little exertion. If they are proven to be permanently infected, we must look on every native as a source of malaria of troops and insist more strongly than ever upon the mosquito bars in barracks. Attention is given to the breeding places near barracks and seems to do good, but all should be warned against the disreputable conditions as to mosquitoes in hotels.

A little small-pox among native has been harmless to troops as vaccination is apparently efficiently done. Venereal diseases are less. Frequent inspections are apparently reducing the sick rate. It is to be regretted that it is not practicable to give these men the benefit of irrigations of hot solutions.

No cases of bubonic plague have occurred but at this writing cholera is creeping slowly into the territory along routes of travel. It is now at Magabebe, and Sexmoan, Pampanga, and though everything is being done in compliance with O.O. 66, March 25, the
number of Medical officers is to small. The Surgeon nearest each provincial capital has been directed to take charge of the provincial Board of Health, and divide the pueblos into groups assigned to the Medical officer in that province, and these will supervise as many pueblos as possible. We cannot reach all. A set of tentative rules has been published of which a copy is enclosed. A full report will be made later. As this is the time of the year when "Calentura" or pernicious malaria of explosive type occurs,—many cases are difficult to diagnose, the native simply dropping in his tracks and dying. Medical officers when in doubt have been directed to make post mortem and get specimens of bowels contents and send to Manila by special messenger.

The ice machine at San Isidro, Nueva Ecija, is a necessity and is supplying distilled water as well. The chemical laboratory at that post is also doing good work in water analysis. One report shows that artesian water from the briggier at clumpit is unsafe. It is now boiled there being no other supply and the river water being merely dilute sewerage. This water was formerly considered safe. The SanFernando water is above suspicion but is boiled owing to danger of contamination enroute to barracks.

The means of transportation is usual ambulances, but these are limited as to usefulness as the roads are bad. They are gradually falling apart from climate effects.

Very respectfully,

Chas. E. Woodruff
Major, Surgeon, U.S.A.
Hdqrs. 2nd Separate Brigade, Chief Surgeon's Office, San Fernando, April 16, 1902.

Chief Surgeon.

Submits report of the operations of the M.D. of that Brigade for period from June 30, 1901 to April 15, 1902.
HEADQUARTERS DEPARTMENT OF NORTH PHILIPPINES.

Chief Surgeon's Office,
Manila, P.I., April 30, 1903.

To the

Chief Surgeon,
Division of the Philippines.

Sir:

In compliance with your letter of March 20th, 1903, I have the honor to submit the following report of medical service in this Department since July 1st, 1901. At that date the territory now comprised in Department of North Philippines was apportioned between the two Departments of Northern and Southern Luzon, the former divided into four Districts, the latter into three. The City of Manila constituted a Separate Brigade not included in either of the two Departments, but on July 24, 1901 its military designation was changed to the Post of Manila and it was placed in the Department of Northern Luzon.

November 1st, 1901 Military Districts were abolished and Brigades formed in their stead, the four Districts of Northern Luzon being replaced by two Brigades, and the three Districts of Southern Luzon by two Brigades.

December 1st, 1901 the Departments of Northern and Southern Luzon were consolidated into the Department of North Philippines.
with Headquarters in Manila in the building formerly occupied by the Headquarters of the Department of Northern Luzon. The Chief Surgeon of the latter Department became Chief Surgeon of the new enlarged Department, retaining the same officers and records and receiving the records of the office of the Chief Surgeon of Southern Luzon.

The present Department embraces the large islands of Luzon, Mindoro, Marinduque and Romblon, with a number of small islands adjacent to Luzon. It is divided into four Separate Brigades and contains, in addition, the Post of Manila, which is not Brigaded.

The Headquarters of the First Brigade is at Dagupan, Pangasinan, that of the Second Brigade is at San Fernando, Pampanga, that of the Third Brigade is at Batangas, Batangas, and that of the Fourth Brigade is at Nueva Caceres, Camarines.

There are at present in this Department 15,010 white troops, 3,141 colored troops, and 3,186 native troops, a total of 21,337 enlisted men and 658 officers, composing the following organizations:—1st, 3rd, 5th, 6th, 9th, 11th and 15th Cavalry; 2nd, 5th, 8th, 15th, 16th, 21st, 24th, 25th, 26th, 28th and 30th Infantry; from 1 to 34th companies of Philippine Scouts, with exception of 24th and 25th companies, which are in Samar. Exact figures cannot be obtained but there are in the neighborhood of 1200 Quartermaster's civilian employees in the Department. There are also numerous members of the Constabulary, and native police, school teachers and other employees of the Civil Government scattered through the Provinces.
to whom the Medical Department has furnished attendance on many occasions.

The duties of troops in the Department have varied greatly in different localities. In the First, Second and Fourth Brigades they have consisted mainly in police work, while in the Third Brigade there has been constant and arduous field service, resulting recently in the surrender of the insurgent leader and the complete annihilation of his forces. The method adopted in this campaign was novel in the history of American arms, consisting in an application of the principle of reconcentration of the inhabitants of the provinces in which the campaign occurred, in order to cut off completely the enemy’s supplies. The natives living in certain zones were moved into designated towns where they were kept under strict surveillance. They were well fed and well housed, living under far better hygienic conditions than when in their own homes.

To prevent an outbreak of small-pox among them, with consequent menace to our own troops, an order was issued by the Brigade Commander on January 16,1902 directing general vaccination of all natives in the towns of concentration. This was carried out under the direction of the medical officers of the 23 adjacent military stations. The Insular Board of Health furnished the vaccine and 80 native vaccinators. Hospital Corps men and soldiers of the line were also utilized for this work. By these means nearly 300,000 natives were vaccinated within a period of two months. In many places there was no ice and the vaccine rapidly deteriorated
causing a marked variation in the percentage of successful results. Even with this drawback, the minimum of successful vaccinations was 30%, while the maximum reached 86%. Small pox, which is usually very prevalent in the provinces of Laguna and Batangas during the winter season, was altogether prevented. In consequence, the native death-rate was considerably lower in the towns of concentration than among the same people living under peace conditions in their own homes, while no small pox occurred among the troops operating in these provinces.

At many of the stations situated in the pacified provinces, where the duties of troops have approximated to those of garrison service in the United States, the four hours from 11 A.M. to 3 P.M. are devoted to rest. It is recommended that this be made general as soon as service conditions warrant. During these hours no fatigue duty of any nature should be performed and all soldiers should be required to remain in their quarters shielded from the Sun.

The troops in the Department are for the most part quartered in convents of stone or rubble, or in nipa houses. Both are generally poor, being in the nature of temporary devices. As soon as permanent stations are determined upon suitable Barracks and Quarters should be constructed, having especially in view protection from the sun, whose baleful influence upon white men, although possibly not noticed during the early months of residence in these Islands is none the less certain to undermine the strongest con-
stitutions in the end. Trees should be planted around permanent quarters to screen them as much as possible from the direct rays of the sun.

In the matter of construction of quarters advantage might well be taken of the experiences of the British in India and the Dutch in Java and their plans studied with profit. It is suggested that a practical sanitarian be placed on all boards entrusted with the construction of permanent quarters.

The bathing facilities enjoyed by troops in the Department are mainly those afforded by adjacent streams and sea-beaches. An abundance of shower-baths should be placed in all permanent quarters.

The natural drainage of most stations is fairly good. In a few, however, there is practically none at all. Very little has been attempted in the way of artificial drainage outside of Manila, while that of several of the Barracks in this city is seriously defective. In Fort Santiago one sewer was recently discovered to end in a blind extremity near the city wall. In other instances sewers empty into the city moat; others terminate in cess-pools; while the outlets of still others are unknown. It is understood that the Spanish plans of the sewer system of the city have been lost. Until a new sewer system is constructed by the civil authorities little can be done to improve the conditions existing in the various cuartels.

At all stations outside of Manila the use of the dry-earth
closet is universal. Wastes are buried, burned, or dumped into the sea or running streams.

The water-supply at the various stations in the Department is abundant. In Aparri, Vigan, Dagupan, San Isidro, Nueva Ecija, Manila, Calamba, Batangas, Legaspi and Nueva Caceres distilled water is furnished troops for drinking purposes and for washing dishes and kitchen utensils. At all other stations water is boiled, or passed through the Forbes-Waterhouse Sterilizer. It is thought that in many instances the Forbes-Waterhouse Machine fails to sterilize. Bacteriological tests made under the personal observation of the writer have demonstrated, in at least one instance, the presence of more micro-organisms in water after collection from the filter than it contained before leaving the barrel. This experiment was made at my suggestion by order of the late Colonel B.F. Pope, Assistant Surgeon General, at Hospital Number Three, Manila, about October, 1901. It is thought that the water is not boiled sufficiently long to destroy germ life. This is stated in the way of a caution, it being believed that where a water-supply is known to be infected the Forbes-Waterhouse Sterilizer should not be depended upon, but that the water should be boiled for at least twenty minutes in kettles or in the large galvanized iron cans furnished by the Quartermaster's Department. In several instances medical officers at stations where dysentery was prevailing found a discontinuance of the use of water from the Forbes-
Waterhouse Sterilizer and a resort to water simply boiled in camp kettles an immediate and perfect remedy.

The rations furnished during the year have been of excellent quality and abundant at all stations, except that it has at times been impossible through lack of transportation to supply certain isolated stations with fresh meat and vegetables. This has been the case with a number of stations in the southern part of the Department. This office has been informed that the Quartermaster's Department has secured a meat-ship which will supply all coast stations. When this arrangement is effected it is thought there will be very few stations in the Department which will not be well and abundantly supplied at all times.

At Aparri, Batangas and Nueva Caceres the Medical Department Ice Machines have arranged to furnish refrigerating power for cold-storage rooms, so that the Commissary Department can preserve indefinitely the meat and vegetables delivered at those stations. The Commissary Department agrees to pay for the power thus used.

It is thought the same arrangement might be extended with advantage to other places where there are Medical Department Ice Machines.

There has been no scurvy in the Department. A number of cases were reported in Lupi, Camarines, but on investigation were found to be errors in diagnosis and to be in no way dependent on the food-supply.
There is a noticeable lack of cooks who understand how to handle to best advantage the Army ration. This is evident from the small savings made by the average organization and from the large number of soldiers presenting themselves for treatment for various gastric and intestinal disorders due to poorly prepared, indigestible food. It is suggested that among the large number of schools now being established in the United States Army one for training company cooks would be of distinct value.

As far as known there is no Post Garden in the Department. Several hospital gardens have been attempted but without much success, although the Surgeon at Rosario, Union has reported excellent results having grown Irish potatoes, peas, beans, squash, pumpkin, beets, and lettuce. This would indicate the possibilities in this direction when zeal is combined with a knowledge of tropical methods of cultivation. It is recommended that further efforts be made along these lines.

The clothing furnished has been in the main satisfactory. While the best quality of khaki has sustained its reputation as a durable and suitable material for tropical uniforms, unfortunately at all times the best has not been furnished, but has varied greatly in color and quality. The American dyed khaki fades in laundering, becoming in a few months' time almost white. It is recommended that only Bombay khaki be used and that the uniforms made from it be required to conform to the pattern in the Quartermaster General's
Office.

The physical condition of the recruits received during the year has been much better than formerly, although there is still an opportunity for improvement.

There have been no desertions in the Department of North Philippines since its formation, December 1st, 1901.

The morals of the troops in the Department are quite as good, if not better, than the morals of troops in the United States.

Among troops engaged solely in garrison duty intemperance has increased somewhat since the closing of the post exchange, but among troops engaged in active field duty it has almost disappeared. The greatest amount of dissipation has occurred among enlisted men casually in Manila awaiting transportation to the United States for discharge by expiration of term of service.

Some of these men, who have been many months at isolated stations, on arriving in Manila, throw off military restraint and commit excesses of various kinds. If some military duty could be devised to occupy the time of these men it would be much better for the men themselves and would do much toward emptying the Manila hospitals.

In some localities venereal disease is very common, while in others, notably at the more remote stations, it is practically unknown. The main source of infection is Manila, from whence it is gradually moving out into the provinces. The frequent inspec-
tions required by G.O.101, series 1901, Headquarters Division of the Philippines have apparently diminished the number of cases and should be rigidly carried out everywhere. The control of women, referred to in the above order, is often difficult to effect under the civil government.

The prevailing diseases in the Department aside from venereal have been malarial and intestinal disorders. The low, swampy ground so common in the more thickly settled portions of these Islands, the excessive moisture during much of the year, and the rank growth of vegetation with the resulting excess of decaying organic matter furnish the malaria-breeding mosquito with all the conditions necessary for the propagation of malarial disease. While mosquito-bars are used with gratifying results among all troops engaged in garrison duty, this precaution is impossible in the field, where the greatest amount of malarial infection occurs. The majority of the intestinal diseases have been due to poorly prepared food, to eating green native fruits and to drinking unsterilized water.

The average percentage of sick in this Department since its formation, December 1st, 1901, has been 1.57% in quarters and 3.76% in hospital, or a total of 5.13%. The number of deaths during the same period has been 133.

The principal endemic diseases existing in the Department are malaria, dysentery and beri-beri. Only a few cases of beri-beri
have been reported among troops, but many have occurred among the
native prisoners in the military prisons scattered through the
Department. In the military prison at Lingayen, Pangasinan, where
the disease has existed continuously since American occupation,
Captain R. A. Littlefield, Assistant Surgeon, U. S. V. has made the in-
teresting observation that it seems in a measure, at least, depend-
ent on the food supply. The native and white prisoners at
Lingayen lived under identically the same conditions, except in
the matter of food. Yet, while the disease was rife among the
natives, no cases occurred among the whites. The natives have been
fed until recently on the white, Chinese rice furnished by the
Commissary Department. This has been stopped and the darker-
colored, native rice substituted. Immediately after this change
an improvement was noted in the beri-beri cases, which has gone on
until all are now well and for the first time in its history the
Lingayen Prison is free from this disease. Captain Littlefield
is making further investigations on this subject, the results
of which he will state in a special report.

The epidemic diseases observed during the year have been
cholera, leprosy, plague, small-pox and typhoid fever.

The first case of cholera reported occurred March 19, 1902
in a native living in the crowded district of San Nicolas, in Manila,
neat the water-front and shipping. It is supposed to have been
contracted from fresh vegetables brought from China, where the
disease has been epidemic for some months. From San Nicolas the
disease has spread to every district of Manila, to the adjacent towns, and to many points in the provinces,—extending from Laoag, Ilocos Norte in the North to Nueva Caceres, Camarines in the South. In its extension the disease has invariably followed the lines of water travel. Thus far it has not advanced beyond the Island of Luzon. The Board of Health has been most energetic in its treatment of the epidemic. The initial district of San Nicolas, which consisted of nipa houses of a poor class was burned and its inhabitants moved to a detention camp, which had been promptly established.

The same course has been pursued with other nipa houses where the disease has developed. Houses of the better class have been disinfected. The inhabitants in all cases have been moved to the detention camp. These measures have lead to the concealment of many cases among the more ignorant class of natives, which has been combated by a careful house-to-house inspection by employees of the Board of Health. Old wells and cisterns have been filled and distilled water furnished by the Board of Health. By these means the disease has been kept from assuming alarming proportions in the city of Manila. At the present writing,—six weeks after the first appearance of the disease, about one new case occurs each day in each 10,000 inhabitants of the city. Those attacked have been in the vast majority of cases natives, with a few Chinese, and a very small sprinkling of whites. The only Europeans or Americans who have thus far become infected
have been those living in intimate contact with the natives. The mortality in Manila has been 80%. The troops in the city have been kept within the limits of their stations, except those having duty outside. The only natives allowed inside the stations have been those actually employed there, who are kept under constant supervision. Daily sanitary inspections are made by medical officers, not only of all barracks and quarters but also of the Army storehouses and corrals, which, although in the city, are not included in the Post of Manila. No case of cholera has yet occurred among troops in Manila. In the provinces the provisions of G.O.66, c.s., Hdqrs. Division of the Philippines are being carefully carried out. The medical officer nearest the provincial capital takes charge of the provincial Board of Health, dividing the towns of the province into groups, and assigning each group to the nearest medical officer, who personally inspects each town and endeavors to have it placed in proper police, to have quarantine observed against infected points, and to teach the natives the simple precautions to be followed in the matter of food and drink. Much difficulty is experienced in many towns in securing the active co-operation of the town authorities. In Magarao, Camarines the Presidente wilfully concealed the first cases of cholera and the disease was not discovered until 48 deaths had occurred. It is needless to add that this town has become the worst infested in the Island.
As this is the season during which there exists in certain sections calentura, or pernicious malaria of explosive type, diagnosis of the first cases of cholera is sometimes difficult. Medical officers throughout the Department are on the alert and are cheerfully and zealously performing the extra duty imposed upon them by this epidemic. About 600 cases have occurred in the city of Manila and about 1900 in the provinces, a total of 2500 cases since the outbreak of the disease. The mortality in the provinces has been somewhat lower than in Manila, having averaged only 71%. This may be due to some cases of mistaken diagnosis in distant towns, where means of bacteriological examination are not available and where all cases presenting the clinical symptoms of vomiting, purging and collapse are doubtless called cholera. Cases of the disease have occurred among troops of the 9th Cavalry and 36th Infantry in and about Nueva Caceres, which has been the principal focus of disease outside of Manila. 21 cases have been reported in these organizations with 18 deaths. These cases have developed in men who, in violation of orders, have entered native houses and partaken of native food and drink. Since April 28, 1903, eight cases with eight deaths have occurred among the 8th Infantry in Laguna Province. These cases developed among men recently transferred from Manila, who are thought to have drunk water from the Pasig River while en route. April 28th cholera appeared among the 23rd Infantry, three cases with one death at San Mateo, Rizal and one fatal case at San Felipe Neri, Rizal. These cases were caused by drinking unboiled water in native houses in the cholera infected town of Pasig.

Leprosy exists among the natives to a limited extent in various
towns throughout the Department. In accordance with a request from the Insular Board of Health medical officers have furnished reports of these cases, but, as far as known, no action has yet been taken in the way of segregating these unfortunates.

During the early portion of the period covered by this report bubonic plague existed to a mild degree in Manila with an occasional case in one of the outlying towns. The only soldier attacked by this disease was a company cook of the 4th Infantry, stationed at Naic, Cavite, who died July 1st, 1901. He had associated intimately with the natives and doubtless contracted the disease in this way. Under the requirements of Circular 53, Headquarters Division of the Philippines, 1901 especial attention has been paid to the destruction of rats in all barracks and quarters of the city of Manila. These vermin have been greatly reduced in numbers and are now seldom found in any of the cuartels. The same war of extermination has been carried on by the civil authorities, who have paid a small reward for each dead rat delivered. Whether due to this or to other unknown agencies plague has disappeared completely, no cases having been reported during the past three months.

There has been less small-pox throughout the Department than in former years, the largest epidemic of the disease having occurred at Tuguegarao, Cagayan. Among troops there have been only a few, scattered cases.

A few cases of typhoid fever appeared among the 30th Infantry
on the Island of Mindoro in August, 1901, having apparently been
carried there by that organization. Some eight or ten cases
appeared among the 15th Cavalry at San Pablo, Laguna in March, 1902
having also apparently been brought there by that regiment from
without the Department. A few other sporadic cases have been
reported from different localities in the Department, which have
been of native origin.

The matter of medical administration in the Department has
been greatly simplified by transferring to the chief surgeons of
Brigade a portion of the duties that heretofore devolved upon the
Chief Surgeon of the Department. Formerly the offices of chief
surgeons of Districts or Brigades were mere transmitting agencies.
The District or Brigade chief surgeon was required to make frequent
inspections and to keep the Chief Surgeon of the Department in¬
formed as to medical conditions in his District or Brigade. His
functions were chiefly advisory, except in the matter of the assign¬
ment and changes of the Hospital Corps, over which he had full
charge. The assignment and changes of station of medical officers,
the control of the large hospitals, and the transfer of patients
were wholly in the hands of the Chief Surgeon of the Department.
With the formation of the new and enlarged Department, it was
thought advisable to delegate these duties to the chief surgeons
of Brigades. This change was made January 1st, 1902, and it is
gratifying to report that it has proven in every way a marked
improvement over the former methods. On the same date the
designations of the large hospitals which had been called Military Hospitals in Northern Luzon and Base Hospitals in Southern Luzon were changed to Brigade Hospitals to correspond to their new functions and methods of administration. The hospitals at Aparri, Vigan, Dagupan, Santa Cruz, Calamba, Lucena and Nueva Caceres are of this class. Brigade Hospitals may now be instituted or discontinued at any place at any time by orders of the Brigade Commander. While such hospitals are under the direct control of Brigade Headquarters and are wholly independent of the orders of the commanding officer of the adjacent military station, one of the junior medical officers on duty at the hospital is designated to act as post surgeon. He holds sick-call in the hospital and utilizes its wards for the treatment of the sick of the Post. This system has been found to work without friction and to the satisfaction of all concerned.

The bed capacities and average numbers of patients in these Brigade Hospitals is as follows:

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<thead>
<tr>
<th></th>
<th>Capacity</th>
<th>Patients</th>
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<tbody>
<tr>
<td>Aparri</td>
<td>40</td>
<td>35</td>
</tr>
<tr>
<td>Vigan</td>
<td>40</td>
<td>18</td>
</tr>
<tr>
<td>Dagupan</td>
<td>80</td>
<td>25</td>
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<tr>
<td>Santa Cruz</td>
<td>75</td>
<td>50</td>
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<tr>
<td>Calamba</td>
<td>65</td>
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<tr>
<td>Lucena</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>Nueva Caceres</td>
<td>75</td>
<td>40</td>
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</table>

It is believed that the necessity for a Brigade Hospital at Vigan
has passed and it is the intention of this office to change its status to that of a station hospital in the immediate future. The Base Hospital at Los Banos, Laguna was taken out of this Department January 23, 1902 by G.O. 20, c.s.Hdrs.Division of the Philippines and its designation changed to that of Division Hospital, the intention being to utilize its hot baths for the treatment of special diseases occurring in troops throughout the Division.

The present system of nomenclature of the smaller hospitals in the Department is very unsatisfactory. At a station garrisoned by the men of one regiment the hospital is called a regimental hospital, even though the garrison consist of only a detachment commanded by a non-commissioned officer. On the other hand, if a station be garrisoned by a mixed command the hospital is called a military hospital, even though the garrison consist of Headquarters and the major portion of a regiment with the mixture of a small detachment of native scouts. It is recommended that the terms Regimental and Military, as applied to hospitals, be discontinued and that all such hospitals be designated station hospitals.

The medical supplies furnished during the year have usually been of good quality and, with the exception of surgical dressings and a few drugs for tropical applications, have been sufficient in quantity. The Supply Table allowance of gauze, absorbent cotton, carbolic acid, boracic acid, tannic acid, salol, and vaseline is
altogether inadequate for troops operating in this Department. Some complaints have been received due to delayed requisitions, which had been returned for important corrections. This is unavoidable with our present system. Due to the abandonment of stations there has been an accumulation of surplus medical supplies of certain kinds at Aparri, Vigan, Dagupan, San Isidro, N.E., Caloocan, Legaspi and Nueva Caceres sufficient to supply neighboring stations for one or two years to come. So great has been the quantity of stores turned in at Caloocan that it has become necessary to station an officer there solely to take charge of this property and act as supply officer for the Brigade. Among the useless supplies furnished many hospitals may be mentioned hand-grenades, which are totally without value against nipa or bamboo structures. It is recommended that the Supply Table be revised to meet the requirements of tropical service.

The special diet furnished in the hospitals consists principally of soups, beef extracts, condensed milk, eggs, and a few farinaceous articles. It is impossible to obtain fresh milk and in many cases the supply of fresh beef suitable for special diet is irregular in time of delivery and limited in amount, or else lacking altogether. It is not thought that the forty cent allowance can be materially reduced at present without disadvantage to the sick.

Much time is lost in returning for correction the various Reports and Returns required in the Medical Department. This is
due partly to the inexperience of the majority of the medical officers, and partly to the cumbersome system of papers now in vogue. It is believed that a reduction and simplification of this system would be of marked benefit to the service.

Laundering at the majority of hospitals in the Department is done by natives or Chinese, either under contract or, in most cases, as personal service, being paid for from the appropriation for the Medical Department. The work is fairly satisfactory, but the system is a poor one, the unavoidable delays in payment causing much dissatisfaction on the part of the persons rendering the service, who in consequence, charge proportionately higher prices. At least 30% would be saved to the Government by cash payments. It is recommended that a laundry fund be established at each hospital. Funds could be drawn from the disbursing officer by the surgeon on requisition, approved by the commanding officer, just as Quartermaster and Commissary Funds are drawn. Laundry funds could be accounted for on monthly statements with receipts attached. In Manila and at adjacent stations hospital laundering is done free of charge by the Medical Department Laundry. At Malate Barracks and Cuartel Meisic post laundries have been established, employing Chinese labor.

The Ice Machines throughout the Department have in general rendered satisfactory service, although they have all suffered at
times from the inexperience of the officers in charge, or from poor labor, or both causes combined. It is believed that waste often occurs in buying unnecessary machinery and supplies. It is not known how this could be remedied, unless by referring all requisitions to some competent and trustworthy engineer near the office of the Chief Surgeon of the Division. The Ice Machine at Dagupan has been discontinued, it being cheaper to purchase ice from the Civil Government Plant in Manila, shipping it to Dagupan by rail.

During the year a Chemical Laboratory has been established by the Surgeon at San Isidro, Nueva Ecija, Captain G.A. Skinner, Assistant Surgeon, U.S. Army, who has made a number of valuable analyses of water. He has demonstrated the impurity of the artesian well water at Calumpit. This had previously been regarded as a thoroughly safe drinking water.

The number of stations, medical officers, and privates of the Hospital Corps now in this Department is shown in the following Table, which is arranged according to Brigades:
<table>
<thead>
<tr>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Total**

| 1 | 33 | 32 | 59 | 34 | 9 | 2 | 175 |

| Cont. Dent. Surgeons | 0 | 3 | 2 | 3 | 2 | 0 | 0 | 10 |

**Total**

| 1 | 41 | 34 | 62 | 36 | 9 | 2 | 185 |

| STATIONS | --- | 39 | 34 | 23 | 25 | 10 | 1 | 192 |

| Command present & absent + | --- | 4238 | 3416 | 10778 | 3351 | 3369 | 149 | 25301 |

| Pres. Hosp. Stewds. | --- | 14 | 10 | 15 | 5 | 4 | 1 | 49 |

| Actg. Hosp. Stewds. | --- | 18 | 19 | 33 | 16 | 7 | 3 | 101 |

| Privates | --- | 136 | 144 | 330 | 113 | 43 | 6 | 772 |

**Total**

| --- | 168 | 173 | 383 | 134 | 54 | 10 | 922 |

| N.C.O. allowed | --- | 26 | 23 | 72 | 22 | 23 | 1 | 169 |

| Privates allowed | --- | 143 | 114 | 359 | 112 | 112 | 5 | 844 |

| Total allowed | --- | 170 | 137 | 431 | 134 | 135 | 6 | 1013 |

| Excess N.C.O. | --- | 4 | 6 | --- | --- | --- | 3 | --- |

| Excess Pvt's. | --- | 30 | --- | 1 | --- | 1 | --- | --- |

| Deficiency N.C.O. | --- | --- | 19 | 1 | 12 | --- | 19 |

| Deficiency Privates | --- | 6 | --- | 29 | --- | 69 | --- | 72 |

| Army Nurse Corps | --- | 13 | --- | 6 | --- | --- | 19 |

| Ice Machines | --- | 3 | 1 | 2 | 1 | --- | 7 | --- |

*New list required!*
The stations are so scattered that there are very few which can be attended from adjacent stations, making the number of medical officers now needed proportionately greater than formerly when many adjacent towns were garrisoned. There are at present 18 medical officers in the Department who attend two stations and 11 who attend three. Every medical officer in the Department whose services could possibly be spared has been released to meet the demands of the Board of Health.

Should any further emergency arise, calling for more medical officers this Department would be unable to meet it. 41 medical officers will be required to replace the contract surgeons whose time will expire during the next three months. Since the formation of the present Department, December 1st, 1901 there have been 79 losses and 27 gains of medical officers. There could hardly be a more unsatisfactory plan for furnishing medical attendance to troops than the employment of contract surgeons. It is true there are young physicians who are willing to accept such appointments, but the majority of them soon become thoroughly dissatisfied with the status and obtain the annulment of their contracts as soon as they possibly can. The status of the contract surgeon is wholly unsatisfactory to the officers and men of the Army. The position is utterly anomalous and incapable of satisfactory definition, although various attempts have been made to clear away the fog surrounding it. This vexed question has bothered the Medical Department and the Army at large for many years and the only solution it is capable of is the abolition of the grade of contract surgeon.

The tour of duty of the average medical officer in this Department is believed to be too short. By the time he has learned the nature of the service and how to adapt himself thereto, he is ordered back to the United States and replaced by another inexperienced man. This transient service causes a distinct and continued loss to the Government. It is recommended that, in place of the present make-shift arrangement of volunteer and contract surgeons, an elastic corps of additional medical officers be formed similar to the corps of additional paymasters, which existed during the War with Spain.
These additional medical officers should be commissioned as First Lieutenants to serve only so long as their services might be required and to be discharged at any time when no longer needed. The present volunteer system has too much rank. It is impossible to find stations for the majority of the volunteer Majors at all commensurate with their rank.

Lt. Col. C. L. Heizmann, Deputy Surgeon General, U.S.A., was Chief Surgeon of the Department until February 15, 1903, when Major G. D. Deshon, Surgeon, U.S.V. (Captain, Assistant Surgeon, U.S.A.), executive officer was placed in charge pending the arrival of the writer. The latter assumed charge the 2nd of April. The medical affairs of the Department are in excellent condition. The duties of executive officer have been faithfully and ably performed by Major Deshon and the records of the office have been well kept and give ready information upon all subjects to date.

The chief surgeons of brigades have without exception performed their duties, executive and professional ably and efficiently, some of them with conspicuous ability. The medical officers serving with troops have met the requirements of the arduous service incident to this climate and country with rare exceptions, unselfishly and acceptably. It is believed that the defective organization of the Medical Department interferes with economy, efficiency and administrative facility, and readjustment along simpler lines should be secured at the earliest practicable date. This especially in view of the fact that prospective peace conditions promise to fix more definitely the scope and range of medical duty.

The present allowance of the Hospital Corps, 4% of the number of troops in the Department, would be ample if there were larger garrisons, but with the present number of small stations it is not sufficient. Under conditions now prevailing in the Department, the allowance should be 5%. There is a great variation in the character and qualifications of the privates of the Hospital Corps, which should receive official recognition. An intelligent nurse, operating assistant, pharmacist, or clerk should be graded above the man capable only of general fatigue duty. It is recommended that the Hospital Corps be graded into 1st and 2nd class privates with a corresponding difference in pay.

It is thought that the prescribed twenty hours instruction of the Hospital Corps per month is seldom carried out. This has been due to field service in a portion of the Department, but in other portions it is believed to be largely due to the great difference in capacity already referred to. While the more intelligent privates of the Corps are benefitted by instruction the average private can never get beyond first principles.
The average medical officer enters enthusiastically on his duties as instructor, but soon becomes hopelessly discouraged with the results produced and either carries on the work in the most perfunctory manner or under first one excuse and then another evades it altogether.

There are 19 female nurses in the Department distributed among the Brigade Hospitals at Vigan, Dagupan, and Calamba. While their work has been in every way satisfactory and their conduct most exemplary it is thought that present conditions warrant an immediate reduction in their number and that the services of all can be dispensed with in the near future.

There has been much sickness among the horses and mules throughout the Department. Glanders and farcy have occurred in many localities, although not to a serious extent. Anthrax has been reported at San Fernando de Union where it was contracted from native cattle. Surra has existed in numerous places throughout Luzon, but as yet there have been no cases north of Bayambang, Pangasinan. In studying this singular disease Captain G.S. Wallace, Assistant Surgeon, U.S.V., surgeon at Pasig, Rizal has seen the fully developed parasite in the blood of apparently healthy animals five days before any symptoms of illness and a much longer period before any symptoms peculiar to surra. He also observed in the blood of one horse, sick with the early symptoms of the disease,
free bodies resembling the clear spaces in the parasite described in G.0.390, series, 1901 Headquarters Division of the Philippines. These free bodies varied in size, were circular in outline, and possessed in some instances, pronounced movement resembling the movement of a top about to cease spinning. Some of the bodies were located in the red blood-cells, but these exhibited no movement. Three days later the parasite of surra was discovered for the first time. It was in close contact with one of these bodies, as though developed by fission. This interesting observation of Captain Wallace is reported because so little is known concerning the life history of this strange parasite. Captain Wallace thinks that the disease is spread through the medium of the fly, being carried from the blood of one horse to that of another. Whether there is an intermediate stage of development in the fly has not yet been discovered. It is hoped that Captain Wallace may be able to continue his valuable experiments in this line.

There is an abundance of ambulances in the Department, but the roads are bad at best and during the rainy season the ambulances are of little service. Many of them are gradually falling apart from climatic causes.

The Medical Department in common with all branches of the Army in the Philippines, have received valuable help from the telegraph and telephone service of the Signal Corps. In some instances transmission of messages in urgent cases have been
somewhat dilitory, but upon the whole the service has been satisfactory and has greatly facilitated the operations of the Medical Department.

Very respectfully,

P. F. HARVEY,

Lt. Col., Depy. Surg. Genl., U.S.A.,

Chief Surgeon.

T.

Official:

[Signature]

Major, Surgeon, U.S.V.
HEADQUARTERS THIRD SEPARATE BRIGADE, DEPARTMENT NORTH PHILIPPINES,
CHIEF SURGEON'S OFFICE.
Batangas, Prov. of Batangas, P.I. April 15, 1902.

To the Chief Surgeon,
Department of North Philippines,
MANILA, P.I.

SIR:

In compliance with your request of March 21, I have the honor to furnish a report of operations of the Medical Department in this Brigade since July 1, 1901.

At that date, as the 1st. District of the Department of Southern Luzon, it contained 76 stations, with Headquarters at Santa Ana.

September 12, the Headquarters were transferred to Batangas, and November 1, there was an extension of boundaries.

While the eastern end of Tayabas was taken, the islands of Mindoro, Marinduque and Romblon were added, forming the present 3rd. Separate Brigade.

Since January 1st., the incessant field operations, and influx of new troops, have developed additional stations to a total of 85, of which 33 are sub-stations, having no resident surgeon.

Of these stations, nearly 50, have been visited during various inspection tours, by the present Chief Surgeon, during the past 16 months of service in this territory, he having served at the original Headquarters at Calamba.

January 1, the Department hospitals at Calamba, Santa Cruz, and Lucena came under full control of the Brigade Commander, who at that time also, was given full authority as regards all medical officers in this Brigade.

Needless to say, the power to immediately make necessary changes, in all hospitals and surgeons from Brigade Headquarters, gives more efficiency and satisfaction to this office, though change is deprecated, save for ample reasons.
Much error, clerical and otherwise, would be obviated if sufficient general orders and circulars, from all sources, would be furnished the Medical Department, so that every surgeon could be supplied.

G.O. #1, D.H.P., 1902, limits the supply to 3 to the surgeons of each regiment, which is manifestly inadequate, when a regiment like the 30th Infantry, garrisons 12 stations.

**DISEASE.**

The number of deaths from all causes in the Brigade, that can be found reported, is 6 officers and 91 enlisted men of the regular Army and native scouts.

Malaria continues to be the most prevalent ailment. Theoretically quinine and the mosquito bar should keep it down, but active service, and the impossibility of having a surgeon always with each detachment, prevents their continuous use.

The Sick and Wounded Report for the company of Macabebe scouts at Taysan for March, shows 48 entries, and all for tertian, intermittent fever.

On the other hand, the scouts at Cuenca have nearly a clean bill of health, owing to their healthy elevated location, while the Taysan company have lower ground, and more hiking.

**VENEREAL DISEASE.**

The conditions have improved materially within a year, owing largely, doubtless, to the operations of G.O. #101.

The provisions therein as to control of women, however, are likely to prove difficult of enforcement, especially when civil government is in control.

**ALCOHOLISM.**

Alcoholism and the much discussed "Victory" have been a minor element in contributing to our sick reports, and it is thought, as with venereal diseases, there is less dissipation than formerly.
HOSPITALS.

While most of the hospitals are improvised in convents or residences, the Brigade hospitals at Calamba, Santa Cruz, and Lucena are well appointed, and in the order given above.

During the 6 months ending December 31, their average number of beds occupied, was as follows, Santa Cruz 50, Calamba 43, and Lucena 30.

Since December, Calamba has dropped somewhat, in cases treated, while Santa Cruz, as well as Batangas, have been more burdened with sick, their locations being bases for the present active campaign, which is apparently nearing its end.


While many other surgeons have also proved satisfactory, I wish to mention Major Shelby, U.S.V., who has had a long and active service at Binan, with its sub-posts, and Captain Wertenbaker, U.S.V., who has been the senior surgeon on Mindoro for nearly a year, and has performed much medical supervision of its eight stations.

His ability and service would justify his promotion to a Majority.

An experiment is being made with some hot sulphur springs at Buena Vista, 6 miles from Casan, Marinduque.

They have a local reputation, for curative powers, and the officer in command on the island, has sent a few tents and sick there.

While some favorable results are announced, it is too early to consider them decisive.

Buena Vista is handled informally as a sub-station of Casan, being under the charge of its surgeon.

There are 18 serviceable ambulances in this Brigade.
Supplies in general have proved sufficient.

In the experience of the writer, minor complaints are not infrequent, but they usually seem to be the result of delayed Requisitions, most often due to clerical inaccuracies, or from limited transportation during dismounted operations in the mountains.

The frequent special requisitions for a certain class of supplies, largely for surgical dressings and local treatment, would indicate that the allowance in the supply table require increase for this climate, especially under campaign conditions.

It is most difficult to keep organizations, moving about in the field, supplied with quinine, dressings, and local applications.

The regular requisitions have to be pieced out with extra issues of surgical gauze, absorbent cotton, carbolic, boric, and tannic acid, Vaseline, Salol, etc.

SPECIAL DIET.

In answer to inquiry coming from the Chief of Subsistence Department, statements were obtained from many of the medical officers in the Brigade.

The consensus of opinion, in which this office agrees, is that the small number fed in our average hospital, necessitates a common kitchen for detachments and special diets, and that the usual high price for invalid diet, with the necessity for varied, tempting and nutritious fare, prevents any material reduction in the 40¢ allowance.
EPI DEMICS.

TYPHOID FEVER, - has occurred sporadically in various localities.

Some cases were carried to Mindoro by the 30th. Infantry during August.

The cases occurring in the same regiment at Santa Cruz, Marinduque, probably became infected at that point, from native sources.

The 15th. Cavalry developed 8 or 10 cases at San Pablo and other points during March, and apparently brought it into the Brigade.

PLAGUE. - One case only has shown itself in garrison, - an enlisted company cook of the 4th. Infantry ( who associated much with natives ), dying at Naic, July 1, from Septicaemic Plague.

SMALL POX. - Cases among natives were reported during March at the prison, Batangas, Cavinti, Nagcarlan, Pagsanjan, Laquimanoc, and Lucban, and 3 cases in the 38th. Infantry at San Francisco de Malabon, - 2 soldiers dying from it.

As compulsory vaccination of all natives throughout Batangas and Laguna was ordered January 16, resulting in nearly 300,000 vaccinations, it seems probable that the concentration of population in towns would have developed much small-pox, had not this measure been employed.

A supplementary report on native vaccination will be found elsewhere.

BERI BERI, - can nearly always be found among the natives, if sought for. However, it was not till the concentration of this year, and imprisonment of several hundred natives at each, Batangas, Santa Cruz and Maligi Island, that its prevalence among Filipinos was appreciated.

CHOLERA, - has not been reported to these Headquarters, as occurring in the Brigade.

Defensive sanitary measures, however, as ordered from Division Headquarters, have been taken, in the line of Boards of Health, vigilance in boarding vessels, with their occasional quarantine, and supervision of native life in all towns.
It is considered both fortunate and creditable, that the existing concentration, has developed so little epidemic disease.

**PERSONNEL.**

The largest number of troops in the Brigade was about 10,000, in January.

April 15, there are actually present for duty 58 medical officers, of whom 9 are regulars, 30 volunteers, and 19 contract surgeons.

There are also 3 contract dental surgeons, stationed at Batangas, Calamba, and Lucena, who are much in demand, and will in time visit most of the stations in the Brigade.

There are 15 hospital stewards, 38 acting hospital stewards, and 324 privates of the Hospital Corps.

Prior to March, the many discharges of corps men, with establishment of new stations, and scattering of troops for field work, resulted in a scarcity of corps men, as well as surgeons.

An influx from the 1st. and 2nd. Brigades, however, has eased the situation, but some of the large stations will be short-handed on surgeons, till at least 4, are released by return of the organizations, with which they are in the field.

With few exceptions the medical officers have proved satisfactory, and seem generally to have won the confidence of the line.

There is, unfortunately, much variation in the character and qualifications of the privates of the Hospital Corps, and it is considered unfortunate that we have not two or more classes of privates.

There should certainly be a difference in the rating and pay, between the intellectual nurse or assistant in office and dispensary, and the ignorant or indifferent man, who seldom gets beyond "general fatigue."

The writer remembers the difficulty of enlisting suitable corps men for the Volunteer Regiments in 1899, and how the standard had to be lowered.
NATIVE VACCINATION.

The unnatural conditions necessarily following the Concentration January 1st., in Batangas and Laguna, prompted General Bell to order, January 16th., a universal vaccination of all natives in the protected zones.

The Insular Board of Health, cooperating readily, furnished virus in abundance, and paid for the services of 80 native vaccinators, who operated with corps men and soldiers, under the provisions of the Surgeons at 28 garrisons in the two provinces.

Most surgeons were occupied in this work till the end of February. Some interior points however with large populations, and delays in shipment of virus, were not finished till March 14th.

A total of nearly 300,000 natives vaccinated has been reported, as follows.

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<th>Place</th>
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</table>

The glycerinated caribou virus, provided by Major Maus, Commissioner of Health, came in tubes of 100 units, which usually proved sufficient to inoculate 200 scarifications.

As transportation, ice storage, etc. were delayed and irregular, from the closed ports, with probable deterioration of some virus, it is not surprising there was much variation reported as to the percentage of success, which was from 30 to 86%.

The element of thoroughness affects results however, and as Asst.
Surgeon J. L. Lyster had handled his station with skill and energy, it was not surprising to see 86% of successful vaccinations announced from Tanauan.

Majayjay reported 1622 successes, in 32111 vaccinations. Lipa reported 13155 vaccinations with 30 to 40% successful, and 8320 cases not vaccinated because pox-marked. San Jose reported 1151 pox-marked, to 7231 vaccinations.

It seems worthy of remark, that, in spite of the menace from the frequent scourge of small-pox among the natives incurred by this concentration, the only point where troops were infected, was in another province.

It cannot but be felt that the extra labor of all concerned in the vaccination of these two provinces, has been largely instrumental in protecting our garrisons, and saving many a native from the death, deformity, or blindness so often seen among them.

Very respectfully,

Major and Surgeon, U. S. A.,

Chief Surgeon.
To the
Chief Surgeon,
Department North Philippines,
Manila, P.I.

Sir:—

In compliance with your letter of February 3, 1902, I have the honor to submit the following report of the Medical Department, of the Second Separate Brigade, for the year ending June 30, 1902, consolidated from reports of station surgeons and information gathered at inspections:—

1.—AMBULANCES are all in bad condition as the climate is rapidly destructive, and the life of any vehicle is probably one fourth or one fifth of what it is at home. They are generally housed and have been and are of great use. It has been necessary to use them for other passengers than the sick, and this practice is not objectionable as they are always available. Animals and harness are in possession of the Quartermaster's Department at all small stations.

2.—BAKERIES are generally of the field type recently supplied, a few brick oven of simple construction have been built and are satisfactory. Native troops do not know how to use an oven and do not use the bakery, though they like bread and should have it. It was recommended to the adjutant General of the Brigade that a baker be sent to each Native company to teach them how to make bread.

3.—BOOKS, and files of papers are very few and have no protection from dampness or insects and will not last long. The metric system is a blunder and a failure as it is dangerous and impractical. It has to be followed in compliance with orders, but it is not understood by a majority of privates to whom we are compelled to give nursing directions in plain English measures. Men arrive in the Islands who have never heard of a metre, gramme or litre, and on one occasion I discovered a nurse giving ten times the amount of the medicine ordered, as he was not an expert on decimals. Medical officers have to be constantly on their guard to protect the sick from this danger and practically have to think in two systems always. It will never be universal, as it is unnatural to divide by tenths, the natural way is by 1/2, 1/4, and 1/8. It is proper and indispensable for science but unhappily unsuited for unscientific and common people who invariably, when they have forced on them, devise new measures, like demi-litre, more convenient.

The whole of our country is divided into square sections of a mile, and these in quarters by halving the sides, and the number of acres in a mile is 640, because it can be easily divided by 2, 4, 8, 16, 32, 64, etc., The quarter section is 160 acres and when again and again subdivided each square is a furlong on the side and is a ten-acre lot. This will never be changed, the roads and houses are on section lines and as long as there is an American in the west he will always say the roads are one-mile apart and he owns a quarter section of 160 acres. He will never use fractions of a kilometre. Hence the chance of having the metric system introduced is nothing and we ought to go back to Anglo-Saxon, grains, yards and pounds in the Medical Department, so we can agree with Americans, and be understood. Nearly all English Medical literature is in English measures and it is a waste of time to always be translating.
4.—BARRACKS are in convents and large native houses, and are all in bad repair. Ants are so destructive of wood that some floors are unsafe. They are all raised 10 or 12 feet from the ground, but the convents are stone or brick. They are usually situated on the town plaza or nearby, dry upstairs but damp below so that no storage is safe for property. Only a few were crowded. All modern barracks should be built with a view of excluding the light which we now know is the harmful agent in the tropics.

5.—BATHING facilities are usually absent, the soldiers using rivers and ocean, in a few places wells are enclosed so that shower baths are arranged. The temporary occupancy of posts made it impossible to arrange proper bathing facilities. It is interesting to note that British experience in India is to the effect that cold showers and baths are too stimulating and harmful, while water with the chill taken off (tepid) is far preferable. This is a refinement unsuited to barracks, but of value to know for officers and others having bath tubs. The warm water does not stimulate and thus increase the already too pronounced exhaustion. Too much bathing is exhausting. Too much soap removes the protective grease from the skin and causes eruptions which are cured by less bathing, less soap and the use of a little oil after the bath.

6.—BEDDING is the usual cotton sheets and blankets and is satisfactory, but it seems to wear out soon. The mattress is of course hotter than the native bed, but no one seemed to mind it. Pajamas are reported as of inferior quality and worthless.

7.—BUNKS are satisfactory but very shortlived owing to the rusting of metal parts. The gold medal cots are popular and very satisfactory.

8.—BURIAL OF DEAD is in the local cemetery, the usual data being enclosed in bottles. There is no permanency to these cemeteries as the removal by the burial corps is to follow.

9.—CLOTHING. Khaki is by all odds the most successful material, but in the field the blouse gets entirely too hot and must be taken off allowing the soldiers to wear the light weight blue flannel shirt open at the neck so as not to interfere with the circulation; the neck must be free. The canvass legging seems satisfactory and needed. This garb—blue shirt, khaki trousers, canvass leggings, and tan shoes—seems to survive as the fittest from all experiments, and is instinctively used by civilians. To compel the wearing of the blouse when at hard work is harmful to health. It would no doubt be better to have a khaki colored flannel shirt and under it a thin white cotton knit shirt. The khaki undershirt of thin drill is a ghastly failure, hot, wet and sticky. The leather legging for officers seems to have survived as fittest, as a boot is out of question, and though it is too hot there has not been devised anything better, unless it be the flannel paste bandage used in India, which I consider the very best thing for the field for officers and soldiers. There must be a change in head gear. The campaign hat is the best for the field for it lasts in sun or rain, can be slept in and has survived every test, though the brim should be wider and more curved. But it is too hot, keeps the head in a continual stew and is a cause of much exhaustion and suffering and should be discarded in garrison, when the field work is over, and a helmet used is as found necessary by three centuries of experience of white men in the tropics. We cannot afford to ignore this experience and must adopt what others have found necessary. To say
that the men should get accustomed to the hat in garrison, is as
unreasonable as to say that they should get accustomed to being
killed by bullets in garrison. There are hundreds of dangers in
the field which can and should be avoided in garrison and the deadly
effect of the sun's rays is one. Then the men will be better able
to stand the work when it does come and not collapse as they have
done. The khaki helmet is recommended, but the brim hangs too low
and slopes too much. The cap is fit only for office workers, but
dangerous for prolonged exposure to the sun, and no more to be
tolerated than slippers for shoes. The cord on the officers cam-
aign hat is entirely too heavy, constrains the forehead and should
be abolished in favor of a very light weight ornament to distinguish
commissioned rank. It has been suggested that a straw hat be used
like that of the Spanish soldier and the Insurgents, but it is
doubtful if this protects blonder skins sufficiently from the di-
rect rays of the sun. The British in all tropical countries seem
to be unable to use it if exposed for any length of time to the
sun. Native troops do not have enough clothing allowance, but have
to buy from private funds, nor does their clothing fit as it is all
built for larger white men.

With regard to cotton vs wool, it must be noted that all our
former teaching to wear wool next to the skin was a serious error.
No lower animal which wears wool ever perspires and the wool is evolved
for the express purpose of keeping external dampness from reaching
the skin, hence no matter how cold and damp the air, sheep, birds,
canine and feline species always have dry skins. Hence we should
use wool for outer garments only, and to keep outside dampness out.
All lower animals which perspire have some arrangement whereby the
moisture evaporates at once to cool the body when cooling is needed.
It is silly then for us to wear wool next to the skin and thus
prevent evaporation, when nature intended it to evaporate and cool
us, i.e. when we are heated and exercising. We carefully keep the
moisture in the soggy, nasty woolen undershirt, so that it will
evaporate when we cool down, so as to cool us more just when we
don't want cooling and we thus get colds and pneumonia. Our dread
of draughts is due to a wet skin, which is kept wet by wool. Men
who wear cotton or linen mesh find the vegetable fibre soaks up the
perspiration at once, evaporates it at once, and they have dry skins
and never take cold in draughts. Hence the Quartermaster Depart-
ment should supply knit cotton undershirts.

The wool overshirt seems also to protect from the sun's rays,
is used by stokers in firerooms and could be improved by being of
a light color. Khaki cloth is only to protect from injury, is real-
ly an armor. I found that native troops in Singapore wore native
costume when off duty, as the uniform was only for protection from
injury from the brush and from the equipment. Unless something
keeps the khaki from the shoulders, it will blister as soon as tin
armor would, and it must be considered simply as armor. Khaki is-
issued to scouts (Native) is reported of poor material, woolen

That absurd hysteria which insisted upon a harmful/belly band
as a fetish which in some occult way was to act as a filter down
near the rectum to prevent us swallowing the germs of cholera,
dysentery and typhoid has fortunately disappeared. Nosoldiers
should be permitted to wear one. "Chilling of the Bowels" is mere-
ly a delusion.

Complaint is made of the poor quality and stretching of the
"Wanamaken" socks upon washing, there being too large, they wrinkle
and make sore feet. A thin woolen sock allowed though
some people prefer it. It keeps the feet constantly wet.

At San Jose, Nueva Vizcaya, it was reported that there was con-
siderable difficulty in getting shoes and clothing for the Hospital
Corps.
10.—COMMISSARY STORE ROOMS are mostly in basements on the ground floor, damp in wet weather and wholly unsuitable. Some inspected were in bad condition of order and cleanliness.

11 & 12.—There are no data on file as to deaths of officers and soldiers.

13.—The only desertions were a few in the 25th Infantry. Causes unknown, all were recaptured.

14.—SPECIAL DIET in hospitals is generally purchased from the 40¢ allowance and in a few cases from the hospital fund. Articles are mostly canned stuffs in the commissary and local purchases of eggs and chickens. No complaints have been made. A full report on this subject was forwarded from this office on March 24, 1902.

15.—DISCHARGES for disability amounts to about 20 in the 25th Infantry.

16.—DISCIPLINE in the Hospital Corps has been generally good. The more work the men have to do the better off they are in this regard. It has always been a question how far we should go in discipline training of the Hospital Corps privates. Their responsible duties cannot be properly done if we exact the same discipline needed in the ranks, yet the results of having undisciplined men in such positions are serious. A short period in the ranks is desired for this preliminary training, and the sending of ignorant raw recruits from home for duties, which are never trusted to a civilian until at least two years of study in a training school, is a bad system. Some of the men are too slow to be permitted in the Army.

17.—DISINFECTION has to be limited to boiling articles whenever possible, or washing in 5% carbolic acid or 1-1000 corrosive sublimate. Articles of little value are always burned. Gaseous disinfection (formaldehyde and sulphurous acid) are impracticable as there are no closed rooms in the tropics, and there is no quicklime, except in hermetically sealed cans, as the air moisture slakes it. Old slaked lime (hydrate and carbonate) seem to preserve cadavers in the ground not by germicidal action, but apparently cementing them. Chloride of lime is not practicable as it is liable to lose its chlorine as soon as opened. In small quantities as for disinfecting cholera and typhoid dejecta it is excellent.

18.—NATURAL DRAINAGE in most of this Brigade is bad as the land is a flat valley between the two coast ranges. In severe rains the country is all under water. At the stations in the foothills there is less trouble.

19.—ARTIFICIAL DRAINAGE is confined exclusively to shallow ditches and gutters around houses and leading to natural watercourses. Houses are never built far from streams, but usually over the edge of banks.

20.—DRILL has to be limited as the corps is in very small detachments usually not enough for the litter drill. A half an hour a week is all that is necessary and is merely to keep the men from forgetting in active work in the field, it is as useless as target practice in time of battle.

21.—DRUNKENNESS is not so prevalent and is usually a symptom of nervous exhaustion from climatic causes, fatigue, nervous strain and coarse food. Most of the cases are in men of rather unstable nervous system—the very ones to break down first. It seems that efforts to cure here are futile as the men cannot control themselves and humanity demands that they be sent home as soon as the disease
appears. Perhaps many, if not all, will promptly recover at home under rest and forced feeding, if the destructive nerve changes due to the toxic action of the alcohol, have not gone too far to be regenerated through nutrition. Death seems inevitable when the changes are extensive, and about ten cases have occurred in this Brigade. Laymen generally look upon all cases as vice and not disease, just as they locked on all mental diseases as diabolic possession calling for punishments or exorcisms instead of cure, and as it is practicably impossible for us to separate the diseased drunkards from the healthy men of vicious or careless drinking habits, it may not be practicable as yet to consider any of these cases as due to tropical war service and in line of duty. So many nervous wrecks are caused by privations of war in the tropics that I believe serious injustice is done to many a poor sufferer by casting him out as vicious, simply because one symptom of his disease is mania for liquor and inability to stand any alcohol. Though we cannot yet decide a case to be in the line of duty, it is wise to discuss this point.

Prevention of drunkenness is found in every measure which will lessen exhaustion and increase nutrition, and the more the ration is liberalized the better. The effect of occasional excessive drinking on health is generally to be disastrous, but late reports show that it is not so bad as we once thought. The drunkenness we find is a result and not a cause of exhaustion. Total abstinence is not the cure for all ills in the Philippines and reports show that a larger percentage of abstainers break down or die than in other classes. A little alcohol may be good, and though it may be considered dangerous teaching, it is the truth. The Surgeon at San Felipe Neri, Rizal, recommends sale of beer and wine in the post exchange to reduce drunkenness in the neighboring saloons. Being technically in the field they have only candles for light, a few by lamps and oil, the others are driven to the pleasant saloon from the unpleasant bar- racks.

22. ENDEMICS are dysentery, malaria and small-pox, and no other recommendations are needed except the boiling of water, use of mosquito bars, and constantly repeated vaccination. In regard to the latter, my experience leaves no room for doubt that ignorance, carelessness and neglect have characterized our management of vaccinations of troops at home, for not only has worthless lymph been used, but I have never yet gone to a Military Post, but that I have found many unprotected soldiers, some of whom have never been vaccinated in their lives.

The discontinuance of the old vaccination record was a disaster as it reduced the importance of this operation. I strongly advocate a special form to be printed on all descriptive lists, giving date of every vaccination, kind and age of virus, result, thus:

<table>
<thead>
<tr>
<th>Date</th>
<th>Kind of virus</th>
<th>Age</th>
<th>Result</th>
<th>Surgeon</th>
</tr>
</thead>
<tbody>
<tr>
<td>June 13, 1901</td>
<td>Gly. Tube.</td>
<td>Two weeks</td>
<td>Perfect.</td>
<td>Surveon</td>
</tr>
</tbody>
</table>

As an illustration of this criminal carelessness on the part of some one who should know better, is the case of Private Smith, Co. "A", 25th Infantry, who contracted small-pox in Caloocan, Rizal, P.I. He was reported vaccinated in August 1900, at enlistment, and again on transport in October 1900, both unsuccessful. Every such case should be followed up and worked on until the operation is successful unless the character of scares of prior attempts leave no doubt of immunity. Every case of small-pox in soldiers is a reflection upon
the Medical Department.

The numerous outbreaks of malaria in Native troops after a hike in a country where there are no mosquitoes, makes it reasonable to assume that many of these Natives harbor the germ which is harmless until resistance is reduced by fatigue or exhaustion. If so, they are a source of danger, really contagious cases.

23.—DENGUE has been epidemic. It has strongly resembled influenza, except that the pains are in the joints and back and not in the bones. The fever lasts three of four days and convalescence is slow and patient very weak unless confined to bed during the attack.

Cholera has also been epidemic and every means has been taken to induce natives to boil water, eat freshly cooked foods and vegetables, and clean up their houses and grounds. In no place where Medical officers could reach in advance of cholera has it ever got a footing, but it was invariably very bad if it entered a town before we could organize: where it did get a footing a medical officer later took charge and it was always stamped out. (see 49)

Almost every case among soldiers has been due to a violation of the orders issued for their guidance, not a mere accident but a wilful eating and drinking in Native shacks. So far then our experience shows that the disease, like typhoid is very easy to avoid. Measles and chicken pox are reported from San Isidro, N.E., P.I.

24.—All Hospitals have hand-grenades, water buckets and barrels. There have been no losses. When a fire starts it is apt to burn most of a town.

25.—The fatigue duty is the usual garrison work, and should be avoided from 11 to 4, if possible.

26.—The food is usually well cooked, of good quality and as well served as field conditions will permit. It should be liberal to counteract the exhausting of the climate and every tendency to liberalize it favored. Reduction of the ration is unscientific and criminal. The recent reduction of the Native ration was a disaster, for these poor people cannot do work without fuel any more than a steamship. When on native diet they cannot possibly keep up with a white man, and when on regular rations they do well. In every dietary question the Commissary Department should keep in mind the well nigh evident fact that natives of all tropical countries are in a condition of chronic nitrogen starvation, with a hunger for nitrogenous foods which are unattainable. The Board of Officers which awarded a prize to the essay on the Best Ration for the Tropics, which advocated a reduction of nitrogen, committed an awful scientific blunder. The hunger for sugar and alcohol, so often noted is now known to be a cry of starved nerves for stimulation. The same fault is also the basis for the intense hunger for fats so common among tropical natives. The rule then is to keep up a good supply of meats, bread and legumes.

Insufficiency of rations have been reported at Pantabangan N.E., no fresh meat or vegetables for long periods. It was reported to be possible to supply these stations but it was not done. Dried fruit issued too often, cloys and should be varied with canned or fresh fruit. Rolled oats has been also recommended.

27.—FURNITURE is best of native wood, for the American woods seem to deteriorate rapidly and warp in damp season.

28.—There have been very few attempts at gardens, and these have been mostly failures from unknown causes, probably unsuitableness of American seeds to the soil and climate.

30.—See preceding paragraph.
31. - All garrisons are small, the largest being of two companies and only two of that size in the Brigade.

32. - The guardhouse is usually in the basement under quarters or in a camarrine and is therefore always damp and unsuitable.

33. - HORSES and mules have been nearly wiped out in places by surra, but nothing is known beyond that reported by the board on this disease. Their food is said to be improper (fit only for native ponies) and this may have so reduced vitality as to have made them liable to infections. If fed properly they may have resisted surra.

34. - THE HOSPITALS are all established in native houses or in part of a convent. They are all in the upper story, dry, suitable, well ventilated, cool, and of sufficient air space, and sufficient size and bed capacity. A few native nipa and bamboo houses are used. Several needed repairs but it was difficult to get money for the purpose and the rent is not large enough to deduct cost of repairs. Those inspected were in good condition as to police and order. Store rooms were often on the ground floor and unsuitable. For isolation separate tents or shacks are used.

35. - THE HOSPITAL CORPS allowance, 4%, is not large enough where the troops are divided into such small detachments occupying a country, 5% would not be too large. When concentrated into regiments 3-1/2% is sufficient in war, and 5% in peace or even 2-1/3% or 35 per regiment in garrison. Likewise the number of non-commissioned officers is too small, 1/6 of total, when there are so many one company stations. It should be one-fifth or one non-commissioned officer to every four privates or one for every station. We have been hard pressed to get non-commissioned officers. There are no matrons.

The general appearance of the men is only fair, because it has been difficult to get clothing at outlying stations and their uniforms are somewhat faded. Discipline has been good as a rule, there being but very small percentage of confinements and Courts-Martial. Habits and efficiency were good as far as could be learned on inspections. Several cases of chronic alcoholism have occurred and I believe that these men are more prone to the diseased form than soldiers in the line, but the cause is unknown. The same of the surra. The hospital corps has eliminated this as a rule. Equipment is generally complete, pouches in field use more than a year are generally unfit for further service. All are instructed five hours a week, but it is practically impossible to keep this up. There ought to be some limit to the matter where we can declare the trained in the elements. It seems to me that it should also be intermittent and not an interminable grind year in and out. To keep on as we now do is like compelling an officer to take a course of elementary arithmetic all his life, a lesson every week until he is sixty-four. We should be able to say a Hospital Corps man is a graduate sometime and omit further elementary work. Practically a Hospital Corps private though expected to be learned in everything from operating technique to driving the ambulance mules, is a specialist, as is every employee in a civil hospital, for no man's brain is big enough to make him absorb every detail of every position in a large hospital. Every man is kept on the work he can do best and this should be recognized and not compel him to ever and over again, the lessons and lectures he will never have use for. There have been no desertions and only a few (colored) are married to natives as far as known.

36. - ICE in this Brigade is supplied from Manila to those in easy reach, and from San Isidro, N.E., ice plant for the group of posts of which this station is the centre.

37. - INSPECTIONS are made at least once a year by the Brigade Inspector and the Brigade Surgeon. The work this year has been interrupted by the cholera epidemic.
39. THE INSTRUMENTS as a rule are sufficient at every station, and in a remarkably good state of preservation considering the quickness of rusting of metals in this climate. It has been necessary merely to dry the instruments as soon as used and coat them heavily with any impervious material, vaseline, paraffin, etc., while knocking around in the field it is impracticable and considerable loss of instruments is inevitable and one of the costs of this war.

40. KITCHENS, both in hospitals and barracks had to be placed in any improvised shed or room available. The regulation stoves were supplied as a rule, a few places having a field outfit.

42. The only library consists of a few standard medical books. For recreation nothing but the lightest literature, trashy novels, and frothy magazines are useful on account of the universal cerebral ataxia in the tropics. Heavy mental effort can be sustained for only short periods. Charitable people should confine their contributions to such games as dominoes, cribbage, cards, etc., requiring a minimum of effort.

43. MALINGERING is as little, if not less than at home.

44. MARRIAGES are nearly universal among Native Scouts and a station is a little colony by itself, at least 500 people are supported by each company. The large number of negro soldiers living openly with Natives in a friable bond is the great blot on our Army and the sooner these regiments leave the better. Such temporary unions are honorable to the Malay and Negro mind and perhaps all of these women will readily find husbands after desertion, but a certain percentage will no doubt drift into harlotry. But it is all a sad commentary upon the high moral tone we have been pleased to assume in all our dealings.

There is no doubt that a white man's doom is sealed as soon as he takes up relations with a native woman. She drags him down to her level for she cannot rise to his as she has not sufficient brains.

45. MEDICAL OFFICERS IN this Brigade have, as far as known, established a high record for efficiency as a rule. Incompetents are being weeded out as fast as possible. It has been the practice to detail officers so that they can use special knowledge or skill, but this has been impossible always. Hence there has been lack of efficiency as where a skilled Surgeon had little to do except make out papers with which he is not familiar. They do not seem to comprehend wholly the duties imposed by par. 18, 1575, & 1577, A.R.

46. MEDICINES were reported good and of sufficient quantity except at Pantabangan, N.E., where they were deficient on May 27, 1902, the supplies forwarded from the Manila Depot in February having got to San Jose, N.E., but were never forwarded the remaining 18 miles over the trail. Very few drugs deteriorate in this climate if properly bottled. Chloroform is generally reduced by evaporation. Chloral tablets are reported unserviceable and deliquesced, mustard plasters mouldy and inert and the pills made by Zeebel & Co., Manila, unserviceable, hard, mouldy and stuck together. Plasters (cantharides, isinglass and rubber) are reported worthless at Penaranda, N.E., P.I.

47. OFFAL is usually carted to a distance and buried.

48. THE PERIODICALS received at this office are "New York Record" "New York Medical Journal" "Boston Medical and Surgical Journal" "Journal of American Medical Association" "American Medicine" and a few copies of "Tropical Medicine", not enough to go around to each post but distributed as evenly as practicable.
49. - There is nothing to report as to regulations concerning police, the usual fatigue being required of soldiers, but the emptying of earth closets is always done by contract.

G.O. No.58, c.s., Division of the Philippines, which orders medical officers to take charge of sanitation of towns put them in conflict with the laws made by the Civil Commission, but by great tact no serious clashes occurred. The system the Boards of Health evolved, proved to be absolutely worthless, as the poor brown men did not know that there could be any improvement in conditions they were accustomed to since birth and as a rule obstructed every measure. There were nine provinces in this Brigade and the medical officer nearest to the capital of each province was directed to group his pueblos and assign them to the various medical officers in that province. The whole territory was thus fairly well covered, and policed. There was a wonderful change and the death rates immediately were reduced and diseases of domestic animals disappeared. Cleaning of the town of San Jose, N.E. was also followed by a marked reduction of the soldiers' sick rate. A detailed report was forwarded May 13, 1903, with copies of all circulars.

50. - There are no Post Exchanges in this Brigade as far as heard from.

51. - The punishments are exclusively fines and confinement at hard labor.

52. - The quarters of officers are exceedingly various, some nipa shacks and very comfortable, some of the more pretentious wooden buildings with iron roofs and no porches, no protection from heat and light and unfit for white men. Better than these were the convents with large well protected rooms. All buildings were private property and were rented unless seized from disloyal owners, (excepting convents).

53. - The ration is discussed in No. 36.

54. - THE RECORDS kept at each station are those required by regulations for permanent posts, although the troops are technically in the field, under regimental organization and regimental reports technically required. It has caused much inconsistent ruling and the regimental organization had to be ignored in great part.

(a) A short experience in this office leaves no doubt that the tremendous amount of paper work is not only unnecessary, but actually interferes with efficiency, and that the swarms of clerks in all Military Headquarters are mere excrescences, a growth of a serious disease of administration. No large business in the world can be managed on our present plans, because we violate the first axiom of organized effort—details must always be done by subordinates. We should be a model, for an Army should be perfect in its concentrated and organized system which permits the whole to move instantly at the will of the head. The higher we go in a Railroad system, the fewer are the details attended to, but we constantly refer our work to higher offices. The result is that clerks in one office invariably do the work of officers in a lower office.

(b) Formerly if a Company Commander wanted to re-enlist a good soldier who was married, the papers had to go all the way to the Secretary of War, and be fingered and acted upon by at least 50 different officers and clerks; it was a matter that the Company Commander himself should settle, and if he cannot be trusted he shouldn't be an officer. A Post Surgeon having a vacancy in the Hospital Corps detachment should be authorized to enlist a man if one applies and not refer it. He is more able to select proper men that a recruiting officer of the line. A mere report on information slip of his action is all that is needed. This system works well in the ordnance detachments, and the Medical officer is just as capable of doing the same. Transfers
from the line approved by all officers concerned might be made by a Department or a Division Commander in the field.

(c) Annual and special requisitions might be made single and not duplicate or triplicate. Intermediate officers need only note its reception. After being filled by the Supply Depot it can be filed. That officer's report of issues on his abstract only duplicates the record of the property division.

Hospital Corps returns need only be made in single copies to the Surgeon General, each office of transmittal merely using it to verify the record of the changes occurring in the previous month, in the same manner that only one personal report be made.

The Hospital Fund Statement need go no further than the Chief Surgeon of a Department who regulates all expenditures and transfers of funds, forwarding an abstract to the Surgeon General, of receipts, expenditures and balances of each station.

The monthly report of examination of recruits only duplicates the data previously reported and could well be dispensed with. Vaccine virus usually being needed in haste should be obtained by station or post Surgeons directly from the maker. The report of its receipt will check the manufacture's bill.

The only medical reports required would be as follows:

**Daily:**
- one morning sick report
- one Hospital Corps Report.

**Monthly:**
- one personal report
- one Sick & Wounded Report
- one Hospital Corps return
- one Hospital Fund statement.

**Yearly:**
- one requisition
- one Property return
- one Death of Officers
- one Death of soldiers
- one sanitary report
- one epidemic report
- one wounded in action.

The increased efficiency of administration through having Brigade Surgeons transfer officers, men and supplies between stations in Brigade shows the benefit of not allowing such details to go higher than the Chief Surgeon of a Department or Division in the field. Indeed every time bit of burden which can be taken from the shoulders of a superior officer and distributed on the shoulders of numerous subordinates make the whole machine that much more movable and more easily managed.

55.—**RECREATIONS** in the provinces are almost nothing, except cards and a little baseball. Reading is tiresome and the saloon is a relief as no exertion is needed to drink and talk and listen to others. This explains why American saloons spring up like mushrooms and flourish wherever troops are stationed.

56.—No recruits have been received in the Brigade as far as known in this office.

57.—**THE SICK AND WOUNDED REPORT** is usually well kept, a few minor errors were discovered in the Registers of some stations. It would lessen work at home stations to have surgeons make out but one copy forwarded through official channels and let each Chief Surgeon scrutinize and extract data he needs in his office. This system works well at home here.

58.—**THE SANITARY REPORT** has been emasculated by making it stereotyped. Its present form only repeats month after month data which should already be known by each Chief Surgeon, and is a sop to laziness at the expense of more and useless clerical work. The Surgeon
should not render this report unless he finds something unsanitary which must be remedied or placed on record for future action by higher authority. The reception of this report would then mean something—action,—while now it means nothing, except routine clerical labor. A sanitary description of each post should be on file in the Chief Surgeon's Office of each Brigade or Department.

59.—There are no post schools, nor any for the Hospital Corps, instruction for the latter reported under No. 35.

60.—No survey is reported.

61.—There is no sewerage in any station except at the prison at San Isidro, N.E. There are no sinks either, the dry earth system being used. The latter is always offensive as every company of soldiers contains some men who will not help voluntarily in any matter tending to the health or comfort of the others.

62.—THE STABLES are mere sheds, or in open camarrines. As a rule they are suitable, and fairly dry.

63.—HOSPITAL STEWARDS and Act'g Hospital Stewards are efficient except in a few instances where gross carelessness in paper work causes much annoying delay.

64.—STOREHOUSES are generally in basements and are damp, and not infrequently in bad condition. Deterioration of stores is inevitable.

65.—HOSPITAL STORES also deteriorate rapidly, and this loss must be considered one of the inevitable expenses of war in the tropics.

66.—HOSPITAL TENTS are not on hand. Their use is dangerous in this climate and houses can be seized or rented wherever there are operations. Canvas also rots quickly.

67.—THE MEANS OF TRANSPORTATION of the sick are the regulation ambulance, the hospital car on the Railroad, and by boat on the Rio Grande de la Pampanga. It is satisfactory. Transportation of rations could not be accomplished in the rainy season at Hongabong, because sufficient carabao were not supplied, and the troops at that place were not properly rationed.

68.—Troops are doing garrison duty exclusively. A few are guarding the Mariquina Valley to protect Manila's water, and a few have been out in Rizal province after ladrones who have captured some soldiers and civilians at Norong and Cainta. There have been no movements of troops except withdrawals from stations to go home and minor changes of stations. Since March 1, 1902, the 24th, 25th, 13th and 3d Infantry have been ordered out of, and a squadron of the 11th Cavalry into the Brigade.

The morals of troops are invariably lowered by associating with lower races, who all have a lower standard than what we insist shall be the standard at home. The native women think nothing of urinating openly in the streets, or, if in the house, noisily behind a paper screen, even the educated wealthy mestizo element. Such a code of behavior can not possibly do else than injure young white men. The contact with suffering and the brutalities practiced on lower animals also begets a contempt for human life itself as well as an unwholesome contempt of lower races, instead of the healthier tolerance and paternal supervision of them as children. We must remember that the brown and yellow men of the Asiatic origin—like all Asians—has a different nervous system than Europeans. Sensations are transmitted more slowly and less acutely, it is a sluggish organism. Hence pains are
not felt as we feel them, and this undoubtedly enables them to recover from wounds which would be fatal to whites. They cannot appreciate our acuter feelings nor we their obtuseness. What appears unspeakable brutality to us, is mere commonplace to them, and our scale of punishments for white offenders does not fit the crime of Malays. All these things inevitably blunt our own sensibilities in time and accustom us to conditions which cannot be treated at home. It is therefore certain that the term of service for soldiers should be short and none should be discharged here but all transported home. There have been numerous moral wrecks floating about this territory, physically unfitted to labor like brown men, unable to find employment because mentally unfit for anything except coarse labor at home—mere tramps—becoming victims of disease from eating the unsuitable native food which they buy or extort, scarcely a day goes by without several applications for work from such men. A stream of them tramp up and down the Railroad, penniless and a burden to the community. The universal loss of energy in a year or two, in all whites even those best cared for, renders active work impossible. Mental labor is generally painful. These tramps then are a sad refuse to leave behind.

69.—The supply of fresh vegetables is limited to potatoes and onions of the ration and sometimes not even that.

70.—Venerable diseases are almost universal among negro troops, far less common with white and practically absent from native troops. The common professional native prostitute is the medium of infection and many badly infected women travel from place to place.

71.—VENTILATION is unnecessary as all the houses are so open.

72.—WASHING is usually done by natives and liable to be infected. A laundry was established at San Felipe Neri on the recommendation of the Surgeon, Chinese workmen being given a room in the basement and hired by the month, a scale of prices established and all soldiers ordered to use no other laundry. It is so excellent that I recommend to the Adjutant General of the Brigade that it be established in all stations.

73.—WATER is taken from streams as a rule, in the foothills it is very good but the lower down the stream we go the more contamination. Forbes Waterhouse sterilizers were used everywhere, but as they do not boil the water long enough they were not trusted during the cholera epidemic when all drinking was boiled. The artesian water of San Fernando, Pampanga, is very free from organic matter, but so full of mineral salts as to be laxative to many people. Before cholera appeared it was not even considered necessary to boil it. The very small percentage of intestinal diseases and those being old cases—practically no new cases arising—shows the good result of sterilizing water by boiling. Angeles, Pampanga, also has artesian water.

The burner of the Forbes Waterhouse sterilizer is reported defective and the apparatus is therefore unreliable. I am much opposed to any patent sterilizers, filters, etc., in the tropics. No filter is effective for bacteria unless its pores are so small that water has to be forced through against the capillary attraction, if it works easily it is no good. Even the Pasteur filter allows the small microorganisms to pass. Sterilizers are liable to fail when needed most and there is something like a fetish about the word, which gives a false sense of security. One station Commander said he not only boiled the water but sterilized it also in a Forbes Waterhouse sterilizer.

74.—There are no male or female contract nurses in the Brigade.

75.—No medical officers have had the opportunity to distinguish them selves by acts of personal bravery such as is usually meant by that term, nor have any had hazardous service. In regard to parti-
cular devotion to duty, I cannot speak too highly of their energetic and successful work in the prevention, and stamping out of cholera. The amount of work done was enormous and the results are highly satisfactory.

76.—The Commanding Officer at Baliuag, Bulacan, issued an order eulogizing the devotion to duty of the late Private Joseph G. M. Eisenmann, Hospital Corps, who lost his life by infection caught from a cholera stricken soldier whom he was nursing. The order also spoke of the courage and devotion of Private Leonard B. Stephenson, Hospital Corps who went to the assistance of Private Eisenmann when the latter was taken sick. Private Calvin L. Scott, Hospital Corps, has been recommended for a certificate of merit for rescuing A. H. Harris, from drowning in a whirlpool in the river at Penaranda, N. C., in which they were both caught.

77. —Diarrhoea, Dysentery, Malaria, Small-pox, and Cholera are all discussed in Nos. 23 & 28. There have been no Beri beri, or bubonic plague at any stations. One case of leprosy has been reported at San Mateo, Rizal.

78. —The troops are re-vaccinated when there is any fresh exposure. There has been also some vaccination of natives near stations but no general vaccination of the population.

79. —The Quarantine measures have been very severe during the cholera epidemic. All contacts have been confined in detention camp five days. All travel was stopped on roads and streams except for necessary supplies. A system of passes was devised in this office and printed by the Insular Board of Health, and have given fair satisfaction. Quarantine has undoubtedly kept cholera out of many places and has greatly restricted its spread.

80. —No Indigent Natives have been cared for. There does not seem to be any of that starvation and extreme poverty we find at home nor that pauperism which results from loss of moral tone. The native can always get something to eat. The only disreputable and worthless indigents are white men, usually discharged soldiers and one of these had to be taken care of at a Military Hospital, as he had beri beri, no doubt due to improper food.

81. —Personnel of the Medical Department has been referred to above.

82. —There does not seem to be much choice as to healthfulness of posts in the Brigade. Those on the coast and the hills are coolest and those in Zambales have reputations for healthfulness.

83. —Mosquito Nets are used by every soldier except in four Native companies. In one of these companies' malaria has been rife, and is rare in another company using nets. The Adjutant General of the Brigade was informed of this and recommendation made that the use of nets throughout the Brigade be made compulsory on the ground that Malaria is now proved to be a preventable contagious disease. This was issued as a circular.

84. —Very few use vino to excess. There is no reliable data at all to prove the newspaper stories of the dreadful effect of vino. Indeed it is a freshly fermented and distilled liquor, it is like new whiskey and there is no evidence that it is any different in effect. There is at home an idea that there is something fatal about vino an essence causing insanity, but it has no basis in facts. What has probably caused this idea is the fact that when a man becomes an alcoholic and has a typical craving for stimulants he will take anything con-
taining alcohol, and vino is the most convenient. It has thus been blamed for producing the condition of which drunkenness is a symptom whereas it may have had nothing to do with causation. Healthy Native troops drink it and do not seem to be injured in the least and are practically free from drunkenness. Healthy whites who drink a little anyhow and have no craving will not touch it because they can get something that tastes better. The vino habit then of the so-called vino fiend, is merely the indication of serious alcoholism and the man is taking the most easily obtained form of alcohol. He would be in precisely the same condition if new whiskey were as easily obtained as the vino and he would no doubt prefer the whiskey.

85.—None of the personnel live on the 40¢ fund, except where a single mess is for everyone in the hospital. It is then practically impossible wholly to prevent its being mixed up with food for nurses. I renew my recommendation that no rations be issued to the sick in-hospital, their admission being evidence that they are unable to eat the food purchased for strong men. Instead of selling the ration and buying other food, it would simplify matters to commute at 30¢ which I find is the average cost of feeding the sick. Form 69 is unnecessary. The commutation of 75¢ per day to a well soldier can be spent as he wishes, all for whiskey if he wants to, and the Commissary Department requires no accounting, but when 40¢ is allowed the Surgeon to feed this same soldier when taken sick, the regulations require the Surgeon to account to the Commissary Department about the spending of the forty-cents. It is rather peculiar that the soldier can be trusted to use the 75¢ properly but that a commissioned officer cannot be trusted to use forty-cents.
ADDITIONAL HEADINGS.

1.-ANIMALS are wild, such as deer, hogs, mongoose and a few of little or no importance.

2.-There are a large number of different birds and many of beautiful plumage. I am not familiar with the names of but a few, these are the duck, rice birds, finches, wood pigeons, parrots, eagles, several varieties of hawks, a species of quail, larks, cranes, plovers and a large white bird sometimes called the carabao bird from its habit of lighting on the carabao.

3.-An earthquake occurred about December 15, 1901, lasting about 20 seconds.

The rivers furnish excellent fish, of which are the following names the natives call them— Dalang, Bia, Alegasin, Pabaqua bingji, and ulang.

5.-No remarks.

6.-No remarks.

7.-Insect life is prolific including mosquitoes, black white and red ants, flies, grasshoppers, and locusts.

8.-No remarks.

9.-Gold is said to exist in the mountains in paying quantities.

10.-The usual tropical plants flourish.

11. & 12.-No remarks.

13.-The soil is an alluvial deposit, is very fertile and capable of producing all kinds of crops. It is an excellent rice and sugar country and also produces a fairly good quality of tobacco.

15.-TEMPERATURE. Minimum ranges from 65 to 85. Maximum from 80 to 100.

16,17,18.-No remarks.

19.-Inhabitants are the Tagalos, Macabebe, Ilocanos, Chinese, with a few Spaniards.

Photographs are enclosed from Mariveles, and San Isidro, and Talaves. The additional data from Mariveles is so interesting it is enclosed entire.

Very respectfully,

[Signature]

Major & Surgeon, U.S.A.
Chief Surgeon.