THE MEDICAL WORK OF THE NEAR EAST RELIEF

A Review of Its Accomplishments in Asia Minor and the Caucasus during 1919-20

Edited by Geo. L. Richards, M.D.

NEAR EAST RELIEF
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Edited by Geo. L. Richards, M.D.
Dedicated to the Medical Profession
and to all others interested in
this branch of relief work.
THE narrative which follows is an attempt to give in very brief outline, something of the work performed by the Medical Division of the Near East Relief during its first year in Turkey. It is a record of obstacles overcome and results attained which bear testimony to the devotion, enthusiasm and medical skill of those who performed the task here briefly recorded. This story is made up for the most part from reports furnished the editor by the physicians themselves, mostly in the language of the writers, but occasionally condensed for reasons of space. The editor is responsible for Chapter 2, and also for the brief stories of Harpoot, Samsoun, Marsovan and Urfa, no direct reports from these stations being at hand. In the case of the other stations he has acted merely as compiler eneavouring to bring together in one composite narrative, this story. It is hoped that this history of the medical service will prove of interest to lay readers as well as medical ones, and will serve to show that the medical branch of the Near East Relief is not less important than the one directly concerned with the feeding and clothing of the unfortunate people among whom it was our privilege to work.

George L. Richards.
124 Franklin St.,
Fall River, Mass.
Medical Personnel

George H. Washburn
George L. Richards, Ear, Nose, Throat Surgeon
R. A. Lambert
B. M. Harmon
Irving E. Schaefer
Clarence D. Ussher
Lyman G. Richards
H. W. Bell
A. C. Pratt
D. M. Olkon
P. T. McCarthy
Judson A. Smith
H. M. Marvin
Mabel E. Elliott
Manning C. Field
Maurice Fremont-Smith
Mark H. Ward
Ruth A. Parmelee
Raymond C. Whitney
S. B. Dudley
Joseph S. Stewart, Jr.
Caroline Rosenberg, Sanitarian
Hattie Williams
Elsie R. Mitchell
Emily C. McLeod
A. C. Tenner, Eye Surgeon
A. C. Brownell, Eye Surgeon
C. R. Gannaway
John W. O'Meara
Lorrin G. Shepard
Marion C. Willson
W. D. Fuller, Dentist
S. B. Husch, Dentist
Blanche Norton
Effie Graff
Gladys M. Carr, Roentgenologist

Stations

Medical Director
Assistant Medical Director
Laboratory Director
Caucasus
Samsoun
Erivan, Caucasus
Smyrna
Smyrna; Marash
Smyrna; Caucasus
Adana
Adana
Konia
Alexandropol
Marash
Aintab; Derindje
Sivas
Harput
Harput
Cesarea
Mardin
Derindje, Mardin
Derindje; Aleppo
Caucasus
Caucasus
Malatia
Aleppo
Beirut
Marsovan; Cesarea
Samsoun; Cesarea
Aintab
Beirut; Marash
(Visited every station)
Smyrna
Trebizond
Constantinople
(Visited every station)

Miss Miriam K. Dasey,
Secretary to the Medical Division.
THE MEDICAL WORK OF THE NEAR EAST RELIEF

ORGANIZATION OF THE MEDICAL DIVISION

WHEN it was decided soon after the Armistice to send a relief expedition into Turkey, it was at once evident that a medical organization to care for the cases of starvation, illness and injury was as necessary as one providing for strictly physical needs; such as food, clothing and housing. Accordingly a medical staff, with its nursing assistants, was at once planned. The directorship of the medical personnel and supplies was given to Dr. George H. Washburn, who on account of previous residence in Turkey was familiar with the language, customs and needs of the people there. Dr. Washburn had as assistants, Dr. George L. Richards and Dr. R. A. Lambert, and the force of nurses was recruited from the Red Cross under the directorship of Mrs. A. C. Rothrock.

The original plans, as made by Dr. Washburn, provided for fifteen hospital units, with sufficient additional supplies to provide for emergency hospitals, if need should arise. The plan was to use, so far as possible, existing missionary hospitals, and to set up temporary ones where the need was greatest. On account of the conditions immediately following the war, it was impossible to know how well equipped any of the hospitals were, and in point of fact it was afterwards found, that they were not only practically without equipment, but that many of the buildings were in such condition as to require much repairing before they were fit to use at all.

Dr. Washburn provided to the last detail, and from every standpoint that he could think of, for the equipment of these hospitals; not only for the ordinary medical supplies purchased, such as drugs, hospital equipment and surgical instruments, but beds, bedding, crockery, glassware, knives, forks, spoons, hospital linen, towelling, cotton, bandages, portable electric lighting outfits, lamps, portable electric water pumps, pipes, laundry equipment, sterilizers for use within the hospitals, and portable sterilizers with kerosene burners, for cleansing and delousing the clothes of orphans and refugees.

Not knowing what the condition of the water supply of the country might be, material for chlorinating this water was taken so as to obviate any danger from cholera and dysentery in the drinking water. Fortunately but little of this material had to be used, as we were able, in most instances, to get, after a short time, a suitable supply of drinking water. In the getting of this, iron pipes, of which we had a large quantity, proved to be one of our most valuable agents.

Kitchen equipment, oil stoves of various kinds, portable bread baking ovens, sewing machines, both hand and foot power, and all the subsidiary items of a hospital plant down to the minutest details were provided.
Before the personnel were all chosen for the medical department, Dr. Washburn started with the advance party for Constantinople, by way of England, to prepare for the entrance of the main party which followed about a month later. As the country was under military control, it was necessary to obtain the consent of the British, so that, when the main party should arrive in Constantinople, they might proceed at once to their work. Dr. Richards remained in New York, and with the assistance of Dr. Lambert, secured the balance of the medical personnel and sailed with them on the _Leviathan_ on February 16, 1919.

The major portion of the medical supplies had gone forward some two weeks before. The party was met in Constantinople by the chief director, Dr. Washburn, and the assignments were made, after consultation with him.

The supplies had been unloaded at Derindje, some fifty miles from Constantinople, and from here, the first complete hospital unit, under the direction of Dr. Washburn and Dr. Lambert, was despatched a few days after arrival in Constantinople. This outfit consisted of two complete trains, carrying doctors and nurses, relief workers, supplies of all sorts and kinds, from automobiles to quinine. The party lived in freight cars and cooked for themselves en route. The railroad service was slow, the engines unable at times to haul the trains which had to be taken up the steeper grades in sections. An armed guard was necessary to prevent stealing. Some of the material was left at Konia but the main supply of the first expedition went to Adana, where a former missionary hospital was taken, which Drs. Olkon and McCarthy began to put in shape. Dr. Washburn with an automobile on a flat car, and with his living quarters in a freight car, continued with Drs. Lambert and Dudley to Aleppo. Here Dr. Lambert was left as chief laboratory worker and director, and later he became director of the entire district of North Syria. Dr. Richards was stationed at Derindje as director of the medical work at that end, and in control of the distribution of the medical supplies to the different units.

At Aleppo, various obstacles were put in Dr. Washburn's way by the military authorities, but he overcame these and managed to get his automobile onto a military train, en route to Mardin. Camping out at night, for the condition of the Bagdad railroad east of Aleppo was so bad in track and grades that the trains only ran in the daytime, Dr. Washburn and Dr. Dudley reached Mardin a few days later. After interviews with the civil authorities, who welcomed them cordially, and inspecting what was left of what had formerly been a creditable hospital, Dr. Washburn left Dr. Dudley in charge with a most limited supply of equipment (in fact almost none at all) and returned to Aleppo. Due to transportation difficulties, this hospital at Mardin, one of the first to have a medical head, was one of the last to receive adequate supplies. At Aleppo further interviews with the military authorities were necessary before Dr. Washburn returned to Adana, where the hospital was getting under way, and thence to Oulou Kichla. Oulou Kichla is a lone station on the Bagdad railway, of account solely because from this point there was built during the war a military highway to the city of Cesarea, thence to Sivas and then to Harpoot.

Permission had been refused to enter Cesarea, where there was a good hospital, and Sivas, where there was another, the British stating that no military protection would be afforded. Dr. Washburn therefore went over the ground with a Ford automobile to see whether in his opinion it was safe to occupy these places. He took Dr. Whitney with him and left him at Talas
to start the re-establishment of the hospital there, thence to Sivas, where he found the hospital to be partly operating under an Armenian doctor, and laid out the plans for sending supplies to these various hospitals. He then started for Samsoun, deciding that there was no risk which we could not with fair degree of probable safety assume. Here a Greek hospital was occupied by the Near East Relief, under Dr. Shaefer. After making arrangements for the future conduct of this hospital, Dr. Washburn returned to Constantinople. He had intended going on into the Caucasus but the serious sickness of his mother in America, and other matters, necessitated his immediate return to New York. On his departure the directorship of the Medical Division was assumed by Dr. Richards.

This initial journey among the field stations made the way easier for the after progress of the work. Some of these hospitals were two hundred miles or more from the railroad. Medical consultations, in the ordinary sense, were of course impossible. The doctors had to be capable of taking responsibility and acting with discretion, and at the same time equal to all sorts of emergencies. Tact and firmness were necessary to deal with the disordered conditions then and now present in Turkey. Cholera appeared in one of the cities of about 40,000 inhabitants. Ordinarily, when cholera starts in the Orient, it goes on for some time and takes a large toll in lives. The Near East physician in this city went at once to the authorities and received permission to use cholera vaccine in the quarter of the city where the epidemic started. About a thousand people were vaccinated in forty-eight hours and the cholera epidemic was stamped out.

**THE BASE AT DERINDJE.**

The medical supplies for the various hospitals referred to in preceding paragraphs, were sent over on two ships; the *Mercurius* and the *Pensacola*. They were unloaded at Derindje on the Asiatic Side of the Sea of Marmora, some fifty miles southeast of Constantinople. This place was chosen by the Germans as an export depot for grain on account of its deep harbor. The name "Derindje" means "deep water" and but little dredging was required to permit ships of the deepest draught to come alongside of the wharves. Here two enormous five story warehouses, and two large sheds, covered with galvanized iron, had been built by the Germans. There was a good sized railroad yard, with some half dozen tracks and ample switching facilities, and direct connection with the main line of the Anatolian Railway. As one of the results of the war the machinery for unloading was out of order and when the *Mercurius* and *Pensacola* arrived with supplies of all kinds there was neither proper machinery nor any force accustomed to unloading ships of this character. In consequence the cargo had to be carried on the backs of the native "hamels" (porters) from the ships to the various floors of the two warehouses and up many flights of stairs. The Germans had built hoisting machinery but it was impossible to put it into running order.

The ships were anxious to get away on account of demurrage, hence the cargoes, consisting of everything from hardware, beds, milk and medical supplies to coffee and X-Ray plates, were very much mixed in the unloading. The ships got away in due time, but as soon as the Medical Division endeavored to get together the requisites for a hospital unit, as planned in
New York, the task was found to be almost impossible. The Adana unit got away with part of its material, but when the attempt was made to get another unit together it was seen that it was going to be impossible to send out supplies in any proper manner until the entire cargo in both warehouses and the two large adjoining sheds was entirely rearranged, sorted, and put in workable order. Accordingly the doctors, nurses and relief workers were organized into warehouse gangs and for the next three weeks the entire force at Derindje was occupied in rearranging and completely cataloguing the large amount of stores. To do this required large numbers of native hamals, and at time 500 or more of these were employed in night and day shifts, and for months large forces of these laborers were on hand to load the cars with supplies for the various stations.

As soon as it was known that we had a supply of doctors, there were demands for medical aid; within a week a tent hospital was established and one of the medical force attached to it, with a daily clinic, nurse, orderlies, and the paraphernalia of a hospital. This grew steadily, and in a short time it was a three and later a five tent hospital. For our own personnel, a portion of the fourth floor of one of the warehouses was arranged as a hospital. This was known as the “Sick Bay,” had its regular medical attendant, and was used not only by our own personnel but by officers and seamen from British warships and torpedo boats, several of which were always in the harbor of Derindje. In a freight car, on a siding, samples of all the medical supplies for small units were furnished. It had never been our intention to make of Derindje a medical station, but merely to use it as a supply base for places already equipped with hospitals. Calls began to come in from the neighboring city of Ismid, and here a doctor, all of whose things had been destroyed during the war, was given material for a small ten bed hospital. At Bardizag, several miles across the Gulf of Ismid, was a relief station carried on by British missionaries, and after visiting this place, we supplied them with sufficient medical material and assigned thereto, for the time being, Dr. Mabel Elliott to put their medical work on a permanent basis.

To ascertain what the needs might be along the railroad line between Derindje and Angora, a relief train was made up, consisting of a freight car fitted up as a hospital car with operating table and material for sterilization, together with supplies of food and clothing in two other cars. With the assistant director, Dr. Richards, in charge, a chief nurse, three relief workers, a medical secretary, and a Ford automobile for transportation off the railroad, the entire distance between Derindje and Angora was covered. Stops were made at the prominent towns, the cars put on a siding at each place, and the doors of the hospital car opened. Usually within an hour of its arrival, the crowd was so great as to require the presence of a gendarme. This clinic was continued for the greater portion of each day at every place where we stopped. Every facility was furnished us by the railroad authorities and by the Turkish governors of the various towns and cities. Relief was given without discrimination as to race or religion. In some instances, where people were able to pay, a charge was made for services and medicines. In Angora, large numbers of children suffering from malnutrition, malaria and skin diseases were treated. Here the Vali of the province gave us the use of the Turkish bath for bathing the children and treating them with the various ointments necessary for the eradication of scabies, from which all the children in Turkey seemed to be suffering. In a single morning 300 infected children were thoroughly scrubbed and then ointment rubbed into the skin surfaces. The change, even two days later, was wonder-
ful, and three treatments such as this were usually found to be sufficient to completely eradicate scabies, provided absolutely clean clothing could be furnished. The Turkish authorities courteously allowed us the use of their delousing apparatus and where we were not able to furnish a complete change of clothing, the old clothes were thoroughly sterilized. Flour, milk, medicines and cotton cloth were furnished directly to the orphanages, and supplies for future use were left for later distribution with the British control officers in Angora and Eskicheckh. Later in the year Dr. Richards was again in Angora and found the improved conditions resulting from the first visit had very largely continued. Grants of relief were made to both the Gregorian and Catholic orphanages, but no permanent station was ever established.

On the second trip, a railroad crush occurring half way between Angora and Eskicheckh was treated, while the train was in motion. Ether was given, and torn and mangled parts removed, the wound dressed and on arrival at Angora, the patient was sent to the Turkish hospital. The result was particularly gratifying as the patient recovered without any rise in temperature and healing occurred almost by first intention. This case illustrates one danger in connection with injuries of this kind. It is the habit in Turkey to apply a tourniquet and keep it on until the patient can arrive at some distant hospital or dressing station. This may require several hours and by the time the tourniquet is removed, the parts have been so long without a proper blood supply that gangrene and death are likely to result. In the present instance, although bleeding was considerable, no tourniquet was applied and serious hemorrhage was avoided by fairly firm bandaging at the site of the injury. It is our belief that crushing injuries should be interfered with as little as possible, that mangled tissue which is manifestly devitalized should be removed, but aside from that nothing more should be done until the reestablishment of circulation. Crushes of this kind will seldom bleed beyond control while the tourniquet, if long applied, devitalizes an area far greater than that of the injury.

After the material for all of the stations had been sent out, Dr. Richards visited European Turkey and all of the units in Anatolia, performing such operations as seemed necessary in the line of the ear, nose and throat, and tending to the redistribution of many supplies, as some stations had a surplus while others had a deficiency.

It had been contemplated to discontinue the hospital at Derindje but the demand was so great that during the first year a medical officer was continuously stationed at this base, supervising the shipment of medical supplies and carrying on a medical clinic. Even up to the present moment some work has been required at this place, and recently we have established a permanent medical clinic and hospital four miles away at Ismid, this becoming necessary on account of the large number of refugees who fled here for protection from the Nationalists. Ismid is the ancient city of Nicomedia and Derindje is its deep water port. During the summer of 1919 a large refugee camp was established by the Y. M. C. A., the medical care of which was furnished by the Near East Relief.

One of the problems in connection with the base station at Derindje was the health of the personnel. A good water supply had been furnished by the Germans, and drainage consisting of a series of canals emptying directly into the gulf had been projected and properly carried out at one time. The four years of war had filled these up. The Turkish Army had been encamped at this place and there were numbers of foul latrines. The fall
from the canals to the sea was hardly sufficient to provide proper flowage. A neighboring brook which helped to provide flowage dried up in the summer, and the water supply itself was markedly diminished. Under these conditions the problem of the summer health of the camp, consisting at one time of about two hundred personnel and a large number of natives, was a serious one. To handle this a sanitary gang was organized. The ditches were dug out, the Turkish latrines filled in and closed and new ones made, and sufficient water was forced daily through the canals to provide fair drainage. Four or five men were continuously employed on these ditches, going around daily with shovels and cresol cans. The temporary houses in which the personnel lived were screened and the season passed without any dysentery or malaria, excepting among the Turkish soldiers quartered outside our compound.

SMYRNA *

**Physicians in Charge: Dr. A. C. Pratt, Dr. E. H. Bell, Dr. Lyman Richards**

This unit with complete hospital and laboratory equipment left Derindje, April 10, 1919, by way of Afion Kara Hissar. A week was required for the journey. On arriving in Smyrna the Armenian Hospital, which it had been expected the unit would occupy and operate, was found to be in such an unsanitary and unsuitable condition that any attempt to use it was abandoned. In the south part of the city there was a hospital with large rooms and excellent tile floors, the property of the Turks. The use of one half of this was offered to the Near East Relief, and this offer was accepted. Complete renovation of the plumbing facilities and other repairs, with cleaning, painting and the installation of modern toilets, were necessary before the building was ready for occupancy. A steam boiler, laundry machine, ice machine and X-ray apparatus were set up and the building more or less reconstructed so as to make of it a modern hospital. Preparations were within two weeks of completion and plans were being made for a formal and public opening of the hospital, when on May 15 the Greeks suddenly landed some fifty thousand troops in the city. They were greeted by futile and determined resistance on the part of the Turks. The result was a sudden overflow of all the local hospitals so that the American Hospital, incomplete as it was, was immediately opened; beds were hastily set up, mattresses and blankets taken from the bales and in less than twenty-four hours the American Hospital was in operation with sixty beds filled by wounded Greek and Turkish soldiers.

Our own operating room not being ready, the one belonging to the Turks (a poorly equipped but well lighted room) was placed at our disposal. Instruments had to be sterilized over a charcoal brazier and sterile dressings could not be had for the first few days. The work done by the hospital during these days was very valuable and the results obtained relatively good. A little later the hospital was in operation as a well equipped modern institution. The early cases were almost wholly the result of the gunshot injuries in connection with the landing of the Greeks. Many of these injuries were infected compound fractures which were not brought into the hospital until two to four days after the injury. This gave the doctors a surgical problem which it was not easy to solve and many of these

*Report furnished by Dr. Lyman Richards.*
cases remained in the hospital long after its military function had ceased. After conditions became more normal under the Greek occupancy, there were many cases of bronchitis and pneumonia, the result of the limitations of the Greek barracks and of a mild epidemic of measles occurring among the Greek soldiers.

As the hospital took on a civilian aspect and the more intractable military cases were removed to the local military hospital, there came a demand for regular outpatient clinics. Four of these were established; one for each quarter of the city. A Turkish clinic was held in the basement of the hospital; an Armenian in the outpatient department of the Armenian Hospital; a Jewish clinic in an improvised room in the same part of the city; and the Greek in a small Greek school house. These clinics were held twice a week for two or more hours at a time, in charge of one of the American doctors, assisted by natives as interpreters and clerks. The problems presented by these clinics are not always easy, and the effort to see from fifty to one hundred patients in an afternoon, and at the same time to examine and prescribe for them properly, was attended with some difficulty. It was necessary to use an interpreter unfamiliar with medical terms and procedures, but eventually a system was evolved which was relatively efficient.

The cases seen were of every description. The most frequent disease was scabies which, so far as children were concerned, was almost universal. Pulmonary tuberculosis was common and one of the crying needs of the Smyrna district is some sort of a tuberculosis sanitarium. As the summer advanced malaria became more and more common; at one time the hospital was almost filled with this disease, which in its pernicious form is often of great severity. Purely surgical conditions were in the minority and included hernia, stone in the bladder, foreign bodies, gunshot wounds, fractures, chronic ear diseases and chronic eye diseases, and chronic tuberculous adenitis and osteomyelitis. Cases requiring hospital treatment were given a card of admission to the hospital.

The necessity of taking a bath on arrival at the hospital was responsible for the loss of several interesting cases who fled on being led to the tub. Real effort was made to keep track of the cases in the clinic and to determine whether they did or did not improve. Many failed to return but the clinic records show large numbers to have been benefitted. At first medicines were distributed without charge, but later an attempt was made to obtain some return and each person at the clinic was required to pay ten piastres for their medicine whenever it was possible to collect it. At each daily clinic amounts varying from two to three liras were collected.

There seemed to be no marked restriction of special diseases to special races, although syphilis seemed more common among the Jews and tuberculosis among the Greeks, while the Armenians appeared to have a monopoly of infection by the tapeworm, and the hospital cared for some fifty cases of these. There was very little malignant disease and but few cases of the commoner abdominal emergencies, such as acute appendicitis, intestinal obstruction and peritonitis. Aside from skin infections, the children seemed quite healthy. Scurvy and rickets were rare.

At the hospital thorough examinations were possible together with such laboratory or X-ray examinations as were indicated. Here everything was carried on after the manner of a high grade American Hospital. Charts and daily records of patients' condition and progress were kept and in the central office there was a card index with diagnosis and final outcome of each case. Salvarsan was given once a week often to well-to-do patients who
were charged full price for the medicine. No attempt was made to obtain patients among the well-to-do class as it was the object of the commission to treat only such cases as would otherwise be forced to do without medical help.

Soon after the opening of the hospital two of the nurses were sent to another station and their places had to be filled by native nurses. Fortunately the services of two most capable English girls were secured, who, as probationers in this embryo training school, did excellent work, with an earnestness and efficiency most commendable. Much difficulty was met in securing competent native helpers for night and other duties and no one of them stayed for more than a few weeks. Native help in general was only moderately efficient and never thoroughly trustworthy.

The Turkish doctors on the other side of the hospital were always most courteous and willing to be of service. Consultations were frequent with other doctors, chiefly surgeons from English warships stationed in the harbor. Occasionally a Greek surgeon assisted in the severer operations, and later an Armenian doctor from the Armenian Hospital, was appointed as a regular consulting surgeon and did a certain amount of operating himself.

The situation in Smyrna differed essentially from that found by most of the other Near East hospital units, in that Smyrna was quite well supplied with native hospitals, although these were of inferior standing. Soon after the hospital was in running order Dr. Pratt was transferred to the Caucasus region, as the need was greater there, leaving the hospital in charge of Dr. Bell and Dr. Richards. The hospital usually contained from forty to sixty patients, a number as large as could be efficiently cared for, when the time required from the doctor to attend the outpatient clinics was taken into consideration. The force, both doctors and nurses, worked almost continuously without regard to hours. Dr. Richards had to return to America about October 1, leaving the hospital in charge of Dr. Bell. By this time conditions in Smyrna had very much improved, the amount of strictly relief work was growing steadily less, and as supplies and personnel were both more urgently needed elsewhere, late in November of 1919 this hospital was closed, most of its fixed material sold and the rest returned to Constantinople and Derindje.

Smyrna being a seacoast town recovered more rapidly than places in the interior and had, as time went on, less call for relief work. With the advent of the Greeks, they gradually took over the emergency medical work of the city. The hospital’s expenses were some 1500 liras in excess of its receipts per month which was another reason for closing it. When the hospital was closed, a nurse was assigned to the Armenian Hospital which had been cleaned up during the summer, and supplies in the way of clothing and bedding and the services of a nurse were furnished them. The nurse remained there sufficiently long to instruct the nursing personnel of the Armenian Hospital and put that hospital in condition to continue our work. After the massacre at Aidin, some supplies were also furnished the Greek Red Cross Hospital at that place.
KONIA

Physician in Charge from March 1919 to May 1920, Dr. J. A. Smith.

KONIA corresponds to the ancient city of Iconium, was at one time the capital of Turkey, and is a large city of strategic importance. Here the Anatolia railroad ends and the Bagdad railroad proper begins. It also has the distinction of having a real hotel, the property of the Bagdad railroad.

For some years previous to the war, two American surgeons had conducted a hospital in Konia: Dr. Post and Dr. Dodd, but there had been no American physician since 1917. The hospital equipment had been sold but the building was still occupied by Miss E. D. Cushman and her native workers, Miss Cushman having remained at her post throughout the war period. There was a fairly good building, the ground floor occupied as offices and living quarters and the second floor as a hospital. There was no operating room equipment, no surgical supplies and but few drugs, but a pharmacy next door had a limited supply of the most necessary drugs. There was an orphanage nearby with approximately five hundred children, many of them under-nourished, many with ring worm of the scalp and scabies, and all infected with head and body lice. In the preceding two months there had been an epidemic of pneumonia with many deaths.

Reorganization of the entire work was begun at once, the second floor put in order for patients, a laundry put into operation, native assistants obtained and a daily clinic established at the orphanages. Strenuous efforts were made to isolate and treat ring worm and trachoma cases and to get rid of the lice and bed bugs. As the hospital had a good microscope, laboratory examination of the blood of the febrile cases was made, and by this means many cases of relapsing fever were discovered. Relapsing fever is rather rare in America but very common in Turkey. In addition to the care of orphans a daily clinic for the city poor was instituted where free medicines were dispensed. Six weeks after arrival, complete supplies for a fifty bed hospital came from Derindje, and within the next month, a forty bed hospital with a children’s ward, and male and female medical and surgical wards with one private room were in operation. A Delco generator was furnishing electric light and running the ice machine; and the operating room and laboratory, and medicine closet were equipped. In October a portable Army X-Ray outfit was added to the equipment.

This hospital was conducted as an ordinary civilian hospital, a moderate charge being made to all who could pay. All types of cases were accepted excepting contagious cases, and these were cared for in the infirmary of the orphanages. From twenty-five to thirty-five cases were always in the hospital; Christian, Greek and Armenian, being the majority, but many Turks being treated. The chief of the Dervishes having been treated successfully by Dr. Smith for an infection of the ear, the hospital was thereafter sought by the Dervishes for all sorts of troubles.

From June 1, 1919, to May 1, 1920, 350 cases were operated upon, and there was an average of thirty to forty patients in the outpatients clinic daily. Comparatively few patients were visited in their homes. After the arrival of the X-Ray apparatus it was made available for the cases of outside physicians as well as for the hospital itself. Scabies was entirely eradicated among the orphans, and many cases of trachoma cured. As a result of better food, clothing, housing, and prompt medical attention, illness
among the orphans was reduced to a minimum. On May 1, 1920, the hospital was turned over to a competent native physician under Miss Cushman's supervision.

This hospital is one of the permanent hospitals in Turkey, belongs to one of the mission organizations, and is to be returned to its owners. Konia is an important center and this hospital has performed and will continue to perform very important service. Having been occupied as a residence by Miss Cushman during the war, the building was not in as filthy a condition as most of the other hospitals.

CESAREA

Physicians in Charge, Drs. Whitney, O'Meara and Gannaway.

CESAREA is a large city in the interior of Anatolia where the American Board has had a station for many years. The hospital had been located on a hillside at Talas, some four miles out of the city. It was a large stone building and at the outbreak of the war well equipped and in good condition. It had been used for four years by the Turks as a military hospital, and was in horrible condition when Dr. Raymond Whitney arrived on April 16, 1919. The Turks had made no attempts to make repairs or keep the place clean. The patients were for the most part soldiers who had been injured at the Caucasus front, where typhus fever was raging. Consequently the whole hospital was literally alive with all sorts of vermin, bed-bugs predominating. The walls and ceilings were stained with smoke, the plaster had cracked and fallen in many places, water pipes had burst and left stains upon walls and ceilings, windows were broken, the roof leaked and everything was in disorder. The building was given three successive cleanings with soap and water, from cellar to garret. The walls were gone over twice with calcimine, and a score of carpenters put to work to repair the building.

Hospital supplies arrived in May and along with these, two trained nurses, Miss King and Miss Easton, without whose help the work would have been impossible. By the end of June the hospital building was completely furnished with new beds and bedding, operating room fixtures and equipment set up and electric lighting and a new water system installed.

A few emergency cases had been admitted from the beginning but it was not until the first week in July that the hospital was actually filled to capacity. Cesarea has fifty thousand people; Talas fifteen thousand. This hospital is the only one equipped to do modern medicine and surgery within a radius of one hundred miles. The patients were both medical and surgical; the latter predominating. There was no distinction in regard to race or religion. About fifty per cent of the patients were Armenians; about twenty-five per cent each of Turks and Greeks. The hospital employees were native people, some of whom had been employed before the war. Eight Armenian and Greek girls, five of whom spoke English, assisted with nursing. They were given lectures and courses of instruction by Dr. Whitney and the American nurses. They were very much interested in their duties and aided greatly in the hospital work.

The operations averaged about thirty a month varying from minor to severe. Here as elsewhere there were large numbers of hernia cases, many eye operations, many cases of tubercular bone disease, quite a few cases of
removal of bullets, and a varying number of abdominal operations. There were many cases of tuberculosis of the joints which were put up in plaster and sent home with directions for treatment. These did very well under rest and hygienic conditions.

The medical work consisted mostly in the treatment of tropical fevers. During the summer months there were many cases of malaria and sandfly fever, a few cases of typhus, and two of relapsing fever. Pulmonary tuberculosis was not admitted to the hospital but treated at home with directions as to diet and hygiene. There was one case of pellagra, only one of diphtheria and one of cerebrospinal meningitis.

An X-Ray equipment was set up and over a hundred plates taken. This apparatus was of great help in the location of bullets and other foreign bodies, as well as in the diagnosis of fractures and in determining the approximation after reduction. Experiments were tried on the use of the X-Rays upon the Oriental sores, the so-called Aleppo button, but the results were inconclusive.

A clinic was also maintained in the city of Cesarea, it being open three days a week. This was well attended, and here the cases of scabies and malaria and simple eye diseases, of which the number in all Turkish cities is very great, were treated.

A small infirmary was established in the orphanage in Cesarea and some seven hundred cases cared for there, the severe cases being sent into the hospital.

Later in the year a Turkish city hospital was opened by the city officials, and at their request, aid was given them in the nature of equipment and drugs, and their nurses were also given short courses of training in our hospitals.

This hospital at Talas, at first under Dr. Whitney, was later cared for by Dr. O'Meara, and then by Dr. C. R. Gannaway. In the summer of 1920, when working at full capacity, it was unfortunately destroyed by fire. The patients were all taken out but in an endeavor to save equipment, two fatalities occurred. As it was, about one third of the portable equipment was saved. Only the stone walls were left. A temporary hospital was at once set up in one of the buildings in the mission compound, and the work, though much hampered, goes on as before. From both the philanthropic as well as the missionary standpoint, this hospital is to be regarded as one of the most important institutions in central Anatolia. As soon as there is any stability in the political situation, it must be rebuilt.

SIVAS

Physician In Charge, Dr. Maurice Fremont-Smith, Assisted by Dr. Hekymian

SIVAS, in the very center of Anatolia, was not reached for some time after the arrival of the Near East Relief party at Constantinople, owing to inability to obtain permission from the British government to enter this field. They were unwilling to give military protection, and claimed it was unsafe to go in without it. After waiting some time for permission and escort, it was learned that while the British would not give permission they would not interfere if we went without it. So on May 27, 1919, Dr. Fremont-Smith with Miss Flynn reached Sivas and took over the former
missionary hospital, recently evacuated by the Turks. Lying between blankets and on cots about the hospital were thirty patients, two of whom (one a case of tuberculosis of the knee joint in a little girl of ten and the other a subacute intestinal obstruction) needed operation at once. The Turks in evacuating the buildings had taken with them a complete stock of sheets, towelling, glassware, hospital furniture and surgical instruments. The total surgical supplies remaining consisted of one scalpel, one pair of forceps, a pair of scissors, two artery clamps, a little cotton and a few bandages. Dr. Freemont-Smith improvised a sterilizer out of gasoline tins, and with the aid of the emergency set of instruments, which he had brought with him from Derindje, he operated upon the two emergency cases, each of whom recovered.

The hospital's reputation being thus early established, cases began to pour in from the city, which is a town of 40,000 inhabitants, from the outlying districts and even from the distant country. They came on foot, on donkeys, in arabas, and in springless ox carts. There were fractures of the thigh, necessitating the construction of Hodgdon splints and Balkan frames. With Standard Oil tins (the universal supply of tin in Asia Minor) there were constructed ovens in which wrists and elbows were baked, and from these tins, hot water bottles and other utensils were also made. Meanwhile, from the railroad station at Oulou Kichla, two hundred and fifty miles away, American supplies began to come in; first by trucks and later on the backs of camels. Gauze, sheets, beds and mattresses, drugs, instruments, laboratory supplies and thermometers arrived. On account of difficulty in transportation and the long haul, first by rail and then by truck or camel, there was much mixing in supplies. Some essentials failed to appear, the alcohol was for weeks distilled from New York Club whiskey which some unusually thoughtful buyer had ordered for each hospital. American pipe arrived in September and through this running water was brought into the hospital. In addition to the direct hospital work, the medical staff was responsible for the health of sixteen Near East Relief workers, 1500 Armenian orphans and 150 so-called Turkish Brides, Armenian girls who had been rescued from Turkish homes.

The hospital held general clinics three mornings a week, eye clinics three afternoons, ear, nose and throat clinics two afternoons, and a syphilis clinic one afternoon a week. About fifteen salvarsan treatments a week were given and the total clinic averaged 4,000 cases a month. There were two buildings, one of which was used entirely for surgical work and the other for the medical cases and the clinics. With the advent of two more Red Cross nurses, the hospital became filled to its capacity of eighty-five beds. During the summer there was an average of thirty operations a month, and during the winter, when the roads were closed with snow, fifteen a month. The operations ranged from cataract extraction and mastoids to amputations and intestinal anastomoses. Of the surgical conditions, tubercular adenitis, osteomyelitis, hernias and hypertrophied tonsils were the most common. Of the medical diseases, after scabies and favus, recurrent fever, malaria, syphilis and tuberculosis were in the majority. In the autumn of 1919 typhus was reported from Harpoot and a few cases broke out in Sivas, but a long continued hard-fought war against the lice inhabiting our orphans was finally successful and no cases of typhus broke out in any of our institutions.

No detailed statistical report from this hospital is available, since on account of political conditions Dr. Freemont-Smith was obliged to leave in
February 1920, and was unable to bring any records with him. The work was left in charge of his Armenian associate, Dr. Hekymian, a surgeon of great ability who, despite the loss of wife and three children at the hands of the Turks, returned to give his time and skill, even with great danger to himself, to his stricken people. Dr. Hekymian is a representative of the finest type of physician whose skill would be recognized in any quarter of the world.

**HARPOOT** *

*Drs. Mark H. Ward and Ruth A. Parmelee, Physicians in Charge.*

No direct report is at hand from this station but, having had the privilege of visiting Harpoot, I write of the impressions of my visit.

Harpoot is the station situated most distant from the railroad in all Anatolia. It is about 500 miles from Oulou Kichla and some 200 miles from Mardin. On account of transportation difficulties Oulou Kichla is really its nearest railroad station. It is a long journey, and from Sivas, over a wild and dangerous road. Automobiles were at first used for the transport of supplies but later the more trusty but less speedy camel superseded the automobile, the camel being in the long run not only much cheaper but also more certain. The camel will carry 200 pounds on each side and the camel driver being responsible can be depended upon to deliver the load at its ultimate destination. Unlike the automobile, the camel does not have to carry half of its load in supplies for itself, for with a drink of water and a few hours rest he is good for another day's journey. By loading a few camels every day at Oulou Kichla, three or four weeks later a daily supply of goods arrives at Harpoot.

The Harpoot station consisted of two parts, the relief station and a small relief hospital on top of the ancient hill, on which the city of Harpoot stands, and at the base of this hill, some two and a half miles away, a well equipped hospital. This was known as the Mary Tracy Riggs Hospital and had been built a few years before the war. It was in charge of Dr. Mark Ward, who, finding the hospital much the worse for wear, cleaned it up and got it into working order in a few weeks. There was no water supply and the windmill which had previously furnished it was no more. Eventually water was brought to the hospital, supplies arrived, and then it was found that when the previous user of the hospital had departed, owing to war conditions, he had secreted a considerable quantity of excellent medical and surgical supplies. These Dr. Ward eventually found. This material, with that sent in, put this hospital in good working order.

In the city itself, Dr. Ruth Parmelee conducted a daily clinic for women and children, and cared for large numbers of the venereal diseases which were one of the after-effects of the war. Besides this Harpoot served as a medical center for cities as far away as eighty miles, such as Malatia (where everyone was said to have malaria) and Arakir. It was the policy of the Harpoot station to keep its orphans in home units of 100 each under the care of a mairig, or house mother, and these were under the medical care of Drs. Ward and Parmelee. In the winter the Harpoot station is absolutely inaccessible and for practically six months there is no communi-

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*Report by Dr. Richards.*
cation with the outside world. Six thousand orphans were cared for here, and the strain and stress upon the two physicians who were in charge, under conditions absolutely removed from other medical and surgical assistance, can be imagined, but can be little understood, by physicians who practice in communities where they can come into contact with their brother physicians at any time and where all supplies are readily obtained.

ADANA

*Dr. D. M. Olkon, Physician in Charge; Dr. P. T. McCarthy, Surgeon in Charge.*

The work at Adana was and is one of the largest of the fields in Anatolia, both from a relief as well as from a general medical and surgical standpoint. Adana is the capital of Cilicia and lies in the valley between the Taurus and Amanus ranges. In winter it is damp and cold and in the summer dusty and hot and very humid, the thermometer ranging from 130 to 140 F. during the day. These climatic conditions make it an unhealthy place and as many as 700 cases of malaria have been treated in a single day. The entire area between the Taurus and the Amanus ranges was covered by this hospital and its clinics, and in a single month nearly 10,000 treatments have been given. In October 1919, the regular statistical report gives 9,273 as the number of cases treated. Of medical cases those predominating were ascas lumbhocides, anemia, bronchitis, malaria, cholera infantum, diarrhoea, diabetes, nephritis, pneumonia, enlarged spleen, syphilis, tinea saginata, tonsillitis, tuberculosis, acne, Aleppo button, suppurative dermatitis, favus, impetigo, scabies, purulent conjunctivitis, chronic conjunctivitis, iritis, keratitis, gonorrheal ophthalmia, staphyloma and trachoma, while the entire list would cover the whole range of medical complaints. There were twenty-five surgical operations during this same month, the most common of which were tuberculous osteomyelitis in various parts of the body, septic wounds of one type or another, adenitis, and abdominal operations.

The hospital had been kept in operation by Dr. Cyril Haas during part of the war although under very adverse conditions. Latterly it had been used as a barracks for the Turkish army, was very filthy and in need of cleaning and repairs. Sufficient supplies to put it in order were brought down over the Bagdad railway from Derindje, a distance of only 600 miles, but, owing to the condition of the railroad, requiring eight days in point of time. During the cleaning of the hospital, clinics were established in the Armenian orphanage a mile from the city. Here there were 500 children and an American nurse was permanently assigned. The number gradually increased until this one nurse was caring for 1600 children, having practically converted it into a model hospital with a daily clinic of about 300 children mostly suffering from the usual diseases of filth; eye and skin, especially trachoma and scabies. To check up her work and to assist her, regular weekly visits were made by the doctors.

Six weeks after arrival in Adana, the hospital was regularly opened, and the staff of two doctors, three American nurses, five trained native nurses, four probationers, and a laboratory worker started in to work. Up to that time the American force had been living in a railroad yard, doing
their own cooking in a freight car, but with the opening of the hospital quarters adjacent thereto were secured.

There were many cases of typhoid. While most of the refugees did not seem particularly under-nourished, their resistance to disease was way below normal. In addition to the surgical diseases already mentioned there were a good many operations for neglected hernia, stone in the bladder, particularly common throughout all Turkey, and tumors of the uterus, mostly benign, the deformities following infantile paralysis. Appendicitis was rare; two cases of echinococcus cyst of the liver were operated upon. There was a considerable amount of venereal disease in both men and women, but syphilitic affections of the central nervous system due to late syphilis were rare. One day every week was spent in visiting villages several miles distant from Adana, which was done with the aid of a Ford automobile.

Following the evacuation of Marash, in February of 1920, hundreds of refugees with frozen feet and gangrenous toes were cared for, this condition having been caused by their long, hard journey through the snow, on their three days tramp from Marash to Islahie. On the 8th of March, Drs. Olkon and McCarthy left, and the medical care of the station was turned over to Dr. Dodd.

ALEPPO

Dr. R. A. Lambert, Chief Medical Director and Director North Syrian District.

ALEPPO with a population of nearly 200,000 ranks third in size and importance among the cities of Asiatic Turkey. It was founded probably by the Hittites nearly 1500 years before Christ. It is the junction point of two great travel lines, the great highway between Europe and Asia and the historic military road from Egypt and Syria through the Cilician gates to western Asia Minor. It is Arabic in language and for the most part in population.

The medical relief work in Aleppo following the great war was begun by the British with the capture of the city by Allenby’s forces a few days before the Armistice. From the beginning of the deportations in 1915 up to the end of the war, Armenians living in Asia Minor were driven not only into the Russian Caucasus but southward into Mesopotamia and Syria. From Hadjin, Zeitun, Sivas, Cesarea, Harpoot, Urfa, Malatia, they poured down over the southern plain and desert with Aleppo as the gate through which they passed southward, and again as the assembling place of their remnants as they wandered back after the Armistice. Until July 1, 1919, with the cooperation of the British military authorities, who bore the cost of feeding the refugees, the work in Aleppo was carried on by the American Red Cross, the British and the Americans working together in complete harmony.

Aleppo was one of the most important of the stations operated by the Near East Relief and had subsidiary to it the stations at Alexandretta, Aintab, Marash, Urfa, Diarbekir and Mardin. As Mardin was the only station reached by the railway, the development of an automobile transport service was one of the early problems.

Besides the medical work, there was a refugee camp with a shifting population of some 7,000 persons, a camp orphanage with 800 children, a
rescue home for Armenian girls recovered from Arabs and Turks, industrial shops giving employment to more than 1500 people, and a bureau of enquiry, relief and employment. The medical activities consisted of a refugee hospital and dispensary in connection with the refugee camp, and eye hospital and clinic, clinics and infirmaries in the orphanage and rescue home, and a laboratory.

The refugee camp occupied the old Turkish barracks, situated on a bare rocky hill at the edge of the city, and rising more than one hundred feet above it. The buildings formed a quadrangle, with outside measurements of 500 x 1000 feet. They were said to have accommodated about 10,000 infantry and 5,000 cavalry. Only those who have visited the East can fully appreciate the problem involved in making clean and healthy such a group of buildings. In addition to the 7,000 odd refugees, there was a much larger population in lice, bed-bugs, and other insect pests.

The only available water supply was an old Roman aqueduct running through the hill ninety feet below the surface and reached only by a large well-like shaft carrying a primitive bucket arrangement for lifting the water. The task of washing and watering 7,000 people, including many sick, looked so formidable that a Near East Relief medical commissioner, early on the scene, pronounced it hopeless and advised against trying to establish a hospital under any such conditions. It was done, however, and by July 1, 1919, the building at one end of the quadrangle 40x400 had been cleaned, refloored, partitions whitewashed, 125 beds set up, electric lights installed with our own Delco apparatus, and a water supply system provided including even a bathroom. There was a well equipped operating room and an isolation ward in the form of tents on the hillside.

To compel 7,000 Easterners to use bucket latrines instead of the open hillside was a problem which only a show of military authority enabled those in charge of the camp to solve. By courtesy of the British the American director of the camp was judge, jury and prosecuting attorney all in one and so the desired result was accomplished.

In the beginning there were two American physicians, Dr. Maud Hall and Dr. Hurd, and two full time native doctors who lived in the hospital. On account of the shortage of personnel, the hospital was latterly operated by only native doctors and a few American nurses. The largest number of patients cared for at any time was 140, which varied with the population of the camp. When the work of the refugee hospital was at its height the number of arrivals in the camp was around 6,000 a month with a similar number departing monthly for their homes. In spite of the crowded living conditions there were never any serious epidemics. Sporadic cases of typhus occurred, but its spread was prevented by prompt isolation and disinfection. There were two cases of epidemic meningitis and a few of dysentery. Pulmonary and bone tuberculosis were common. There was a large incidence of skin and eye diseases, particularly trachoma. The hospital was continued in constant service until the evacuation of the British in December 1919.

During the greater part of 1919 there were over 10,000 alien Armenians scattered throughout the city in addition to several thousand Chaldean and Syrian refugees living in vacant buildings and churchyards. For these a second dispensary in the heart of the city was established and an average of 100 patients were examined and treated daily in charge of Miss Clara Gallant and two native physicians. This clinic had to be closed early in 1920.
The incidence of eye disease was so great in this field that both eye specialists in the Near East, Drs. Tenner and Brownell, were sent to this field, and special eye hospitals provided, reports of which appear elsewhere.

In the orphanages it was impossible to isolate trachoma as was done in the more northern stations, as it would have been simpler to isolate the well ones than to segregate the diseased ones.

In addition to work done in distinctly Near East Relief stations, large donations of medical supplies were made to the large Armenian orphanage caring for 2,000 children. In January 1920, after the closing of the refugee hospital, a model infirmary of forty beds was set up in this orphanage in charge of an American nurse. An isolation building was also provided for infectious diseases and another for eye cases, and a tent camp in a vineyard provided for children suffering with tuberculosis. Similar medical aid was also furnished to a small Arabian orphanage and to a Jewish orphanage.

Hundreds of Armenian women and girls held in Arab and Turkish homes were, with the cooperation of the British and Arab military authorities, removed from these homes. This work added another to the medical unit's manifold activities. These women had relatively little eye disease but a considerable number suffered from venereal disease. Physical examinations were made by the women physicians, and vaginal smears taken in all cases. Laboratory examinations showed approximately twelve per cent positive for gonococci, and about five per cent syphilis. In a smaller rescue home conducted by Armenian women, similar examinations were made by the medical staff.

It had been the original intention to have a central base laboratory in connection with individual laboratories in each hospital. The difficulties of transportation and the mixing of supplies in the unloading, and in Derindjé, rendered this plan impracticable. Many of the hospitals, such as those in Mardin, Sivas, Adana, Smyrna, and Aleppo did considerable in this line of work. In Aleppo some 800 examinations were made. These included simple blood counts, sputum examinations, Widal, typhus agglutination, diphtheria throat cultures, malaria, relapsing fever, blood smears, dysentery stools, spinal fluids and water analyses. The laboratory staff cared for the wholesale vaccination of refugees against smallpox and cholera, and prepared the solutions for salvarsan and Carrel-Dakin fluid. At Aintab the laboratory worker made a careful statistical study of the incidence of intestinal parasites, and at Beirut there was also made an interesting routine study of the protozoa found in the Aleppo button. While the laboratory organization did not accomplish all that was anticipated, it justified itself and aided the physician and surgeon, adding to his skill and efficiency.

One of the very troublesome affections of the Aleppo district was sandfly fever; technically phlebotomos fever. This is an acute fever of short duration, similar to dengue, to which it is probably closely related. It is widely distributed throughout the East and endemic in Aleppo. Cases appear early in June and continue through the hot season. Its duration is from sixty to seventy-two hours, there is an absence of relapse but the depression and weakness last not only during but sometime after the fever has gone. There is no leucocytosis, no splenic enlargement and no demonstrable parasite in the blood. There is no permanent immunity. About half of the American personnel were victims during the first season. The relation of the sandfly to the disease was proved by Dorr in 1902 by investigations carried on at Malta, and subsequently confirmed by others.

There were a number of cases of relapsing fever. It is easy to recog-
nize by the presence of the characteristic spirillum in the circulating blood and by the distinctive fever curve. A single dose of salvarsan generally affects a cure. The mode of transmission is probably through the body louse.

Typhus fever occurred occasionally, was rather severe, and had a rather high mortality. Serum agglutination with proteus X proved useful in differential diagnosis. The relatively low incidence in the general population may possibly be accounted for by the fact that two years before a fearful epidemic had swept over the country leaving few susceptible persons.

Typhoid, cholera and dysentery occurred but seldom. This is contrary to what would have been expected since the habits of the people are dirty and there is entire lack of sanitation. According to laboratory tests the well water used by many of the people in Aleppo is nothing less than dilute sewage. It may be that the mass of these people have acquired a relative immunity to these infections.

Intestinal parasites were exceedingly common. In one of the orphanages ninety-five out of a hundred children were shown by examination of stools to harbor one or more of the several varieties of nematodes. The small thread worm, oxyuris, stood first, with lumbricoides and trichuris occupying second and third places. Tape worms (taenia saginata, chiefly) were also far more common than with us, and it was found quite impossible to treat all cases because of the insufficient supply of male fern or other vermifuges. Some of the male fern purchased locally was found quite inert in spite of the exorbitant price. The high incidence of intestinal parasites is undoubtedly referable first, to the general uncleanness of the people, and second, to the shortage of fuel which leads to the eating of much uncooked food.

Bilharziasis, a trematode infection of the bladder, was seen in a few refugees from Egypt where the disease, as recent studies have shown, is almost universal.

Venereal disease is quite common among both refugees and native population. Neosalvarsan was exhibited in all the drug shop windows, and not infrequently a patient brought both his diagnosis and the necessary medicine asking only that the doctor administer the drug. This drug could be bought cheaper in Aleppo than in New York owing to the large supply left by the Germans. Although prostitution in Aleppo is recognized by law and there is a certain degree of surveillance of the women with periodic examinations by health officers, it is certain that venereal infection has very definitely increased with conditions. Women found infected are required to take treatment in the venereal hospital and this hospital of one hundred bed capacity is nearly always full. The women are required to pay for their hospital treatment, and first, second, and third class accommodations are provided.

As elsewhere throughout Asia Minor there was a large amount of scabies and it was never possible to eradicate it from a refugee camp. The treatment was the classical sulphur and ointment with the occasional use at some stations at Vlemmincze solution, this being employed on account of the high cost of fats. Favus was successfully treated with oil of cade and sulphur ointment plus depletion. The natives use a tar cap but for humane reasons it was not used in our clinics.

There is a skin disease of pretty universal prevalence in the Near East to which the name of “Aleppo Button” has been given in this area, also known in India as “Delhi sore.” This is a skin lesion of striking and characteristic appearance. The sores, or buttons as they are called, appear on the exposed
parts of the body, most often the face or hands, start as small red pimples, increase to the size of a half dollar or more and become ulcerated and crusted over with a scab which by reason of its roundness or elevation gives the fancied resemblance to a button. The lesions are single or multiple, generally only one or two on a person, but there may be four or five. The sore lasts from nine months to a year. Permanent immunity results, and this is said to have led the Bagdad people to inoculate their children early in youth on the leg to avoid infection of the face with resulting disfigurement.

Secretion from the sore is infectious and such inoculation can easily be carried out. The disease is probably transmitted through the agency of some biting insect. This infection is pretty widely distributed through Syria, Palestine, Mesopotamia and Northern Africa. "Jericho Button" is another name applied to this disease in the region of Jericho. The causative organism is a protozoan known as Leishmania tropica and was discovered in 1903 by Dr. Homer Wright of Boston who found the parasite in smears from a sore of the face of an Armenian girl who had come to America. The treatment of choice is the X-Ray to which the parasite seems particularly susceptible. According to Dr. Adams of Beirut, freezing with carbon dioxide now insures a cure. The Harpoot station reported excellent results after thoroughly curetting the sore, filling in the depressed area with permanganate of potash which was left in position for twenty-four hours.

Dr. Ward gives the following definite directions for the removal of "Aleppo Button," by means of KMnO₄:

Prescription No. 1. Wash with benzene or water; remove the scab and dry off the blood. Then sprinkle potassium permanganate crystals or powder on the lesion and cover with a dry dressing. Leave for 4 or 5 days then clean off all former crystals and apply again. One application may be sufficient to cure. If the button is not in open condition, it must first be cauterized with strong acid or with copper sulphate paste.

Prescription No. 2. Methylene blue ointment is effective in Aleppo buttons with much pus:

Ammoniated mercury 10%
Methylene blue 3%
Fowler's Sol. Mx to dr. 1

Apply on open lesion after removing scabs.

Aniline dyes and mud are employed by the natives. Dr. Adams thinks that the beneficial effects from these are due to their light excluding properties. The disease is self limited and the sores usually heal within a year.

AINTAB

Physician in charge, Dr. Lorrin G. Shepard, assisted during the time of this report by Dr. Hamilton, Dr. Abbie Little, Dr. Alexan Bezjian.

AINTAB hospital was occupied by the Turks for some three years and was abandoned by them when the British arrived in December, 1918. The American Red Cross took up relief work there in February, 1919, with Dr. Hamilton and Dr. Bezjian as attending physicians. The Red Cross was succeeded by the Near East Relief who sent additional nurses so that the hospital's activity was continuous. Dr. Lorrin Shepard
took over the directorship of the hospital on September 1, 1919, and has continued up to the present time. A new building had been started in 1915 by Dr. S. B. Shepard, and this building was occupied in November 1919. With the aid of the equipment furnished by the Near East Relief, the hospital is now complete with the exception of an X-Ray plant, and it has eighty beds. The hospital was under fire during the conflict between French and Turks from April 1 to May 28, 1920, and stone walls and trenches had to be made to render the buildings safe. Since that time the hospital has been largely used as a relief hospital for the French army of occupation, whose soldiers have been cared for and who have in turn supplied the hospital with medicines, sera and vaccines. In addition to this work the hospital has supervised the medical work in three large orphanages and a rescue home. It is still handicapped by the lack of an X-Ray plant and a heating and lighting plant.

This hospital has had the unique experience of being in the midst of serious hostilities between French, Turks and Armenians in the period of April to August 1920. On the first of April there was a general attack on the Armenian quarter by Turkish irregulars. The French garrison had been so far reduced by the taking away of its larger guns and most of its troops as to be incapable of assisting the Armenians. The Armenians barricaded themselves against the Turks and in spite of many attacks were able to defend themselves for a period of seventy days. Some twenty-five were massacred at the first rush in the market place and an equal number killed and wounded during the fighting. On the 25th of April, shells hit the American hospital killing one employee and wounding several. Following these hostilities, there was an armistice of several weeks, which was followed on the 28th of July by a bombardment of the French positions outside of the American college, and later by bombardment of the college itself by 105 mm. guns. More or less fighting between French and Turks has continued to the present time. The hospital had to be closed to civilians during this period but was reopened later and is at present doing a large amount of work, the only Americans present being Dr. Shepard and two assistants.

A brief report of the work during the first year of the hospital would show something of the character of the work done and the large amount of work which Dr. Shepard is accomplishing almost single-handed. The nationalities include Turks, Arabs, Kurds, Armenians, French, Algerians, Senegalese, and Congoese. During the year there were 767 Admissions, 53 deaths, 12,705 outpatient visits, 12 laparotomies, 12 amputations, 8 rectal operations, 6 hernias, 69 operations upon the eye, 39 gunshot wounds, 33 abscesses, 22 gynecological cases, 37 bone operations mostly for osteomyelitis (chronic), 18 genitourinary operations, and 48 miscellaneous operations, one being for hydatid cyst of the lung, a rare condition in this country but not unusual as to the liver in the Near East.

A supplementary report from Dr. Shepard after the renewal of the bombardment tells us that the orphanage as an institution has been closed, the orphans being sent to Beirut. But the outpatient department at the hospital has been reopened and operations upon civilian patients are now being done. One of the very difficult problems of the hospital is to find the proper food materials for the sick. Fresh milk is unobtainable, and as a result, Yoghourt, the native fermented milk, the mainstay of the invalid diet in Turkey, is not to be had.
Marash *

Physicians in Charge, Dr. Marion C. Willson, Dr. Mabel E. Elliott.

The Marash unit arrived on May 17, 1919, consisting of Dr. Elliott, and two Red Cross nurses, under the rather vague order "to take charge of the hospital at Marash." On arrival one Red Cross nurse was found already on the field, endeavoring to take over the hospital from a German missionary nurse who had been in charge for twenty-one years. A rather firm hand and some diplomacy was necessary before Near East Relief was finally in possession of the hospital. The British had already taken possession of the first floor wards, but the rest of the hospital, which was a building in good condition and of fair size, was left for us. It contained two large porches, a nice operating room, a bath room, private rooms and an abundance of water. The name "Marash" means "city of the forty-eyed springs" and there is everywhere an abundant supply of running water. There were several porches and as the hospital work grew these were also used for patients. A separate hospital for children was soon opened, while the hospital itself was reserved for the severe and operative cases. Dr. Willson came in June, and thereafter clinics were held three days a week; operations, the other three days.

The British evacuated in the early fall and the maternity ward was developed out of the quarters formerly used by them. A graduate native nurse delivered the normal cases, and Dr. Elliott the abnormal. No accurate figures are available owing to the fact that when evacuation occurred, all records had to be left behind. The medical cases covered malaria, relapsing fever, typhus, pneumonia, cerebrospinal meningitis, tetanus, dysentery, cholera infantum, influenza, pulmonary tuberculosis, gonorrhea, syphilis, pleurisy with effusion, tuberculosis peritonitis, acute rheumatism and all forms of heart disease.

The malarials were extremely malignant. Many cases were accompanied with enormous spleens. It was not uncommon to have several cases in the hospital with spleens the lower edges of which reached to the crest of the ilium. In a number of cases, the abdomen was completely flat to percussion due to the enlarged spleen and the enlarged liver. The routine treatment for cases of malaria admitted to the hospital was 7.5 grains of quinine, hypodermically into the muscle morning and afternoon for two days, then ten grains by mouth four times a day, according to temperature, but usually for three days, then 5 grains, q. i. d. for several weeks, if possible. In only a selected number of cases was the follow-up treatment given as there was never a sufficient amount of quinine to warrant it. The convalescent period was much shorter when strictly liquid diet was resorted to as this eliminated to a large extent the gastric symptoms. For weeks in the Fall, there were from 200 to 300 patients to whom intramuscular injections of quinine were administered. A large part of the hospital work was the caring for abortion cases, coming as a complication of malaria. Hundreds of women aborted or were prematurely delivered owing to the quantities of quinine administered to destroy the malaria parasite.

The relapsing fever cases reacted in the usual way to salvarsan. There were but few cases of typhus. The dysenterys were very severe and included both the amoebic and the bacillary forms. The death rate, however, was very low and the cases responded as a rule quite rapidly to treatment.

*Report is from Dr. Elliott, somewhat abbreviated.
Tuberculosis was very prevalent in children. There was no place for isolating general tuberculosis, although the need was great. There were large numbers of venereal cases, and syphilis in its most hideous forms; acquired and hereditary. It has been supposed that syphilis is incompatible with pregnancy but patients under salvarsan treatment became pregnant and women with the most malignant forms of secondary syphilis went on to full term. Treatment of mother and child produced a healthy baby with good eyes, and later treatment of the mother with salvarsan caused rapid disappearance of the syphilitic lesions.

The condition of the mothers after delivery was very bad. There were many cases of perineal laceration with prolapsus uteri, and an appalling number of complete procidentias. This Dr. Elliott attributes not so much to the short post partum rest period, as to the manner of delivery, which is in the squatting position. She did not find more than a half dozen women who had been delivered by native midwives, that were not suffering from cystocele or rectocele or both. One of her patients suffering frightfully rode a donkey nine hours to get to the clinic. A large share of a woman doctor's relief work in this district might be given over to instruction in midwifery. There was but little cancer. All of the various surgical affections which women are heir to came to the hospital for treatment and after Dr. Willson's arrival very many of these operative cases were made happy by permanent cures.

There were, as in all Eastern countries, very large numbers of diseases of the eye and skin; the greater majority of these cases were seen by the nurses. Miss Schultz at the children's hospital treated from two to three hundred daily, only those that were serious or puzzling being brought to the hospital. There were a great many eye operations with many enucleations. The supply of artificial brown eyes gave out and blue ones had to be used in their stead, so there are many children running around Marash with one enormous brown eye, their own, and a blue one of glass.

Ninety per cent or almost one hundred per cent of all the cases had intestinal worms of one form or another and many were infected with two or three forms. They vomitted them by the basin full; they crawled out of abdominal wounds and they were found loose in the abdominal cavity. It was not at all uncommon to see several tinea lumbricoides, wriggling about the flagstone pavements where clinical patients were awaiting admission. There were no cases of appendicitis, either clinically or on examination of the appendix which was routine in all laparotomy cases.

Many of the patients were ill simply from neglect and lack of food, and these were the hardest to treat and the longest to convalesce. Many lay in a stupor and simply slept, barely rousing to eat; indeed some would finally become weaker and weaker in spite of nourishing food, baths and rest, and died of apparently no especial disease, but from exhaustion. One woman of about fifty-five who was brought by her daughter, unable to stand or sit, lay in a semi-stupor. She had lived in the mountains for three years, armed, and with six women companions. They had been able to defend themselves from the Turks for three years, living on what they could pick up in the vicinity of their cave, but were finally taken by the Turks, and from her story she was apparently systematically punished for her long resistance; thrown in prison, she was removed regularly and beaten into unconsciousness and then thrown back into prison again. They cut out one of her eyes, and when asked if it were diseased, she exclaimed, "Aman yok" (Goodness no!) She was a hideous sight and she was absolutely indifferent
as to whether her story was believed or not. She died three days after admission.

On January 21, 1920, after a very happy Christmas with the Armenians on the 19th, which is the day they celebrate the anniversary of Christ's birth, the Turks broke loose in Marash, and for three weeks every one was shut up in the hospital, only getting out at night through a communicating trench. Mrs. Power, the head nurse, and Dr. Elliott were the only Americans in the hospital. Dr. Willson had turned the children's hospital into an emergency one and performed his work there. As the patients convalesced they were sent into the cellar as refugees, and after the second day, there were wounded added to the number every night. The dead were buried in the backyard. Beside the sick and wounded there were between two and three hundred refugees in the hospital compound. Every available inch was taken; all patients had to be brought down from the upper floor because it had plastered walls, and the bullets came through them as well as through the windows. The patients were kept on the floor to avoid the bullets which were coming through the windows. Mattresses were laid close together and there were four or five patients to every two mattresses. Refugees were in the ironing room, storeroom and the wood shed; the morgue was full of them, and fourteen slept on the floor of Dr. Elliott's bathroom.

On the night of February 9, 1920, the French received orders to retreat and took out all of their wounded. The Armenians, when they heard the news, went mad. Screaming and shrieking they came and picked up their sick and wounded or else the patients themselves got up and walked out. Those who were left begged for poison so the the Turks would not have the satisfaction of finding them. Under circumstances of greatest hardship, Dr. Elliott and her small force of assistants evacuated the hospital on the night of February 10, leaving five patients in the hospital. She went out with the French, two nurses, a worker, and one Y. M. C. A. man together with five thousand refugees. She had vainly hoped to be of some assistance on the road to those who had left with her, but other than to give them all the warm things that could be found, including most of her personal belongings, there was little that could be done.

A bit of bread here and a word of encouragement there; a request for a ride for someone; a little advice; the boosting of a child on someone's back; the helping to take a dead child from someone else; that was all that could be done. There was a driving snowstorm; she had neither food nor drink for twenty-four hours; it was almost all she could do to maintain herself the second day, and she writes that on the third it was a difficult task to take the extra steps necessary to get around the bodies of those who had fallen. It took a great deal of American grit to keep herself from being one of the fallen. The march ended on the third day when the railway station at Islahia was reached. Nearly half of the five thousand refugees perished from the cold and snow which they encountered on the way. On arriving at the railway, Dr. Elliott recovered so far as to resume her medical work, and on the way to Adana to care for a carload of wretched human beings, suffering from frozen feet, hunger and thirst. All of these were finally cared for at Adana.

The hospital work at Marash was continued by Dr. Willson until the work was taken over by Dr. Bell.
URFA

URFA had long been a missionary station of the American Board, but no direct medical work had been performed there. There was a hospital under the Swiss mission, and its medical representative was Dr. Andreas Vischer. During the war Dr. Vischer was driven out but returned and took charge of his hospital a short time after the Near East Relief opened a station in Urfa. This hospital had been occupied by the Turks during the war and Dr. Vischer returned to find it in a sad state of general demoralization; windows gone, the building filthy and dilapidated. To aid in this work, the Near East Relief furnished a number of medical supplies and instruments to Dr. Vischer and the services of a nurse. Their work was continued until the war between the French and the Nationalists broke out in the spring of 1920, when nearly everyone but the director, Miss Holmes, had to leave the city and Dr. Vischer finally gave up his work. He was able to keep up his work during most of the siege, and cared for the French as well as for such Armenian refugees as were able to be reached.

In an article in a Swiss missionary journal for August 1920, Dr. Vischer gives some statistics. In the clinics 9,063 patients were treated during the year and there were 208 surgical cases. Of the total number, 800 patients were treated without fee, and the rest paid something. There were twenty-five obstetrical cases. No distinction was made as to the race or creed of the patients; Armenians, Kurds, Arabs, Syrians, French, Senegalese being treated. In the American orphanages 3,960 children received medical attention. All this was done by Dr. Vischer, his wife, two Armenian doctors, eight Armenian nurses, one Armenian druggist, a buyer, a porter, a servant for the clinic, two cooks, a tailor, and a door opener. The latter was the only Moslem among the hospital employees.

Tuberculosis was especially prevalent, as was dysentery. Dr. Vischer reports excellent results from the use of emetine in the latter disease. The number of obstetrical cases cared for in the hospital showed a considerable increase over pre-war days, being among women previously delivered in their own homes, who were now unable to be confined there on account of their poverty. It was often a heart-rending sight to be present at the birth of a child whose father was a Moslem and who for this reason was odious to its Armenian mother. Usually mother-love overcame this feeling of hatred but this was not always the case. In one instance an Armenian woman whose child had died, adopted one of these undesirable children. There were many cases of gunshot wounds and wounds received in encounters with brigands. One young Kurdish woman had her skull fractured. She arrived at the hospital in an unconscious condition with one side completely paralyzed. An abscess of the brain was found, opened, and little by little the paralysis disappeared. Many of the cases Dr. Vischer briefly cites recovered, strange to say, when one might have expected death, even under the most favorable conditions.

With great regret Dr. Vischer closed his work, as a result of the Nationalist campaign, and now there is no doctor stationed at Urfa. Having visited Dr. Vischer in his hospital at Urfa, I wish in behalf of the Near East Relief to pay tribute to his devotion, to his medical and surgical skill, and to his ability to overcome obstacles and achieve results which would seem at first sight to be staggering and impossible.

*Report by Dr. Richards.
MARDIN

Physician In Charge, Dr. S. B. Dudley.

MARDIN was one of the first hospitals actually reached, but owing to transportation difficulties over the Bagdad railway one of the last to be fully outfitted. There was much difficulty in getting through from Aleppo to Mardin and permission to travel for civilians was usually refused. The railroad was being operated only occasionally as a military road. How Dr. George H. Washburn succeeded in getting a flat car placed on the first military train sent out to Mardin he has never divulged, but somehow he accomplished it and on March 30, 1919, under the protection of an Indian guard and machine guns, Dr. Dudley and Dr. Washburn set out for Mardin. The Mesopotamian plain was a panorama of rich, deep soil with here and there ploughed strips, numerous peculiar mounds, and Arab villages nestled among them. The Euphrates was crossed on a fine iron bridge near the site of ancient Carchemish, once the capital of the Hittites. On account of the condition of the track, the trains ran only in the daytime and at night the personnel guarded the train, taking turns sleeping and watching in the country where Jacob and Esau watched their father’s flock.

Mardin is on a branch line of the Bagdad and the station, some five miles from the city, consists of a half dilapidated building, blown out water tanks, stacks of twisted and straight rails, construction engines of the pony type and all sorts of corrugated iron tanks, gas barrels, broken autos, half starved dogs, lousy orphans, and half clad Turkish soldiers. A glance upward made one forget all this for there in a bee line about five miles away on the side of a mountain lay the wonderfully located city of Mardin, and above this city, a citadel which Tamerlane once sought to enter. The mass of iron and debris was interesting for out of this mass Dr. Dudley was to construct much of the material in the hospital. To reach Mardin and the hospital in the Ford, with bed rolls, lunch boxes, two boxes of medicines and a few surgical supplies, required a detour along the base of the mountain and then an approach by the Mardin-Nisibin-Mosul military road; in all about a fifteen mile journey.

The Turkish authorities received Dr. Dudley and Dr. Washburn with great enthusiasm and cordiality, taking them to the residence of the mayor for dinner, and thereafter assisting them in many ways, it being the policy here as elsewhere, to work in connection with the civil authorities. The coming of the hospital unit helped to dissipate the feeling of hostility between the various groups, and when the civil authorities ascertained that the object of the Commission was to gather in and relieve the orphans in the war and famine stricken districts, to provide food, medical care and shelter for those supported by Turkish families and others, to assist in the rehabilitation of the deserted homes and villages, and to aid the community in every way possible, the cooperation of the entire city was readily obtained. One Turk, Kadur Bey of Nisibin, presented Dr. Dudley with a fine Arab mare so that he could go on his errands in proper fashion as most of the streets of Mardin are impassable for automobiles, and the distance to the railway station is only five miles by horse as against fifteen by automobile. The mayor furnished free for six months the place for the hospital clinic, the military assisted in transportation and escort while the
Kurds came to the hospital with their sick and their brigands did not molest.

The American compound, once a group of well equipped and well ordered buildings, was almost bare and gutted. Roofs had been neglected, windows were nearly all gone, while bedbugs and filth possessed the various rooms. A few hospital supplies and drugs, thanks to Mrs. and Miss Dewey, had been secreted and were ready to use. The hospital, once in good condition under Dr. Thom, with a capacity of some thirty-five patients, had been used by the Germans as a hospital base for the armies for the south and west. It was now filthy in the extreme, roof full of holes, most of the ceiling on the floor, the doors full of cracks, the windows gone, the rooms smoky, water in the cistern low and foul, one unsanitary outhouse and the only human element, one Armenian nurse.

Medical work was begun in one room of the hospital when a woman with intestinal obstruction was brought in. It was a terribly desperate case, but with the aid of crash towels, the inflated intestine was kept down to earth, the wound sponged with two pieces of native cotton cloth, while the two adherent coils of intestine were loosened, the abdomen closed, and the patient, under the care of her family, became a living witness to American emergency relief surgery.

There were no sinks or pumps, so water was drawn in buckets, as in former times, and boiled in the copper kettles of the East; improvised sterilizers. The Near East was particularly fortunate in having Dr. Dudley at Mardin, since he had had mechanical training before he studied medicine. He hunted the railway dumps, found iron, tightened the roofs, replastered and whitewashed the ceilings and walls. The divisions of the old hospital were removed and attractive wards made in their places. Wooden doors, frames, sills, all went, and in each stone opening was hung a double metal lined door with a huge German lock. Bare anterooms in the surgery were supplied with built-in metal shelves to hold a half car of supplies. A huge water tank was rolled nearly from the foot of the mountain and placed in the washroom, with pump and pipes to connect with the cistern below. Sinks were cut from a special quarry five miles away and carried down the trails by some twenty men and were placed and connected by large pipes with the septic tanks cut in the solid rock below; a sanitary closet and supply room was also connected with both wings of the hospital. The large instrument cabinet of solid stone slabs above and below with German plateglass doors in walnut frames was placed in the surgery.

Besides all this there was erected a stone building 21 x 50 to be used as a laundry, kitchen, storeroom and engine room. The kitchen was supplied with a large stone stove and sink, metal food cupboards, bracket floor bins and a table. Storage room with solid metal shelves was built to hold two carloads of supplies, while the engine and wood room contained the Delco outfit that supplied the electricity to the whole place. Metal porches were suspended along the front and a metal bridge covered the way to the main building and upstairs door. All this took most of the summer. The medical work paid back in fees from wealthy patrons about one third of its budget; at the same time it forced cooperation amongst a widely different group of people and aided wonderfully in the rescue and general work of the unit. With the aid of the instruments and supplies brought in during the summer, the hospital was by autumn well organized for methodical work during the years to come. A clinic was established in the city and some medical calls made, but relatively few, since it was necessary to keep on good terms with
the military staff and the private doctors in the city. Step by step the work increased until it finally included the directing, housing and care of several hundred girls and women in connection with the general relief work and the industrial department.

At Diarbeikir, a sub-station for medical work was established which was operated from Mardin for some weeks until later a doctor and a nurse were assigned to this station. In addition to his work of physician, Dr. Dudley was director of the Mardin Unit, which included industrial work, agriculture, road building, and the general care and employment of the orphans and refugees.

After getting the hospital in good running order, Dr. Dudley returned to Beirut, to be succeeded by Dr. Joseph S. Stewart. No detailed statistics are at hand, but the general run and amount of medical work was similar to other stations.

SAMSOUN *

*By Dr. Richards.

SAMSOUN is one of the principal ports of the Black Sea; its special claim for prominence is as an export city for a large tobacco trade. It is largely Greek in character, and being a coast town, it was crowded with refugees, especially children, suffering from scabies and eye diseases. There was a well built hospital owned by the Greeks which was turned over to the Near East Relief for a temporary hospital. It was of about one hundred bed capacity. Under Dr. Shafer at first, and Dr. O’Meara later, with the assistance of native doctors and helpers, a large amount of most excellent work has been done. The hospital lies on a hill-side overlooking the sea and is the first building to be sighted when ships enter the harbor. A voluntary pier tax paid by the tobacco company has assisted very much in the financial maintenance of this hospital. It had been damaged less by the war and was in better condition than any of the other hospitals taken over by us.

In addition to the hospital work, eye cases were cared for in two or three orphanages in the town, and the scabies cases were washed, treated and greased at another orphanage. Thorough bathing for about three times with the proper use of flowers of sulphur in the form of ointment or even with the powder itself, combined with thorough disinfection of garments, will eradicate scabies in most children in a very short time. Grain sulphur which was all that some of the hospitals had at first, does not answer as well as the flowers of sulphur.

Samsoun during the Nationalist movement became the port of entry for supply to central Anatolia, and this continues. It was at one time hoped to close this hospital so far as Near East Relief work went but this has not yet been possible. The personnel here has been changed several times and detailed statistical reports are not at hand. The amount of work performed has been large both in the hospital and in the out of door clinics.
MARSOVAN *

Dr. Jesse Mardin, Physician in Charge; Dr. C. R. Gannaway, Associate

No direct statistical report is at hand for this station or from Samsoun, through which place Marsovan receives its supplies. The Marsovan hospital is a fine stone structure, three stories in height. It was built by Dr. Jesse Mardin, a missionary doctor, and almost entirely from funds received from private patients. It is the best missionary hospital in Turkey and before the war ministered to the medical and surgical needs for something more than a hundred mile radius, as well as being one of the essential parts of Anatolia College. Since the war it has not been self-sustaining and has been operated by the Near East Relief with Dr. Mardin as its chief surgeon. A training school for nurses was carried on here under the direction of Miss Blackman, a Near East nurse. When the Near East Relief arrived in Marsovan, Dr. Mardin was in the Red Cross service and the hospital was put in order for work by Dr. C. R. Gannaway who remained as an assistant to Dr. Mardin after the latter's return.

This hospital was visited by the medical director in August 1919, at which time it was operating with all the smoothness and precision of a first class American hospital, having the good will of Armenians, Turks and Greeks. As a result of war conditions, its income was much reduced but its work was as great as ever. A complete X-Ray equipment was installed, and this hospital is and will continue to be one of the best exponents of modern medical and surgical work in the Near East. Dr. Mardin is a devoted physician of great skill, and his influence, so far as medical and surgical matters are concerned, extends all over this portion of northern Turkey.

On a trip from Angora to Marsovan a stop was made at Chorum, a Turkish city of considerable size some forty miles from Marsovan. Enquiry was made as to whether the Mutasarif was acquainted with the president of Anatolia College. He answered in the negative, but when asked if he knew Dr. Mardin, he replied "O yes, he operated upon me!" This incident shows how far reaching is the influence of these hospitals. When the writer was in Marsovan, a severe gunshot wound was brought in which had come on a two days' arabah journey. The case looked hopeless for the patient's life, but it was afterwards learned that following a complete amputation of the shoulder joint, accompanied with a pyemic temperature for several days, recovery eventually took place.

ALEXANDROPOUL AND THE CAUCASUS

Physician in Charge, Dr. H. M. Marvin.

At the time of Dr. Marvin's arrival on May 24, 1919, there were from 50,000 to 90,000 refugees in Alexandropol and surrounding districts. All were without food, clothing or shelter. The death rate from starvation was from 180 to 200 a day in the city, and greater among the refugees in the surrounding plains. The people were eating grass, when it could be found, like cattle. There were only two butcher shops in the city containing a small amount of meat which the starving could not pur-

* By Dr. Richards.
chase. There was no flour except that arriving from the Near East warehouse in Derindje. There was no fruit, nor had any vegetables been planted, and there was still snow on the surrounding hills. The clothing worn by the people consisted of pitiable rags which in many cases left a large part of the body exposed. Their physical condition was extremely poor and the emaciation very extreme. Their homes were abandoned buildings ruined by the Turks, their beds stone or mud.

Some 1200 children had been gathered by government officials in eleven buildings scattered over the city, and Miss Myrtle Shane had taken these over in the name of the Near East Relief. The buildings were filthy, ill-ventilated, poorly lighted, infested with vermin, but they were all that were available. The children were in somewhat better condition than the refugees just mentioned, but were barely keeping alive when Miss Shane assumed charge.

The week before Dr. Marvin's arrival, Dr. Clarence D. Ussher had sent an Armenian physician to Alexandropol to take charge of the medical work and some three hundred children had been gathered into two buildings which had been dignified by the name of "hospital." These buildings were in fair condition, inasmuch as the windows, roof and floors were complete, but it would be difficult to conceive more abject filth or more revolting conditions than those obtained in the wards. Each bed consisted of an iron frame, partially covered by two planks over which a straw mattress was stretched, and on this the patient lay. Some of the children were clothed in little undershirts and drawers; some of them were entirely nude. From one to four patients were in each bed. There was a bathroom in each building but the doors were locked and the keys lost. Every window in both buildings was either locked or nailed up. A filthy attendant in each ward part of the time slept in a corner while the children starved for the food she was stealing. There were tin bed pans in several wards but they were never used as it was easier for the children to soil the mattress which was seldom changed. There was a small toilet in each building but the floors were so frightfully soiled with excretory matter that the ambulatory children used the ground as their toilet, so that at first it was almost impossible to walk through the yard. The superintendent spent his time in fighting with the physician in chief, and in stealing for his personal use the food intended for the patients. There was practically nothing in the way of medical supplies and little was needed, since hygiene and food were the real medicines required. The children were dying at the rate of seven a day, chiefly of starvation. They received only two meals, each consisting of tea and crackers, the first served at ten-thirty A. M., and the second any time after two P. M. Such was the condition when Dr. Marvin and his staff arrived.

The first thing done was the thorough cleaning of the buildings, employees and children. The windows were opened and nailed open. The bathrooms were opened; barbers were secured, and within three days every child had been shaved and bathed at least once. New mattresses were made of flour sacks and hay, and pillow cases and pillows from the same material. The worst cases of malnutrition were segregated in special wards and fed five times daily, and others three times, at specified hours. Uniforms were made for the attendants. Toilets were cleansed, and the attendants forced the children to use them. The entire administration was overhauled. New doctors were secured as assistants. Responsibility was centralized and every part of the work was put in charge of some one person who was directly responsible for it. After four days of the new regime the death
rate dropped to 0 and for about six weeks the only deaths were from children picked up from the streets in a dying condition. Small quantities of the absolutely essential medicines, such as castor oil and magnesium sulphate, were obtained in the city.

In the months that followed the hospital gradually assumed a normal condition, the children being discharged from the hospital to the orphanages, the two working well together. In August the hospital cases were removed to what had been abandoned Russian barracks. These buildings were ideally adapted; were clean, airy and well ventilated with ample bathing and toilet facilities and an abundant supply of good water. This hospital consisted of two large buildings, each 50 x 200 feet, of two stories, and two smaller buildings of one story, about 50 x 100 feet. There were eight wards on each floor in the two larger buildings, and there were accommodations for about 1,230 patients. In October, owing to concentration of refugees then in Alexandropol, a second hospital was established. This was developed from Russian barracks, and accommodated slightly over 200 cases, mostly adult refugees. There were three physicians connected with this hospital and an ambulatory clinic was established in connection with it. In the same month, a receiving hospital was established where the applicants for hospital or orphanage care were examined and then sent to the two major hospitals. No medical supplies arrived from Derindje until about September 15. This was owing not to delays in shipping from Derindje but to the inefficiency of transportation, to the difficulties of railroad transport, and to the stealing of much of the supplies while in transit on the railways. In September a dental clinic was established and several thousand cases were treated monthly.

In addition to the work at Alexandropol, Kars and Karaklis were administered from this center. This work was light for several months. Kars had a physician, Dr. Lutik, but at Karaklis there was no doctor, the work being carried on by Mrs. Burt and Miss Anthony. In July Miss Anthony became ill with typhoid fever and had to be moved to Alexandropol, after which time Dr. A. C. Pratt was placed in charge of the work at Karaklis. Colonel Haskell has reported that the finest single exhibit in the Caucasus was the hospital at Alexandropol. Dr. Marvin, with becoming modesty, says that credit for this is in large measure due to Miss Janet McKay, the chief nurse. As a matter of fact the credit belongs to both. The work began with little more than nothing; it developed into several hospitals; a result accomplished in the face of much discouragement and difficulty.

As giving some idea of the amount of actual work performed in a single month, the statistics which follow are of interest. There were admitted in the three hospitals 1,708 patients, of whom 1,402 remained at the end of a month. There were treated in the clinics, 29,980 patients; in the dental clinic 5,360. This latter number is somewhat above the average as it consists of several hundred inoculations and vaccinations.

The conditions as to food were so severe at the time of the arrival of the Near East Relief that at first much of the clothing given out for distribution was found to have been sold in the bazaars for food. Parents would even take bread from their children by force and let them starve if need be. In January of this year, 1920, food was being supplied to 153,200 people in the Alexandropol district. From May on the Near East Relief fed around 120,000 people in the Alexandropol district. To provide for winter, houses were whitewashed, windows were put in, until the glass was exhausted and then oiled paper and oiled muslin were used in its place.
ERIVAN

Physician in Charge, Dr. Clarence D. Ussher.

Dr. CLARENCE D. USSHER, formerly at Van, was installed in charge of the medical work in the Erivan district. No direct reports are at hand from him but there is no doubt but that he has been as fully occupied as was Dr. Marvin at Alexandropol. Dr. Ussher has the additional advantage of knowledge of the language and people based on long residence in Turkey before the war. He has a deep interest in the Armenian people and sympathy for their condition, and it can be taken absolutely for granted that Dr. Ussher’s work has been and is both life-saving and constructive.

NOTE: Dr. Ussher has already published an interesting volume entitled “An American Physician in Turkey” which gives his experiences in Van up to the time his hospital was destroyed and he was compelled to leave.

TREBIZOND

Dr. Blanche Norton in Charge.

The medical work in Trebizond, an important and very interesting station, was largely clinical and orphanage ministration, with such amount of visiting as could be managed. Mrs. Stapleton was in charge of the orphanages and looked after the sick there. Dr. Norton worked in conjunction with the native clinics already established. The Turkish Red Crescent had a very good clinic which was open to everybody, regardless of religion. Here Dr. Norton used to see Turkish, Greek and Armenian women, when they had learned that an American physician was in charge of the women. The Turkish government furnished the medicines and equipment. She gave three days a week to this clinic, which was always a busy one. The prevailing diseases were syphilis, malaria and skin affections. Sterility was the most common complaint of the Turkish women. It was due to the chronicity of malaria and syphilis and gonorrhea.

The Greek Red Cross had a clinic which Dr. Norton served three days a week alternating with the Turkish clinic. This clinic was not well equipped and was carried out in a half hearted way, which was to be expected under the circumstances. The diseases were much the same, with this exception, that there was no complaint of sterility. This, of course, was not because there was no sterility, but because the Greek women did not wish to have children to be brought into such a life of misery. The Turks have become so eager to build up their race that a woman must have children if she wishes to hold her husband.

Once a week Dr. Norton held an all day clinic at Platana, a village about nine miles away. This was both Turkish and Greek, no Armenians. It was made up largely of refugees. They were in terrible condition, showing the ravages of starvation and neglect. This clinic was always overcrowded, requiring the services of gendarmes to keep even the semblance of order in the mob. Eye and skin diseases prevailed here, with the old chronic ailments also.

The Armenian Red Cross later established a small hospital, which was fairly well furnished with workers. Near East Relief gave them assistance.
with medicines and other supplies. This was just a short time before Dr. Norton left Trebizond.

There was a Turkish and a Greek hospital in the city, neither in very good condition and always overcrowded. They both co-operated with Dr. Norton and she was free to send patients to them whenever there was any room.

After Dr. Norton had left Trebizond the committee helped clean up the Turkish hospital and gave one of their workers, a Miss Voight, a Danish nurse, to be a superintendent. She almost broke her heart over the task of trying to train Turkish women to be nurses according to the American standard. She did break her health and had to leave. It was feared that the effort was all in vain in the end.

After five and a half months Dr. Norton was sent to Kerassunde to make a report on general conditions. We had two orphanages there, an Armenian and a Greek. The Armenian was found to be in good condition, thanks to the conscientious work of our young Armenian superintendent, but it was so small that it was transferred to Trebizond.

The Greek orphanage was in terrible condition. Besides the poor housing and the wretched food which had led to scurvy and stomatitis, there was an acute epidemic of trachoma. Out of the 210 children there were 50 afflicted with the disease. Every degree of complication, including blindness was found. This was the type known in the orient as Egyptian Trachoma, which seems to be a combination of gonorrhoea and trachoma and is very destructive.

Dr. Norton says that she cannot possibly describe the misery of those neglected children. The task was very difficult and discouraging, but out of it all came a good thing. The condition of all orphans was examined from this point of view and when the astonishing figures were made known it was seen that something had to be done to save these orphans from blindness. A hospital was established at Constantinople for the treatment and cure of trachoma alone and everywhere efforts are being made to combat this worst of all foes to the childhood of Turkey.

**IS MID**

*Dr. Mabel E. Elliott, Physician in Charge.*

At Ismid, a few miles from Derindje, Dr. Mabel Elliott, whose report from Marash appears elsewhere, has recently established in quarters formerly used by officers of the Turkish army, an up-to-date Near East Hospital of ninety beds and to which are attached three clinics, three schools, and a soup kitchen for six hundred little refugee children of the streets.

The work at Ismid was started last summer when 10,000 refugees came to the city. Miss Leila Priest and Emily Passmore were assigned to Ismid for relief work. They found that medical aid was necessary and organized two clinics. Patients of all nationalities came to them with malaria, gun wounds, eye trouble, as well as contagious diseases. A hospital became a necessity, and they obtained permission to use the Turkish school building. This building was filled with old furniture. They cleared two rooms and moved in eight beds. These beds were instantly filled, and others were added. One room after another was emptied of furniture until the two
girls had organized and were running a hospital of eighty beds. At times as many as one hundred and twenty patients were admitted and placed on stretchers on the floor. A training class for native nurses was started, supplies of milk and food were given to the refugees, and conditions investigated. Dr. Athanassian was the doctor for the hospital and he did splendid work, giving his services free of charge. The two girls remained through the bombardment of Ismid last summer and carried on the work.

When Dr. Elliott arrived, the building was filled with sick, many of the trained native nurses were leaving for America and Miss Priest and Miss Passmore welcomed her arrival. The refugees of Ismid had grown to the number of 18,000 and the congested conditions were causing much sickness. The Near East Relief Hospital was the only civilian hospital between Ismid and Eskishehir. The American Women's Hospitals are now paying for the American and native personnel of this hospital and the Near East Relief is supplying hospital equipment and sending supplies.

The place is clean and airy and the workers have made the most of the rooms at their disposal. There are two wards for operative cases, a small-pox ward, a children's ward, a typhus ward, four medical wards, and an obstetrical ward. There is a training class for native nurses under the direction of Miss McLaren who is loaned to the hospital by the American Mission Board. Miss McLaren was formerly doing mission work in Van and has had years of experience in work in the East. The native girls have a class in medicine, practical nursing, physiology and anatomy, English, Armenian and arithmetic. This is felt to be constructive work as these native girls can carry on the work after the Near East Relief workers have departed.

Patients of all nationalities are accepted. Previous to the beginning of the hospital, many of the Mohammedans went to a little mosque which is very holy and where prayers offered are believed to cure the sick. Now these people offer prayers and follow up the cure with a call at the American clinic in which they are growing to have much faith. There is a large general clinic, a womans' clinic, and a childrens' clinic. Hospital cases are first examined at the clinic and given cards for admittance to the hospital. A delouser is ever busy in the yard, fumigating the clothes of the patients who enter the hospital. These clothes are then placed in bags with a number attached and the patient receives the clothes when leaving.