

WILHELM HIS

Bronze by Alexander Zschokke, Berlin

A German Doctor At the Front

Wilhelm Bryant

(*Die Front Der Arzte*)

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Translated from the Original German

by

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PREFACE

Who is His, the author of "A German Doctor at the Front"? If we look in Garrison's History of Medicine, we find that there are two men named Wilhelm His, both born in Basel and, therefore, Swiss, and both famous in the annals of medicine. They were father and son. The elder His, born in 1831, never practised medicine but spent his long and distinguished life in the fields of anatomical research and as a teacher. Of him his distinguished student Mall said: "There is scarcely a page in the broad field of anatomy from the ovum to the adult in which his work does not appear." He was appointed professor of anatomy at the University of Basel at the age of 36, and died at Leipsic where he had held the same chair for 32 years.

It is unusual for father and son to be alike distinguished in the same profession but the younger His, whose experiences in the World War are told with much charm and a sweet philosophy in this little book, may be said to have written his name in the hearts of men by his studies in the anatomy and physiology of that organ, since the neuromuscular band which connects the right auricle with the ventricles is known to all medical students as the "bundle of His." It synchronizes the action of the auricles and ventricles, and disturbance of its function causes heart block.

The younger His was born in Basel in 1863, and was educated at the Universities of Leipsic, Strasbourg, Berne, and Geneva. He was called to the chair of anatomy at Basel just 30 years after his father vacated it to go to Leipsic. Afterwards he was called to Göttingen and then to Berlin where at the outbreak of the World War he was teaching at the Charité. He was by that time widely known in general medicine and, as the story of his war experiences shows, met his admiring pupils in all the many and distant lands to which his duties as medical consultant took him.

THE TRANSLATORS.

AUTHOR'S FOREWORD

One may again talk of the war. The numbness which overcame the nation after the terrible end and the political revolution begins to disappear. One again recalls the vast sum of things accomplished and endured by a great and mighty nation through four long years. The war has brought blessing to no state, neither to the conquerors nor to the vanquished. No one desires its return, yet it developed sentiments of a grandeur and beauty which are unforgettable. The general inspiration in the beginning, which caused every individual to subordinate himself to the whole, the enthusiasm and hopefulness, the increase of all forces, the uplifted life of the nation—who would desire to lose their memory? The serene certainty and devotion to duty which sustained through all the long years, high and low, old and young in the heavy war work—who will not admire them and draw from them hope for the future?

Behind the front of arms fought a second line, which did not kill, but preserved, which did not annihilate, but saved—the Medical Front. All that it achieved, and how it was achieved has been described in detail for the profession. But as the history of the world takes the form of life only when we vitalize it in personal documents, memoirs and letters, which are an indispensable supplement of the formal works of the General Staff, there is justification for the narrative of one who has traveled much, who has seen much, and who has pursued his medical labors in all possible situations.

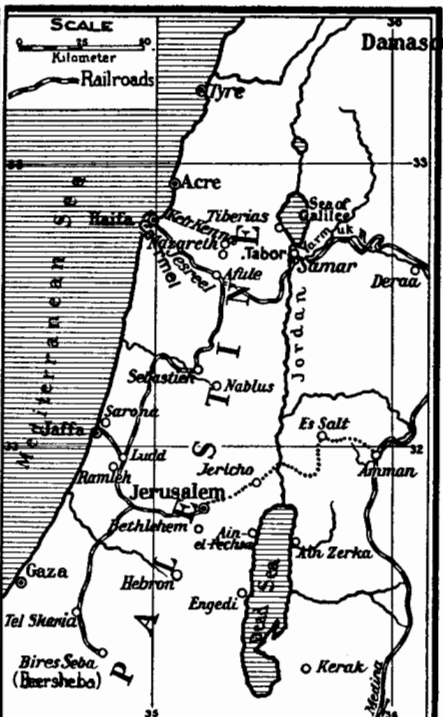
May this small book go out into the world as a souvenir for many who participated, as a memorial for those who succumbed in the performance of duty, and as information on all that the Medical Front endeavored and achieved. .

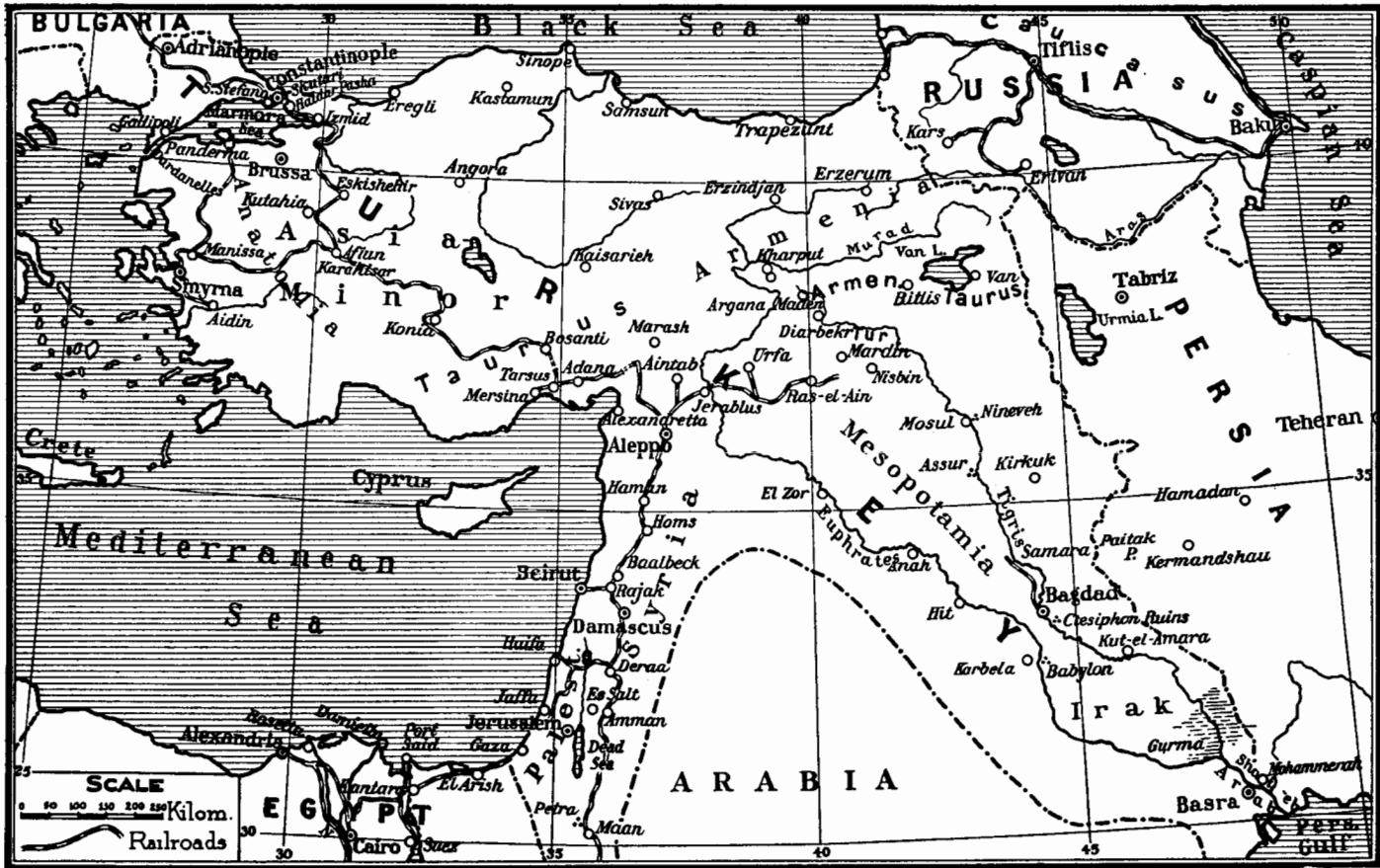
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A German Doctor
At the Front

CHAPTER I

DEPARTURE

At the outbreak of the war I did not belong to the German Army. My parents were descendants of old families of Basel, and when my father in 1872 was called to the university of Leipsic, he planned on his retirement to return to his native land with his children. For this reason he reserved for his children the right to remain Swiss citizens. Thus it came about that though I had come to Germany at the age of nine, and had there enjoyed my schooling and professional education and development, I did not become a citizen of Saxony until 1895, when I was appointed professor extraordinary in Leipsic. In 1906, in Gottingen, I accepted naturalization in the state of Prussia. After my call to Berlin in 1907, I had annually obligated to place myself at the disposal of the army in the event of war, as was exacted of every professor of medicine. The manner of employment was not stated, and one gave no thought to it, for no one contemplated the possibility of war. Even at the end of June 1914 I participated in the opening of the International Exposition of Hygiene of Cities at Lyons, enjoyed the banquet and attended a presentation of the 9th Symphony in the presence of President Poincaré. When my friend Teissier, the splendid Lyonese clinician, anxiously asked me: "You will not start a war against us?" I made fun of him.

Then came the intense days of July 30 to August 1, and improbability became reality. In those few days the entire nation changed its thought and being, and assumed new duties. I reported myself to the acting corps surgeon of the III Corps in Berlin. He was in no small dilemma, as there was no provision for this case, but finally he detailed me to the garrison lazaret in Tempelhof, to which all the sick of the men called to the colors were sent. Every morning I spent one and a half hours on the street car to visit Tempelhof. As regards the Charité, there was little to do. The wards were generally emptied and most of the medical personnel had been called to active military duty. Civilian physicians kindly offered to help out. Soon there was given us a new duty; the mustering of the volunteers. Streams of them came in. We examined

them conscientiously, but all who were not cripples or palpably sick were found acceptable. We had at that time no conception of the hardships that awaited them. Their zeal was so great that those who were rejected at one place, went to another until they were accepted for service.

Another activity also sprang up. After some hesitation permission was given the older medical students to pass an emergency final examination. In the auditorium of the university sat eight examiners and several hundred candidates. In groups of ten the latter went from one professor to the other, some of them already in full war paint, and after a few questions were declared suitable. "What does the soldier need in campaign?" "Courage." "Good—the next."

That was activity, but it did not suit my wishes. I therefore went to the Surgeon General (Feldsanitätschef) v. Schjerning and asked for employment in the field. He looked at me in mild astonishment and remarked: "You do not belong to us." But when I told him that if he could make no use of me I would enlist as a volunteer, he laughed and said: "We will write you." Now I knew that he would bear me in mind, and thus reassured I returned to the accustomed work. To be sure, there was no humor for scientific labor. I read up on the war epidemics which could be anticipated, and delivered lectures on them in and out of Berlin. Some ladies of the highest Berlin society desired an intensive course in nursing. One of them appeared in the white silk dress of a nursing sister with long white gloves, which she did not remove even while at work. But all were zealous. A great event in the Charité was the first transport of wounded. For weeks we had waited for it. Finally it was announced for the next day at 5:00 AM. Physicians and nurses were ready, full of anticipation. The clock struck 7, 8, 10, and at last came a telephone call from the railroad station. The ambulances were driven away. One may easily imagine our tenseness, for the men we went after were from the battles in East Prussia. Where is the trouble? The first man: Pain in the feet; the second man: cold, and so on. Only one man had a real wound, a gunshot fracture of the clavicle. We were frankly disappointed. We did not then know that even the slightly sick are a burden for the troops and that the lazarets in the theater of operations must be evacuated when new battles are about to be initiated. However, the patients

did not suffer from our disappointment, for they were cared for in the best possible way and were overwhelmed by gifts of love.

One gladly spent the evenings at "Unter den Linden." During the beautiful August nights there moved about an animated multitude. There one could buy the "extras" with their unheard of numbers of prisoners. There the news of victories were being announced. The entire nation felt as one community with the same joys and cares. It was like a higher life one was leading, and even today, after all the disappointments and burdens brought about by the war, many recall that period with its hopefulness and its spirit, which lifted one above the daily humdrum.

Finally, on September 2, came Schjerning's long expected telegram. I was appointed Consulting Internist and assigned to the SOS Inspection VIII. I was to go as soon as possible to Dirschau, a town in East Prussia.

The thing to do was to procure the necessary equipment as soon as possible. At the officers' club I was carefully measured for a uniform, but when I asked when I could have the first fitting, I was told, "in six weeks." That long I could not wait. A private tailor accomplished everything needed, faultlessly, within 48 hours. Parting was not difficult. Experienced physicians were in charge of the clinic, and I could tell my wife that I was not to be far away and would doubtless obtain, at some time, leave of absence. But it was half a year before a service trip enabled me to return to Berlin.

The journey to Dirschau required 24 hours. We traveled 12 kilometers per hour with many interruptions. In Schneidemühl I ordered a glass of beer, was generally regarded with indignation, and then discovered to my humiliation a poster forbidding the sale of spirituous drinks to military persons. The beer was replaced by regulation coffee. I arrived in Dirschau during the forenoon, reported myself to the zone medical officer and was incorporated into the enormous organism of the German Army. The strictly military side was not entirely strange to me, for in Switzerland I had attended a recruit school as an artilleryman, and later the school for medical officers, and a maneuver. A few of my colleagues did not fare so well, for they had trouble in learning the insignia of rank and the manner of saluting! Nevertheless it was at first not easy to adapt one's

self to the new conditions, but the organization of the army, which assigned to each a definite function and carefully regulated intercourse and its forms, made it easy to get accustomed. In this the consulting hygienist Generalarzt* Wernicke gave me kind aid. As a military physician he had been detailed to Robert Koch, and he was full collaborator with Behring in the great discovery of diphtheria antitoxin. At the outbreak of the war he was professor of hygiene at the Academy in Posen. He had, near the gates of that city, an estate which was now within the belt of fortifications. The old trees had been felled. In the kitchen ruled 20 orderlies, who with their officers had to be subsisted, a situation which was not agreeable, but which was borne by Wernicke and his brave wife without complaint.

The position of a consulting internist was a new one created by v. Schjerning. The army authorities had endeavored for more than half a century to assure the army of the assistance of experienced savants. Even in the war of 1870-71 the best operators had accepted calls as consulting surgeons with enthusiasm. It is known that in that war men like Esmarch, Thiersch, Volkmann, Nussbaum, Socin and Billroth, tried Lister's new antiseptic method with brilliant success. The war sanitary regulations prescribed a consulting surgeon for each corps. No less important was hygiene. All regular medical officers had been trained in this discipline, and each army corps was provided with a corps hygienist. For the problems on a larger scale each SOS inspection had a zone hygienist equipped with apparatus and appliances. To be sure these were somewhat antiquated and carried about in a cumbersome box, which had to be packed and unpacked at each change of station. In addition the number of appliances was far too small for the wholesale investigations. It needed the experiences of the war to bring about a change. In East Prussia the equipment of the university of Königsberg proved an effective aid.

The war sanitary regulations did not make equal provisions for internal medicine. Schjerning properly reasoned that the consultation with trained specialists which every socially insured man and every patient in a hospital or clinic could obtain, should also be available to the members of the army. Especially the epidemics which are inseparable from war called for the collaboration of internists, whose duty it was to support and augment the activity of the hygienists.

* Col. M. C.

Originally my domain was to extend over the entire army in the east. The extension of the battle front from East Prussia to Silesia rendered this impossible. Accordingly, the neighboring Ninth Army in the south was provided with a separate consulting internist in the person of Professor Minkowski of Breslau. But even with this limitation the territory to be visited was large enough to demand daily journeys. For these I was at first provided with a horse and a dismounted orderly and so I traversed the country high on my mount with the orderly trailing at my tail. Soon an automobile was granted, at first jointly with the consulting hygienist, but later for myself. When the motor gave out, the horse again had to be utilized. Mounts were provided by the troops and I had to accustom myself anew to riding horseback.

We did not remain long in Dirschau. The small country village with its old order church and the strong, strictly guarded bridge over the Vistula, presented a vivid picture. Refugees wandered through the streets with their horses and cattle, officers and men tried to replenish their equipment. I succeeded in getting what I had failed to obtain in Berlin—a Browning pistol. In Berlin they had been entirely sold out. It looked very martial at the belt, but the front sight was wrongly placed so that shots went terribly wide. I have never made use of it.

On September 14 the zone inspection was transferred to Rastenburg. I made the trip in an automobile with the zone surgeon and his adjutant. This first journey through a territory which but a few days ago was the scene of the battle of Tannenberg, was very interesting. The roads were excellent, as indeed the roads in East Prussia everywhere sustained the wear of uninterrupted heavy transports for a long time. The farm houses as a rule were preserved. Refugees returned in long wagon columns, and one saw horses and cattle grazing. A few hills indicated graves of masses, but nearby plowing was in progress. I saw a war lazaret established in the large house of the tenant of an estate and learned for the first time how much can be improvised in a brief period. The director of the lazaret, in times of peace a circuit physician,* had placed the wounded in lordly beds, on straw, on improvised bedsteads, and provided food from a captured Russian rolling kitchen. The nurses provided even flowers. On the journey we

* Corresponding to our country physician.

also saw a Russian lazaret that had been evacuated in great haste. The equipment was adequate, though somewhat antiquated, while the surgical instruments wore the names of German firms. I was astonished at the large quantity of quinin, the Russians evidently being accustomed to reckon with malaria. In the cities we saw little destruction. Allenstein was entirely unharmed. The Russians had stated that the city was destined to be the headquarters for the Czar when he should travel to Berlin. Our journey led us to Tannenberg. We knew the landscape from Hugo Vogel's description: an undulating terrain, interrupted by woods and waters.

We reached Rastenburg late in the night, were assigned quarters, but found the house closed, so that we were compelled to have it opened by force. Then the owners appeared from the rear rooms and asked somewhat like Mephisto: "Why the noise, how can we serve the lord?" They were simply frightened. The Russians had occupied the city, had levied a contribution of 20,000 marks, and had threatened the authorities with rifles in the open market place until the money was produced. The next day I received another billet in the beautiful old order chateau, the residence of Brigadier General Mengelbier. The general was with his brigade, his family in the Reich, so that the residence was regarded as free booty. My bed was in the work room of the general, below a woodcock, antlers and chamois. A case which contained a fine collection of historical works served me well during hours of leisure. The stewardess brewed excellent coffee, so that I was well satisfied with my quarters. No one at that time had any idea that it was to be my lodging for nearly a year. We expected an early advance into Russia, and as the battles developed towards the south, we counted on being sent to the western front. Only gradually were matters arranged for a prolonged stay. The officers of the inspection messed in the hotel Königsberg, whose owner bore the name of the Russian general Rennenkampf. In the second hotel of the city, Thuleweit, the aviators kept house and had also a school. We always found something to eat, though on one day there was an absence of meat, on another of potatoes, while vegetables were almost never to be had. Butter and milk were available in small quantities or not at all. The table was covered by a cloth, the color of which varied between gray and black. It was never changed. This, however, did not prevent

the noon and evening meals from being passed in animated society. These hours of relaxation were cultivated with regularity, as intervals of rest from the hard labor, which filled the day and part of the night. Discussion of the service was taboo, but there was never a lack of stimulating conversation. Our circle included several men of wide knowledge and large experience who were endowed with the gift of entertainment, as Prince Dohna-Schlobitten, Count Kayserlingk-Neustadt, Count Strachwitz, Count York of Wartenburg. Others had social talents of all kinds, the common hope dictating the manner and subject of discussion.

Of the military operations and their significance we learned little more than was contained in the newspapers. One or another had letters from the west, but the few who could have strategic insight kept their opinions to themselves. We saw in the termination of the battle of the Marne a temporary barrier to the advance, no one realizing that it was the beginning of an endless war of positions. We hailed with special joy the heroic deeds of the "Emden," the battle at Coronel, no one dreaming that these were brilliant battles of lost posts. I was particularly struck by the credulity of even higher officers who blindly accepted the news in the papers, no matter to what party they belonged. One could readily see that the officers had been kept segregated from politics.

The SOS was not popular with the fighting troops, nor was it highly regarded at home. It irritated the soldiers to see strong men in the pursuit of activities akin to peace-time occupations, and in perfect security. The officer who came from the dangers and privations at the front and was invited to partake of a well prepared dinner in a joyous atmosphere, felt the difference keenly. Few knew the immense labor which was there accomplished. The SOS had the duty of providing the combatant force with all its needs, arms, munitions, utensils, horses, medical supplies, postal service, gifts, to create and move all the transport according to the requirements of the front-line troops, and to restore the railroads and highways in a partially devastated land. This exacted constant readiness day and night and an enormous amount of work. Hindenburg, at that time Commander-in-Chief in the East, sent a group of line and staff officers for a few days to the zone of the rear for the purpose of information. They confessed themselves supremely surprised at what had there been accomplished.

CHAPTER II

THE SANITARY SERVICE IN WAR

Some among my readers will be interested in the development and organization of the sanitary service in war. It was established by the war sanitary regulations, dated January 27, 1907. They were based on the experiences of earlier wars, which essentially were wars of movement and of short duration. In spite of the peculiarities of the World War, the organization as a whole proved effective and adequate. The peace army had medical officers for battalions, regiments, divisions, and army corps. The highest bureau in Prussia was the medical department of the war ministry, whose chief was also Surgeon General (Generalstabsarzt) of the army. Each garrison had one or more lazarets. Several watering places had homes for the sick of the army.

The training of capable military physicians has been the care of the rulers of the state since the 18th century. In Berlin there was since 1779 the "Pépinière," later called the Kaiser-Wilhelm-Akademie, for medico-military training. The students who were carefully selected according to capability and preliminary training, were given board and lodging and admitted gratis to the lectures at the university. They were obligated to serve six years in the army after passing the state examination. After that they were at liberty to enter civil practise, but remained obligated for duty in the event of war. Selected military physicians could be detailed to university institutions for several years for post-graduate study. Each clinic of the Charité had two detailed Stabsärzte (lieutenants of the medical corps), who occasionally, like Virchow, Leyden and Renvers, followed a scientific career. Courses were held in university cities for the post-graduate training of medical officers. Both the late chief of the medical department v. Coler and his successor v. Schjerning, have placed great weight on the most intimate contact with science. This was controlled by the scientific senate of the Kaiser-Wilhelm-Akademie, in which the most prominent savants of the university discussed the problems of the army medical service. Even during the war important sessions were held.

The first day of mobilization brought radical changes. Medical officers and sanitary enlisted personnel accompanied their troops into the field and the previous medical bureaus became reserve bureaus. They had charge of the army in the homeland and of everything the homeland had to yield for the army in the field: examinations for enlistment, the training of recruits, home lazarets, camps of prisoners of war, transportation service, and above all the procurement of sanitary matériel. The latter was centered in the main sanitary depot in Berlin, which gradually assumed the dimensions of an enormous industrial enterprise.

All previous military physicians and sanitary personnel were called to the colors for service with the army, as were all physicians who after six months' training in the line had been trained as medical officers of the reserve. Finally, physicians who did not belong to the army were obligated by contract. These latter had at first a very difficult situation, uniform and rank being accorded them only gradually. They rendered excellent service even at the extreme front.

Between the homeland and the zone of operations there is the wide belt of the "Etape" (service of supply or, abbreviated, SOS). The medical service of the SOS was under the etape or SOS surgeon, who had a wide field of activity. In this activity was embraced the control of various kinds of zone lazarets, the service for the transportation of the sick and wounded, the hospital trains, and above all the zone medical supply depot. The SOS surgeon had to make dispositions when notified by the surgeon of the army or by the inspector of the SOS about any anticipated battle operations or transports. Attached to him were the consulting hygienist and the consulting internist with the provision that the army surgeon could send them to the zone of operations of the army concerned in case of need. This took place very early, and we had freedom of movement. Finally at the headquarters of each army service of supply was also the seat of the zone delegate of voluntary aid (Red Cross).

The heaviest demands on the medical service naturally took place in the zone of operations. The most important and characteristic duty was the collection and care of the wounded. The most advanced echelon was the sanitary personnel of the troops: regimental and battalion surgeons, sanitary non-commissioned

officers and men. It was they who had to collect the wounded and afford them first aid. At a protected place behind the front, first aid was rendered at the *Truppenverbandplatz* (battalion or regimental aid station in the U. S. service). The second line was occupied by the sanitary company. Its main duty was the care of the wounded during and after battle. For this purpose there was available in addition to the medical officers and enlisted personnel, a train with the required personnel. On orders of the division surgeon it had to establish the *Hauptverbandplatz* (literally: main dressing place, corresponding to a collecting station) at a suitable site. Here the wounded were sorted according to the gravity of their injuries as walking cases, transportable cases, and as seriously wounded in need of immediate aid. The transportation to the rear was regulated accordingly, that is, to the collecting point for slightly wounded, field lazarret or still farther to the rear, to the SOS or home. The field lazarret was in the third line. Its duty was to provide definite care for the seriously wounded whenever possible, the performance of surgical operations, the application of permanent dressings, the splinting of fractures, and the like. To be sure the field lazarret had to remain mobile in order to be able to follow up its army corps at any time. For this purpose it had a large transportation staff to evacuate to the rear, if need be. The next rear echelon was the war lazarret department of the SOS (corresponding to an American evacuation hospital). As the struggle assumed the form of a war of positions, several changes became necessary. Thus immediately behind the front subterranean bomb-proofs for surgical operations had to be installed, when it became evident that cases of gunshot wounds of the abdomen had any prospect of recovery only when operated on at once. Field lazarets were given special duties and exempted from the inclusion in the corps, such as lazarets for epidemics, for nephritis, for nervous diseases. In case of approaching battle, actions or extensive movements, these lazarets often had to be evacuated in great haste.

The distribution of the sick and wounded, as a whole, was regulated by the chief medical officer in the field, and in particular cases by the surgeons of the SOS by means of the medical transport service. The latter was the intermediary between the chief surgeons of the SOS and of the zone of operations and the chiefs of the transport organizations (railroads, ships). It

had its seat at the headquarters of the SOS. It cared for the collection, care and subsistence of the sick until they could be transported, and maintained dressing and refreshment stations en route. This service was directed by a chief physician with six medical officers and an adequate personnel. The transportation of patients to the homeland was accomplished by hospital trains, each taking 300 patients. Trains were either specially built as such, or improvised by special equipment. There were also trains for patients who could be transported sitting. Soon there were added to the governmental trains auxiliary hospital trains of the Red Cross, which were equipped by voluntary contributions. Hospital ships were provided for transport by water. I saw such in Danzig. They were ingeniously arranged.

The chief field sanitary officer during the war was Otto v. Schjerning, a man of extraordinary acuity of mind, of great will power, devoted to his duty with body and soul, and at the same time benevolent and humane. What he has achieved may well be placed side by side with the deeds of the army leaders. His duty exhausted his strength. The débâcle hit him in the innermost recesses of his soul. He died June 28, 1921, a broken man.

Berthold v. Kern served at first as chief surgeon and later as field sanitary chief at GHQ Upper East. He was doubtless the rarest phenomenon among military physicians. He was an excellent physician, much sought in earlier years as a consultant, an extraordinary organizer, a rider of juvenile boldness, a Dante connoisseur, a philosopher and religious thinker of fame, a man of unerring justice and greatest devotion to duty—such were his characteristics. He personally inspected sanitary installations and lazarets, and it happened that if in a lazaret the patients were not well placed but the inspectors were, a “Donnerwetter” (the reader can translate that “cuss word” as suits his fancy) came down like lightning, and in an hour the situation was reversed.

The nature of my work especially brought me in contact with medical officers of lazarets. Epidemics and to even a greater extent serious battles occasionally made heroic demands on them. I have seen them dress wounds and operate for 36 hours without interruption. Not a few fell victims of their calling. Medical officers of the combat troops I saw mostly only away from battle. What they accomplished at the front, how

they fulfilled their heavy official duties in the front lines, how they were confidants and helpers to their troops, will some day, let us hope, be given the merited, vivid description it deserves.

A few statistics may be of interest.

There served in the army 33,359 physicians, of whom 17,530 were in the field. To this must be added about 3,000 with the Red Cross. Of a total of 3,743 military pharmacists (commissioned officers) 2,033 were in the field. Of 928 dental surgeons 300 were in the field. According to v. Schjerning, in 1916 the sanitary enlisted personnel amounted to 92,000.

During the four years of war there were treated in lazarets 10,080,476 individuals, of whom three per hundred (in round numbers) died.

The percentage of dead in comparison with other wars, was as follows:

War in the Crimea, 1856 (French).....	17.2%
1866 (Prussians)	8.6%
1870-71 (Germans)	4.5%
Russo-Japanese War (Japanese).....	7.6%
World War (Germans).....	3.0%

The losses of the sanitary personnel in the World War total in round figures 15,000 men, of whom 1,325 were physicians. A dignified memorial stone in the Potsdam cemetery, erected in 1930, assures them an honorable memory.

CHAPTER III

VOLUNTARY CARE OF THE SICK

A description of the medical service in war is incomplete without mention of the collaboration of the voluntary associations for medical aid. As the World War grew in extent, their field of labor increased to an almost incredible extent and their efforts cannot be too greatly praised. About 132,000 men who were not qualified for service with troops under arms, and 118,000 women served for prolonged periods as voluntary aids. These figures, be it noted, represent individuals who served in the field, that is to say with the army proper. Doubtless an almost equal number zealously rendered an immense amount of service in the homeland, in the work of collection and distribution of patients, at refreshment stations and in caring for dependents of the combatants.

The enormous organization had been carefully prepared during peace. Even in past centuries belligerents had made certain agreements for the protection of the wounded, but in the wars between 1792 and 1815 they had been forgotten. The frightful sufferings of the sick and wounded in the war in the Crimea were alleviated greatly by the efforts of Miss Florence Nightingale, which were solely her own, a service which was imitated by others. But it was the Geneva citizen, Henri Dunant, who, witnessing the misery of the wounded after the battle at Solferino, aroused the conscience of the European world so that in 1864 twelve nations met for the so-called "Geneva Convention for the Protection of the Wounded and Sick and of the Sanitary Personnel of Belligerent Nations." As the insignia of protection and recognition, the red cross on a white field was selected. Soon there arose societies destined to render aid in the event of war and relief in all calamities during peace. Organizations grew in all German lands, usually under the patronage of the princesses of the land. In Prussia, at the initiative of Queen Augusta, in 1866 the organizations united as the Women's Society of the Fatherland, a movement which was followed by other countries.

Since the initiation of nursing, Catholic orders such as the Elizabethan order, the Sisters of St. Vincent of Paula, the Order

of Sisters of Mercy with its branches, have undertaken the care of the sick. In 1836 Pastor Fliedner in Kaiserswerth founded a similar institution of deaconesses. To this were added women's societies of less strong religious ties, such as Zimmer's Diaconate Society and the Free Sisterhoods, which united in 1882 as the Union of Mother Houses of the Red Cross. Nursing was also undertaken by Catholic orders of men (Brothers of Mercy, founded in 1540), while for the care of the wounded in war several orders of knighthood were created: the Maltese Order, Knights of St. George, and the Johanniter Order, created anew in 1842 by Frederic William IV. Since the seventies were added the "Sanitary Columns" and a Guild of Volunteer Nurses (male) organized in 1866 by Dr. Wichern. As early as in the war of 1866 (Austro-Prussian) and still more in 1870-71 (Franco-Prussian) the voluntary nursing service was incorporated in the army, which gave excellent results. In the meantime the International Committee of the Red Cross had widened its scope and strengthened its organization. Twenty-nine states joined the original 12 founder states. A conference in Geneva fixed July 6, 1906, for the "Convention for the Amelioration of the Fate of the Sick and Wounded of Armies in the Field" and extended the protection of the Red Cross, which until then was afforded only the sanitary personnel of the military forces, to the officially recognized and authorized volunteer aid societies. In accordance with this convention the German Reich created the organization of the Volunteer Nursing Service (Freiwillige Krankenpflege).

The various organizations and societies had been reorganized already during peace as governmentally recognized societies, grouped according to countries, but held together under the direction of a Commissioner and Military Inspector of Volunteer Nursing Service, who was appointed by the Kaiser. It was his duty intimately to collaborate with the organizations of the Red Cross in preparation for war.

The duties of the Volunteer Aid Service were manifold: provision of male and female nurses for the lazarets of the SOS and of the homeland, provision of trained personnel for the care and transportation of patients, creation of auxiliary hospital trains and ships, establishment of dressing and refreshment stations and of places for night lodging at stations for the collection of patients, establishment and administration of depots

for gifts for soldiers, collection and distribution of free-will gifts. Other important services were the transmission of information about patients in military hospitals to their kin, participation in the work of the Central Bureau of Information, care of war invalids, care at health resorts (about 100,000 beds), care of prisoners of war, of returning Germans and of those in foreign lands, and, finally, the establishment of their own lazarets and convalescent homes. Their peace activities continued at the same time; communal nursing, public kitchens, care of nurslings, etc.

On the day of mobilization the Imperial Commissioner went to General Headquarters and a reserve commissioner undertook the direction in the homeland. The commissioner had charge of the delegates, of whom each SOS zone had one. Other delegates were assigned to evacuation hospitals, supply depots, medical transportation units, forts, etc. The higher posts of delegates were occupied by members of the high nobility, whose social prestige insured respectful attention on the part of the military bureaus.

For the duration of the war the voluntary aid personnel were subject to military authority and to the laws of war. They wore the brassard on the arm and could not under the Geneva Convention be treated as prisoners of war in case they fell into the hands of the enemy. The duration of the war and the extension of the fronts created great demands on the voluntary aid service. In the homeland men who were unfit for combat duty and women had to be trained. Countless young men and women of all social strata volunteered with readiness to train the inexperienced and to assume the hardships of service. Especially the nursing sisters, who had been accustomed to lives of ease, were outstanding in endurance and devotion. I think of them often with gratitude and pride.

Of the quarter of a million persons mentioned above, 72,000 were in the zones of the SOS; 178,000 in the homeland; 111,500 were litter bearers and nurses; 91,000 were sisters and assistant sisters. The service provided not only the prescribed 62 hospital trains and 112 railroad trains for slightly wounded, but contributed 86 additional hospital trains at its own expense. It provided in addition 3,470 society lazarets and convalescent homes with about 200,000 beds. The total expenditure, which was made possible by donations, is estimated at 700 million marks (about 175 million dollars).

CHAPTER IV

THE FALL OF 1914

During August and September, 1914, the German army had remained free of epidemics. As we learned from captured physicians, the state of health of the Russian army was also good. Gradually there appeared among prisoners and also among German soldiers isolated cases of typhoid fever and dysentery, and we learned that cholera and typhus fever had appeared among the Russians. Now it was necessary to be on guard, and it was my duty to go wherever I was called to examine suspected cases. Soon it was apparent that I could not be limited to these demands but had myself to ferret out the cases. Our medical officers had little time for exact investigation. Then they hardly knew the epidemics, I myself never having seen dysentery in adults. Many cases of typhoid fever were not recognized and had lain for some time with other patients with diagnoses of "grippe" or "bronchitis," threatening contagion of the patients and medical personnel. For this reason every lazaret had to be visited and investigated.

Finally I recognized the necessity of visiting the troops at the front. This took place in an amusing manner. The chief surgeon of the army called a meeting of the hygienists and consulting internists for the end of October, at which the measures to protect the troops against the spread of the epidemics were discussed. When the principles had been formulated and the session had been adjourned, I asked the army physician: "How many of these measures does your Excellency think can be practically carried out at the front?" "Ha, dat I know nit," he replied in his pure Swabian dialect, "I woss nit dere." "Why does Excellency not inspect?" "Ha, by de instrukshen I do nit belong dere. If someding happens, den dey say: 'Wat has de old jackass dere for bisness?'" "Excellency is in the right, but there is a young jackass, who would like to look things over." "Ha, den shust you go dere." "May I interpret that as an official order?" "If ye vant."

So I traveled one rainy fall afternoon to an infantry regiment, which was intrenched behind Darkehmen, announced my-

self to a captain of a company and asked: "Have you latrines?" "Yes, according to regulations." "Do the men go there?" "No." "Why not?" "You try it once." There was excavated behind the deeply dug trench in the heavy clay ground a four-cornered latrine with a seat, the pit filled with two feet of rain water. If the water had been drained it would have flowed either into the trench or backward into the village brook. The regulations were good, but how to carry them out? Take washing of the hands for an example. A towel would have been "clawed" immediately. Hygiene suffered shipwreck with marching or fighting troops, and so it happened as it has in every war, that typhoid spread slowly but unchecked. Large epidemic hospitals had to be organized. Thorn had good installations, Graudenz created a hospital city of 2,400 beds with baths and all facilities; Soldau, Neidenberg had excellent hospitals, as did Lötzen with its large Diaconissen Hospital Bethany. But they had to be utilized for the wounded who came in large streams from the continual battles, nor were they secure against a Russian invasion. Accordingly the spacious school for non-commissioned officers in Bartenstein was organized as a hospital for epidemic diseases, and similar institutions were created in West Prussia in the cities of Konitz, Neustadt and Preussisch-Stargard, in which last place we attained a veritable model institution. The distance played no rôle after we had found that patients with typhoid fever could travel in hospital trains without harm.

In this manner for me there developed a life of travel which swung me back and forth from the front to home territory. At first there was a dearth of maps and my early trips through East Prussia were made with the aid of a view postal card in which the Masurian lakes had been sketched in. The country was still under the influence of the Russian raids, part of East Prussia, back from the coast was still occupied by the Russians who threatened a penetration and were held back only by a thin veil of troops, consisting in many places of Landsturm. At one time the rear echelon of the army command in Allenstein packed up its documents, as the chain had been broken through.

CHAPTER V

THE RUSSIANS

In general the Russians proceeded with consideration during their first invasion. They hoped eventually to occupy and own the rich land, as the fruits of victory. The troops, in addition, belonged to the élite of the Russian army. Their officers had traveled through the country during peace, knew the distances and soon found their objectives. The owner of one estate told me that she had billeted twelve officers of the guard corps. One of them addressed her thus: "Gracious lady, you do not recognize me? Last summer I served as a tiller of the soil for you." When they bade her farewell they warned her: "Gracious lady, we are of the guard, but behind us comes the line."

Elsewhere there was destruction, and the longer the battles swayed to and fro, the more intense became the mania for destruction. It was astonishing how senselessly this was done. Houses of peasants, individual court yards, distant forest houses, were burned down mercilessly; on the other hand military barracks, schools, county buildings and churches were left unharmed, and therefore there never was any difficulty in providing shelter for the troops.

The Russians appear to have a particular obsession for furniture. Whole trains were filled with it and sent back to their homeland. In the residences reigned fury. Feather bedding was cut open. They vented a special hatred on pianos, which were chopped to pieces. In Darkehmen they entered the communal registry, took down the registration books and tried to tear out page after page and to transform them into balls. There must have prevailed among the soldiers a terrible hatred for writings.

They dealt harder with the inhabitants than was necessary according to the customs of war, about 12,000 persons being dragged away, who saw their homes again only after weeks or months. Many others perished in misery. On the other hand the notorious fables of frightfulness could not be proven true. These stories have circulated in every war for centuries, have been told also about our troops, and evidently are essential parts of war psychosis. In Allenstein I became acquainted with the wife of an officer who had held out at her estate near Neidenburg.

To her came rumor after rumor from alleged eye witnesses that in the city her father had been shot, the hands of the children chopped off, and the superintendent (church official) crucified on the door of the church. The father returned the next day, the children and the superintendent were unharmed. I later made the acquaintance of these supposedly murdered individuals.

There was much talk of chopped-off hands. Each city always named *another* in which such a misdeed was supposed to have taken place. I have visited them all and have made inquiries, but have never found any proof or any injured person. In Soldau, on the other hand, a misdeed was actually committed. A cossack entered the hospital, demanded a shirt, and as the sister reached high into the cupboard, he pulled her around and raped her. This was reported to the Russian commandant and the cossack was courtmartialled and shot. This was told me on good authority.

The Russians were not ungrateful for services rendered. The village of Roessel was forced to pay a contribution of 30,000 marks, but when the Russians noted that their wounded were treated carefully, they presented the lazaret with 1,000 marks. In Angerburg an old physician remained behind. The Russians had taken possession of his house, had plundered and soiled it terribly. In gratitude for the care he gave their wounded they wrote him a nice letter on their departure and sent him 500 marks. This came in very handy, for he was then reduced to what he had on his back. Overly conscientious, he hesitated to accept money from the enemy, but was greatly relieved when on inquiry at an official bureau I secured for him the authority. Wherever officers were billeted in a hotel they ate a good deal and paid well. Rennenkampf and his staff lived in the hotel Dessauer in Insterburg. The proprietor and manager had fled. Fritz and Max rendered the service. In the evening the officers compelled the young waiters to drink, and when they declined the officers leveled pistols at them and said: "Damned boy, will you drink?"

As a whole the Russian in spite of his mania for destruction, was good natured and not animated by an intensely bitter hatred of the enemy in the west. Several sisters whom I met in Königsberg, were made prisoners during the battle of the Marne, with their lazarets. They were taken through several cities, finally through Paris in open trains. They were spat at,

covered with mud thrown against them and treated severely as prisoners in the Hotel Dieu in Lyons, finally being exchanged via Geneva. I still hear one sister with her pious child's face express her indignation: "I was always nice to the French and they called me *leur petite mere*; but if I saw one today and I had a pistol, I would shoot."

Soon it was apparent that the zeal for war was not great with all Russians. Not a few came over and a German officer sent word to them not to disturb his night rest, but to let him know when they wished to come as then he would post a night porter. Some brought not only one but two or three rifles. These were then welcome trophies. But the most desired things were the field kitchens. In the German army these were scarce, the newly formed troops having none. One can appreciate that when a Landsturm regiment, which had lived perhaps for weeks on cold meals, secured one by capture, the men stroked the monster like a pet animal.

Once they were behind the front, the prisoners had little desire to escape. They soon were utilized for all sorts of services, even in the SOS. One could entrust them with any transport. I was amazed at the strength of these people, for Russia had been described to us as a country degenerated by alcohol and syphilis. Nothing of this was noticeable, the frames, teeth and musculature of the prisoners leaving nothing to be desired. Later when the factory population of Moscow was combed, there appeared in the field wasted men, many afflicted with tuberculosis. They were inadequately armed, one rifle for two men being the rule, and I myself have seen wooden guns which had been taken from prisoners. Today we know how difficult it then was for the Russians to replace the enormous losses in men and arms.

CHAPTER VI

THE LAZARETS

The old hospitals in Germany date back to the 15th century, when the plague raged in Europe. At that time there were created charitable institutions for the reception of the sick. During the reformation many hospitals passed to the possession and control of the cities, often for questionable purposes. They were used for indigent patients, for mendicants and prostitutes, and were dreaded by all. That period of enlightenment and humanity, the eighteenth century, produced a change. In many places arose new commodious buildings. During the nineteenth century the massing of people in industrial cities, as at first in England, led to the development of public health. Hygiene was based on the principle of cleanliness; the supply of pure water, fresh air, good light, and the removal of waste constituting its most important aims. Slowly these methods were adopted in the hospitals. But there still prevailed the terrible wound diseases gangrene, erisypelas, tetanus, which made every surgical operation, even the most trivial one, a matter of life and death. The American civil war demonstrated that wounded who were cared for in hastily and poorly constructed barracks recovered better than those in solid buildings. This experience was utilized by the surgeon Carl Thiersch of Leipsic in managing to get the new St. Jacob hospital built as a barrack hospital, that is to say as a system of individual one-story buildings. Heinrich Curshmann in Hamburg secured an even more perfect arrangement for the Eppendorf hospital, in that the wards allowed the passage of light and air in all directions, the floors, walls, beds and utensils were made washable and disinfectable, and numerous secondary rooms facilitated order and cleanliness. This structure continued in use even after it was recognized that the same advantages could be attained in buildings of several stories. The prosperous large cities rivaled each other in the building of utilitarian and often luxurious institutions; medium-sized and small cities followed suit with their provincial and charitable institutions, while social insurance constantly increased the bed capacity. In this manner the em-

pire was studded with a large number of suitable and in some cases even excellent hospitals.

But for the event of war all this was far from sufficient. On the eastern front the unexpected resistance of the Russian army, the intensity of the battles, and the resulting enormous number of wounded of both opposing forces, disturbed the order. Not only regular and reserve but Landwehr and even Landsturm marched to the extreme front, and it came about that the evacuation hospitals came under fire and even the reserve and Red Cross lazarets were exposed to the Russian invasion.

Above all the lazarets suffered through the difficulties of transportation. The railroads and wagons had the prime mission to care for the combatant troops, so that behind the front there often was a lack of what was most needed. The field hospitals, compelled to accompany their troops, could be improvised only for short periods, and even the hospital formations of the rear were forced to seek shelter in manors, castles or wherever there was space. Now it was revealed who of the medical officers possessed practical versatility. The medical officers with troops (regimental and battalion surgeons) as a rule managed things easily, as did the country physicians who themselves had the responsibility of administration, and even among physicians hailing from cities, nay even among specialists there were not a few who created veritable models of institutions with the simplest and crudest means. A clear eye, energy, resourcefulness, and the ability to select the proper persons from among the motley personnel,—those were the qualities that counted for success, and they were found oftener than one would have anticipated in view of the narrowly restricted professional activity of the modern physician.

During the winter of 1914-15 there were created in the home territory excellent institutions for epidemic diseases. It was a necessity of safety to evacuate infectious cases from the zones of the front and SOS. Almost all such patients were sent to the 17th Corps district, whose reserve corps surgeon, the tall, white-haired Generalarzt Bötticher never knew when to stop work. Thus there was established at first a small lazaret in Hilmarshof near Konitz, later an extensive barrack plant in Neustadt, which was not needed after it was completed, as far as epidemics were concerned, and finally a veritable model institution in Preussisch-Stargard, a lazaret of spacious bar-

racks with modern equipment (diet kitchen, delousing etc.) in which a staff of excellent physicians gave what was humanly possible in work and self-sacrifice. A few scientific contributions emanated from that institution.

Sheltering the patients became a difficult problem after the frontier had been crossed. The Polish cities were lacking in large buildings. To be sure there were everywhere strikingly large churches, Greek-Orthodox, Roman Catholic, and Jewish, but churches are poor lazarets because they are cold and unheated. Schools and barracks wherever found were appropriated by the military bureaus. Occasionally castles or cloisters could be utilized, but more often patients had to be placed in individual houses or in the peasants' compounds. A lazaret of 200 beds filled the whole street of a village, rendering the medical and administrative care very fatiguing. Nevertheless the patients did not fare badly. We learned from this that for the fate of the sick and wounded the care and attention of physician and nurses is more essential than external surroundings, and that in future we shall be able to abandon at home many previous luxuries in hospital construction.

Soon there also came hospitals for the prisoners. Behind the front all wounded were dressed and sheltered together, but in the camps for prisoners special lazarets had to be erected. The Russian as a whole was a satisfactory patient, simple, patient and grateful. He liked best to roll himself up under his blanket and to reappear only when he was well. For the Russians we made partial use of Russian physicians, who pleased us little. They were indifferent about their charges, thought only of their own comfort and pay, and professionally were quite incompetent. Exceptions to this were a few Baltic physicians. Much better were the "feldshers," wound physicians as Germany knew them until 1870, who had to take over the duties of regular physicians in the vast country districts of Russia in which university-trained doctors were scarce. We also had no unfavorable experience with the volunteer medical officers, mostly Jewish medical students. I was rather interested to meet among them several who had attended courses in Berlin.

During the first months of the war we were troubled little by war diseases, the main worry being the wounded, especially the head and lung gunshot cases so frequently seen in trench

warfare. It was some time before the medical officers were instructed that to do as little as possible was the best course to pursue. In gunshot wounds of the head brain substance protrudes after a few days. I met medical officers who saw in this a danger to healing and, therefore, removed the protruded portion, often to the harm of the patients. The brain substance retracts spontaneously when the swelling of the wound subsides. The gunshot wounds of the lungs ran a more benign course than had been anticipated. The very injury remained almost unnoticed, for there were men who continued to fight until the loss of blood exhausted them. The blood effuses into the chest cavity and is slowly absorbed, provided the wounded can lie still. I saw several cases where lazarets had to be evacuated in great haste. Transportation of these patients proved harmful and in some cases resulted in death. Later during peace the course of these injuries was studied with care. It was strikingly noticeable that they left little permanent damage and at no time did the old fear that these wounds would favor the outbreak of tuberculosis prove justified.

The winter of 1914-15 was severe. The military overcoat offered insufficient protection. For outposts and sentinels Russian sheepskins were obtained which with the fur on the inside afford adequate protection. To this was added an inexhaustible supply of gifts of woollens.

In spite of this there were many cases of frostbite. To a certain extent the gifts were to be blamed. We found men who put on five and six pairs of stockings one on top of another and thereby shut off the blood supply of the legs. The army surgeon v. Kern had to issue an order calling attention to this mistake.

CHAPTER VII

TYPHOID FEVER

Towards the middle of the past century physicians succeeded in limiting certain diseases of a group of fevers, which were classed together under the name of "typhus," namely, typhoid fever (Abdominaltyphus), typhus (Fleckfieber), and relapsing fever (Rückfallfieber). To these was added a related disease—paratyphoid.

Typhoid fever was long widespread in Germany. It occurred everywhere during the summer and fall and occasionally appeared in epidemics. Certain cities, *e. g.* Munich, were especially notorious, and it was almost a law that every newcomer had to pay his tribute to the epidemic. Even before the causative germ was discovered, there was instituted an effective war against the disease. The genial Henle surmised as early as 1845 that the cause of the affection was a living organism. It seemed probable from manifold observations that it was transmittable in water, milk and foods. Pettenkofer, the father of modern hygiene, drew from this valuable conclusions and repeatedly urged urban sanitation—supply of pure water and the removal of waste. Wherever canalization and water piping was introduced, the number of typhoid cases decreased rapidly. Koch, who had taught us to demonstrate the causative organism, proved that the source of contagion was the typhoid man, occasionally beyond the period of his disease, the so-called "carrier," who harbors in his bile the germ and eliminates it through the evacuations of the bowels. Now the source of infection could be found and checked in each instance. In a few decades typhoid fever became a rare disease, and many a busy physician had never seen it, let alone become acquainted with the many variations of its course by actual experience.

Typhoid fever, however, spreads whenever the hygienic conditions become bad. Naturally its appearance was to be anticipated during the World War. While the area of troop concentration in the west had been particularly watched, and even in the east the disease was rare, conditions were different in Russia and even in France where public sanitation did not

reach our standards. But how the disease insinuated itself into the army is to this day an incompletely solved problem. I was in the habit of noting the name and organization of every typhoid fever patient. When during September the first cases appeared and increased numerically in October and November, it was seen that they could not be reduced to one source, for they were distributed equally over the entire front, one to two patients from a company, a battalion, a regiment. One could do nothing else than to recognize the disease as early as possible and to isolate the sufferers.

Typhoid fever may assume many forms. About half of the cases run a routine course, which is not characteristic in the first few days, but easily recognizable from the second week on. Very frequently, however, one encounters different forms, abnormally mild and short, in which participation of some organ, as the throat, meninges, lungs, kidneys, veils the basic disease. In case of doubt bacteriologic study helps, but this failed as long as the laboratories were far behind the front and the field post could not transmit the specimens. But aside from that, many physicians did not even think of typhoid fever and therefore sent no specimens. They allowed the patients to remain with all others under the diagnosis of bronchitis, or grippe. These physicians were greatly astonished when I demonstrated to them the classic symptoms. One can also use one's nose. Many diseases give off an easily recognizable odor, as for examples smallpox and measles. The patient with typhoid fever has a not unpleasant aroma, which often caused me to suspect, if it did enable me to diagnose the disease. The physicians were amused and wanted to know the *smell* of typhoid fever. It is difficult to describe an odor, but one can present a comparison, and so I said to them: "somewhat like the hair of blonde women." Some time later I was called by the corps surgeon. "You have made a nice mess," he told me. "How?" "Since you have said that, the young physicians are running after the blonde sisters and sniffing their hair."

However, all the care could neither check nor prevent the spread of typhoid fever. While epidemics generally die out in winter, the number of typhoid patients increased, reaching a maximum in January and gradually lessening during the spring. During the summer of 1915 we still had a number, though a

smaller one. From then on the number decreased steadily and numerically was unimportant in the subsequent years.

How is this ebbing of the disease to be explained? We still do not know all about it. It is a general experience that every epidemic, whether combated or let alone, attains a certain height after which it ebbs away more or less rapidly. There are several reasons for this. First of all, the disease once passed gave the sufferer immunity against a new attack. Even the slight and slightest diseases afford some such protection, and it seems that so-called "mute" infections are very frequent. By "mute" infections we mean such as produce neither disease nor sensation of illness. Then it seems that the power of infection of the germs undergoes fluctuation, increasing and decreasing in the course of epidemics. In addition certain influences have been recognized in the Twort-Herelle phenomenon, of which it is not yet certain whether one has to deal with ferments or germs, but they grow both in the body and in cultures of germs at the same time as the bacteria, which they destroy.

To this must be added an important method of combating the disease. Based on the discovery of the immunity afforded by certain diseases after they have run their courses, attempts have been made to attain artificial immunity through the injection of killed germs, according to the example given by R. Pfeiffer. In this method there were extensive experiences of the British army in India. The German army had employed the protective inoculations in Southwest Africa and during an epidemic in the training camp Munsterlager. The results were not conclusive. The effects, fever and depression for several days, were very annoying. Many officers and medical officers for this reason opposed prophylactic inoculation, because the military situation did not permit troops to be incapacitated for battle even for a few days. In the mean time it had been established that the protective action increases and the obnoxious reaction diminishes if the bacterial cultures are killed not as formerly at 60, but at 55 degrees Centigrade. Nevertheless there were opponents among the commanders. In such cases I rode to them and had myself inoculated before their eyes. That always has helped.

Another and new barrier appeared. We learned that cholera raged in the Russian army. It was feared that this epidemic would spread along the eastern front, and an order was issued

to inoculate the troops against that disease. We could have tried to inject both vaccines at the same time, and we know today that our enemies did so without ill effects, but in our country Wassermann opposed it on the ground that it might be dangerous. His authority was too great to be lightly disregarded. As a consequence it came about that we did not begin the antityphoid inoculation of the troops until January 1915, and they were not completed until April of that year.

There has been much discussion about the success of vaccination. There is no doubt that the protection is not absolute. Vaccinated men became sick, and, if they had already been infected, often immediately after the inoculation. Morbidity and mortality were more favorable among the vaccinated, though Goldscheider's examinations showed that the difference was not great. There was therefore no dearth of criticism. Especially sharp criticism was made by Friedberger. It went too far. One may calmly admit that we do not have exact knowledge of the laws of epidemics. One may admit that the rise and fall in the World War shows approximately the same curve as preceding epidemics. But such curves related always to one locality, to one region of population. Each new city, each new area and again and again presented a new, individual curve. In the World War the scenes changed constantly. New areas were created by recruits, from home and by the prisoners of foreign countries, nevertheless, the ascent and descent of the curve has not repeated itself. One must therefore regard the advantage of prophylactic vaccination as an achievement of the war, which may be applied in times of peace.

Of the patients not a few remained permanent carriers. An order was issued not to discharge the patients until three examinations of the feces showed them to be free from germs. Occasionally even this precautionary measure allowed carriers to escape.

The home territory remained free from any typhoid epidemic throughout the war.

PARATYPHOID

Schottmüller, Kayser, and Brion taught us to recognize the causative germs, Paratyphoid A and B, which are similar to, but not identical with the germ of typhoid fever. They produce a picture of illness resembling typhoid. Paratyphoid B occa-

sionally produces vomiting and diarrhea, similar to cholera. Both were encountered in the war. But while the frequency of typhoid sank after the first few months, the number of paratyphoid patients on the contrary showed an increase. Type 13 was the more prevalent in the western theater of operations, whereas type A was more frequent in the east, and especially in the Balkan states and in the Asiatic theater. Numerically neither of these types of paratyphoid was of any great importance.

CHAPTER VIII

DYSENTERY

By dysentery we understand an inflammation of the colon, which is produced by living germs. Of these germs two groups are known: protozoa, amebae; and bacteria. Dysentery produced by the former prevails in warm countries and appears only exceptionally in Europe north of the Alps. The bacteria were first demonstrated by Shiga in Japan and by Kruse in Bonn to which are added related forms with somewhat deviating characteristics. Kruse has studied these varieties of species minutely and has designated them by the letters of the alphabet. According to him two main groups must be differentiated; the bacillus Shiga-Kruse, which produces a grave poison and serious disease, and all other germs of dysentery which do not form poisons and produce only a mild infection. But this beautiful scheme did not prove of value in the war. To begin with one was only exceptionally successful in demonstrating bacilli in the bowel movements of patients with dysentery. The material for examination had to be sent to the bacteriologic test stations, which were often quite distant, arriving there after several days. By that time the bacteria had evidently died. Not until the laboratories were placed closer to the front and the routes of transportation were shortened did the number of positive findings increase. Then, however, no parallel was discovered between the gravity of the disease and the kind of bacilli. In the course of time the conviction arose that the types of bacteria were no fixed species, but changeable according to circumstances. At any rate external circumstances, such as nutrition, conditions of life, play a greater rôle in the development of dysentery than of typhoid, and we have today reason to assume that germs which inhabit the colon as harmless parasites, may, under certain circumstances change their nature and become the causes of disease. This conclusion was reached by the bacteriologist Professor Boehnke, who studied dysentery most exactly during the war.

Grave dysentery is one of the most painful of diseases. Colicky spasms, the constant desire to defecate (tenesmus) which forces the patients to go to stool 40, 60, 80 times, does not let

them rest day or night. They become emaciated and lose more weight in a week than a typhoid patient throughout the entire disease. Often the disease passes into a chronic stage, which lasts months and even years, and even if the dysentery heals, there are not infrequently lasting disturbances of the heart, rheumatism, and weakness of the stomach. Dysentery, accordingly, is a dangerous enemy in war and demands great care and watching.

In Germany, thanks to the hygienic improvements, dysentery had been checked to such an extent that I myself, in a medical activity of twenty-five years, have never seen a case. It did occur often during the hot season in children. Later I learned from a pediatrician, Professor L. F. Meyer, the most effective dietetic treatment—avoidance of bread and of flour foods, and feeding with meat, eggs, and whey cheese.

I saw the first cases of dysentery as early as September 1914 in Angerburg among Russian wounded, and also a few among German Landsturm soldiers. I saw a larger number during the middle of November among war volunteers of the XXV Reserve Corps. These consisted in part of old reservists, but three-fifths were young volunteers, 16 years of age and younger. For weeks they had suffered hunger and cold. There was a lack of mobile kitchens and also of experience in campaigning. About 60 took sick and were sent to the epidemic hospital in Bartenstein. I saw them on their arrival. They begged fervently for food, for they were starved. What they desired could not be granted with that disease, but tea with a shot of rum quieted their stomachs for the moment. They all recovered, and when I told them of the successes of their corps, they all spoke in unison: "Too bad, we were not there."

The months of December and January remained fairly free. Towards the end of February the dysentery attacked to a critical extent the troops that had participated in the Masurian winter battles. This campaign, which definitely freed East Prussia of the Russians, is worthy of notice not only on account of the tremendous efforts in marching and fighting, but especially on account of the extraordinary circumstances under which they were made. Violent cold of 15 to 18 degrees below zero (C) with a sharp east wind had rid the roads of snow and transformed them into smooth ice paths, on which troops, guns and trucks had to struggle forward with great fatigue. A few days later I went

over these roads. To the right and left lay heaps of dead horses. But the men held through, resting a few hours on the open ground, without warm food, against an intense wind, tortured by thirst which they partially quenched from pools and with snow. Chilling and frost bite were prevalent. After a few days there appeared dysentery-like catarrh of the bowels, in some regiments in such numbers that more than half of the units were ill.

The troops should have been isolated until the epidemic ceased, but the officers stated that at that time no unit could be spared. Wernicke and I confronted a grave decision. A heavy responsibility weighed on us, in case the epidemic extended. The infectious nature of the disease was plain, but so was the influence of the external circumstances. We presented our expert opinion, with the suggestions to arrange for rest, distribution of cocoa, tea, oatmeal, and other anti-diarrhea foods, to distribute warm clothing and abdominal binders and to issue red or mulled wine. The result confirmed our hopes. Within a few days the epidemic died out and even during the summer the units suffered little from dysentery.

CHAPTER IX

CHOLERA

Cholera, indigenous to India, first visited Europe in 1831 and after that repeatedly. In 1904 it again reached Russia and remained indigenous to that country, though in a milder form. In July 1914 the border provinces Podolia and Wolhynia were officially declared to be infected by the epidemic. There Russian troops became infected, and they carried the disease into Galicia, there infecting Austrian troops, who brought it to Silesia. Thanks to the energetic intervention of the hygienist Oberstabsarzt (Major) W. Hoffmann, it was soon suppressed. The epidemic appeared also in Serbia, refugees carrying it over all countries of the dual monarchy. There about 23,000 cases were reported in the fall of 1914.

December 13, 1914 I was hurriedly summoned to Hammerstein, a large camp of instruction with numerous stone and wooden buildings, covering an extensive terrain. It was designated as a camp for prisoners of war.

The number of Russian prisoners in the first few months exceeded all expectations. The sheltering of the prisoners required a good deal of work. Existing buildings were soon overcrowded so that improvised shelter had to be prepared in great haste. One morning the camp commandant in Czersk at the Tuchel heath complained to me that the day before he had been advised that Czersk was designated as a prison camp and that the day after he had received 2000 prisoners. They had to bivouac in the open in the cold wet fall weather, and as I went through the camp with the commandant early in the morning, the prisoners begged him on their knees not to let them freeze to death. If these men had been given wood and spades they would have built in a few hours earthen huts, as they were specially skilled and experienced in this. There was plenty of wood in the neighboring forest, and the forest supervisor told me later in Marienburg that the forest bureau would have been happy to get rid of the wood. But such steps require application through official channels and what that means is taught by the old soldiers parable: The camel and the snail bet which would first reach the goal. The snail won, because the camel went via the service route. So

it took quite a while until the prisoners could be sheltered. Deep pits were dug, the walls cased with wood and an inclined wooden roof placed on top, a mighty stove was built of brick and thus arose habitations which were somewhat moist but not uncomfortable. The state of health of the prisoners remained excellent.

In Hammerstein there was no need of such improvised structures, for the buildings were spacious and clean, but not equipped for a large number of sick, let alone for dangerous epidemics.

During the night of December 3-4, 2500 prisoners were brought in. They had been captured in the battles around Lovicz and had been en route almost a week. Of them 110 were sick, 17 had died on the journey, 16 were suspected to have cholera, and new sick were added daily. One had to deal with genuine cholera as well as with typhoid and dysentery. Physicians and nurses had rendered superhuman service, but there was a lack of beds, appliances, syringes and medicines. The unfortunates rested in clothes and shoes on straw on the ground. A few cucumber pots had to do duty for their numerous needs. Everything needed was urgently requested by telegrams to Danzig, but it required days and weeks until delivery was made, the equipment being complete only when the last cholera patient had died or recovered. Later I had occasion in Danzig to talk over this matter. I was told that if the chief physician had taken a train and explained his needs orally, he would have received everything immediately. But the advice came too late, and besides no physician could have been spared, even for a few hours.

It is easy to sneer at such "red tape." But it is known that the army had always to fight for its needs against the resistance of parliament and had to reduce all costs to the minimum. Waste and graft can be prevented only by sharp supervision and control, and that is impossible without official formalism and records. The owner of a warehouse knows that as well as the army quartermaster.

In Hammerstein the delay did no harm, as the epidemic was quickly suppressed. Neither physicians nor nurses became infected, and no case appeared among the civil population of the city. Medical knowledge and energy accomplished all that, even under the most difficult conditions.

CHAPTER X

TYPHUS (FLECKFIEBER)

Typhus, like typhoid fever, runs a course as a disease with a high temperature, but without intestinal and marked local symptoms. This disease is accompanied by pronounced stupor and states of excitement. It has a very high rate of mortality, 10 to 20 per cent, which increases with the age of the patients. In children the disease runs a mild course, somewhat like measles. Anything that tends to lower the vitality, such as crowding in habitations, poverty, hunger, uncleanness, favors the incidence of the disease. This explains why in past times this disease, known as "hunger typhus," "war typhus," and "camp fever," produced the devastations we have seen for example in the retreat of the French army in 1812, after the battle at Leipsic in 1813, in the Crimean war, and in the Russo-Japanese war. On the other hand it was entirely absent in 1866 and in 1870-71. In Germany typhus had completely died out, the last epidemic having raged in Berlin in 1878. Since then a very few men have been infected by traveling artisan-journeymen. I myself had never seen a case. But it was known that typhus was indigenous beyond our eastern frontier and that we might have to reckon with its invasion in our army and our country. It was therefore my duty to go after each suspected case and to familiarize myself with the nature of the disease.

In 1912 the French military physician Nicolle in Tunis had demonstrated that typhus is transmitted by clothing (body) lice. While I knew of this through reports, I had not read the original publication, and not unlike most of my colleagues, I was not sure that Nicolle's investigations removed every doubt. We were, for example, not satisfied whether the louse was the sole transmitting agent or whether contagion takes place also from man to man.

Nicolle's statements have been fully confirmed and enlarged upon during the war. Only the louse that has sucked the blood of a patient in a certain stage of the disease can take up the causative germs, multiply them, and transmit them to healthy persons by biting them. Only the body louse plays such a rôle,

and not the head or crab louse, nor the flea or bedbug. It is striking that it is also the body louse that can transmit relapsing and five-day fever, to be discussed later. This possibly depends on the louse inoculating part of its saliva and stomach contents at the moment of biting man.

The struggle against typhus became a struggle against the louse. There was no dearth of lice. For weeks soldiers did not get a chance to change clothes and only occasionally to wash, and lice teemed in the dirty billets in Poland. In the trenches the lice found excellent means of spreading, and thus the army, as in previous wars, became thoroughly lousy in a few weeks, officers as well as men. We were poorly acquainted with the modes of life of this annoying parasite and with the means of attacking it. Those having most experience of the louse, the vagabonds and tramps, had made no satisfactory entomologic studies. Under shelter they sought and "cracked" their lice. The hosts of public shelter houses ordered moistened shirts and clothing pressed with a hot iron, which is, indeed, a simple and effective measure. But this could not always be carried out and furthermore offered no protection against infestation. All sorts of chemicals were tried, which like naphthalin against moths, were to keep the lice from the body. Manufacturers at home vied with each other in propositions and recommendations. About 200 remedies were produced, with attractive names, such as "louse-death," "Nich-o-lyouse," which were favorite Christmas presents in 1914. They all were useless, as was the officially recommended "globol," which was to be carried on the body in small bags. They had to be abandoned because these very little bags proved favorite haunts of the lice. The lice sought the body only for sucking blood and in the intervals remained in the folds of shirts, on the clothes, on suspenders, on the identification tags, pocket books and especially in the surgical dressings, to the frightful torture of the wounded.

The only effective method was the systematic delousing of the troops—bathing or showers for the body, superheated steam for the clothes, lysol for the shoes and leather equipment. Delousing installations had to be established by improvisation, if need be, and close behind the front. The men liked these installations very much and composed the superscription (freely translated):

"With confidence go in this house,
'Tis life for man, but death for louse."

No one was given furlough home without a certificate of having been deloused. For large troop movements gigantic institutions were erected at the frontier, which could delouse 45,000 men daily. There were nine such institutions, one of which was in Illowo, a frontier station, which had been established by the steamship companies to examine emigrants and to disinfect them.

But the danger was great as long as the civil population suffered from typhus fever. For this reason it, too, had to be deloused. This caused difficulties among the Jewish population, which opposed the bathing and hair cutting on religious grounds. As much as one would have liked to respect their feelings, necessity knew no law. But how to proceed? Each Jew had a sklad or small store. In a village every store was closed until the owner could produce a certificate that he and his family had been reliably deloused. In another village each inhabitant was given a tag, which was taken away at the delousing. Nevertheless several men and women slipped through in order not to violate the law, by sending their children two or three times in their stead.

The Surgeon General sent the well-known entomologist, Professor Albrecht Haase, to the east front to study the lice and lousiness. Although he was hampered by a stiff leg, he thoroughly examined all residences, lurking places, and trenches and brought out much of importance. Who would have thought that so small an animal with its short crawling legs can cover many meters within an hour, can wander through loose earth, and can crawl under walls from one room into another? Haase found even among the lousiest troops a few that were spared. They were assumed to give off an excretion which the lice disliked. I myself have been free from lice for a long time. It was only in 1916, when I spent several nights in a filthy shelter at the railroad station in Kowel, that I felt the next day a suspicious itching. I ordered the wagon to halt, hid myself in the woods, and found about a dozen which I "cracked" with care. But this was my only experience. I was, however, an easy prey to bed bugs, for even when my associates remained unmolested they knew how to find me, and in Russia they disturbed me every night. I had the habit of smoking incessantly and came to the conclusion that the tobacco odor kept the lice away, but I met an even heavier smoker who was covered with lice.

It is known that unclean races do not suffer from insects. Swen Hedin was made fun of by the Tibetans when he tried to rid himself of fleas. The Russians and Poles, too, suffered little from their lice. Professor Haase made on this point interesting observations. He found that the children feel the bites of lice, but eventually they became habituated. The habituation disappears in old age, and the old folks resume scratching.

Lousiness can become so extensive that one animal sits next to another so compactly as to hide the color of the tissue. In the collection of my clinic is a stocking of an old woman beggar which serves as an illustration. Similar conditions were seen in Russian camps. In Schneidemühl, which was transformed into a model institution, I met with Professor Brauer of Hamburg to study typhus fever. We combed from the shirt of a Russian a cupful of lice. Brauer went to the trouble to make a count. There were more than 6,000.

Typhus runs a more uniform course than typhoid fever. It starts suddenly with high fever and the prostration of a grave disease. At the end of the first week the skin shows reddish spots varying in size from a pinhead to a lentil—the roseola. In the second week these assume a bluish hue through the exuding of blood, and disappear at the end of the third week, with the fever. The most dangerous complications are inflammation of the lungs, which became frequent when the patients had to be transported during cold weather, and gangrene. The latter is due to the sinking of the blood pressure. Anything that impedes the supply of blood to the extremities, even the slight pressure of a dressing, sufficed to render the extremity bloodless and gangrenous. I saw gangrene cases in large numbers in May, 1915, among Russians in Danzig who had been transported over great distances in the wet and cold spring weather. The psychic behavior of the patients is striking. As a rule they become confused, excited and peculiarly delirious. A physician had a "vinegar dream." If he was given an injection, he objected with the words: "Do not inject vinegar." At a blood-letting (vene section) he complained: "Do not let the vinegar run out." A young colleague, a nephew of an army surgeon, militarily trained in the Pépinière, did not lose his discipline even during the highest fever. He greeted the medical officers strictly in accordance with their rank, and even when his uncle spent several nights at his bedside he never addressed him as "uncle"

but in accordance with regulations as "Herr Obergeneralarzt." After the fever disappeared he recalled nothing, and indeed forgetting of anything that happened during the illness is characteristic of typhus fever. One day I received the report that the garrison physician in a village in which typhus existed was taken sick. I found him busy with the preparation of an official report while he had 40 degrees fever. I decided to take him to the hospital, but he asked permission to finish the report. I waited, then took him to the lazaret, where he immediately became delirious. Later I asked for the report. I found it to be proper and correct. After his recovery, the colleague knew absolutely nothing of all this. We learned through Professor Eugen Fränkel in Hamburg that the brain, just like the skin, is the seat of countless inflammatory foci.

In 1915 the Austrian hygienists Weil and Felix found a bacillus in the blood of typhus patients. It belonged to the so-called protean group, so named because the cultures are easily changeable. The blood of the typhus patients causes the bacilli to agglutinate, that is, to change so that they clump together like balls. This reaction is one of the surest we know. Diagnostically it is all the more important because it remains during the convalescence, so that the source of an infection can be established quite late. To this day the cause of the reaction has not been explained beyond doubt. Weil and Felix regarded their proteus-stock as the causative organism. When later other organisms could be accepted as the living cause with greater probability, one had to regard the reaction as an accidental coincidence, unless one held with Kuczinsky that the new organism is possibly an outgrowth of the proteus, which so far has not been accepted by other investigators.

In the spring of 1915 these diagnostic aids were not yet available, and one had to recognize the disease by its symptoms. But we all did not know them thoroughly, and the large epidemics which devastated several of our prisoner camps, were due to the failure to recognize the first cases. When the diagnosis was made, the infection had already made great inroads. Some of our best physicians became its victims, among them Professor Luthje in Kiel. Called as a consultant to Silesia, he was unable to make the diagnosis early, became infected and died.

In the first winter months a few cases aroused suspicion. I

traveled after them but they always proved to be unusual forms of typhoid or paratyphoid fever. During February and March appeared the first certain cases among prisoners and later also among Germans, but all told they were few and principally among physicians and nurses who attended the sick before they were deloused. On March 27 took place a session of the Imperial Council of Health, as a result of which delousing on a large scale was initiated and physicians and sanitary personnel were provided with louse-proof suits.

The troops were threatened more seriously during the winter of 1915-16 as the army penetrated deeper into Russia, but we always succeeded in keeping them free, even when in the midst of a population with a grave epidemic. This was accomplished through the regular delousing, strict supervision and isolation of the civil population.

To show the extent the epidemic may assume under a collapse of hygiene, we cite the example of Russia in 1919-21. According to the estimate of the peoples commissar for health, 20 to 25 million persons were taken sick, of whom 2 to 2½ million persons died. It was in this manner that the black death must have raged in the middle ages. Although the country has successively passed through cholera, typhoid fever, typhus fever, relapsing fever, and malaria as large epidemics, it is today nearly free of epidemics, although it is hygienically by no means a model. Each epidemic runs its own course. This is one of the great riddles we have to solve.

CHAPTER XI

EXTRACTS FROM LETTERS SENT HOME

Rastenburg, December 27, 1914.

I do not yet know where I shall celebrate New Year's eve, possibly with the troops, for the old Generalarzt v. Wegelin has been stimulated by my stories and would like to visit the dugouts and trenches, in order to convince himself with regard to the sanitary arrangements and health of the troops. This is at present a fairly safe pleasure, as the Russians show little inclination to attack. Since the Christmas days they are cannonading Lutzen. They would like to hit the railroad station, but they shoot into Lake Loewenthin and kill the fishes, among them old gigantic robbers of pike, which are thrown onto the land and make good food during the cold weather. They sent to a Landsturm regiment an officer under a flag of truce with the message that they would not attack Christmas night, but that we should not disturb their Christmas* either. Our poor fellows in Poland have no comfortable time of it, they have undergone terrible hardships. Christmas boxes came in such quantities that a part had to be sent back and stored for later delivery. On the 24th there arrived 18 railroad cars with red wine from Antwerp and this was distributed among the troops so that each man received a half-bottle.

Rastenburg, January 8, 1915.

I have visited a few regiments in their trenches. These are very instructive expeditions. The auto goes over a turnpike, then over questionable field roads as far as it can. Then comes a strip which can be crossed only during darkness by walking or driving, as otherwise the Russians send shells. This is accomplished on foot, on sleds, or by wagon to the foremost courtyards, where one finds the men not on duty in the trenches. They rest in the stables, in rooms, while the field kitchen is cooking in the yard. During the day everybody is quiet because occasionally shells arrive unexpectedly in the courtyards. There is also the dispensary where the patients arrive and rest until they can be sent to the lazarets in the rear. In the evening life begins. The kitchen is driven to the trenches, straw, wood and

* 13 days later by the Russian calendar then in vogue.

munitions are brought forward. The relief marches to the front, the relieved troops march back. Food is distributed in the trenches. There digging and other work begin, but above all the men are drilled so as to afford them exercise, for during the day they live in their earthen residences or stand on guard in the trenches. They are given good food and drink, coffee and tea as much as they wish. Christmas and New Year they have wine from Belgium. They look splendid and are very lively. The men of the Landwehr and of the Landsturm, to be sure, are less happy and would prefer to be home with their wives. The service is exhausting. No one knows when the Russians will start something. Behind Gumbinnen they made an attack on their own holy night, with hurraing and much shooting. It was perfectly useless and cost them many dead and wounded without the loss of one of ours. During the night patrols come often to cut the wire entanglements. In short, one has to watch constantly. During the day the men go calmly to sleep, but the officers, on whom rests the responsibility, find no rest. They are called on the telephone, receive reports and are therefore exhausted and nervous, so that some have to go on leave. Of the two officers with whom I had spent so pleasant a night behind Darkehmen, I found one to have been operated on for appendicitis, the other had to ask for leave on account of exhaustion. It is not easy for the numerous corps to obtain good officers, especially considering the wounded, dead and sick. There is a great dearth of officers, more so than of enlisted men.

Rastenburg, January 17, 1915.

The day before yesterday and yesterday we had seven foreign military attachés as visitors. They represented Sweden, Spain, Argentine, the United States, Italy and Switzerland. The Swiss officer is Colonel v. Wattenwyl, whom I know from Leipsic. They are attached to the Great General Headquarters and are now being taken through the east. They were shown the battlefields and whatever they could see without risk. The Italian was treated with great caution, the others kindly. These made no secret of their sympathy for us. On this visit I learned all the interesting installations in the rear of an army, which are essential for its subsistence and well being. First they showed the aviation park, and six planes were sent up in the air. Then we went into the lazarets and laboratories where Wernicke is just trying out a remedy against lice. From there we proceeded

to the depots of the Red Cross—rooms filled with cigars, chocolate, cigar lighters, woollens. They managed it so that Christmas eve each soldier received two to three gift packages. Next we saw the SOS remount depot. There many hundred horses stood in beautiful, bright and clean stalls, better taken care of than many of our soldiers in lazarets. Then were shown 1,500 sleds, lined up in formation, for the transportation of munitions and food over the snow. Next came a warehouse of the quartermaster corps with mountains of foodstuffs and boxes of furs. Finally we saw the motor transport park with a repair shop, the coffee kitchens at the railroad station and the hospital trains. Most of all this I had not seen and I was glad and quieted to have been convinced that care had been taken to prevent the troops from suffering want. I was also glad to see the work shops of the gentlemen with whom I was in daily contact. The attachés were sped around and entertained in a manner which called to mind my visit to the United States.

Danzig, January 22, 1915.

Since Monday I have been on the road. Now I have new surroundings and new impressions. I cannot assert that they are more beautiful. The people here take too little notice of the war, carry on peace time business and peace quarrels, tell merry and dirty stories and drink as much as they can. I am usually not averse to all this, but now the atmosphere finds no echo in me. I have been given a powerful, open Opel auto and ride in furs and footbag. The wind blows against nose and ears, causing joy, except that evenings I have red eyes, become sleepy and am little inclined for long sessions in smoke-filled rooms, which are now and then arranged in my honor. The drivers are the same with whom I have already made a trip to Danzig—v. C., a non-commissioned officer, in civil life a representative of a champagne factory in Grüneberg, who travels in his own auto through six provinces, knows all the roads, drives safely, and who is a gentleman. The escort is a zealous oaf, kept at a distance by the noncom. Monday I went first to Heiligenbeil, with a noon halt at the estate Peisten, whose owner is an officer with us in Rastenburg. For Christmas he had his talkative and energetic wife as a visitor. She hails from Stuttgart and we immediately found much of common interest. The son is in the field, the daughter meanwhile shoots pheasants and rabbits and rides over the country to buy colts for breeding. In this she is an

expert. In Heiligenbeil lives a famous old county physician, Wollermann, friend of my old teacher, Lichtheim. With him I stopped for coffee with his three daughters, all serving as nursing sisters. The lazarets were in perfect order. In the evening I proceeded to Braunsberg. There I examined on Tuesday without interruption from 8:30 AM to 6:00 PM 750 patients in 15 lazarets, drank a cup of coffee and drove to Elbing. There on Wednesday I repeated the consultations as in Braunsberg. Thursday, under magnificent sunshine and snowdust, I went to Kadinen, Schlobitten and back to Elbing. Kadinen lies close to the Haff, has a hilly hinterland and is an estate like many others, a very simple manor, a so-called cavalier house, stable sheds and a few residences for officials. There the Kaiser lives as a simple country nobleman. His first walk is to the stable of his pedigreed pigs, which just now had sucklings of all sizes around them. The papa is a magnificent boar of five cwt. who grunted ungraciously because we disturbed his noon siesta. A stable was burned down on the 13th, supposedly a case of arson. Unfortunately 75 pigs which had been locked in perished. The sick and wounded diligently aided in the extinction of the fire, with those who previously had done most at the head of them. The patients are not placed in the castle but in the cavalier house, in small rooms and are well fed and cared for. The road to Schlobitten leads over undulating highland. There the wind had drifted great masses of snow. The auto got stuck several times, furiously turning the wheels but gaining no headway. Once a horse helped out and the other times we had to shovel ourselves out. I remained in Danzig a few days. I passed Marienburg for the eighth time without having a chance to see its interior. Here I am interested not only in typhoid and typhus fevers but in heart diseases which have appeared in mass. This is a new but not entirely unexpected enemy. The hearts which have been overspared and overtrained in sports act in a similar manner.

Rastenburg, February 13, 1915.

I returned here day before yesterday evening. The entire journey lasted almost four weeks and was very instructive in good things and occasionally also in unwelcome ones. The people in the home territory have great difficulties in adapting themselves to the regulations and orders. These clearly exist, even though they do not meet the situation. One manages somehow

to get along while another encounters annoyances. For example, the lazarets and installations are not uniform, but as a whole good, and at some places even excellent. February 2, I was in Neustadt in the typhoid fever hospital. The inhabitants objected because the institution was intended for wounded, and now typhoid patients are being sent. There was a lack of running water, sewage, etc., and everything had to be built later. On the third I drove with Generalarzt Bötticher against an ice-cold wind to Behrent, a god-forsaken nest in the so-called Kaschubei. There is a magnificent educational institute for catholic girls, directed by a prebendary in Pelplin. Weeks ago I looked at it and did not think it possible that it would be given up for typhoid convalescents. Yet that actually took place. Thanks to the wise mediation of the country councilress, our people are there well housed, fed and nursed. Only a small part of the castle has been reserved for the girls.

On the 4th I drove with an old Leipzig student of mine, who is now Generaloberarzt and Chief Physician of the Danzig lazaret, to the Russian prisoner camp at Tuchel, a miserable hole on the sandy Tuchel heath, on which pine trees abound. There lived 10,000 men in subterranean huts, which they themselves had built with great skill, 100 men to each cave. It is not very light in these huts and moisture occasionally falls from the walls in drops, but our soldiers in the trenches are not one whit better off. A barrack lazaret has been built for the sick. A delousing installation and giant kitchens have been erected. In that way the men really are not badly off, except that they suffer from boredom. In the evening we drove to Konitz. As we arrived at the hotel we heard of a railroad accident. We drove to it immediately, which enabled us to assist in the emergency. One train had hit the rear of another and demolished three cars with horses and men. There were 7 dead and 13 injured. The place looked frightful—the locomotives and cars were derailed, turned over and smashed into splinters. Among all this were pinned the horses, which had to be shot, and the wounded, who had to be extricated with the aid of axes! Nevertheless everything proceeded fairly rapidly, so that the wounded were in the hospital within half an hour. I visited them the following morning. I was most sorry for the guilty railroad official. For the past six months the railroad officials have rendered an almost superhuman service, and have directed the

heavy transports without a mishap; now a small moment of inattention throws them into the penitentiary. The following day I was in Hammerstein. This town I had visited several weeks ago when the cholera had broken out there unexpectedly, without a lazaret being ready. Today there is a beautiful institution with a bacteriologic laboratory, and the number of patients becomes less from day to day. To be sure, now and then matters could proceed a little more rapidly, if demands for hospitals did not first have to go through military channels, but finally everything is provided purposively and adequately. These are astonishing achievements in the midst of war.

Now I went to the well-known Preussisch-Stargard. There the typhoid fever hospital, in which in the beginning many a thing was lacking, has become a model institution. From there I went to Marienwerder with its magnificent cathedral, but this time, too, I could not manage to see its interior. From there I visited the hospitals in Deutsch-Eylau, Osterode, Soldau, and Gilgenburg. I drove past a brigade and was overjoyed at the appearance and liveliness of the men. Then I visited Mlawa, a city around which there has been much fighting. Since the end of December Mlawa is German again, the road has become a smooth turnpike, the city streets and houses have been cleaned, public latrines have been installed, large wagons with clean water have been posted, a bathing and delousing installation has been erected, and the previous Jewish bathhouse has been reconstructed for officers and men. The city is inhabited by trading Jews exclusively.

Rastenburg, February 19, 1915.

The day before yesterday I made an excursion to Arys, a barrack, training camp and hospital, in a country village which eight days ago was evacuated by the Russians, who left it in unspeakable filth. All residences have been robbed, the furniture smashed, leather and velvet covers torn off, the clock in the tower taken out, and, what is craziest of all, the steam laundry of the garrison was unused but broken to pieces, a job that could have been done only over days and, therefore, not at the moment of departure. The large latrine installation had not been used, but the space in front of it was covered with filth mountain-high.

On the way home we halted at a peasant's compound, which was hit by three shells, but had not burned down. I desired to

see its interior. A good deal of the wood work was splintered and a clay wall dented, but otherwise there was no damage. Just as I was busy making photographs, the owner with his wife and daughter returned. During the Russian occupation they had fled to relatives in Stirlak behind Lutzen, and they were glad to be home again. They passed no word of complaint over their losses. The wife ran to the garden and found the valuables she had buried intact, in spite of the fact that the Russians had built an observation stand near by. The man ran into the shed, found about 200 bushels of unthreshed rye and figured out: "50 are needed to live on, 50 for sowing, 100 can be sold to secure a pig and a horse." The entire supply of corn and oats had been stolen, but all were happy to be provided for the immediate future. I was asked to photograph the whole family in front of their shelled house. Are these people not splendid? And are they not a reproach to all who sit at home and whine? Yesterday I was in Lyck, which is in no worse case than it was already in November, but everything soiled à la Russe, even the lazaret in which they had their own sick.

Rastenburg, March 14, 1915.

It is not easy to establish hospitals in Poland. Large buildings, schools and the like, there are none. The houses are warm but small, so that at the utmost 10 to 15 men can be placed in each. If 300 to 400 men have to be cared for, a whole village must be occupied. But the evacuation transport is now well regulated, motor ambulances driving constantly to the nearest railroad station, so that no one need remain longer than one to two days in the improvised hospitals. For the physicians and sanitary personnel the constant admissions and evacuations mean, of course, much effort, but it is rendered through the day and through the night. It is not always easy to secure milk and eggs for the sick, and the soldiers must be content with what can be foraged. There is no dearth of meat. Barley and oatmeal are always available.

Rastenburg, March 21, 1915.

Yesterday I was in Willenberg—a lazaret misery. Our men were tolerably well placed in schools, churches and private houses, though very simply. But the Russians were laid out in the prison cells like herrings, on little straw, many dressed only once or not at all. One limped up the stairs, his foot hanging limply in his boot, another had a whole leg hanging on a

mere shred of skin. It is simply impossible to have enough physicians and personnel whenever the wounded arrive in streams. That always takes a few days, and while the men are to be evacuated, the trains cannot come up, because the roads are congested by railroad transports of men and munitions.

Rastenburg, April 6, 1915.

I met with Brauer in Schneidemühl and we visited Tuesday the typhus patients. The camp is now neat and clean. The Russians are pleased and in good condition. Our prisoners in Siberia are said to be tolerably well off, which consoles me.

In the afternoon I drove to the model institution in Preussisch-Stargard. Our typhoid patients are out of bed and joyfully stuffing themselves with food. New cases are rarely added. That is the result of the vaccination, which has been very successful. Thursday I was in Neustadt where everything is now ready, but thank Heaven most of the beds are empty. From there I went to the Russian camp in Danzig, where a few cases of typhus have made their appearance. The Russians have been sheltered in three captured English steamers and in Vistula river boats, and they are given much work to do. They had to build their own bathhouse, and were deloused in groups. Among them are terribly poor specimens. There is much tuberculosis, and it looks as if they had to scrape together all available human material to recoup their losses

On Good Friday I was given the rare permission to inspect a U-boat and to make in it a journey of several hours. To please me, they dived under the sea. They are aiming to go to Libau. I would have liked to go along, but I could not allow myself such a luxury. The fact is that I had an order from the army physician to go to Poland immediately, as typhus had broken out among our troops.

I went with the next train to Elbing, where I had something to do, thence during the night to Königsberg. There an automobile awaited me, bringing me to Rastenburg at five. I packed up and drove at eight into Poland. Meanwhile spring has arrived, lapwings, wagtails, and storks are on the meadows, but the roads are not always passable by autos. Where three weeks ago I drove with speed over the stone-hard fields, the auto now sank hopelessly into the ground, and had to be pulled out by four horses. We went over stones and holes to Radzilow to a certain lazaret. There I found about 20 men, all with fever,

thick, swollen eyes and scarlet red faces. That was not typhus, but what was it? I was told that a few hours further there were others with a similar trouble, so I again entered the wagon, went to Prztuly, where I spent the night in the lazaret. The next morning I went on to Supy, a small village close behind the front, where recently severe battles had been fought. Now the dead, Russians and Germans, lay peacefully side by side on a hill, a giant granite block with German and Russian inscriptions guarding the memory of their loyalty. I found there the same disease, but could make no certain diagnosis without additional means. Back I went via Lyck, where the army physician awaited a report. At 11:30 I was in Rastenburg, two hours later on horseback, an hour in a jolting wagon, five hours in an auto. There I found the entire SOS staff assembled for the Easter meal, and I celebrated with them until the early morning hours. The next day I secured a microscope and equipment, and then went anew to the suspicious sick.

In one lazaret they sighed for beer, in a division the soldiers cried for sad-irons, to kill the lice by ironing. I went on again in the new auto, racing like mad with the two jolly chauffeurs, first to see Kern in Lutzen, who assigned to me his adjutant, Professor Boehnke, then we went via Grajevo to Szuszyn. It had already been reported to me that the roads were not passable by auto. In Stawiski a wagon awaited me with two powerful horses. Immediately adjoining the city began the marsh. In an adventurous ride we reached our goal, the field lazaret Brzytuly, we sore in the loins, the horses sweating and covered with clay to their bellies. We spent the night in the lazaret and went the next morning to Radzilow. There I had already been Easter Sunday, and now about 10 more men had been taken ill in Stawiski with the same symptoms. One had to think of trichinosis, though there were some discrepancies in the symptoms noted. We now instituted with the aid of a few excellent lazaret physicians a systematic service. The hygienist, Professor Boehnke, questioned the men thoroughly; Dr Siegert of Bromberg cut out small pieces of muscle; a former assistant of Krehl examined the blood, and after an hour we found in one patient the trichinae. Now the puzzle was solved.

While we were examining, the window panes shook constantly. It appeared that the Russians had built a new battery which reached to the city. This we learned from the catholic

priest, with whom the officers of the lazaret were taking their meals. The old pastor was a Germanophile and was to be banished to Siberia by the Russians. The reverend gentleman gave us a Lucullian feast, such as I had not enjoyed for months: as an appetizer pickled meat, next young pig with savory sauce, next sweet-sour barley soup, roast of calf, cheese and coffee. The conversation was conducted in Latin, as the old gentleman knew neither German nor French. For this reason it was not very animated, but kind. A vicar with a St. John's head of almost girlish refinement aided in the chat as best he could. We were served by a canonical cook and her young niece. In the meantime it had rained gently, and it became dark as we completed our work. Now we hitched four horses to the wagon and rattled slowly and pantingly through the marsh back to Przytuly. There, in the meantime, the physicians had established a medical club in a whitewashed peasants' room with many holy pictures (which in Poland always have black heads), with our own saints, Hindenburg, Haeseler, and Bismarck, drawn on the walls with an indelible pencil. For the dedication feast we had a small keg of ale which I had brought along. The circle was especially nice, each man capable in his own way and tireless. The patients are cared for as in a clinic.

Thursday morning, after an inspection of the lazarets, we went back with the four-horse wagon to Stawiski. I had expressed a desire to secure two roasting pigs (sucklings) to take to Rastenburg. The train sergeant major, formerly a gaucho in the Argentine, promised to get them. He came back with two half-grown pigs. These were too large for me. To overcome this difficulty two men mounted horses, each swinging a bag in his hand, with protest being heard, and felt in the bags. These were my pigs. Later they were loaded in the wagon, and now we went back helter-skelter to Stawiski, where I viewed the city and its institutions. Almost all the inhabitants are Jews. The men do business with our soldiers, selling them meat, bacon (*trichinae gratis*), and cigarettes. The women squat on the street and chat constantly. The children play with the soldiers. The large synagogue has a balcony for the women, separated from the holiest by a lattice. In this space is our field post office, while below on the main floor the Jews, covered by their hats, sing their prayers and perform their quaint ceremonies. As the houses are close together without courtyards,

a communal latrine for the Jews has been built ages ago, a long plank stile leading to a house built over the river. One can see long coats dignifiedly crossing the stile before and after the payment of tribute to nature.

In a castle in the vicinity has been established a neat lazaret beneath the chandeliers and paintings of the forefathers. The castle is in a magnificent park, in which one can see the lazaret vehicles and field kitchens.

The road to Szuszyn has become dangerous. During the night a horse was drowned, but I came through under protest of the pigs, who did not like the shaking.

In Szuszyn I was busy in the lazaret. A Hamburg darling son, a war volunteer among the rough soldiers, was prostrate there with meningitis. His father, a consul, his mother and a sister were there, greatly worried, but pleasant and reasonable. Fortunately the nice youngster is doing better and he will pull through. In the meantime the pigs were given food, but instead of eating their soup, they bit to the right and left and made such a scene that all around nearly burst from laughing. That moment was utilized by a scamp to steal the chauffeur's furs. Finally we went on, first to Lyck to the army physician. I met a general in front of the headquarters, talked with him and was joined in the conversation by the pigs. Perhaps they will now be nominated privy war councilors. At ten in the evening I discussed matters with Kern in Lutzen, to whom I demonstrated the captured trichinae. In Lutzen a tire exploded. Now the driver became impatient and drove home at a speed, such as I had never driven before. At midnight I arrived in Rastenburg and would have liked to eat something, as I had had nothing since the morning coffee, but the hotel was closed. Tomorrow I have writing to do, and after tomorrow I must go to Poland again, but in another region.

CHAPTER XII

TRICHINOSIS

It really was at first difficult to recognize this disease. There were in a lazaret 16 men, all with high fever, with swollen and reddened faces, intensely red conjunctivae (the membrane lining the eye and lid) and a fleeting spotty eruption over the entire body. The throat, too, had red spots. It was on that account that at first it was believed to be typhus (the Germans call this disease "Fleckfieber," meaning literally spotted fever), but that disease has no swelling of the face. Three officers and their orderlies gave us a clue. To celebrate a birthday they had eaten underdone roasted hog meat, and three days later all became sick. One had to think of trichinosis, but there were missing the intestinal catarrh and the muscular pains, symptoms which are characteristic of this disease. Soon we secured confirmation. In another unit were 23 with similar symptoms, but 9 complained of pains in the muscles. A piece of muscle naturally was examined. I knew from my teacher Curschmann, that the trichinae have a predilection for that part of the muscle where it passes into a tendon. We took specimens from such places and found trichinae in an entirely fresh stage, as they immigrated from the blood, extended or bent like a whip, without a capsule.

Later it became evident that the disease was widely distributed among many troops. The country was rich in pigs, which often ran around in a half wild manner. I myself have seen in a village two pigs tearing up the cadaver of a dog. Native dealers also sold smoked foods and sausages, which were gladly bought by the men as a welcome change in diet. Four non-commissioned officers had bought a sow of more than three cwt. for 80 marks (about 20 dollars) to satisfy the craving for raw meat. All took sick gravely and painfully, but their eyes still shone, as they told how good it had tasted. Cases occurred also in neighboring armies, but were not recognized. They were assumed to be grippe or typhoid fever. One of my colleagues, misled by Polish physicians, who claimed to have found a germ resembling that of influenza in the excretion of the conjunctiva, proudly announced that he had discovered a *morbis novus* (new

disease), the Cracow influenza. As a matter of fact it *was* a new disease to us. It was frequent with us in the sixties of the past century. Virchow, Zenker, Fiedler had recognized the trichinae as the cause, and the disease was not checked until in 1875 meat inspection was introduced. Only a few epidemics have occurred since then, through irregularly slaughtered meat. I myself had never seen an acute case, and knew the disease only from literature, but our findings differed in many respects from the picture presented therein. In the first place many cases ran a mild course, a few showed only swelling of the eyelids, and could be discharged in a few days as recovered. Furthermore, there was an absence of the bowel symptoms which usually accompany the liberation and multiplication of the trichinae. Finally, not a few patients had no pains in the muscles at all. Some, on the other hand, had to suffer for months. We have lost only one man, a farmer of East Prussia, who knew the disease, diagnosed his own case, and declared that he would die from it. Neighboring armies were less fortunate, as in indigenous epidemics the mortality amounted to 25% and over. Official instruction of the troops soon helped, and I have seen the disease again in Berlin only in 1919. A globe trotter and writer had just finished a filming and celebrated the event by a feast in which a large ham from Poland was enjoyed. All participants became infected by trichinae. They were admitted to the Charité, and it was regrettable to see the muscles of a strong workman shrink from day to day. But they all recovered and without permanent damage, as I learned later on inquiry.

CHAPTER XIII

PRINCE JOACHIM OF PRUSSIA. HEART HOSPITALS

In April an order directed me to go to Heydekrug, to see Prince Joachim of Prussia, who was there assigned to the staff of the 6th Cavalry Division. I spent there two days, saw the prince repeatedly, accompanied him to Heidelberg, where he sought a cure under the direction of Professor Fränkel, and remained in touch with him after the conclusion of the war. Nature had not endowed him with great talents, and his character, which was basically good and frank, did not reach the proper development under the difficult circumstances of an imperial prince. The severity of paternal discipline, the hearty love but somewhat old-fashioned care of the Kaiserin, the unsatisfying life between court and regiment, were felt by him as barriers, and thus he never enjoyed life nor did he attain inner certainty and satisfaction. Personally brave, he was wounded and proud of it. Now he was tortured by the ills of a poorly developed body, palpitation of the heart, restlessness, to which were added the sufferings of a young man who was not allowed his freedom. He very much desired marriage, but the later wedlock of the two mates inexperienced in life, became a very unhappy one, and ended in the tragic death of the Prince.

I was in Heydekrug just as the cavalry division received orders to invade Russia. Russian Landsturm had raided the city of Memel and carried on depredations. The cavalry had the mission to pursue those troops. The Prince offered me a horse in case I cared to go along. How I would have liked to accompany the cavalry! Fundamentally battle is in the blood of every real man. But the damned sense of duty conquered, for my position was not that of a war loiterer. Our battle was of a different kind, and I separated myself with a heavy heart from the division, and returned to my lazarets, in which there was always something new.

In a few lazarets were accumulated cases of acute inflammation of the kidneys. There were only half a dozen or a dozen, but they were striking because so far we had encountered only a very few. That was the beginning of a peculiar wave of illness, which later gave us much trouble.

Since January, 1915, there was an increase of cases with complaints of heart troubles—rapid pulse, palpitation of the heart, sensations of fright, and shortness of breath at the least exertion. Soon each lazaret had dozens of such patients. The physicians were rather vexed what to do with them. They diagnosed dilatation of the heart or disease of the heart valves, put the patients to bed, gave them heart medicines, but attained small success. I was struck with the fact that in these patients it was impossible to find a sure organic change. As no one cared to assume the cost, I succeeded after some difficulties in having these men examined with X-rays in Elbing and Danzig. In a large number so examined it was found that the characteristic forms for dilatation or valvular disease of the heart were absent. Part of the patients were men of advanced age at the limit of bodily yield of strength, part were underdeveloped and weak individuals, but the majority were young men without any other bodily defects, though they varied in build and muscular power. I therefore regarded the condition as the result of overexertion, similar to athlete's heart, in which supersensibility of the heart remains for months and years after overexertion.* I delivered a lecture on this subject in Danzig, and made efforts to secure the concentration of all such patients in one hospital, which would permit better care and supervision. I particularly endeavored to show the physicians the fallacy of prolonged rest in bed and of the administration of heart medicines, and urged them to train the patients gradually after they had enjoyed some rest, so as to render them again fit for duty. Above all my aim was to arouse the interest of the physicians in this affection. How often has it happened that I was led past wards with the remark: "There is nothing interesting, those are only patients with heart disease." The physicians were astonished when I pointed out to them that in war those diseases are of greatest interest which appear in the largest numbers. The establishment of heart hospitals in the large hospitals in the home territory made only slow progress on account of the difficulties which I have already mentioned. Wenckebach, in Vienna, has established a "heart diagnostic institute," and has shown that real heart diseases accompanying war occur only in about 8% of the cases, therefore rarely. He has related his experiences in a fascinatingly written

* Reference to the soldier's heart of the Civil War. S. Weir Mitchell and others.

brochure. The Surgeon General has distributed thousands of copies of this contribution among German physicians, by which he gave them the needed advice and direction for their work.

It was perhaps a defect of the German army medical service, that for certain problems no investigating committees with the necessary equipment had been organized. There certainly was no lack of interest on the part of the surgeon general, for on several occasions he convoked the scientific senate of the Kaiser-Wilhelm-Academy in Berlin. In such sessions moot problems of protective vaccination, of the struggle with typhus, of caring for patients with nervous diseases, were discussed. But the investigation remained decentralized and limited to the inadequate means at the front and in the zone of the SOS. Austria had a different organization. There were for example surgical units under the direction of such eminent surgeons as Eiselsberg, which could be utilized where they appeared to be needed. Wenckeback did not belong to the army. His heart hospital in Vienna was restricted to that class of cases and could be correspondingly expanded. England, too, has worked out certain problems behind the front with all facilities. Something similar with us had only to be suggested, but the duties of the consulting savants were manifold, and it was left to each individual, to circumstances and to opportunity to decide whether he cared to apply himself to a special problem. Praise must nevertheless be given, for in spite of all, striking achievements of a scientific nature have been accomplished.

CHAPTER XIV

THE FRONT IN THE SPRING OF 1915

After the winter battle at the Masurian Lakes the front of the Eighth Army came to a protracted standstill. The opponents were in trenches, often only 40 to 50 meters apart, here and there almost fraternizing, and frequently observing a code of honor. Thus, for example, they did not shoot when an enemy left the trench to pay tribute to nature, which was signified by carrying a spade. It was only when a war loiterer wanted to prove his courage and fired a few shots against the Russians that the peace was disturbed. Such nonsense has cost the lives of a few of ours without any necessity. Boredom was dispelled in various manners. They made all sorts of improvised violins of food boxes, gave the liveliest concerts, which were applauded by the Russians. Camps and rest quarters were neatly decorated with branches of birch, the cemeteries were cared for, springs were barreled, and in the frontier village Chorzele they even built a well of clay and decorated it with an excellent medallion of Hindenburg.

Our front suffered great trouble by the Fort Ossowez on the river Bobr, which ran obliquely to our line. It was situated on a height in the midst of wide marshes, which were traversed by a railroad embankment in a north-south direction. For weeks the forts and the railroad were bombarded by guns of 150, 180 and 240 millimeter caliber, but they did not succeed. Then there arrived for support two of the famous 320 millimeter Skoda mortars. Curiously they were placed in a clearing of the woods which was in the direction of the enemy. The opening of fire on a beautiful sunny spring day lured many visitors from the staffs of neighboring units, who witnessed with interest the prompt manipulations of the nimble Austrian artillerists. From the fort slowly arose an observation balloon. Evidently the observers must have noticed the assembly, for in a few minutes it began to whistle in the trees, the Russians having sent a few shrapnel shells. I can take solemn oath that nobody ran away, but in a trice the place was empty. This carelessness cost the lives of two artillerists, after which the guns were dragged to covered positions. But even they did not suffice.

A few days later two "big Berthas" made their appearance and I had an opportunity to become familiar with these famous monsters. They made a great impression. These house-high guns were carefully placed on pile works while munition was provided by a railroad brought close to them. In mounting and dismounting the guns use was made of wrenches of the length of a horse. But even these famed wall breakers failed before Ossowez. To be sure the main forts were soon in flames, but the Russians had left them long ago and had placed their guns all around in field fortifications. When a heavy shell struck sand or a marsh, it threw sand or slime to a great height, but caused little damage. An artillerist who later was directed to investigate the effect of the bombardment has assured me, that if he had not known the large quantity of artillery shells that had been used against Ossowez, he would have been unable to determine it from the limited destruction. Not even the railroad line was destroyed permanently. Ossowez was evacuated only after it was surrounded.

July 8, 1915, I received a telegram from the Surgeon General directing me to report in Rawaruska in Galicia, as I had been transferred to the Eleventh Army. I then noticed how attached I had become to East Prussia and the friendly circle. Compared with peace the common work and common aim of men in war more easily unites them as one family. More fortunate than others I had several opportunities to go to Berlin on official business. It was a great joy again to see my wife and children. The dutiful work at the Charité during my absence was highly satisfactory. The colleagues in the institution, thrown for information on the newspapers, gladly received every one who brought the atmosphere of the army and a report of personal observation of its activity. Nevertheless I did not feel comfortable at home. I felt as if I were superfluous. The manifold complaints at home appeared to me as unjustified compared with the burdens of the soldiers in the field, as I also felt that the work in the field was the only kind fit for a man. Our Rastenburg mess consisted of men of very different descent and education, among them not a few of great mentality and knowledge. Conversation often went far above the commonplace. I became especially attached to the motor transport captain, Wolff, later director of the Mercedes works, and to Professor Stavenhagen of the Technical University in Charlott-

tenburg. We used to ride together in the morning and became known as the Academic Rider Squad, maliciously abbreviated as ARS. Witty and energetic Colonel v. Wilmsdorf had loaned me one of his horses, a black mare, which on account of her easy gait became known as the "rocking horse." Magnificent Wernicke and I were on excellent terms, and as for the energetic Generaloberarzt Gossner our relation was that of mutual respect. I would like to make especial mention of the old Prince Richard Dohna-Schlobitten, SOS delegate of the Red Cross. This friend of the Kaiser has been wronged in lately published memoirs, especially by Eulenburg and by Ludwig, as he has been accused of servility. I believe that the charge is unfounded. He was kind and helpful to everybody, high and low, on an equal basis, as, indeed, a fathomless benevolence was the very foundation of his character. He had transformed his castle Schlobitten into a lazaret, in which his daughter-in-law, the young Princess, served devotedly as a nurse. In Rastenburg the Prince lived with the country councilor v. Inn und Knyphausen. As a true East Prussian he liked to go during twilight to a "Hog Vesper," as they call it, that is, he went to a wine-tap to drink his grog. When I was not busy I gladly kept him company in these devotions. He was an excellent conversationalist, he had seen and experienced a good deal in life, and he knew the interesting story of his house, which once fought with the Wettines for power and had possessions down to the Province. I would have liked to look through the old library and the archives in Schlobitten, but there was no time for it. I owe the Prince a special pleasure. He took me along on a trip through the Rominten heath. It had been repeatedly crossed by Russian and German troops. Many a stag had cause to believe it. But the officials knew how to hide themselves, and it was interesting to see how the Prince, who knew everybody by name, found them at their old posts.

On that occasion I met a school mate, superior forester Speck v. Sternburg. In 1878 we had beaten each other up as Russians and Turks in the school yard in Leipsic, now we met again for the first time. Sternburg had not lost his old energy. He mounted his Landsturm men on requisitioned horses and caused the Russians a good deal of woe. To me the imperial hunting lodge was particularly interesting because some time since it was the summer home of my father's friend, Professor Nuanyn of Strasbourg.

Hindenburg's headquarters was transferred during the middle of February to Lutzen. Soon afterward Professor Hugo Vogel was summoned to paint the field marshal and the battlefields. I knew Vogel very well, for he had painted a much admired portrait of myself, and was just then engaged in painting a gigantic mural picture "Prometheus" for the lecture room of my clinic. Thus it was natural for us to meet on several occasions. When I went to report in April to the field marshal the condition of Prince Joachim, I enjoyed the rare privilege of an invitation. Hugo Vogel has described in his book these social evenings. The impression made by the field marshal, in whose head ripened the gravest decisions, and who evenings was so harmlessly happy and unrestrained and could laugh heartily, was magnificent. Ludendorff always remained severe and reserved. The spiritual hygiene of this hour of relaxation, which was the only one interrupting the tremendous labors of infinite responsibility and reserved for enjoyment, was admirable.

CHAPTER XV
ON TO THE NEW ARMY

The departure assumed a somewhat lively form. The telegram of the transfer reached me at seven in the evening. The next morning I took a last ride with the members of the ARS. The noon meal was changed into a banquet by the inspector of the SOS. There was much oratory and much champagne. It was not until four that I was able to pack up my belongings, in which naturally much went wrong. At six I was at the station for the departure. There was assembled the entire sanitary personnel, and, at the initiative of Captain Wolff, the trumpeters of the motor corps. And then I was on my way to Berlin, accompanied by my orderly Joesten. He was assigned to me when my first orderly, a colonial, remaining unoccupied during my many trips, wandered into wrong paths. Joesten could be trusted. He belonged to the Landsturm, was a foreman in a cement factory in Bonn, and as an old Hagenau dragoon was familiar with the care of horses. He remained with me for three years, ever zealous and dutiful, a loyal companion.

On arrival in Berlin I found my family away at a summer resort. In the Ministry of War I was given vague instructions. In the evening I went in an express train via Breslau to the frontier station Oderberg, just as in peace times. Afterwards the journey became war-like. A military train, 3rd class, crawled via Cracow to Jaroslau, where at three in the morning I got a little rest under shelter. At the railroad station chaos reigned supreme. I was told one had to look out for a passing train. At noon there actually came a train, but it halted at the very next station. The train for Rawaruska had gone five minutes ago. I asked why the train had not waited. The answer I got was that they had no connection with Jaroslau. Another train went at three, but stopped at seven indefinitely. A sort of reconnoitering train took us and our baggage and brought us forward, doing more stopping than traveling. At four in the morning it stopped definitely and finally, five kilometers from Rawaruska.

There were a few miserable peasant huts near the station. Our soldiers found some milk, water and a few eggs. At the

railroad station nothing was found; the officials had neither water nor food. At ten the station master informed me that cholera had broken out in the houses. I went into the miserable huts, crammed with women, children, chickens and pigs. I called together the officers and men of the train, instructed them about the measures to be taken with cholera, and then we tried to secure boiled water at the station, at which military trains stood daily for hours. A warrant officer (Feldwebelleutnant), a machinist of Elbing, soon found the needed equipment—bricks, clay, an old gasoline barrel. Water was secured from a slimy well, after we had emptied the slime and removed some frogs. The oven was completed in an hour and in another hour we had 100 liters of boiled water. While our men were working joyously and zealously, a couple Austrian soldiers were stretched out on the grass and smoked their pipes. Finally at one in the afternoon a train arrived which delivered us at Rawaruska in a tropical heat at three in the afternoon.

That is how the railroad appeared, which was to provide two armies with subsistence and munitions! It had only one track, with sidings for 40 to 50 axles, but our military trains had 80 to 100 axles. The track was hopelessly jammed with trains which could go neither forward nor backward. "You must not think you are on a strategic railroad," I was told by the station master, a Pole with the magnificent head of a priest, "you are on a secondary road." The line held 70 trains of which only 20 had been reported militarily, the others having been interposed out of "courtesy" to contractors. One manufacturer confided to me that he was unable to carry his donations in goods in any but this manner. Order was brought about only after a German military railroad officer undertook the administration. We were on Austrian territory and had to yield to our ally. The Austrian officials were kind and did what they could, but their power was limited in this otherwise neglected province, which had been occupied by the Russians for a long time.

In Rawaruska I learned the nature of my future activity. After the break-through at Gorlice the Russians were driven out of the Carpathians and from Galicia, and now they were to be squeezed back frontally and, if possible, enveloped. For this a second army was added to Mackensen's army—the Army of the Bug, under command of v. Linsingen. Generalarzt Wass-

mund was the army physician, and Oberstabsarzt W. Hoffmann was the consulting hygienist. Both were known to me from Berlin.

Galicia is a beautiful, fertile country and reminds one with its Carpathian Mountains running in a northerly direction, of Thuringia. It is inhabited in the west by Poles and in the east by Ruthenians. Everything was greatly neglected, estates as well as small farms, the latter divided in ridiculously small parcels on account of the inheritance laws. The inhabitants were very submissive. The small towns are inhabited, as in Poland, exclusively by Jews. In the maze of small houses one sees incredibly large churches. Here we also became acquainted with the peculiar wooden churches of the Ruthenians, with the belfry built separately. We saw them until we reached the region of Kholm. They have been studied during the war and have been described in several works. In contrast with this was the splendor of the capitals, Cracow and Lemberg. Unfortunately I had no opportunity to remain in Cracow, the city of Vitus Stoss and of the Czartorisky collection, whose precious pearls were exhibited in Dresden as a loan. The collection also has a portrait of a young man by Raphael, which has never been shel-lacked and has retained the freshness of the original colors, and Leonardo's incomparable girl with ermine. I became acquainted with the curious and beautiful churches and the interesting collections in Lemberg as well as with the city itself. Of peculiar interest is one half of an ancient rhinoceros which had gotten into a petroleum ditch and is preserved with pelt, hair and muscles in oil. The large open places, the trim theater, and the rich villas constitute an entrancing urban picture. The reverse side of the medal is not missing—the narrow, dirty Jewish quarter. The hotels are very modern, the restaurants are elegant and provide choice dishes and especially wines, such as even Borchardt did not possess, age-old Tokay, and—something new to us—Slivovitz and Starka, corn whiskey, browned from age and as fragrant as the finest cognac. The city has suffered much under the long occupation by the enemy, and when Linsingen made his entry the people pushed towards his horse to kiss the stirrups. I myself witnessed how when an organ grinder played the song, "Think ye of it, my brave Lagienka," an old white-haired, elegantly dressed gentleman broke out in tears and, as if to excuse himself, said, "This song could not be played under penalty of death."

After a few days we followed the advancing troops. My mission, jointly with that of Professor Hoffmann, was to visit the war lazarets and field hospitals. That was not so easy. The roads were bottomless, the auto failed, and as we had no horses we had to requisition wagons. In that manner we drove for days through the land under a streaming rain. Here we met our old enemy—the cholera. It probably never had completely died out during the winter in the Russian army and in Galicia, and now with the arrival of the warm weather it spread among the civil population, especially in the crowded Jewish quarters of cities. In Rawaruska 20 to 30 patients were brought in every day. The Russians had dragged away many peasants. These now returned over all sorts of roads, in great misery and gravely infected.

Now there is no disease that can be more easily controlled than cholera, provided one has adequate power. The disease is easily recognized, and has a short period of incubation—1 to 3 days. If one succeeds in quarantining and isolating all suspects and their environment, the danger for others is soon removed. In this we succeeded very quickly after we had crossed the Russian frontier. The marching troops were in less danger than the train columns and especially the men returning on furlough, as these crossed the country on side roads and came in contact with the inhabitants. Thus here and there a focus flared up, the source of which had to be sought and eradicated. In my own small staff the caretaker of the horses took sick. For a long time I did not know why, until it was discovered that the insignificant Saxon was a Don Juan on a small scale, and had much luck (?) with the native belles. From them he picked up the cholera. Tragical was the death of subphysician Böhmer. He had lived in Siam and had there gone through typhoid fever and cholera. He returned to Germany under countless difficulties. His lazaret marched in the dark of night into quarters evacuated by the Russians. The next morning it was noticed that the house had been a lazaret for cholera. Three men took sick, among them Böhmer, mortally.

In the German army cholera has attacked all told about 2,000 men. There were 800 deaths, each to be deeply lamented, yet a small number in the total loss of two million.

CHAPTER XVI
ADVANCE OF THE ARMY

Meanwhile our troops advanced farther to the north steadily in spite of constant fighting and great difficulties. The roads were bad, uncared for, and interrupted by countless water courses. The Russians had done everything to render them impassable. Their rear guard was a detachment of Cossacks instructed for destruction. Every bridge had been blown up, every railroad crossing has been interrupted, every village and all farm houses had been put to the torch, as was every ripe corn field. The damage was not very great, however, for the fires in the fields did not always spread and those in the villages were extinguished. The inhabitants had been driven out, and this proved fortunate for us, because it prevented the dangerous contact with them. But they already had begun to return, crossing the country, robbing and stealing everything they could lay their hands to on the way. They were infected with dysentery, typhoid fever, and cholera. On the other hand they brought with them cattle, horses, and chickens which came in handy to us. An uninterrupted chain of transport columns in rear of the army was the sole communication between the Galician railroad and the advancing force. Now was proved the value of the small, springless, light wagons in vogue in that country, and the so-called Panje* horses which have been ridiculed by our cavalry men. These crossed the sandy and marshy roads, zealously trotting on their short little legs, heads stretched forward like mice. In the evening they were picketed in grass or grain fields. They ate their bellies full, and in the morning were ready for more work. Endlessly zealous labor was performed by the road repair companies. The field railroads too, were slowly brought forward, nevertheless there was often wanting the most essential things, especially in the lazarets. Fortunately subsistence presented no serious trouble, the fields being full of wheat, barley, oats, buckwheat, and millet. The harvest was accomplished to the very utmost with the aid of the Russian prisoners. These prisoners were invaluable

* So named because their peasant owners are very polite in greeting each other with the Polish "Panje" which means "Sir," or "Mister."

during these weeks. Industrious, zealous, obedient, they did everything they were told to do without murmur and without attempt to escape. The field mail, nay, even munition transports could be entrusted to them. Whenever my auto got stuck in the sand or in a marsh and there were prisoners in the vicinity, I was soon freed. As Russian peasants they had been thrown on their own resources, and they had the knack skillfully to lift the wagon, to place stones or sticks under the wheels or to dig them out, and they did that with zeal, as if they had nothing better to do than to help an enemy out of his difficulty. Given a few cigarets they were regally happy. I never was in want of this commodity, for though there was occasionally a dearth of them with us, the Austrians had them in abundance, and those with whom we came in contact as was frequent, gladly provided us.

On a certain day I had a pleasant experience. The King's grenadiers were in bivouac in a pine forest with the promise of a day's rest. When I arrived in the afternoon, they had just halted. The men were half naked, washing themselves or chasing lice in their shirts. The officers invited me to eat. At the meal came a message: "The 8th Company requests attendance at a beer soirée with recitals." A barrel of beer was provided, a huge fire lighted, near which the officers and men stretched out. Two large fagots provided the soft illumination and in this natural theater a program lasting three hours was presented. There were given war songs, humoristic recitals, a parody of a retreat parade in which a non-commissioned officer with long legs sat on a diminutive horse and excellently mimicked the commanding officer. This was followed by a violin virtuoso, then the "growing man" presented his art, just as if he were in a winter garden, finally appeared the "foolish August" from Circus Schumann. The last one made a mistake and sang chansons, and couplets, such as "Frou-frou," "And then came she." All around one heard the horses eating. The stars shone. To this add the anticipation of a day of rest and you can visualize a spirit that is unforgettable. When I passed the place the next day the dream was over. The regiment had been given marching orders and was already starting after the Russians. Later I was able to find out the source of the unexpected barrel of beer. The King of Bavaria had promised on the mobilization that each man should have his "measure"

daily. Accordingly whenever Bavarian troops went with an army there always followed a beer train. On such a transport a barrel was "lost" en route. That was ours. Wherever Bavarians were in rest camps they organized a beer garden. When other nationals stood around with thirsty tongues, one heard, "Come here you poor Prussian scamp, you, too, shall have a half liter."

The land we crossed was infinitely richer and more fertile than the Prussian frontier provinces. True, there were endless stretches of marsh, bogs, heaths and woods, but farther to the north, in the region of Kholm and Lublin, the territory was richly cultivated and studded by large farmhouses and castles. In addition to the fields there were vegetable gardens and orchards, and I was not a little surprised to find in the garden of a castle fields with artichokes and ripening figs in the open. But the orchards had no noble fruits. The trees were covered by moss, the fruits worm eaten, the cherries sour, the plums undeveloped, in short the cultivation was as in the rest of Russia.

Our quarters changed according to the advances of the army, first in small castles in Hujee, Podubce, then with the army physician in Uchanje. I was deeply interested in the arrangement of those and other castles. The rooms were mostly on a level with the ground, large in size and arranged for sociability. The furniture was simple but trim, there always being one or two pianos, mostly by German firms we did not know. Occasionally one found a library, French and Russian works of the 18th century, bound in gold-pressed leather. After the death of Alexander I the volumes stopped, except for a few mistreated ones of Zola and Maupassant. In one small castle we also found a large wine cellar. The advance division had already requisitioned 2,500 bottles of red wine, but our resourceful corps staff pharmacist struck a freshly plastered place, which, on being broken through, led to a secret cellar containing age-old bottles thickly covered with dust. They had no labels and so the tongue had to decide. The first bottle proved to contain old Tokay, the second was still better, the third a thoroughly aged Rhine wine, the fourth probably was a nut brandy, the fifth, if I was capable of judging, a Bordeaux that had become onion-red—each an interesting discovery!

But one must not conclude that the time was spent entirely in such pleasures. More so than in East Prussia there was

need for looking after matters everywhere in person. Intestinal diseases prevailed among the troops and especially in the train, and even the staffs were not spared. The hot weather, unreliable water, unripe fruits, freshly dug potatoes, improperly prepared meat, and the chilling of the bodies during the night were the causes, to which must especially be added the spreaders of dirt infection—the countless flies no one could get rid of. Ever since Galicia they were constantly with us and a great plague, especially to the gravely sick whose eyes, mouths, and noses were actually covered black by them. Dysentery increased steadily, typhoid fever refused to diminish, and here and there cholera flared up. The field hospitals had to follow the troops not only to take on the wounded but also to shelter the sick with epidemic diseases. They were short of beds, bedding, sick-room utensils, dietetic foods, stimulants, and even the dressings and disinfectants were often despairingly meager. It was, therefore, particularly fortunate that the consulting hygienist and I were in a position to report to the army physician what we ourselves had seen, for he, with accustomed energy, always managed to remedy conditions, as much as was humanly possible.

To relieve the lazarets convalescent homes were established, one especially magnificent one in Turkowice. That was a famous pilgrim shrine, which also housed an orphan asylum for girls. Extensive buildings stood around a courtyard of great size, which latter adjoined the huge church, the grotto shrine, which in turn were in contact with the cultivated estate. There were stored immense quantities of devotional objects, as for example—wax candles varying in thickness from that of a pencil to that of a man's thigh. Closet after closet was filled with linens and embroidered shirts for the orphaned girls. That place was transformed into a model institution, to which thousands owe the restoration of their health.

The war lazarets caused us all sorts of worries. These installations, intended to take on the overflow of the field hospitals as a sort of fixed hospitals, were commanded by old majors or lieutenant colonels of the medical corps, part of whom had grown gray in the army before their retirement and had lost all initiative. Thus it could happen that the chief medical officer of a hospital would be playing cards far away in the country and hardly knowing where his personnel was. Under such circumstances it happened that of the physicians who for a year

had been working uninterruptedly in constant danger to life not one had been recommended for a decoration. It also happened that the nurses who were busy until long after midnight with the charges, were received by the inspector, when asking for supplies, with the sneering remark, "Who does not come at the proper time, must take what is left." Thank Heaven, such occurrences were unusual, but now became apparent the value of cooperation with the army physician and with the chief physician of the SOS of the army concerned. I knew I could figure on indulgence if I went beyond my duty, say, if I took the inspector to the quartermaster to secure what he could not obtain through military channels, *e. g.*, coffee, tea, wheat flour, sugar, rice, and cocoa. Here I should like to say something of the nurses who had been admitted to the war lazarets. A few were professional trained nurses, the majority however were volunteers, many hailing from high society and accustomed to an easy life, but now working untiringly, unceasingly and uncomplainingly, with the exertion of every ounce of strength. In Lublin, where the lazaret personnel was very badly sheltered, a large number of the war lazaret personnel became sick with dysentery and typhoid fever. When I visited the patients the first question I was asked was, "When can we go to work again?" For a lazaret the presence of a female nurse is a great advantage. The many little attentions and services which make the existence of the patients tolerable have a different meaning in the hands of women nurses than in those of men.

On August 1 our quarters were advanced to Kholm. We rode on the way, and as we came out of the woods we beheld on a sunny morning a magnificent view. A flat-topped hill rises from the undulating plateau, and is crowned by castle-like buildings, churches and towers with gilt domes, reflecting afar the morning brilliance, like Jerusalem, the city built on high. That was the seat of the bishop, a mighty prince of the church and a great hater of the Germans. He had flown.

On the castle hill one saw also a rare view. Towards the north we could follow the rear guard action, could see the Russians halt, fire backwards and withdraw while the Germans pursued. We could see the artillery take up positions and could observe each individual shot. The hill, then, was a splendid observation post, and we had a general view of a battle, which this "invisible war" presented but rarely.

Kholm was the capital of the province and seat of a corps headquarters. There were numerous large buildings, excellently equipped schools, a technical college, with welcome shops, a seminary for priests, and, in front of the city, an entirely new garrison lazaret with electric light and running water. The Russians had interrupted the supply of water by removing an important part of the machinery, and it was weeks before the part could be replaced from home. Until then water had to be brought in wagons from the city, but we made good use of the beautiful rooms.

At the first inspection I had a peculiar experience. In a distant shed I suddenly felt the ground give way under my feet and fell into a sort of cellar. I was alone and had great trouble in extricating myself, but I had made a valuable discovery. I felt under my feet a peculiar rolling, and I suspected that this was due to the noteworthy large casks in which the Russians keep alcohol. This proved so, and the alcohol, of which our lazarets had very little, came in very handy. The ground harbored other treasures which we discovered too late. Alongside the lazaret an aviation detachment had taken quarters. Its kitchen and with it a few sheds took fire. Suddenly the bottom was heard to explode repeatedly. The Russians had buried there bottles of cognac which were exploded by the heat. Not one of these could be saved, a most unfortunate occurrence.

I recall another alcoholic incident in Kholm. Near the city was a once large distillery, which was demolished by artillery and burned down. Jews busied themselves about that building. They dug excavations, collected the underground water and carried it home in buckets. It was later learned that at the outbreak of the war the Czar had forbidden the manufacture and drinking of whiskey, so that the stored goods had to be emptied. Kholm is built on a chalky ground, which is impermeable to fluids. In this way the alcohol or brandy or whiskey had become mixed with the ground water and remained there. The clever people found this out and learned how to distill off the alcohol. This became "ground alcohol."

The chalk gave us trouble, as after every rain the roads became as slippery as soap. If one stood in the middle and moved his legs, he slid unnoticeably towards the ditches. The same applied to autos, and it was due solely to the large wheels of my powerful Opel that I got through.

In the spacious buildings in Kholm we could organize the hospitals as we had long desired, yet they scarcely sufficed. Though cholera occurred only in isolated cases typhoid fever and dysentery spread, as was to be feared from the season of the year, increasingly, and it was no trifle for the hospitals when after the day's work transports with 100 to 150 sick arrived in the evening, and who had to be placed on straw in corridors or in secondary buildings. Relief was obtained only after contact with the railroad was established.

Warsaw fell August 5, and the railroad was rebuilt to the German gauge* with admirable rapidity. About 30 bridges were constructed. In Warsaw the destroyed bridge was replaced by a new one, so that during the month we reestablished contact with civilization. One must have gone through the privations due to the absence of the essentials, to which the troops, the lazarets and each individual were exposed, and must have seen the exhausted draft animals which maintained with effort communication with the miserable Galician railroad, to understand how pleasing the first whistle of a locomotive in Kholm sounded, and the enthusiasm with which we hailed it.

The seminary for priests in Kholm had a very large and valuable library, mostly of theologic works. It was carefully packed up and spared. But another treasure fell heir to requisition. A freshly covered wall of a cellar hid large quantities of copper, dozens of bathtubs, samovars, tea services, candelabra. The samovars were requisitioned and the rest sent to GHQ as a welcome enlargement of the meager stores of copper.

Brest-Litovsk was occupied August 25. Though it was a fort, the city was not defended, but had been evacuated. Unfortunately this occurred a few days too soon. Although our troops advanced steadily and a detachment had been thrown on the right bank of the Bug, the Russians managed by means of the astonishing effectiveness of their transport service to take the entire mighty army to the east, where it was secure. The German troops followed to the line Pinsk-Baranovichi. There they came to a halt.

Brest-Litovsk, an important railroad center and a large city, was devoid of human beings and frightfully devastated. The Russians did all they could in the way of hasty demolition. They drove out the inhabitants and burned the city. After they had

* The Russian railroad tracks are of wider gauge than the standard gauge of other countries.

left a gigantic depot of munitions exploded, burst the remaining window panes and produced a tremendously large crater. But it is interesting that in spite of the will to destroy, a city is never completely annihilated. Though the main street looked bad, all houses were in ruins, and the Mercury of Gian di Bologna hung sadly and crookedly from the roof of the bourse, a third of the city was in fair condition, and a third even partly available for habitation. Especially the large structures were preserved—the “blue” and “green” church, with its multicolored bulb-like towers, the government building, the schools, the barracks, as well as the fort located beyond the city on an island of the Muchaviez. The fort was, however, completely stripped.

Soon the inhabitants who had fled began to return, and I suffered no small fright when I saw a few Jews laden with mattresses and bed covers come from a house that had been used by the Russians as a cholera hospital. But nothing happened. The inhabitants were removed and sheltered elsewhere. At first things went badly and even the churches had to be utilized for the wounded and the sick, but in a few weeks we had order. We were given for a lazaret the spacious though somewhat uninviting barracks. There was lack of a good deal, but never in space. In front of the city we found a veritable jewel of a hospital, newly constructed and with the most modern equipment—the hospital of the railroad company. We made a lazaret for epidemic cases of it. The fort with its prosaic one-story buildings of brick was fixed up after a fashion as a residence for the governor-general, v. Waldersee. Later it sheltered the General Headquarters Upper East. There also the terms of peace with Russia were discussed. While the troops in the east occupied cantonments, the SOS inspection was transferred to Biala, about an hour's journey by railroad west from Brest-Litovsk. It was believed that this would be for a short time only, but in reality the SOS inspection remained there to the end of the war.

Biala was a pleasant country town with clean houses, a cloister, several large churches and schools. Near the city was a large castle, originally a Radziwill possession, but later falling through the Wittgenstein inheritance to Prince Chlodwig Hohenlohe-Schillingsfürst, who once held there a hunt. The population was almost exclusively Jewish. To the north were peasants' farms and large estates with poor ground, heath and bog, and to the south, beyond the Shtsha, were extensive forests, ponds, and marshes.

The offices of the SOS inspection were established in a girls' high school, which possessed an enviable collection of teaching material, a nice physical collection, stuffed animals, numerous wall charts of geology and ethnography, and a rich library, unfortunately mostly in the Russian language. There were established a cozy club, and homes for the men. There were ample living quarters. Suitable spaces were found for all depots, especially for the pretentious medical supply depot. Lazarets were established in the cloister and in other buildings. An extensive installation for sick Russian prisoners and another for civilians with infectious diseases, were also arranged. Two neighboring estates served as convalescent homes for officers and men. Gradually the railroad brought everything needed for these installations, so that shelter, care, and subsistence all were adequate.

During October we saw the last individual case of cholera, the number of dysenterics decreased, only typhoid fever still causing us some trouble. Towards the end of September I observed the first case of typhus in a captain of advanced years. We did not find out where he contracted it, possibly the disease in a mild form remained with some children over the summer. In the course of the winter the disease attacked the civil population and to a small extent also the troops. Here, too, delousing, which was soon initiated, proved effective.

Two diseases now attracted our attention. One was inflammation of the kidneys. I have already mentioned that in East Prussia and in Northern Poland the disease increased since March. I saw the first groups with the Army of the Bug in Kholm during August. We had to deal with an inflammation which starts in the vascular apparatus of the kidney, the so-called "glomerulonephritis." We had known this disease during peace. It usually follows infections, often sore throat, or else it has a certain relation to inflammatory foci in the body, *e. g.*, the teeth. Not rarely it follows a cold. What was new in the war nephritis was its epidemic appearance. It was not a reportable disease, and we had, therefore, no statistics for the entire army, but thanks to the kindness of Obergeneralarzt König I was continuously provided with the statistics of the units. These showed an increase during 1915-16 after which period they decreased steadily and rapidly, the following years showing only isolated cases. At the west front nephritis appeared

later, and was seen but rarely in the southern theaters of war. The most peculiar circumstance was that starting factors, such as sore throat, and the like, were never found. As a rule the disease began with swelling of the face, with or without fever, occasionally with headaches and backaches, sometimes without any subjective symptoms. A soldier told me, "I did not know that I was sick, but the comrades said, 'my, what a thick snoot you have!'"

Regarding the cause of this "war nephritis" there have been many disputes. It attacked especially troops at the front, infantry and pioneers (engineers), seldom cavalry and artillery soldiers, very rarely officers. Attacks in the SOS were exceptional, cases among the troops in the home territory were merely isolated ones, while the civil population was spared entirely. All this pointed to special influences of life in the field. Accusations have been made against the louse-remedies carried on the body, against cresol soap, against chilling, nay even against the denaturing of the food through prolonged cooking. None of these hypotheses explained the disease, and none its disappearance after 1916. The most probable theory is that of a special infection, perhaps through transmission by lice, but the causative organism remained unknown. The mortality was small, the majority of patients got well though often after a long time, and few cases became chronic.

The history of preceding campaigns involving privations shows bodily swellings, as for example Napoleon's Russian campaign. But it cannot be established whether that was a disease of the kidneys or that form of hunger edema (a watery swelling under the skin) which tried our home population. I have seen this form in the field several times, but never in healthy persons. The subsistence was occasionally meager but in the long run it was sufficient. But I was struck by Russian prisoners convalescing from typhus in the spring of 1915 who showed general swellings, which I then could not explain. The classic descriptions of the disease said nothing about them. Later I saw them occasionally after prolonged dysentery. Today we know that this was the same dropsy which pediatricians know as "Flour-nutrition-damage", and which we know from the years of hunger as the consequence of a diet poor in protein and fat.

The second disease was to us actually a "morbus novus" (new disease). In May 1915 I met in the prison camp at Lut-

zen a Russian, who had an attack of fever every fifth day, accompanied by swelling of the spleen, but without any other symptoms of malaria. I gained no clear idea, but copied the fever chart, and kept the case in mind. In the fall of 1915 similar cases appeared, at first isolated but later in larger numbers. The attacks of fever succeeded each other after five, occasionally after four, six or seven days, lasted about 24 hours, rather longer than in malaria, and were accompanied by very violent pains in the legs. The attacks gradually became milder and disappeared sometimes after the third, often only after the eighth to twelfth attack, leaving behind a condition of great weakness. Other symptoms, except swelling of the spleen, were absent. The plasmodia of malaria were not found in the blood, quinine, salvarsan and any anti-malaria remedies that were tried proved ineffective. On the occasion of a meeting of the military physicians in Warsaw, January 17, 1916, Professor Werner, corps hygienist of a neighboring army, reported similar observations, which I could supplement by ours. February 23 I lectured before the medical society in Berlin on this disease and called it: "Wolhynian fever," because I had first observed it in the lazarets in Wolhynia. Werner called it "Five-day fever." Inquiries sent to friendly colleagues at the west front showed that the disease was not known there, but it soon made its appearance there too. It was carefully studied by the English and named "Trench fever." It never appeared in the Macedonian and Turkish theaters of war. Professor Fleischmann found that Professor Dehio of the clinic in Dorpat, had already seen the fever in the Russo-Turkish war, 1877-78, and that he had described it as "a typical malaria." He could not separate it from malaria, as the cause of that disease was then unknown. An experienced family physician later reported a single case, which he had seen in a long practise. Werner has proven by experiments on himself that the disease is transmitted by lice. The English later made even more extensive experiments. I will revert later to the suspected cause. It is noteworthy that the physicians in Warsaw, who are experienced in infectious diseases, did not know the Wolhynian fever. It was never carried to our homeland. It disappeared with the conclusion of peace, and did not recur in Russia after the revolution, in spite of the extensive epidemics which raged in that country. In 1916 we became acquainted with a protracted form,

which manifests itself in long-extended waves of fever. At first we thought of typhoid, rendered mild through vaccination, but Dr. Jungmann succeeded in establishing the connection and transitions with absolute certainty.

Here we have an example of a peculiar war disease, that is, a disease which has so far been observed only in campaign. It offers a new problem to be solved by the science of epidemics.

In the early summer we had trouble with smallpox. It was fairly widespread among the Polish civilian inhabitants, and we were forced to vaccinate them, as far as this was possible. The army has been free from the disease almost entirely, vaccination having proved as effective in this war as it was so brilliantly in 1870-71. A very few cases occurred among the troops, mostly among men who had not been vaccinated or not successfully vaccinated since youth. It appeared as the so-called varioloid, a briefer course of the disease. It begins like genuine small pox with high fever and grave symptoms, but at the time when the pocks usually begin to fill with pus, they become dry and a rapid recovery takes place. Among the hundreds of thousands of men and sanitary personnel I saw six cases of varioloid. I experienced a single death, but it was a case with the frightful picture of black, that is bloody pocks, with hemorrhages of the lungs and bloody stools. It was a Landsturm soldier who had not been revaccinated since 1907.

September and October I spent in inspecting the newly established lazarets which were scattered from Kholm and Lublin to the north and east of Brest-Litovsk.

CHAPTER XVII

DETAIL TO THE XI CORPS DISTRICT

October 22, 1915 I received an order to visit the district of the home echelon of the XI Corps in the capacity of professional consultant. That was an innovation of v. Schjerning's, intended to restore contact between the physicians at the front and at home. It was soon demonstrated that this was very necessary.

The XI Corps district embraced the province Hesse and the Thuringian states. I had performed a similar activity repeatedly in the XVII Corps district (Danzig). This district was closer to the front, and being situated at the coast was really war territory, and maintained constant contact with the troops in the field. Now it was of value to learn the installations in the heart of the homeland, how the sick are treated, rated, and made fit for duty, and how far the physicians and authorities of the homeland had become familiar with the experiences of the war.

The physicians at that time had a hard life. Two thirds had been sent to the front, and though in the meantime one or another had been reclaimed, the number at home remained far below that of peace. Their autos and horses had been requisitioned, so that they had to attend to their city or country practise on foot or on a bicycle. Private practise made demands; operations had to be performed, pregnant women had to be delivered, and each had additional activity in one or several lazarets.

I secured quarters for the time being in Cassel and reported myself to the reserve corps physician. I found him surrounded by a dozen clerks, of whom not one raised his head. The reception was not cordial. "You have been sent to me from Berlin as a watcher." I explained to him that I was not a spy, but a consultant, that if I had any criticisms to offer I would make them to him, and that he was to be the first to see my report to Berlin. After that we got along harmoniously.

Again I began a life of travel. There were the university cities Jena, Giessen, Marburg with their clinics, and famous bathing resorts like Wildungen and Salzschlirf. In the cities the lazarets were placed wherever there was adequate space.

The hospitals reserved part of their beds; schools, factories, dance halls, gymnasiums, and clubs were arranged so that the patients were placed suitably and pleasantly. Good beds, clean bedding, and good food were found throughout. The nurses were self-sacrificing and could not go far enough in their zeal. The population gave much aid and gifts of love to the patients. It was a pleasure to observe that in the homeland, too, the humanly possible was done for the sick and wounded.

Nevertheless there were many imperfections of every kind. According to regulations such sick were to be sent to the homeland as presumably would not again be able to resume duty at the front, or who were in need of special treatment. Between the front and the homeland was a long chain of lazarets extending from the aid station with the troops, to the field hospital, war lazaret (evacuation hospital), and to the hospital in the zone of the SOS. Large troop movements or extensive battle actions often necessitated rapid evacuation, and thus many a slightly sick patient reached his home. There he was occupied but little and existed in boredom, was amply provided with gift-cigarettes, and became accustomed to a life of laziness, in comparison with which the privations and dangers of duty at the front offered little to tempt him. Compassionate nurses and relatives supported him in this. "You complained last week about pains." "You are not yet strong enough." All such remarks stifled the will to get well, and it certainly would have to be an energetic fellow who longed to get back to duty.

The situation was particularly bad in the remote Red Cross lazarets, in the convalescent homes, in the summer resorts and pleasure haunts, close to fountains of beer and whiskey. There the overburdened country practitioner appeared perhaps once or twice weekly, signed papers, looked hastily at one or the other, and sped on. These were veritable breeding places for "cold feet." All one had to do was persistently to complain of pains. Even the most experienced physician has difficulty to determine whether they are genuine or simulated, as not even the minutest examination allows immediate recognition. For this there was lacking time, means and as a rule also experience. The conviction that many of the seemingly stubborn affections of the heart, bladder, and stomach, paralysis and spasms, were not at all based on organic lesions, but were of psychic origin, only began to dawn at that time, was not fully entertained by

the physicians in the field, and still less by the physicians at home. In a small capital I was received with kindness by the chief physician, a gray haired practitioner. "It is well that you have come. We have a gravely sick man, and we do not know what is the matter with him." The reigning Princess, a benevolent lady, asked me to call on her, and commended the patient to my special attention. In the lazaret was a separate bed behind white curtains. In it was a handsome "May bug" (a nickname for a certain regiment of the guard-corps) of 21 years, completely paralyzed and affectionately nursed by the sisters, who stood around me attentively, awaiting my decision. The examination showed a typically hysterical paralysis, such as we have frequently seen after explosions or partial burial in earth. The physician did not see it that way, although I cited him all symptoms. I took the young fellow out of bed and tried to induce him to stand up. He fell into my arms while the tears were running down the cheeks of the nurses. In such an environment the poor fellow certainly could not get well. I caused his removal to the nerve-sanatorium Hedemünden, the head physician of which, Professor Vogt, was thoroughly posted on such cases.

I had similar experiences with the rheumatics. Rheumatism, as is known, is a collective name, under which is included quite a conglomeration of maladies. Genuine rheumatism, naturally, did occur in the field, but not as often as one would anticipate from the lasting cold and dampness. It could become protracted, and then treatment in a kurort (resort) was proper. There were about 400 such patients in one bathing resort. A resourceful resort physician had taken 150 of them to his sanatorium and made a contract with the army medical department which assured him one mark (25 cents) for each massage, electric treatment or mechanical treatment with a Zander apparatus. He managed to subject every patient to each such treatment daily, and in that way got a fee of 450 marks daily (about \$112.00). I ordered the patients for examination and what did I find? Two thirds suffered from flat feet. This causes a faulty burdening of the leg, as a result of which there is painful overstraining of the muscles, of the calf, thigh, and even of the hip, which often is considered rheumatic. The trouble is removed by inlays which support the arch. There were such supports in the supply depot, but they were not satisfactory. A good in-

lay must be fitted to the foot from a plaster-of-Paris impression. This I submitted to the reserve corps physician. "I cannot do that." "Why?" "The ready made inlay costs 4.50, but the one made to measure 7.50" (marks). "But each day's stay and treatment costs more than the difference." "That does not concern me, that does not go on my books." Words are inadequate to characterize such an attitude.

Each corps district had professional consultants, professors and specialists of fame and ability. They could be sent for as needed. I suggested that they be ordered to travel to all lazarets, and endeavored to make them acquainted with the peculiarities of front line medical service. This instruction was received with interest and appreciation, and it was of value to me to be informed of the later fate of the patients. In this way, I am sure, the exchange of experiences proved of value to both parties. To me the most important knowledge was the view I gained regarding the dangers in the home lazarets, and when I had the opportunity to give my advice in Warsaw, I endeavored to have as many of the curable cases as possible treated there. Too well I knew that each man who remains too long in a lazaret is bitterly missed at the front.

CHAPTER XVIII

WARSAW

Warsaw was captured on August 5. We obtained a large city with all its equipment, buildings, railroads, and waterways. The advantages were enormous. Of course much was destroyed, the bridge over the Vistula was blown up, rails and switches were broken, and industrial installations annihilated. On the other hand we secured immense buildings and spacious installations. From here ran the threads of administration, and here the government-general, which extended from the home territory to the limit of the SOS, could exercise both civil and military control. To the south was the border of the Austrian government, with its center in Lublin, while in the north we had the territory of administration of the armies designated as "Upper East." Soon the trains were in full swing. The Vistula was spanned at first by an improvised wooden bridge, and later by a wonderful steel bridge, and it took little time until the railroad lines of the east carried out regular train schedules. In February of 1916 I was appointed consulting internist also for the government-general at Warsaw. This was advantageous, because Warsaw with its large lazarets represented something like a rear SOS and collecting point and this facilitated an exchange of experiences and methods between Warsaw, the SOS, and the front.

Two fortress lazarets, one in the technical college, and the other in a different school, had bright and large rooms for wards and sufficient beds for officers and men. Special attention was paid to patients with venereal diseases. A special lazaret was established for them with another like installation set aside for infected civilians. A station for Wassermann tests, which functioned promptly, confirmed diagnoses. A large transportation detachment, ideally conducted by Professor Westenhöfer, the Berlin pathologist, functioned on a great scale, as did the delousing installation. A colony of villas near the city proper was transformed into a convalescent camp. We were especially fortunate in securing at that time special lazarets for heart cases. There they were carefully examined, and such patients as were found to be neurotics were given drills and exer-

cises and restored to duty. The hospital was established in the Institute Marienheim, an educational school for the nobility, and was excellently conducted by Professor Achelis, now head-physician in Erfurt. Likewise there were established special hospitals for diseases of the stomach, lungs and kidneys, to which later was added a large hospital for malaria patients. Care was taken to keep the convalescents occupied either in a shop or in a garden. In the large convalescent home Ciechozynek, those who were strong enough were compelled to drill and make marches. A specialist was designated to look after men suffering from flat feet. That was how my experiences in the home territory were utilized.

Obergeneralarzt Paalzow was the army physician in the military government. Until then he had had charge of the medical section of the ministry of war. He was a man of wide knowledge, of sharp vision, and of fruitful energy. He was assisted by the government physicians Oberstabsarzt Hochheimer, who died prematurely, and Professor Friedländer-Hohemark. The civil branch of the government had its own medical service under Professor Frey. Paalzow introduced me to the governor-general, and I received from him "*bouche en cour*," that is, permission to visit the officers' club as often as I was in Warsaw. The governor-general lived in the old royal castle. There also was the club. Life there was pulsating; an inspiring circle of officers brought us much of their varied activities. There also was a naval department, which had the mission to sound the Vistula, studded by sand banks and irregular immense depths. A little flotilla was used in this work which aimed at the regulation of water communication. The head of the passport department showed a list of the most charming names that were given there; of these I remember Mrs. Olympia Lambsass and Mr. Schmule Pantsmell.

Beseler, son of a savant, and himself a military scientist, liked to assemble around him after dinner a select circle. He possessed the rare art of stimulating conversation, in which every one was given an opportunity to participate. There were always guests, politicians, members of parliament, neutral foreigners, savants, and artists, all of whom attended concerts and recitals. The problem of an independent Poland was discussed a good deal.

It is not my purpose to describe Warsaw. The city is one

of immense contrasts, which always has been characteristic of Poland. There are broad avenues and squares, splendid palaces of nobles with rich collections of art, and richly equipped churches, all of which make an imposing impression. They are adjoined by a quarter of luxurious villas, which extend to the summer castle Lazienki with its large park. A few steps lead us from the streets of luxury to the thickly populated Jewish quarter of the Dzika, full of business and filth. The lower city, harboring laborers and the poor, entirely lacked sewerage. I visited with the hygienist a block of houses of several stories, in which lived more than 2000 beings, three quarters of whom were children. For this human mass there was in the courtyard a building with about 20 latrines. Adults and children preferred to pay tribute to nature closer to the house. The unfortunate janitor was busy from morning to night, for scarcely had he cleaned one side but what the other side was soiled. In that quarter typhus, typhoid fever, dysentery and small pox had never died out, and occasionally became epidemic. During the occupation we succeeded in arresting the spread of the diseases, in spite of the great poverty.

Warsaw suffered during the first period after its conquest. The normal commercial relations were interrupted, the revenues of the estates ceased, and many had their money in St. Petersburg (later Petrograd, now Leningrad) or abroad. For this reason, jewels, silver and pieces of art were offered at low prices and extensively bought by the Germans. In contrast to this was the life of luxury. The stores were magnificently stocked with furs, leatherware, silk stuffs, at normal prices. While rations were prescribed at home, there was every form of feasting in the hotels and restaurants. In the coffee houses were the finest pastry. At Fuchs' one got the best pralines (almonds roasted in sugar). It was striking that this continued to the end of the war, except that the prices rose to a high level. It was a secret where all the chocolate and sugar were procured. There were rumors of imports via the Austrian territory.

There still stood the Alexander cathedral, the orthodox church, which Russia had built with care, according to the strictest rules of Byzantine-Russian church construction, for pomp. Russian art has for the saints definitely prescribed types and definite specifications for wall paintings, for the

iconostat, which separated the nave from the altar, which and can be approached by priests only. The saints are regarded as eternal beings, above human passions. Here a peculiar concession was made to the Poles—in the narthex was painted a Pietâ with thick tears coursing over the cheeks of the God Mother, similar to the Spanish madonna in the Kaiser Friedrich museum. After the war the first thing done was to raze the cathedral, the symbol of Russian rule. Some time before, a second "Gessler hat" was removed with Beseler's consent—the bronze monument of General Paskievich, who had suppressed the Polish revolution in 1831 by bloodshed.

Gradually commercial life revived. Occupying troops and those on leave were good buyers and sent supplies to their families at home. The schools, the university, the technical college, were reopened and diligently attended. Theaters and operas were again providing entertainment. Most peculiar was the Yiddish theater. I visited it frequently. The actors were excellent, the program varied. Translations, especially "Nathan," "The Robbers," several Russian revolutionary dramas, but preferably melodramas glorifying the strict orthodox Jewish religion, were given. The language, though originally a Frankish dialect, can hardly be understood by us, but the Jewish neighbors took pleasure in explaining to the "field grays." They made a difference between the lean, half-starved Galicians and the robust, self-conscious South-Russian Jews, who doubtless are descended from a different racial mixture. This also explained the odd rites which were alluded to in the plays. A "baptized" one visits a pious family at dinner, and in a jiffy the housewife covers the bottle of wine with a cloth, for if it be given a godless glance, the wine would spoil! The manner of the Poles was reserved and increased in unfriendliness from month to month. The nobility and representatives of the higher social strata with rare exceptions kept aloof from contact. The same held for the citizenry. The students were unfriendly and impolite. Only the Jews adapted themselves to the situation. One of them told me, "We are conquered, so we are Germans and we have our Kaiser."

At that a Polish legion fought on our side. It consisted of about 4000 volunteers, among them many academicians. They were brave, but poorly equipped. When they were furloughed for the Constitution Day in Warsaw they drove through the

streets mostly with lovable companions, but gave the Germans angry looks.

The proclamation of an independent Polish reich proved to be a mistake, and it remains a puzzle how so wise and historically posted a man as Beseler could have so thoroughly misjudged the situation. It seems that Polish advisers had confidently assured him of success. It was hoped to gain a fair-sized army by recruitment. The country was full of strong young men, for there had been no draft since 1914. In each district seat a recruiting station was organized and staffed by an Oberstabsarzt, an assistant physician, a non-commissioned officer, and two hospital orderlies. Altogether, so it was said, 39 men reported for enlistment. Of these 38 were Jews!

Nevertheless the Poles behaved well during the occupation, so that resistance occurred nowhere. They could afford to wait, for they were sure of the realization of their national aspirations, no matter which side won. Only one needed to expect no thanks for their liberation.

CHAPTER XIX

THE EASTERN JEWS

The Eastern Jewish problem can be understood only by him who has seen the people in their country. In Galicia the Jews were permitted to own land, and we saw occasionally one in a long coat with a high hat on his head walking behind the plow. In Russian Poland this was forbidden, and they were restricted to the cities. A small town had 3000 to 4000 inhabitants living in houses on a level with the long streets, or, at best having one story, each house having its "sklad" or store. There you found a small bag of flour and cracked wheat, a few boxes with matches, a few balls of lime to whitewash the walls. The owner, his wife and a dozen children must live from the sale of these insignificant goods. Naturally every penny must be haggled over and the earnings increased by loan business and by other makeshifts. Acquainted as they were with secret roads the Jews were natural spies. The Austrians had the habit of publicly hanging spies. In Kovel were three gallows, which were seldom empty.

Smuggling flourished. The prices between the German and Austrian SOS zones and the territory of the government were competitively at variance, by which the people of Israel knew how to profit. Without bribery little could be accomplished, and many a brave guard became its victim. It began with a few cigars or with a thaler (a large silver coin) and when the Jew had his man, by threatening him with denunciation unless he yielded. I know of a case in which a brave musketeer finally was forced to commit a highway robbery and murder. That leaked out and cost him his life. The skill in smuggling was extraordinary. As late as in 1917 we were offered Russian rubber goods which were slipped through two fronts. This kind of goods was rare in our lazarets and therefore very welcome.

Alas, in the course of time, the honesty of the German military officials began to weaken, one or another showing himself willing to gain an advantage. But it was a dangerous business. A peddler complained to me, "One can do nothing with you

Germans, one wants too much and another has one incarcerated!"

For a long time the great misery has forced the Polish Jews to emigrate. Thus everybody had relatives in Berlin, Paris, Antwerp, New York. In the small town of Biala was a tailor who had worked in New York, and a shoemaker who had lived in London. Disposition, early acquired experience, and habits of life serve to endow this people with an unsurpassed skill in trading. The whole day they are in the street chatting, what one lacks someone else happens to have, and in that way is forged a trade chain which includes many outlandish commodities.

When the Army of the Bug concentrated in Lemberg in July of 1915 after the severe months in the Carpathians, there was a dearth of meat, flour, oats, hay, leatherware and other things needed by an army. There a Mr. Rosner, business man and owner of a gasoline well in Stry, offered his services and made himself so useful that he was taken along. He was finally quartered in Hotel Bristol in Warsaw and was indefatigable in big and small dealings. He provided many families and several courts in Germany with cigarettes, articles de luxe, sugar, chocolate, which were then available in Warsaw. When I needed a uniform or a pair of shoes he merely asked, "When may I call on you?" and I secured what was desired promptly, satisfactorily, and at normal prices. But his activity went beyond that. All cities were overcrowded with Jewish refugees, whom the Russians had driven out of the zone of operations. It was the duty of the communities to feed them. A maximum price had been fixed for all crops and none could be gotten. Suddenly corn and grain appeared in such abundance that the excess could be sent to the home territory.

The front needed heavy planks for dugouts. There was no lack of wood and machinery and saws were secured, but there was a lack of driving belts. The war ministry and the leather supply association were powerless. Thereupon Rosner asked the proper bureau of the governor-general for an auto truck with 10 men. He drove a few kilometers into the woods and there dug out 2500 kilos of faultless driving belts. The Polish owners of estates had the habit of selling the crops green. Five to ten per cent were paid in gold as "tail money," and the rest settled in any manner. In that way each had a few thousand roubles gold in cash. In times of peace the money

was spent in Paris or Monte Carlo, but now such trips were refused. Rosner approached them, "Baron, what do you do with the money? It brings you no interest. I give you for it 5% war bonds, which are as safe as gold!" In that way he obtained money, often more than a million per month, which was sent to the imperial bank.

Rosner doubtless did not lose anything by all this, but he had rendered the state important services, thanks to his resourcefulness. And he came close to a realization of his most intense desire, the award of the iron cross.

CHAPTER XX
LIFE IN BIALA

The quarters assigned me were in the residence of the vestry keeper of the orthodox church. Walls of one and one half meters thickness and heavy vaults certified that once there reigned troublous times. The church, too, had her secrets. Built decoratively in baroque, the building had two turrets, while its interior, evidently decorated by Italians, with arches and mouldings, hid a crypt. There was a rumor that there was a secret telephone. It was broken open. Of secret works there was none, but there were furnishings and treasures of welcome copper and bronze. In addition it contained the remains of a bishop who is revered by the Ruthenian church as a saint and martyr. They were later taken to Lemberg as a matter of accommodation.

The vestry keeper had flown, the sole occupant being a black, half-starved tom cat who, insisting on his rights in the house, was determined to enter my room through a window. The house was fronted by a garden with fruit and vegetables, behind was a group of old linden and maple trees, populated by hundreds of crows. The crows afforded me a good deal of diversion. At the appearance of dawn they began to caw, all in unison. After this morning talk they just as suddenly became mute and flew away to seek breakfast. They also observed an evening discussion, which likewise broke off suddenly. A few I knew by their voices; one cried "Herr, Herr," another "Hurra, Hurra." Later when food became scarce I had the nests emptied. The eggs look and taste like those of gulls, but are in various stages of development, there being found alongside of fresh ones many more or less hatched. I have also had some crows roasted. In Berlin they were marketed under the name of forest pigeons and did not taste bad.

My small staff also was lodged in the building: the excellent orderly Joesten, the auto driver Deubel, the escort, and the horse caretaker, who had recovered from his cholera.

The "rocking horse," too, reached me from East Prussia. A hussar had ridden it some distance, when Joesten rode it to

town, not a little proud because on the way many officers wanted to buy the beautiful steed.

The vestry keeper had a luxurious equipment. There was a heavy oaken table, a clumsily carved side-board, and massive chairs in one room. My microscope and appliances gave the furniture a learned appearance. A camp bed and the indispensable rubber bath tub beautified the other room. All in all a comfortable residence for years. As a co-tenant I had the ever jolly delegate of the Red Cross, Freiherr Fritz von Gemmingen of Stuttgart.

For me, however, it was only a billet, for in Biala were only small lazarets, the larger ones being in Brest Litovsk, and the rest distributed over the wide district which I had to visit. This extended from Lemberg and Brody to Kobryn and Bereza Kartuscha east of Brest. I was again traveling, at first under great difficulties, until the roads with their countless bridges and passages were restored. Long since I had given up eating during the day, as the time had to be utilized in traveling and work. Naturally I enjoyed it all the more to find a jolly meal in an officers' club during the evening hours. There has been much complaint about the luxuriousness of the officers' tables. But that was not entirely justified. In Biala, too, the duties and responsibilities of the officers of the SOS were very great, and I have already spoken about the hygienic value of the evening hour of relaxation. Field rations are not appropriate for work of a sedentary nature, at least not for a prolonged period. But the non-commissioned officers and men of the SOS, too, had their clubs and feasts. Later, it is true, when the campaign came to a standstill and the subsistence of the men became worse and less, the contrast had a disturbing effect, and the bitter feeling which arose was justified. Occasionally I was consulted by officers for disturbances of the heart—they had celebrated too much!

Now I could begin with the scientific studies of the manifold observations. I had asked the surgeon general to let me have my assistant Jungmann as a collaborator. He and Dr. Kuszynski, who as a trained zoologist was particularly familiar with bacteriology and protozoology (the science of organisms forming the lowest division of the animal kingdom), were placed in a private house opposite the church. There we equipped a laboratory with the needed appliances. There were

stalls for experimental animals and attendants. So I was really happy, after having spent much time in exclusively practical work which necessarily often was superficial in character, to be able to devote myself to the accustomed scientific work. To be sure I was unable to do much work myself, but the contact with the two, young, indefatigable savants was a real enjoyment.

The army had as volunteer sanitary personnel and as auxiliary physicians a large number of medical students, who had to interrupt their studies at the outbreak of war. The surgeon general detailed as many as could be spared to a course in medicine and surgery which was given in Brest-Litovsk. The zeal of the young men, who had been away from their studies so long, was very great, and the instruction of the young fellows was a real pleasure. We did not succeed in having this course credited as an academic semester. The surgeon general properly pointed out that this would serve to the disadvantage of those who could not be detailed to the course.

CHAPTER XXI

RELAPSING FEVER

During the winter of 1916 we were surprised by a disease, which, like typhus, was once indigenous in Germany, but had long since disappeared—relapsing fever. The last cases had been observed in Berlin in 1878, and Dr. Obermeyer, a collaborator of Virchow, had found in the blood snake-like, motile organisms as the cause. In January an epidemic of a grave form with many fatalities broke out in the Austrian prison camp in Lyck. In the same month we saw this disease in localities of the Polish civilian population, but with a milder course. We were compelled to establish civil hospitals for typhus in Radzin, Wlodawa and other cities. Now it was remarkable that typhus became rare and rarer, but that relapsing fever increased instead. We studied minutely the mildest forms in women and children. This disease, too, like typhus, is transmitted by lice, but there must be in addition a special something, for the transmission is more difficult. It has been suspected that it is the feces of the lice which infect the skin when scratched, but we learned nothing definite. The disease did not attack our soldiers, not even our sanitary personnel, at least I heard of no case.

Salvarsan has proved very effective against relapsing fever. If the bodily strength had not gone down too far, one injection was sure to help. In this we succeeded in what Ehrlich aimed at for syphilis—the *sterilisatio magna*, the complete annihilation of the causative organism. The proof was established by a few cases, in which after a few weeks a new infection began.

CHAPTER XXII

THE WARSAW MEDICAL CONGRESS

The German Congress of Internal Medicine convened annually in the Spring, usually in Wiesbaden. The last one was held in April of 1914. I was appointed president of the congress to follow. The spring of 1915 with its battles and troop movements and the flaring up of epidemics east and west appeared to be inopportune. The executive committee decided to pass by that year. On the other hand the surgeon general ordered a session of the war surgeons to be held in Brussels, which session had valuable results, definite conclusions being arrived at especially for the treatment of gunshot wounds of the abdomen and head, and for the prevention of tetanus (lock jaw).

During the fall of 1915 the fronts in the east and west had become stabilized, and extensive experiences in war diseases had been collected, which called for presentation and discussion. For this reason the surgeon general willingly granted my request to hold in the spring a congress in Warsaw. The governor-general v. Beseler also gave his consent. The session was designated as an "extraordinary" one, as it essentially deviated from the customary arrangement. Only reports and discussions that referred to war diseases were to be presented. The German Society of Internal Medicine has not a few foreign members. These naturally could not be admitted to occupied territory. A few were very bitter about it. Professor Sahli in Berne even resigned from the executive committee and calmed down only after years. The majority of the members, however, realized the necessity for the prohibition.

It was my job to select the subjects and the speakers. The local organization was assumed by the physicians of the government-general, Army Physician Paalzow, Oberstabsarzt Hochheimer, the chief physicians of the fortress lazaret II, Drs. Ferber and Hermann, and the chief physician of the transport detachment, Prof. Westenhöfer. Important assistance was given also by the military railroad direction IV under Major Prager, an officer I knew from Rastenburg.

Any one who has ever directed a large assembly knows how difficult it is to move men and how much success depends on

good preparation. In our case everything went off smoothly. Long railroad trains brought the participants from home and from the west front and all stopped at one and the same platform. There we had hundreds of sanitary soldiers and convalescents wearing a brassard with a number, who handled the baggage of the visitors, accompanied them to the registration office and stuck to them until they were provided with everything and entered the wagons. The office was in a long, tube-like hall, which could be traversed only in one direction. There were men who had announced their attendance and paid, others who had sent in announcements but had not paid, and still others who had neither declared their intention to attend nor paid. A special table had been placed for each such group, properly tagged and lettered according to the initials of the names. The visitors were given everything needed, admission cards, programs, and delousing certificates for the return trip. By this arrangement 400 men arriving on a special train could be disposed of in 21 minutes. I checked this with a stop-watch. There were ample quarters provided in hotels and in private residences, while the younger men were placed in lazarets and with the transport detachment. All quarters were pleasant. We also had provided for subsistence. Restaurants recommended by us were given by the quartermasters department special issues of meat and bread. For the short noon recess a goulash cannon (nickname for a military field kitchen on wheels) was brought to the door of the meeting hall. The thick soup with cut meat was well liked, most of all by the old privy councillor Heubner, who had his plate filled again and again. This was followed by a cup of strong coffee. About 120 persons had been invited by the presiding officer to a banquet in the Hotel Bristol, which gave me some worry. I had made ample provision for wine and charged a non-commissioned officer with its distribution. At the table wine was served very sparingly. It appeared later that the waiters received the wine from the non-commissioned officer and disappeared through a side door. But that was my private care. The banquet progressed with animation and stimulating talks. It was followed by a jolly *Kommers*.* His excellency v. Beseler insisted on attending the opening session and all social events. The second day he received the prominent members hospitably in the castle.

* *Kommers*—the socials of students and academicians consisting of drinking and singing.

The sessions were held in the large auditorium of the technical college. It easily seated the 1000 participants, but the acoustics were not favorable, and as usual those who heard poorly sought diversion in private chats and added to the disturbance. This required several admonitions of the presiding officer. Still more attention had to be paid by him to the oratorical discipline, for the program had to be gone through in two days. The speakers took the interruptions kindly, and only one important subject was cut short, the reports by Rocha-Lima on the cause and transmission of typhus. On this subject Töpfer, in peace a surgeon in Berlin-Friedenau, and during the war a diligent investigator in Kovel, and Stempel, Professor of zoology in Münster, presented new reports, while Rocha-Lima, perfectly equipped in the Tropical Institute in Hamburg and working with the new technique of his collaboratress Sikora, had already published his main conclusions. I had, for this reason, placed him as the last speaker, but the time had arrived at a late moment when the hall had to be prepared for the evening. Rocha-Lima had to present his discoveries hurriedly to a few listeners. He was somewhat displeased, but after a subsequent correspondence, everything ended amicably. We could be pleased not only with the course of the congress but also with the results.

Among the participants German physicians naturally were in the majority and were headed by the surgeon general v. Schjerning, who assumed the honorary presidency. Austria sent the chiefs of her sanitary formations, Generaloberstabsarzt Ritter (knight) v. Thurnwald and the knight v. Töply. Hungary sent the representative of the ministry of defense, Oberstabsarzt Harothy; Bulgaria the chief of the medical service, Colonel Bataroff; Turkey the chief of the medical service Suleiman Numan Pasha. Numerous clinicians and pathologists had come from Germany and Austria, to which must be added military physicians of all grades, regulars and reservists, hygienists and bacteriologists, as many as could be spared from duty.

Of the Germans many had never left their homes. They traveled with vivid interest over the much mentioned battlefields of Lodz and Lowicz, admired the buildings and art collections of Warsaw, and zealously visited the large sanitary installations, the soldiers' homes and whatever models the health welfare had created in this endangered territory.

The occasion was favorable for the exchange of experiences with the war diseases. These had reached a certain definite stage, and the following years have produced little that is new.

Of great value was Wenkebach's report on diseases of the heart. He had devoted himself solely to the study of this class of diseases, and had established a special diagnostic institute and a special lazaret in Vienna. He stated on the basis of his own observation what was dimly in my mind as early as 1915, namely, that real heart diseases were relatively rare, about 8%, and that the conditions of the majority were caused by fatigue, infection, and, doubtless, also by nervous influences, and that these are not to be treated by rest and heart remedies, but by slow recuperative training and general toning. It is true that Wenkebach at that time had not fully recognized the great importance of unconscious psychic processes. This was attained only at the neurological congress in the fall of 1916, and, finally, through the experience during peace. Of the countless heart cases not many remained after the conclusion of peace.

Another result at Warsaw was the proper evaluation of the prophylactic vaccination against typhoid fever. The technically well-founded report by Generalarzt Hünemann showed that it does not give absolute protection, but that it diminishes the number of cases.

Of interest also was what Juergens detected by a purely epidemiologic method, that is to say, by careful observation of the epidemics, during which periods of the disease typhus patients can transmit the infection. He obtained the same results as those secured by the artificial transmission through guinea pigs. In the study of epidemics observation and experiment must go hand in hand, if the problem of the epidemic processes is definitely to be solved.

Of the causative germs of typhus which has been discussed in Warsaw, Stempel's was never recognized while the "*Rickettsia Prowaczekii*"* of Rocha-Lima is now generally accepted, Töpfer, who perhaps lacked in a sufficiently methodical preparatory training, and who worked under primitive conditions, believed that the rickettsia represents a state of an organism of many forms. This idea, which Töpfer pursued no further, was also arrived at by Kuszynski in Biala, who later followed

* So named in honor of Dr. Ricketts of the U. S., and Dr. Prowaczek of Hamburg, Germany.

it up by extensive investigations. It is still subject to discussion.

The important discovery of the Austrian investigators Weil and Felix relating to the agglutination of certain proteus stocks by typhus, was touched upon briefly. It has proven to be very reliable. W. Hoffman made a conclusive report on cholera. his epidemic did not recur on the two main fronts after 1916. Matthes discussed dysentery. He carefully analyzed the symptoms but spoke with resignation about the bacteriologic investigations. That is today as it was then. Hirsch discussed war nephritis, and Jungmann demonstrated microscopic sections of the early cases he had collected. These showed that the disease began as "glomerulonephritis" in all stages.

The Warsaw discussion disclosed conclusive data about many important problems, with the result that definite directions for future activities could be formulated. The medical heads of several countries have acknowledged their recognition by the statement that they now had their backs stiffened in their contentions with their various bureaus. No other congress of internal medicine took place during the war.

CHAPTER XXIII

THE COUNTRY

Before continuing to narrate my experiences during the summer of 1916, I may be permitted to describe the impressions of the country occupied by our troops, by the SOS, in which I spent my traveling existence.

Poland is completely flat. The ground, from the frontier to Warsaw and east to Biala is fairly fertile, consisting of large estates. It is interrupted by forests and by many watercourses. Near Brest the fields disappear and are replaced by extensive, sandy, miserable pasture areas. Boggy land extends widely, gradually becoming part of the marshy area of the Pripjet (river). To the south, from Kovel to the city Luzk, which was occupied by the Austrians, the ground becomes richer, wheat is more luxurious, with hops and sweet turnips being cultivated. Unfortunately our army occupied and held by constant minor and major engagements a very marshy line, which ran along the Oginski canal south to the Stry and Strochod. At times the troops lived like veritable amphibians. A few good military roads traversed the land, one from Warsaw via Brest to Pinsk, another crossed Brest north and south. But to the sides of these state roads ran the dreaded Russian road, the wet forest areas being passable only by native wagons.

He who came from the high culture of central Germany, was especially struck by the fauna of the region. I have already mentioned the crows. The beautifully colored merganser, which is in Germany under nature protection, frequently nests in the woods. Often one observed the winged flight of the common raven. Red backed butcher birds sat on telegraph wires by the hundreds, like the swallows with us. Naturally there was a wealth of marsh birds. Lapwings were seen in masses, jack-snipes filled the air with their cries, herons had their aeries in the forests, the bittern boomed at night. In the marshes around Pinsk especially there was a veritable paradise of aquatic birds, so that cackling and quacking was heard from all sides of the reed beds. At that place I witnessed an exciting aerial battle. A motor boat took us to an advanced position, where we saw in the air a heron pursued by four hawks. They attacked him in military formation, two against the belly and two against the head and neck, so that the large bird had to go down to the reeds.

I do not know what became of him, but the spectacle was so tense that the men would have gone on for no price. Predatory birds, too, were very numerous. Nowhere was there a dearth of game, and we saw much more than we were accustomed to at home. Deer were entirely absent, but elk were seen occasionally. Of the first elk slain the following story was current. A transport column dragged itself slowly through the sand. The escort, in civil life a tailor, lay half asleep on the bags, the carbine under his arm. A female elk came near in a spirit of curiosity. The escort woke up, saw the big animal, became frightened, fired and brought the animal down. This became known and roused the indignation of the sportsmen, and an army order was issued that henceforth no tailor should shoot an elk.

In the waters pond turtles were present in quantity, and our soldiers took delight in establishing turtle parks. I regret that I had neither the time nor the training to study the rich fauna. One of my young friends, a zoologist who served as a Red Cross volunteer in Kovel, collected in the local waters a highly interesting fauna of crabs and later wrote his dissertation thesis on them. This remarkable land offered so much that was worth seeing, that the long trips never became monotonous. Where in Germany do we see nature so intact as in these remote, lonely regions! Whether the first dawn dissipates the mists, or the burning midday air gleams over the morass, or the sun ball in the evening floods heaven and earth with glow, or the fall colors the silken marsh grass deep yellow and iron red, whether the rime sugars the trees and weeds, always and everywhere the eye has a feast, and one could be kept busy retaining the impressions with colored pencil and brush.

The population throughout made a good impression on us. Men and women were robust—a good peasant stock. When well fed and directed they worked with zeal; left to themselves they became shiftless. The 100 church festivals were strictly observed. Everywhere the women did fancy work. A woman near Biala had the entire dower of her daughter ready in checkered embroidery and weaving. As her daughter was only 12 years old, she decided that there was still time, and gladly sold me a few beautiful pieces.

The estates and farmhouses looked much alike, but there were a few model farms of which our gentlemen farmers said

they could produce nothing better. That was the effect of Prussia's example. In 1885-86 I studied in Strassburg with a Polish patriot who described to me the plan, which then was formulated by the Poles. They meant to use the moneys paid by the settlers' commission to create a capable middle class. It is known that this plan was carried out consistently.

Two palaces were located in our territory. One, Radzyn, was built in the 18th century by one Protocki in French fashion, *cour d'honneur, corps de logis*, stables, a magnificent park, mighty administrative buildings, the whole a large, elegant installation. Of the beautiful furniture there remained a few handsome cupboards, a series of large gobelins having been removed by the Russians, who, it is alleged, took them to a museum in Moscow. The present owner, a manufacturer, was absent.

The other palace, Jablon, belonged to a Prince Zamoiski, who once came for a visit. It became the headquarters of the army command. It was a luxurious structure designed by a Vienna architect, richly but tastelessly furnished. In 1917, when the army command was transferred to Kiev, the palace served as a convalescent home for officers.

The cities were so much alike that they could not be identified by their appearance. Each had two large churches and a synagogue, large schools and military barracks. Only one city had a special characteristic—Pinsk. A large hill rises from the flat ground. It is crowned by a large cloister and a mighty church with two towers, which overlooks the region for miles. To the east is a marshy terrain for miles, in which lies the confluence of the rivers Pina, Yasiloda, and Pripjet. This is covered by reeds, completely impassable except by an embankment which had been built to the east. In this marsh our troops had advanced their positions, palisade structures connected with each other by embankments. Here they guarded the border. I was astonished to see in the dry summer of 1918 that the marshes were accessible and that the reeds had been cut for straw. Pinsk was a great trade center for furs, native (the so-called wild wares), and foreign, such as Persian and broad tail. Many of our officers have purchased them, but have been disappointed, because the furs had not been prepared and were therefore too clumsy and heavy for use. It was better to buy in Warsaw. It was no small glory for our fur manufacture that the best pieces were given the recommendation—Leipsic furs.

CHAPTER XXIV

MALARIA

The first cases of malaria appeared at the eastern front in the spring of 1916. As late as a hundred years ago this disease was spread over Germany, the records of the clinics of Berlin referring to it as "the most frequent affliction." Thanks to the regulations of the rivers, to urban hygiene and to other still unknown conditions, the disease has as good as died out, small epidemics occurring only in Pless, in Thuringia and around Wilhelmshafen. What the situation was in Poland, we did not know. After the battle of Tannenberg we were struck by the large quantities of quinine in the lazarets, but malaria patients were found among the Russian prisoners rarely and in isolated cases, mostly among men from Siberia and Caucasia. Our front remained free of this disease during 1914 and 1915. When the first cases appeared in April of 1916, they called for the most attentive care. Above all it had to be established where the infection came from and whether it was widespread in the country. We soon found a double source.

In May I saw in Shitishevo the 22nd Jäger Battalion. Three companies of that unit had been in southern Hungary during August and September 1915, and had there 63 out of a strength of 240 men sick with malaria. Of these 37 men arrived in November at the east front. In April several of these soldiers had relapses, but others who had been spared in Hungary, also took sick. At that time we thought of transmission by the anopheles brood during spring, but now we see in this a rather latent, the so-called "mute" infection, that is to say, an infection which at first produces no symptoms. This concept has become familiar to us through many diseases, such as scarlet fever, diphtheria, and especially infantile paralysis.

It is rare that malaria is permanently cured after the first attack. Almost always the causative organisms remain in the body one or more years, and predispose to recurrences, which often are provoked by external influences. For reasons unknown to us, the relapses occur in definite seasons of the year. The tertian form, which is the only one that appeared at the east front, occurs in April and May, while the quartan and tropical forms occur in the summer and fall.

But we also found infections which could possibly have been acquired only in the land. There were 5 civilians, one of them a three year old child, sick with malaria in the field lazaret in Brodnitza, all refugees from eastern regions. The inhabitants of the hamlet, about 90 in number, were still free. A similar situation was encountered here and there. In this summer the number of malaria patients did not rise high, there being only about 70 in the entire Army of the Bug. The neighboring Eleventh Army in the north had a larger morbidity rate. Its commander, General of Infantry v. Scheffer-Boyadel, whom I knew well from Berlin, gave me permission to go to Slonim to talk matters over with the army physician, Generalarzt Steudel, a well known specialist in tropical diseases and an investigator of malaria. This visit became notable to me among other things through my meeting with the well known superior court preacher Dryander, who, though being in the late seventies, did not shy at the difficult journeys, in order to bring spiritual solace to the front. The war had aroused religious sentiment or at least thought in many who before had been indifferent. Dryander's preaching was so simple and so warm that it touched the heart of the simplest soldier. At the mess I became acquainted with this extraordinary man through animated discussions. He played a great rôle at the imperial court.

The struggle against malaria was definitely settled in Brest-Litovsk, where a discussion brought about fixed rules of procedure. General prophylaxis, was not adopted, it being limited to endangered units only. This was dictated also as a matter of precaution. Germany, possessing the largest quinine factories, had at the outbreak of the war immense stores of cinchona bark. In Antwerp, too, stores were found. But they were not inexhaustible and economy was indicated, in view of the fact that the Macedonian and Asiatic theaters of war were being equipped exclusively by Germany. Actually we succeeded in getting along with the stock we had until the end of the war.

Care had to be accorded the sick. Each patient may, as anopheles mosquitoes were everywhere, become a source of a new infection. Accordingly they had to be sheltered from mosquitoes, which was accomplished by window screens, double doors, etc. This arrangement was possible in a few fixed lazarets, but the treatment lasts months until a definite cure is produced, and requires special technical knowledge. Accord-

ingly large malaria hospitals were established in Warsaw both for patients and convalescents, where the best methods of treatment with quinine and its substitutes were tried out on a large scale. Professor Munck of Berlin applied much zeal and care to this problem. The hardest thing to determine is when the patient is completely cured, secure against recurrence and no longer infectious. The causative organisms disappear from the blood, but remain in the spleen and other hidden places. By provocation they are driven back to the blood and produce fever, which, however, is amenable to quinine. There were many means of provocation, injections of all kinds, cold douches against the region of the spleen, exertions. We made the men row boats in the pond of the Laciën park during the evening hours. That was to them the most pleasant provocation.

Finally the spread of the mosquitoes had to be checked. This is the method that has proven very effective in the tropics. The anopheles do not fly far, and it suffices to secure the immediate vicinity of their residence. The mosquito broods settle in small calm water surfaces, ditches with growth, remnants of water in bottles or broken pots. The marshes proper sheltered no brood. I have been able to make sure of this by repeated fishing. My quarters in Biala were surrounded by the river Shtsha in the midst of a marshy tract. We suffered a good deal from flies but not from mosquitoes, and no infection occurred at that place. I have examined several regions of the Pripjet marshes and have found them free of malaria. In our own as in the neighboring army we were struck by the discovery that malaria became rarer the nearer we were to the actual marshy territory. Malaria, like dysentery belongs to the diseases which we imperfectly succeeded in combating. The number of cases increased to the last year of the war.

CHAPTER XXV

THE JUVENILES

The neighboring army afforded me an opportunity for an investigation which I had long desired. In that unit was the XXV Reserve Corps which included the 225th, 226th, 228th infantry regiments and a Jäger battalion. These regiments had been organized soon after the outbreak of the war and consisted mostly of volunteers, about a third of whom were adults, the rest juveniles, in part boys between 15 and 18 years. They had been trained without packs, because none could then be obtained. After six weeks they were sent by railroad to the eastern front. They detrained at Alt-Ukta and made a march of 18 kilometers to Lyck, for the first time with packs. They occupied the town without resistance, but suddenly the Russians opened fire from houses and cellars on the troops which had formed in the market place. Lyck had to be hurriedly evacuated and the return march to Alt-Ukta was then made. Then the corps was sent to the forests of Augustowo, without suitable field equipment, without field kitchens, and without experienced guidance. Many took sick with dysentery and I saw them in the epidemic lazaret in Bartenstein. They cried from hunger, recovered within a few weeks, and when I told them of the deeds of their corps the general regret was: "Too bad, we could not be there!" The corps later took part in the famous break-through of Brzreziny, that bold, daring deed by which the surrounded troops burst open the ring of the superior enemy and took more than 12,000 prisoners.

Now the corps was intrenched at the east front, not far from Novogrodek. The commander General v. Scheffer-Boyadel, readily permitted me to examine the volunteers under military age. About 200 men, who had participated in battles since the beginning of the war stepped forward, a few already commissioned as officers. It was a jolly gang, most men robust for their age, some, however, were so lean and delicate that they certainly would have been rejected for enlistment in times of peace. Nevertheless they bore the hardships without injury. Later I had repeatedly occasion to examine juveniles. The youngest I met had joined at 14 years of age, son of an East Prussian

peasant, robust but with the face of a child. When I saw him in Ortelsburg where he was in a lazaret for a slight wound, he was just celebrating his 15th birthday.

A special figure was Peter of Grevenbroich. He doubtless was no brilliant scholar, for at 15 he was still in lower tertia.* When troop transports went to Belgium in August, 1914, he sneaked into a wagon, hid himself under the bench and appeared only during the trip. The old Landsturm men laughed, took him along, and secured for him from a Belgian store a boy scout equipment. But soon he was bored with the Landsturm men, attached himself to the engineers and participated in their work. When the pioneers (engineers) were ordered to attack, they locked him in a telephone booth, but he broke away, went into the attack and sustained a serious wound. The Stabsarzt told me that the pioneers gave him no rest and he had to proceed, contrary to all regulations, to the foremost firing line to dress the wounded boy. "But it is our Peter, who has been wounded," the pioneers had cried. Months were required to heal the long flesh wound. Finally Peter returned to the front, and then was sworn in as a soldier of the king's regiment and put in uniform. I saw him in 1916, he was then just 17 years old, in stature still half a child, but the officers swore up and down that he was one of their best soldiers.

All military states have adopted the twentieth year of life as the period of enlistment. Under the pressure of necessity the limit was lowered one year during the fourth year of the war. Younger ones were admitted only as volunteers, and this only in the beginning, because as a general proposition the employment of juveniles had not been a success. To be sure, the age of puberty has qualities which militarily are very valuable, such as an open mind, quick perception, enthusiasm and a love of camaraderie. This was proven in the siege of Ladysmith and that was what gave the then Colonel Baden-Powell the idea of the boy scout movement. But as a rule the endurance and the power of resistance are inadequate, psychically as well as physically. One boy remained behind in an attack. The officer admonished him: "Boy, come along!" but the youngster had a different idea. "Oh, no, why they are shooting there in front." The frightful pictures of the day haunted

* The classes of German "gymnasias" or colleges are named in Latin: *e.g.*, Prima, secunda, tertia, etc.

them in sleep, often the hearts gave out. I saw several who at 17 fell out, but at 18 stood the hardships.

The relation of the older men, of the Landwehr and of the Landsturm, to the young officers was peculiar. Certainly there was many a misfit among the latter who could not earn respect, but if the young lieutenant was brave and stood up for them against superiors, they loved him and cared for him as their *Bubi* ("sonny boy"). I saw how a company was busy trying with all tricks to clean up the war-soiled uniform of their lieutenant, who was about to go home on leave. "This way you cannot go home and be seen, why we would have to feel ashamed," they explained to him.

The opposite, the superannuated soldier, was not frequently seen in the German army, if we except the higher leaders. For them, as is known, age is no barrier. Kaiser Wilhelm and Moltke in 1870-71, and Hindenburg in the World War are convincing proof. In front of Lutzen a captain of reserve commanded a battery. The tall gentleman with his white beard counted 72 years and had four sons officers in the army.

Matters were different among the troops in the field. In the east Landsturm regiments had to be put on the front line. They did well in the trenches and also in battle, but the marches were beyond their strength. The Austrians had in Tyrol much older men as sharpshooters against their chief enemy—the Italians. In some villages it is said no man between 16 and 70 remained at home. A few were transferred to the east. I saw in Kholm a 76-year old volunteer, a dry, tenacious little man, looking as if he were carved of a box tree. He had borne well everything until then, but succumbed to serious dysentery.

At this place I must mention Professor Gregory. A native American, he left his professorship of theology in Leipsic when 69 years old, volunteered, passed the training and field service of an infantryman, was promoted to a lieutenantcy after a year, entrusted with a graves detachment, and succumbed to a stray shot. Gregory, an idealist of the purest water, a vegetarian and enemy of all stimulants, had kept his bodily ruggedness with the least need for food. As a 60-year old man he covered the way from Cairo to Jerusalem on foot, undertook numerous mountain trips and had maintained his lithe body without difficulty. He remained single. It is with old age as with youth, the visible and measurable bodily characteristics alone do not

determine suitability and capability, or endurance, although they are usually significant. The opinion was prevalent that the hardships of the campaign had favored and accelerated the ageing processes. The very opposite is true! Whenever we encountered phenomena of senility, they were in men, who, according to their past history and bodily structure in the dangerous age of 45 to 50 years, would otherwise have aged as well. For many, especially reserve officers, the war, particularly in the first years, proved a veritable fountain of youth. Removed from the monotony of being and from the narrowness of their vocations, and confronted by new, varying duties, they often regained a freshness and initiative which they believed they had lost. Of this many have assured me.

CHAPTER XXVI

THE WESTERN FRONT

The Surgeon General had formed the plan to collect the medical experiences of the army in an encyclopedic work after the conclusion of the war, and assigned to me the chapter "General Effects of the Campaign on the Condition of Health". For this it was necessary to learn the conditions under which the troops lived in different theaters of war. I asked for and was given a detail to the western front, especially in that position, which made the greatest demands on the troops—Verdun.

July 2, 1916, I reported myself to the Surgeon General at the Great General Headquarters in Charleville, visited the installations of the XV and XVI Corps, the lazarets, the convalescent camps and the rest stations. Then I undertook a trip to Belgium to view the sanitary installations of the VI Corps in Ghent, Kortryk, Brussels, Spa, Namur, and Malonne. July 26 I was back in Berlin.

The conditions there were entirely different from those on the eastern front, as I found out the very first day. Arrived in Montmedy in the morning I went to the officers' club. A siren was sounded. "That is a signal of flyers," I was told by the administrator, an honest Swabian. "What does one do?" I asked. "The best is, you go right to bed." The aviators bombs then burst on the ground and threw the fragments upward obliquely. Whoever stood at the window could be hit. "What will you do?" "I do my work." "I will do that, too." "Ha, you are right." As a matter of fact one grew accustomed to the alarms and paid little attention to them. In the east we did not know this. Russian aviators in the fall of 1914 dropped a few bombs on Johannesburg. They made a lot of noise but did little damage. Later they contented themselves with observation.

The entire situation was different from that in the east. There we had long extended, thinly manned fronts with more or less improvised dugouts, few cities, rarely with large buildings. Here in the west the armies were compact, echeloned in depth, largely in the same position since 1914. The hinterland was rich in castles, schools, barracks, factories, and permanent

new buildings, for which reason the field hospitals were organized and equipped almost like clinics. There were magnificent convalescent homes and specialistic institutions.

My first interest was the nature of the prevalent sickness. Cholera, typhus, and relapsing fever were here absent almost entirely. On the other hand, here, too, all precautionary measures failed completely to annihilate typhoid fever. The physicians in the west had the same worry about convalescents and germ carriers as in the east. Enormous installations had been created here, which will be discussed later.

Intestinal diseases were frequent, which is explained by the conditions. Most of them affected the troops at the front. Serious cases of dysentery were sent to the lazarets, and the detailed bacteriologic investigations showed here, as in the east, that there is no demonstrable relation between the gravity of the cases and the kind of causative germs. Nephritis appeared here, too, since July, 1915, but not yet in the winter and spring, although the troops lived in wet shelters and had suffered a good deal from disturbances of the bladder, proof that nephritis is fairly independent of external influences. Wolhynian fever was there, too, at that time, but rarer than in the east, as far as I could observe. Investigations about the cause have not been made in the west on the German side. I saw here a disease which Weil had described in 1866, which is named for him, and which manifests itself by jaundice, swelling of the spleen, and inflammation of the kidneys. Hübener and Reiter succeeded in inoculating guinea pigs and thereby in making the disease more accessible to study. Uhlenhuth and Fromme recognized a spirochete as the cause. It occurs also in rats and appears to be somehow transmitted by water. Numerically it was not important. It appeared also occasionally in the east, but I have never seen it.* For the rest, the lazarets contained the same mixture of commonplace affections due to chilling, as those in the east. On the other hand the number of nervous disturbances was very large, and I found one which occupies a position of special interest—desertion. It was found exclusively among the troops who fought at Verdun, especially in the XV and XVI Corps. Desertion has a most intimate relation to the circumstances of service and combat.

* Weil's disease bears a close clinical resemblance to yellow fever and in countries where the latter is endemic, is sometimes mistaken for it. It was an error of this sort which caused Noguchi to claim that yellow fever was a spirochete infection caused by the *leptospira icteroides*.

The Meuse fort Verdun is surrounded on three sides by mountains, which are divided by deeply cut ravines into individual ridges and summits, similar to Saxon Switzerland, but without the crags. The heights are densely wooded, each one a natural fort, now greatly strengthened by artificial works, including dugouts. Since February the French had found time to render these works more secure, and to connect up the trenches. The German troops enjoyed no such advantages. All slopes were studded with artillery, traversed by trenches, honeycombed by galleries, and pitted by shell craters. The fire on both sides was unceasing, day and night, and all calibers of ordnance were represented, including "big Berthas." They were posted in the woods at Ornes in fours, but the rifling was worn and the missiles dispersed widely. The streams were thrown out of their courses by shell fire and transformed the valleys into ditches, over which food and munition transports got forward only by great effort and with heavy losses. In this torn terrain the uninterrupted struggle for the heights went on, the troops reaching their positions by night only by jumping from one crater to another, remaining in them four, six, eight days and longer, without warm food, quenching their thirst with the water from the craters. There could be no talk of sleep, nevertheless it happened that units asked not to be relieved because they sustained heavier losses while going to and fro than while in the position.

I attached myself to sub-physician Seiler, who joined his minenwerfer* detachment on the Hardoumont, the neighboring height to the Douaumont. The detachment was intrenched there; an attack had been ordered for the night, and by oversight this height was subjected to relatively little fire. The minenwerfer men had crowned the height with a stone breastwork and had protected it somewhat with sandbags. Beyond, the terrain sloped down and had been covered with trees of which only leafless branches and stumps remained. A ravine road led to the valley, which was traversed by deep trenches. The enemy's height rose on the opposite side, with many rows of trenches. To the right were Douaumont, Fleury, Tavannes, and to the left the Vaux.

The troops marched through at night without a sound, two regiments in a long column. A spade handle was across the

* Mine throwers.

path, a telegraph wire hung so low that every rifle got caught in it. No one removed these obstacles. That was significant; each man did what was exacted of him and no more.

Towards morning the French positions were placed under fire. For several hours they were literally a sea of fire. The hits of the large and small missiles, the wide blue flames of the mine and flame throwers, the colored sky rocket signals did not cease. One would think that no soul could remain alive in that fog of mine and powder gases. The attack was begun and repulsed! A few hundred prisoners were the sole result. Our opponents had thrown in reinforcements. One could see them with field glasses as they came on singly, stumbling over the craters, here and there prostrated by an explosion, one or another remaining prone. To our troops this was an accustomed scene, and the prisoners with whom I talked also accepted their fate with equanimity. "Today I, tomorrow you."

We have many vivid descriptions by participants of the battles around Verdun and the suffering of the troops. I have read many of them, and yet, impressive though they are, they cannot convey an adequate impression of this terrible fire effect. It must be added that I stood at a distance, in relative safety. But even there I had the impression of a frightful cataclysm of nature.

The struggle of small and weak man against these overpowerful, nay superhuman forces, is the highest and extreme test to which he can be put. It will always remain an astonishing achievement, a seeming impossibility that thousands upon thousands of men have carried it through for months without being completely shattered. Neither the east nor the other parts of the west front had anything comparable to Verdun, and so it is understandable that precisely here psychic influences have become powerful, which elsewhere did not occur with equal intensity.

A few hundred soldiers were in the military prisons, held there because they had left their positions in a manner suggesting flight in the face of the enemy. They had reported themselves, or were arrested, and now awaited judgment. Some stated that, come what might they would never return to that hell. But only a few. The majority, once they had had a good sleep, realized what they had done and scarcely could explain it to themselves. Among them were many who had always

previously done their duty conscientiously, had been promoted or decorated. The life before Verdun, the enormous physical hardships, the nights without sleep, the lack of adequate food, all this could and did reduce even the strongest to a condition of exhaustion in which a trivial incident sufficed to "keel him over." A slight bodily indisposition, a catarrh, often also a psychic depression due to a refusal of a furlough home, or a withheld advancement or decoration, sufficed to bring on the final collapse.

The commander of the XV Corps, General v. Deimling, had full cognizance of all this and expressed himself openly. As an old African (colonial officer) his heart was deeply concerned with the welfare of his troops. He had tried to send better food to their positions, but the obstacles were stronger than the will to overcome them. Of 1000 bottles of charged water sent to Douaumont something like 30 arrived in good condition. As regards decorations he was tied by an army order, according to which the wounded were the first to be considered. In that way it could happen that a possibly average man who was wounded, might receive the iron cross ahead of a brave soldier who had performed a notable exploit, but who remained unwounded.

The judicial procedure was sane and benevolent. The deserters were first examined medically before judgment was pronounced. The war judicial council had a good insight. The judgment usually found them guilty conditionally, with delay in execution of the punishment, and I have been assured that the men later acquitted themselves magnificently.

The loss of officers was great. The responsibility rested most heavily on them, and they suffered from the lack of supplies and replacements. It was exceptional that a man discharged from hospital returned to his original unit, and the new men, not familiar with the terrain and the manner of fighting rendered the position of the officers still more difficult. Cases of desertion of officers have not occurred, the weakening of the power of resistance manifesting itself in them in a different form.

These conditions of extreme exhaustion remained characteristic of the battles at Verdun. Nothing similar was found in the corps north and south which I visited, not even in Flanders. The battles around Verdun represented the extreme demands

that can be made upon troops. Ludendorff admits that in his memoirs.

Numerically the desertions were comparatively insignificant, a few hundred men meaning little in such gigantic armies. They are, however, noteworthy in relation to the other forms of nervous exhaustion which will be discussed later.

Most of the troops stood the hardships astonishingly well. I had occasion to observe several regiments which returned from the advanced lines for rest. A few, as for example the 147th Infantry, which was 14 days at the front and lastly 4 days before Vaux, showed scarcely any symptoms of exhaustion. These were robust young men. Other troops were driven in autos, half stupefied, needing nothing more than rest. The next morning they were fresh, cleaned their pieces while whistling or singing, and waited with joy for the glass of beer which was to be given them with music on the market place. Everything possible was done for the recreation of the troops. In Wavrille, in Moirey, camps had been established in the forests, away from the enemy, veritable sanatoria. Till then the relief meant liberation from the zone of danger, but now hostile flyers came over who sprinkled the camps with machine gun fire.

At this place I must mention an interesting military figure. On the height of Douaumont I was greeted from a cave by a familiar voice "Why here is my Professor, come in, please!" It was old Hans von Schierstädt. He had been a magnificent cavalryman, but also an inveterate gambler, who got mixed up in the cavalry school in Hanover in the gambling trial of the "ole honest seaman" and was dismissed from the service. At the outbreak of the war he was reinstated, and I met him in Rastenburg as the director of the flying school. We had passed jolly hours together. This did not last long, for he had not given up his old habits. He demanded that before every flight the aviator should reinforce himself with a little East Prussian grog. This resulted in a good deal of damage, and Hans was relieved. Now the old gentleman led a company of grenadiers as a first lieutenant. The principal furniture in his cave was a bottle of cognac, "the camp fire," and a thick book, the "camp book," in which every one had to register who partook of the hospitality of the "camp fire." The old boy knew no fear and chased it out of his men. If one grumbled he took him aside and said "See, my boy, on the left and on the right I have a

handgrenade, these you will get in the snoot if you run." If they came back unharmed he would console them thus, "So, my boy, now you are as bullet-proof as I, now nothing can happen to you."

Such things do not stand discussion in peace, but are priceless in war, where the main thing is to have less fear than the opponent. Fellows like Hans belong to war and to the colonies but they are out of place in civil life, no matter how many soldierly virtues they may have. I met Hans last in the convalescent home in Jablon, where evenings he was, with his brilliant entertainment, the center of an interested circle.

From Verdun my route led to Belgium. Here was an interesting and unexpected picture. Immediately behind the zone of battle the country appeared to be in profound peace. Every spot had been cultivated and there was ample equipment, even luxuries, wine, and cigars. Art products were bought plentifully, especially laces, a special sales place having been erected which assured sales for the producers and a fair charge for the buyers.

I visited the city of Louvain on a beautiful, warm Sunday morning. The entire population was about, strolling and drinking beer. Only a small district in the vicinity of the railroad station had been destroyed, but already was cleaned up. The city proper was unharmed. The huge church had a damaged roof, but the art work, the clock and the organ were intact. Far from any battle the celebrated library took fire. To my knowledge the cause of the occurrence has not yet been established. The loss of the luxurious edifice is to be greatly regretted.

The battle zone, however, had a sad appearance. There broken stones and earth mounds marked the dead places where once had stood farms, villages and cities. Here and there a part of a strong wall, say that of a church tower, was left standing man-high, having resisted two years of fighting, and being still capable of affording a little cover. The fields looked as if plowed, not even weeds could grow on them. The troops at first suffered severely from ground water, as they stood to above the knees in a morass. Gradually the trenches were built up, the walls revetted, the ground drained, so that one could walk across without getting wet. Major operations were not then in progress, but the artillery fire never ceased and wounds were

of daily occurrence. Bomb-proof dressing stations and surgical lazarets were established close behind the line of trenches, the latter especially for abdominal gunshot wounds, experience having taught that these wounded cannot stand transportation and that they can be saved by prompt operation.

The war lazarets were excellently equipped. The spacious buildings and rich matériel of the country served a good purpose. The local institutions could challenge comparison with any hospital at home. Equally good were the slightly sick detachments and convalescent homes. Belgium has many religious educational institutions and cloisters, which accepted as lodgers persons who needed rest and solace. These are often palace-like structures, in the center of garden parks. Now they were idle and served well as recuperation stations.

In the lazarets it was noticeable that intestinal diseases and dysentery were rare. Typhoid fever was isolated, as was Wolhynian fever. Nephritis was also rare. The XXVI Reserve Corps, which had occupied the same position since September 1914, and had at first suffered much from the dampness, had its first cases only in the fall of 1915 and a total of about 50 casualties by that disease, which is additional proof that the affection occurs independently of external conditions.

Of the lazarets two aroused my special interest. One was a convalescent home for typhoid fever patients in Spa. There were gathered the convalescents of a large part of the western army, to remain until they had regained their strength and been rid of their germs. Many hundreds of the carriers remained there and were employed in agriculture. Their fate after the war I have already discussed. Professor Paul Krause, then of Bonn and now of Münster, had studied the convalescents and described in detail the remarkable and protracted after-effects.

Of great importance was the station for nervous patients, in Malonne. Here especially patients suffering from nervous exhaustion were gathered. Such cases existed on both fronts, but much more in the west, owing to the incomparably more intense artillery and mine fire on that front. The symptoms affected certain organs, such as the heart, bladder, or stomach, but more often they appeared as pronounced nervous disturbances, such as muteness, deafness, paralysis, and above all tremors (trembling).

Some of our best neurologists believed the symptoms to indicate that somewhere while not anatomically demonstrable, the nervous system must have sustained damage to its structure. Experienced physicians at the front have never believed this. They kept those who had suffered from explosions or burial under debris at the front stations for a few days, and several have assured me that they were never compelled to send these men to the lazaret. In the lazarets the affections lasted longer, and the nearer home the lazaret, the more persistent were the disturbances. It was particularly noticeable that nervous disturbances were completely absent in prisoners, although these had suffered just as much from the effects of fire and debris from explosions. It was unfortunate that the experiences at the front, in the SOS, in the home territory and in the prison camps had not been earlier and more fully studied and compared.

In Malonne this had been recognized early, and arrangements were made accordingly. Psychic disease can be treated only psychically. For this one needs the cooperation and the understanding of the entire sanitary personnel and of the patients as well. They issued the pass word, "Here will be no trembling," and indeed, the example and encouragement of comrades helped. After 24 hours no one trembled any more. One sister was particularly noted for her strong speech. One day she was busy with a patient who suffered from genuine, grave epileptic fits. A soldier in a neighboring bed became excited and went into convulsions. "Stupid lout," the sister yelled at him, "what is coming into your head? You see that I cannot take care of two at once." This the trembler appreciated and calmed down.

Our neurologists and psychiatrists make a sharp differentiation between "fright neurosis," which can be very intense but soon tones down, and the conditions which cause a long drawn out illness. Many assume to this day that for this a certain neuropathic disposition is basic. This may hold good in many cases, but I would not apply it generally. There are evidently influences of such force that even the strongest cannot resist them. A specially robust and brave non-commissioned officer told me "I was thrown over three times in one day, the third time was too much for me."

The importance of external circumstances affecting the per-

sistence of a malady is particularly well demonstrated by the post-war period. The disturbances disappeared of themselves except in the cases of a few who used them to appeal to public charity, making a business asset out of their neurosis. It has been proven that many of the tremblers who hold their hats for the passersby on Leipzigerstrasse (Leipsic street) were never in the fields at all.

The government-general in Brussels has made a point of showing the Belgians the efficiency of German administrative and welfare work. An exposition of social welfare on a large scale was held, in which all branches of the domain were represented by pictures, charts, models, for purpose of illustration. That was the imposing effort of a country which had been strained to the utmost by two years of war. Guides were provided, but the voluntary attendance remained below all expectations. Not even the laborers had any appreciation of that which was to be for their own advantage. They simply felt as Belgians, and would accept nothing from Germany, not even benefits.

The administration of the city was under German supervision. Never was Brussels as clean and well ordered as then. The state of health was excellent. Special attention was paid to venereal diseases. At the front the soldier had no opportunity for sexual intercourse and during the hardships of campaign and battle the desire was quite forced into the background, even the formation of semen ceased. In the SOS on furlough, the repressed impulses reappeared the more intensely. Opportunity for gratification was abundant, professional prostitutes and women separated from their men, offering themselves in large numbers. The main problem then was early to recognize the inevitable venereal diseases, to treat them properly and as far as possible to prevent their spread. The prostitutes were controlled, the patients taken to a special lazaret with experienced specialists and all needed appliances, where shelter, subsistence and treatment were ideal. In that way it was possible to keep the number of venereal cases within moderate bounds, and to accelerate their cure with the available means.

In Belgium, too, an opportunity was accorded me to investigate regiments which had volunteers under 18 years. The famous reserve regiments, numbered from 204 to 214, which

with their volunteers and students stormed Langemark with singing and there sustained sanguinary losses, were no longer in the old state. But what I saw in other regiments confirmed my experiences and observations in the east.

My mission at the west front was fulfilled. I left it with a feeling of infinite respect for all that had been accomplished there by the army, with a deep impression of the frightfulness of the battles, but also with complete satisfaction at the efforts of the sanitary service, even with some envy for the efficiency which could be attained thanks to the rich resources of the land. Of course I also gained the conviction that essentially the results were the same as in the east. A hospital, in which young robust men are treated for acute diseases, needs no luxurious equipment. It is immaterial whether a convalescent bides his time in a palace or in a barrack. The main thing is the spirit in which the institution is directed, the art to protect the men against boredom and to accustom them at the proper time to air and activity.

Belgium left on me again a deep impression, as she did in times of peace. Her old high culture with a modern spirit of enterprise and commerce is a combination which is duplicated only in the Rhineland. I thought then that it might prove a magnificent addition to Germany, but never as a part of the empire. The difference in language and customs was too great, and the historical memories too intense. That which was unsuccessful in Germanic Alsace, would certainly fail in Belgium. I hoped an understanding could be arrived at, which would prevent the land from becoming a place of concentration against Germany. This was then the feeling of many wise soldiers. The cry for annexation, of the Pan-Germans, appeared to them, as to me, a misfortune.

In Berlin I participated in a session of the scientific senate of the Kaiser Wilhelm Academy. This time the discussion dealt with war neuroses and psychoses. It was agreed that genuine psychoses, that is insanity, are not produced by the circumstances of war, and that wherever they did occur, they attacked men who by disposition and past history would have become sick also in times of peace, nay, that they probably were already sick when they were enlisted. As regards the neuroses the view stated above gradually gained adherents. An agreement as to their proper treatment and the necessary combative

measures proved more difficult of attainment. A few had proposed to accord every case separation from the army. This probably would have removed the symptoms but would have bred the disease. This was taught by the peace experiences with traumatic neuroses, which are undesired results of an essentially beneficial legislation. It was certain now that the gravest and most drawn-out symptoms of war neurosis could be cured by appropriate methods in a surprisingly short time, occasionally even in one séance. The method given by Kaufmann (surprising application of strong electric currents) and psychoanalysis have produced notable results, but after all it was not so much a question of method as of the skill of the therapist. I was very glad that a well-known psychotherapist, Dr. v. Hattingberg was given a department in Kholm. Final recognition of these views was brought about by the assembly of the German Society of Neurologists, which took place in Munich September 22-23.

A large diagnostic hospital for internal diseases was established in Mannheim under the direction of my friend and former pupil, Professor Külbs. As in Warsaw so here, but more completely, all needs had been considered and Külbs could gather rich experience, especially with reference to the "war heart."

I visited Bad Neuenahr on account of the so-called war diabetes. According to present views, diabetes develops on the basis of a congenital, often inherited disposition. But cases are known in which symptoms follow fairly rapidly on external effects of a psychic or physical nature. There existed a large, professional literature, and the best specialists were prepared to acknowledge the traumatic origin of diabetes, at least to consider it as possible. It was not fully decided what kind of force would produce it, the available limited experience, however, indicated a blunt force.

During the war such a force appeared with a frequency impossible in peace—explosions of shells and mines, and burial in debris being daily occurrences. This affected not only young men but also those of middle age, in whom diabetes appears more often. Nevertheless, diabetes was observed but rarely. In Neuenahr were about 40 diabetics, mostly older men, whose obesity, calling, or disposition would also otherwise have predisposed them to diabetes. A very few were younger, and suf-

ferred, as we are accustomed to see in juveniles, from a grave form. None had acquired the disease as a result of any special exertions, injuries or psychic influences.

These war experiences have become very important, not only for the proper valuation of the demands for pension of the few war sick, but for the problem of traumatic diabetes in general. Today we can no longer recognize the development of diabetes as a result of force, which at the utmost may produce a turn for the worse, and even that only if it follows clearly and immediately on an accident.

The war experiences have furnished authoritative data also for another group of diseases due to accidents, the malignant tumors. Occasionally a cancer or more frequently a sarcoma has appeared in connection with an injury, and at the place where the force was applied. The war experiences have taught us something different, the frequency of injuries having in no wise increased the number of tumors. Where they produce apparent swelling, we may have to deal with more rapid growth of one that has already existed, though perhaps not visibly. That is an experience well known to surgeons. A traumatic cancer in the old sense does not exist. The science of tumors includes many problems, and we must be glad that at least one source of error has been checked.

In addition I was interested in the rheumatism baths at Aachen and Wiesbaden. The large lazarets in Aachen had been cleared of the sick and were occupied by wounded. In Wiesbaden the lazarets were under the direction of Generaloberarzt Schumann with the excellent savant Professor Weintraud as consultant. The so-called rheumatic diseases represent one of the most unsettled domains in medicine. In certain forms the influence of cold is unmistakable—one has but to remember lumbago! That is an old experience, but in individual cases it leaves us in the lurch. The teaching was promulgated first in Germany by Gürich and Pässler and then was taken up in the United States by Billings, Hans Fischer, and Rosenow, that rheumatic conditions accompany and follow an inflammatory or infectious (pus) focus anywhere in the body, as in the tonsils, gall bladder, urinary organs, and above all in the teeth. Beyond doubt this is correct for a number of cases. If it were correct, the most effective prevention and treatment would be the removal of the pus-containing focus. In individual cases this

is successful, but the percentage was unknown, and I hoped to interest the physicians in the well conducted lazarets in Wiesbaden to secure the desired information. The intense work and the rapid change of patients did not permit a detailed investigation of large numbers. The Americans have made large-scale investigations on their front line soldiers, but they, too, arrived at no definite conclusion. The acute feverish rheumatism of joints occurred everywhere in the field, but by no means as often as one would have expected from the many chillings and exposures to dampness.

I was still more surprised by the rarity of complications of the heart. The older physicians estimated that about every third patient suffers an inflammation of the valves of the heart. In the war it was entirely different. Among the many hundreds of rheumatics whom I have seen in the lazarets, I found scarcely a dozen with endocarditis. I can vouch for this, because the fact struck me in the first months and I have since then carefully made notes and verified my first impressions.

On the other hand I found several cases of pronounced valvular diseases, who had attended to their duties as infantrymen or pioneers without disturbance. The fate of these patients depends, outside of the extent of the injury, principally on the condition of the heart muscle. If this remains intact, the working capacity can be sustained, not only for civilian callings but even for the extraordinary military exertions.

As is natural, chronic diseases of the joints were frequently observed. But I did not gain the impression that they were more frequent than at the corresponding ages in the civilian population. Even my subsequent observations in the clinics have not given me the impression that the circumstances of war had particularly favored the development of chronic diseases of the joints. The same holds good for muscular pains and the closely related sciatica. Certainly they were to be found in the aid stations at the front, in the SOS, and in home territory, and they even became stubborn and required detailed care. But when one thinks of the millions of participants in the war, the long duration of the campaigns, the daily exposure to cold, the number is surprisingly small, and would be smaller still if one could deduct the erroneous diagnosis, the pains due to flat foot, and the victims of "cold feet." Here I may risk the expression of an opinion on colds in general. It

is a daring one for it is neither settled what is to be classified as cold, the pure effect of cold or infections developed by cold—one thinks of coryza! (cold in the head)—nor are the statistical data of peace or of war sufficiently reliable. By comparing very large numbers, errors may be partially compensated, and this shows that the diseases due to cold developed in the war most unexpectedly. They were rarer in the forces in the field than in the army at home and decreased in frequency from year to year. Even at their maximum they did not exceed the rates in the standing army in peace and in the sick insurance societies for corresponding ages.

One can figure it out thus: On the one hand the exposure and danger of chilling was greater in war than in peace, but here two forces opposed each other; the increased exposure was counteracted by better physical condition. The conditions of exposure have been studied, notably by Schade, who served for a long time in one regiment as its physician. He utilized his opportunity to compile data about the weather and to furnish relatively reliable statistics. To this must be added the influence of the moisture of the ground. According to old experience dry cold is far less harmful than the moist cold of transitional seasons of the year. This was shown in the winter battle in Masuria, which was followed by frost bite and intestinal catarrh, but by only few colds.

One could easily perceive the hardening of the troops as a result of their service. Half naked men could be seen cleaning up at rivers from February to late in the fall. They were soon used to bivouacking in the open, and the much decried habit of drinking of cold water while overheated was the rule, and caused no harm. Many men of sedentary habits have gladly told me that they had gotten rid of their colds, and even a few professional singers, who in time of peace have never gone out without the coat collar turned up, had lost all sensitiveness and their voices were as clear as ever, and that even in the case of a man who as a trench digger certainly had no pampered existence.

Finally I visited the prison camp in Münster in Westphalia. It had a capacity of 25,000 men. At first it was sheltering French and English, but the quarrels were unceasing and they had to be separated for the sake of peace. The French got along much better with the Russians; they made use of the

latter as boot blacks for which service they gave them cigarettes, of which they had an ample supply. The Frenchman has an unconquerable antipathy for brown bread. The wife of the minister and mayor of Lyons, Madame Herriot, organized the delivery of packages to prisoners. Every week they received five pounds of white bread, chocolate, cigarettes, lead pencils, etc. Most of the prisoners were kept busy on farms where they conducted themselves properly and obediently. For the better educated prisoners the camp provided a large library, a hall for study, and regular discussions facilitated occupation and study. Two orchestras provided entertainment, a "harmony," a popular band of trumpeters, and a large orchestra under the leadership of the director of the *Opéra Comique* in Paris. I attended a rehearsal and enjoyed the perfect presentation. A theater, too, was erected, the prisoners providing poetry and compositions, the daily events offering rich material. Two men had attempted to escape through a tunnel, but came to the surface within the enclosure. These "taupes" (moles) were heartily joked on the stage. The prisoners were here well off, as well as prisoners can be. Unfortunately it did not last. The benevolent commandant was relieved, reports of bad treatment of German prisoners in France made an unfavorable impression, and red tape and regulations became prominently manifest.

CHAPTER XXVII

THE AUTUMN OF 1916

August 5, 1916 I was again in Warsaw just at the proper time to witness the military ceremony in commemoration of the conquest of the city. The next day I was in Biala.

Then was resumed the usual traveling which led me to v. Bothmer's South Army behind Lemberg. Everywhere intestinal catarrh and dysentery were prevalent, even there where the dugouts, subsistence and water were satisfactory and red wine was distributed regularly. In a Bavarian regiment I found ideal conditions. The worried colonel asked me about every patient, mentioning each by name. Nevertheless the unit remained infected to the first days of October, when the dysentery suddenly disappeared, as in previous years.

The Austrians had complained to the chief physician of the East Armies, that the German troops which had been distributed on their front exposed them to dysentery, which disease was unknown to them. I investigated conditions in the field hospital Rykow. They had exactly as much dysentery as we, only they called it bloody intestinal catarrh. In October I was detailed for a conference in the XVII Corps district (Danzig). The old Generalarzt Bötticher had died. His successor was Generaloberarzt Glauer, no less zealous and enterprising a man.

This time tuberculosis of the lungs demanded our attention. Naturally it occurred in members of the field army as among the troops in garrisons, in this corps district especially in the clothing bureau with its many weak tailors, in the alcohol-soaked Kashubes, and in an Alsatian recruit regiment. The determination of incipient pulmonary tuberculosis is by no means easy. The temperature of the body, the general condition, the weight, and the findings in the lungs and especially in x-ray pictures must be taken into consideration. The struggle against tuberculosis was directed by an extraordinarily dutiful and zealous physician, Sanitary Councillor Effler, who has earned great credit. He put most weight on the signs which were elicited by percussion and auscultation of the lungs, and went far in their interpretation, but had little appreciation of the x-ray picture. I was of a different opinion and demanded that in so grave a

decision no means should be neglected that contribute to correct diagnosis. By using all means we could declare about one third of the alleged tuberculous as healthy. The subsequent development of the diagnostics of tuberculosis has confirmed my opinion. Since a few years we know through Redecker and Assmann, that the earliest stage of lung disease often produces only insignificant or no symptoms and can be recognized only in the x-ray picture.

Special lazarets were established for the tuberculous, with halls for resting and all other arrangements. We had some trouble with the feeding, for we lacked fats. It was necessary to substitute cod liver oil, which we secured from Norway in unlimited quantities. The men became accustomed to it and swallowed large quantities. As is known, cod liver oil is an important component of the modern Gerson-Sauerbruch diet.

In December 1916 I was ordered for general recruiting duty to the XVII Corps district. We encountered in this work dozens of malingerers, mostly men from the Kashubes and from the Polish speaking parts of the country, who were physically and mentally backward and animated by a mighty slight desire for war service. We have long since known the heart disturbances produced by excessive coffee or by swallowing stumps of cigars. Now we had an additional matter of deliberately acquired gonorrhoea. A young soldier, son of a regular army officer, who had mutilated himself to incurability, tempted others to allow themselves to be infected and gave them money to visit sick prostitutes. He must have suffered severely under paternal discipline to become such an enemy of the military. Theodore Plivier has described something similar in his book "The Kaiser's Kulis" in which a prostitute is famous under the name "Gonococca."

Frequently we saw skin ulcers which refused to heal by any method. We found hidden in the bedding essence of vinegar, solutions of bichloride of mercury and other caustics. A few had their wounds treated by plaster-of-Paris dressings, still they did not heal. The men pressed straw or wire under the dressing and irritated the wounds. When dressings were applied which rendered access impossible, the wounds healed in a few days. The resourcefulness and stubbornness of these mostly primitive men was astonishing.

In January 1917 I returned once more to the XVII Corps

district. A commission was to investigate the lazarets to determine those men capable of return to duty. Of the reported cases half did not wait for the commission but voluntarily announced themselves as cured. Of 1791 men who were examined, 549 were sent to the front, and 220 to garrisons. Only 818 remained for further treatment.

Again I was struck by the senselessness of distributing the sick among countless remotely located lazarets. I still did not succeed in establishing special heart and stomach stations in the home territory. In Lauenburg were three men who had brought from Macedonia grave tropical malaria. I asked the physician how he treated them. "They are given 20 drops tincture of cinchona daily." That was phantom treatment. A collecting station, say in Danzig, under the direction of an experienced naval surgeon, would have saved the men months of fever and prostration. In general, however, the lazarets were in a pleasing condition and the zeal of the physicians and of the personnel was worthy of every recognition.

CHAPTER XXVIII

TURKEY

On February 16, 1917, a telegram of the surgeon general reached me in the remotest corner of Galicia, detailing me for three months to Turkey "in the interest of the army administration, to make medical studies of the German and allied troops." I arranged my affairs, checked out by report, and February 21 was in Berlin to receive the most needed instructions and also some equipment. I could not find out much, I being referred for information to Constantinople. March 3 I took the Balkan train, which is a D-train (express) to the frontier, but on reaching Hungary it assumed the character of a slow secondary train with local traffic. The allies saved for themselves one train, and the passengers, to judge from their clothes and manners, did not look as if they had paid for 1st class tickets. At that there was plenty of good food, but not the same as at home. In Serbia and Bulgaria the situation again changed for the worse, the train proceeded like a snail and stopped continuously. The supervisor announced that there would be no evening meal. For this reason a two-hour stop in Sofia was welcome, as we could there provide ourselves with butter, cheese and splendid white bread. Wild rumors were current beyond Nish to the effect that bands of Komitatshis under French officers had attacked the railroad train the day before. Rifles were distributed, but they were not used in action. In three days we reached Constantinople. The time, as far as I was concerned, had passed like a flight. The strange, changing landscape, the Puszta district of Hungary, the wild mountain regions beyond Nish, the farm country of Serbia, reminding one of central Germany, the Chatalja heights, and finally the steppe of Thrace with its buffalo herds and caravans of camels presented to the eye fascinating pictures. In addition the long journey necessarily brought the passengers together. There was a lady from Berlin who was going to Sofia to marry a Bulgar, a few nurses, officers, Germans, Bulgars, Turks, also a Turkish prince who considered himself very important. The well-known sculptor Professor Fritz Behn of Munich traveled with us. Our younger brothers had been friends, and we found

many common interests. Finally I had as a companion Professor Viktor Schilling, who was stationed in Aleppo and was returning from a leave of absence. Turkey was like a colonial territory, each knew the other, and before we arrived at Constantinople I was fairly well informed about the most important persons, their characters and their experiences in life. Of the southern climate one noticed nothing; Serbia was under a mantle of snow, and Constantinople was cold and windy.

The arrival of the Balkan train was always the event of the day. Whoever could manage it was at the station to receive and welcome acquaintances. I was received by Oberstabsarzt Collin, the chief sanitary officer of the military mission, named for short "Osanoff," who accompanied me to the Pera hotel. He who sees only Galata and Pera can imagine himself to be in an Italian city. These parts of Constantinople have narrow streets with tall houses, narrow, dark alleys, the wide Pera street with its brilliant stores, coffee houses, and vaudeville places being the exception. The people on the street wore European clothes, the Turks with tar-boosh, the Turkish women were dressed in a sort of black, silken domino, and were only partially veiled. At the port, however, the crowd was variegated, being of all shades of color, including the ebony black of the negro. One saw clothes and shawls of all colors, dignified mullahs alongside of Greek and Armenian priests, a picture as variegated as one could wish. The Pera hotel, property of the railroad company, was the usual first class hotel, with a vast number of waiters and pages, and occupied by a remarkable conglomeration of officers, officials, business men, and bootleggers. The five o'clock tea, with Vienna music, was the occasion for meeting of the *beau monde*, and the evenings were often animated by the wide-awake, petulant aviators, with whom a Turkish prince was in friendly relations.

CHAPTER XXIX
PREWAR HISTORY OF TURKEY

Any one can easily inform himself about the progress of the World War in the European theaters of war. The events in Turkey are less well known, and it may, therefore, be proper to narrate them briefly as a background for the descriptions to follow.

The defects of the Turkish army in equipment and training became plainly evident during the Russo-Turkish war in 1877-78. Sultan Abdul Hamid therefore asked the aid of the strongest military power, Germany. A military mission under General Kähler was sent to Constantinople in 1882. In 1883, General von der Goltz assumed the direction. The work of the mission was unsatisfactory, as Abdul Hamid vacillated between the desire for a strong army and the fear of it. Accordingly the military mission was restricted to purely theoretical instruction, for maneuvers were forbidden. At that time the Dardanelles were fortified and a torpedo flotilla was created. Von der Goltz returned to Germany in 1895. The war with Greece in 1897 ended unhappily for the Turks.

In 1908, von der Goltz was again called to Constantinople, and found the country in a state of deep upheaval. July 24, 1908, saw the revolution which made Abdul Hamid a strictly guarded prisoner, and Mehmed the sultan. Again von der Goltz was charged with the reorganization of the army, but facing such intrigues and difficulties that he himself declared "Turkey is not yet capable of being Germany's ally." 1911 saw the opening of the war with Italy over Tripoli. Then Enver's genius in winning and enthusing men became evident. It will be recalled that Italy at that time did not dare to advance beyond a narrow zone on the coast.

The first Balkan war brought only disaster to Turkey. "The leadership was in the hands of dreamers, idealists, and theorists." Beaten at Lüle Burgas, devastated on the Chatalja line by hunger and cholera, Turkey would have had to surrender Constantinople to the Bulgars, if a quarrel between the allies had not broken out. In the second Balkan war the Turks succeeded in reoccupying Adrianople, and again the glory was accorded to Enver.

January 13, 1913, saw a new revolution of the state which placed Enver, Djemal, and Talaat at the helm. Now the German mission returned to Turkey, under the direction of General Liman v. Sanders, over the energetic but futile protests of England and France, though England controlled a corresponding naval mission under Admiral Limpus.

At the outbreak of the war Turkey declared her neutrality, but as early as July a secret pact had been made with Germany. On August 11 the two warships "Goeben" and "Breslau" entered the Dardanelles and were purchased by the Turkish government, when Admiral Souchong joined the Turkish service. December 28 the "Goeben," now "Sultan Jawus," steamed into the Black Sea where she was fired upon by Russian men-of-war, whereupon the Osmanic government declared war. In December, von der Goltz, who since August had been governor-general in Belgium, was again summoned to Constantinople as General-Adjutant (aid-de-camp to a ruler, and not to be confused with our adjutant general) and adviser of the sultan.

An Anglo French fleet had occupied the islands in front of the Dardanelles and had shot up two old coast forts. On March 18, 1915 it attempted a break-through, but was compelled to retire after the loss of three large and of several small war vessels. On April 25 strong hostile detachments of troops landed on the peninsula Gallipoli and then began that heroic defense of the Turkish army, led by Liman v. Sanders, which was so successful that on December 19-20 the English withdrew with heavy loss, including their supplies. It is true that the Turkish struggle had cost 200,000 men.

After that Constantinople was threatened neither by land nor by water. The defensive force was utilized elsewhere when Bulgaria joined the Central Powers and Serbia had been overrun. National pride in the victory of Gallipoli had enormously increased the self-confidence of the Turks. They barely tolerated the superiority of the Germans, but nevertheless, could not spare them. This resulted in tension, which was increased by mistakes on both sides, which rendered collaboration more difficult.

CHAPTER XXX

HELL'S ANTECHAMBER

I had figured on completing the needed reports in a few days, on supplementing my equipment, and then setting out to the interior. But at once difficulties of all sorts manifested themselves. I learned not only the imperfections of the organization, but the art of the Orient—to wait!

To begin with, the Turkish chief of the field medical service, Suleiman Numan Pasha, was on an official trip, and without him no passports were obtainable. Next the equipment cost an effort. Officers who had been in the country since 1914 told me, "You must equip yourself as for an expedition to the interior of Africa." Higher officers laughed and said, "You will travel by express trains and you need no preparations." These men had once or twice traveled to Damascus or Jerusalem, and when such "big moguls" traveled all other trains were taken off the line. The only sound advice was given me by the military delegate at the embassy, General v. Lossow. He said, "Wherever you arrive you will find troops who will give you something to eat. Take along plenty of cigarettes, and, if you can get them, a few bottles of cognac." I did so and through it have fared well. But a few other things were needed: a camp bed, mosquito netting, some canned foods, medicines. These were distributed among six depots while the requisition papers were at a seventh place, all difficult to find. The reason for this was that a strictly executed order forbade any signs in foreign languages, which applied also to the German offices! In addition I had to secure money in coins. Turkey had issued paper money but the people had no confidence in it. During the Russo-Turkish war paper money had been issued, but a stroke of the sultan's pen made it worthless, and that had not been forgotten. It was accepted in Constantinople but only at a third of its face value, but beyond Aleppo I would have been unable to buy an egg with it. The quartermaster bureau paid salaries with a small part in gold and the rest in paper. Small coins, the so-called metalliks, were not given us. Help yourself, we were told. I succeeded in securing from an official of the German bank under the counter and from

an officer who was to return home, some small change, a small, carefully guarded supply, which was to last me for months.

The third difficulty was to find out when a train went to the interior. The Anatolian railroad had its own administration. I had a recommendation to its director from the all-powerful Mr. v. Gwinner and I was received with kindness. But the trains could run only when there was coal and at that moment it was completely exhausted. That was the railroad which had to supply three large armies!

Accordingly I had plenty of time to become acquainted with the beauties of the city, which I enjoyed in the company of Professor Behn. He had been a volunteer automobilist in the west and there had passed through a good deal of experience. When that service was abolished he reverted to the rôle of a simple Landsturm soldier. He lived in the Pera hotel, and it was curious to see young lieutenants salute the imposing man in a special uniform of his own, when properly it was Behn who really should have jumped to his feet and stood at attention. We went together through the city, visited the remote Turkish quarters with their sunburnt, silvery wooden houses, wide unpaved streets, large trees, and inviting wells. We drove through the garden city Jediküle to the seven towers and the imposing city wall. We were much impressed by the vast undivided spaces of the large mosques. We saw the peculiar mosaic of the Kariéh mosque, which, dating from the time of Giotto, recalled his art. We experienced deep impressions of the Ejub mosque with its park of age-old trees inhabited by herons. Dr. Mass, a Berlin archeologist, who was serving as a volunteer in the Red Cross, kindly conducted us to the museum of antiquities. It was closed, but Dr. Mass told the official that I was a "Büyük Adam," such a big man, that I could go anywhere. I was glad of this, for the collection is the only one of its kind. The sarcophagus of the twelve mourning women, who convey the idea of grief by a most expressive position without any kind of pathos, is unforgettable. Even the famous, pompous sarcophagus of Alexander is put in the shade. I had brought with me all sorts of recommendations, but the contact of the circles was so little that I could not find the addresses. No one knew the body physician of the sultan, to whom I was to deliver greetings from Professor Israel, who two years ago had operated on the sultan. The music master of the army,

Major Lange, lived in Scutari. His son had been my assistant in Berlin. In no way could I find his house. Finally he heard about me and paid me a visit. I had repeatedly occasion to admire the fruit of his labors while in the country. I had a personal recommendation to the ambassador. I left my cards once, twice, but without any response. This did not surprise me in the least, for at international congresses all nations were received by their ambassadors or envoys, but the Germans never.

The medical installations in Constantinople were very rich and variegated. There was the medical school in Haidar-Pasha on the Asiatic side, an institution for the training of military physicians similar to our Kaiser Wilhelm Academy. Class rooms and research laboratories were in a luxurious building with strikingly high ceiled rooms. The teaching equipment was good. There was a large staff of Turkish professors with European training. The young men made a good impression. I happened accidentally to be present at an examination, and the young men seemed to know their stuff. The institution was pressingly needed, for the army was inadequately provided with physicians.

Then there was the hospital Gülhane, a post-graduate institution for physicians, under the direction of the German professors Brüning and Selling. It was at that time a lazaret with every equipment for diagnosis and treatment, with a dental institute, and an orthopedic workshop—their special pride.

The Turkish lazaret was located high above Pera. I was received there ceremoniously and shown all around. It made a good impression, was bright and roomy, and the patients looked well cared for. To be sure, everything was not gold that glittered. Cholera was not permitted to exist by higher order, and so it was kept secret. Our poor motorists later had to suffer for this, when the drainage of this lazaret got into their running water and produced an epidemic of cholera, typhoid fever and dysentery.

The German hospital, under the direction of Dr. Schleips, Orchan Bey, and Dr. Kerstens enjoyed a well merited reputation of long standing. It contained in fine, airy structures about 170 beds with the necessary diagnostic and operating rooms. As the sole well organized and well staffed hospital, it especially enjoyed the confidence of the well-to-do Turks. At that time

there was a princess awaiting the arrival of a baby. After the war the hospital was taken over by the Americans, and when these returned it to the Turkish government, it was decreed that none but Turkish physicians could work in it. In that way this important foreign post, as many another, became lost to German medicine.

A German SOS lazaret was located in the summer home of a rich Turk in Kurutsherme on the Bosphorus. It was a place of careful treatment and zealous research.

The naval hospital under Dr. Schech maintained a much patronized dispensary for natives. Consultations for venereal diseases predominated there. Syphilis is widespread in the Orient. It runs as a rule a mild and prolonged course, with eruptions of the skin, and swellings of bones, but the dangerous diseases of the brain, spinal cord, heart and liver are so rare that physicians familiar with the country have long believed that they never occurred. This, however, was erroneous. The infection often is transmitted to the children through their being herded closely together, and through the common use of eating and other utensils. The aid of our physicians was gladly accepted.

The Red Cross maintained a stately hospital in the former Italian lazaret. Dr. Zlocisti and an associate, Dr. Neukirch, a pupil of Lüthje of Kiel, worked in that institution. Both were capable and equipped for scientific work. In December, 1914 they were sent by the Red Cross to the Caucasus front and there had hard work with the extensive epidemics of typhoid fever, typhus and relapsing fever. They had discovered the causative germ of a very malignant disease resembling typhoid, which they named paratyphoid, type Ersindhian. Since September, 1915 they had worked in Constantinople, attending to the wounded during the battles of Gallipoli and later to many of the civil population. Although there was no real hunger at that time, scurvy occurred in malignant form, causing many deaths. It was striking that the physicians did not succeed in bringing about cures by the use of fresh vegetables. In the spring, as always was the case, the epidemic stopped by itself. That was our first encounter with this disease which in Germany is almost legendary. Dr. Zlocisti returned to the Orient after the war, and lives in Haifa, enjoying a large practise.

I met in the Austrian lazaret Dr. Felix, who had discovered

with Dr. Weil the most important reaction of typhus. I knew him from Sokal in Galicia. He, too, was in a position to tell me a good deal about the diseases of the country.

A beautiful home for convalescents was established in a former hotel in Moda, on the Asiatic bank, on the height of the sloping coast, and fanned by brisk sea winds. At that place I met Professor Reyher, specialist for children's diseases in Berlin, who was now engaged in the mines, where among the prisoners who mined coal, iron and chrome ores, typhus had broken out. He and other physicians gave me much valuable information.

Many visits and personal reports had to be made. The chief of the military mission, General Lenthe, was on an official journey. The chief of station of the fleet, Admiral Souchong, gave me a hearty reception. An evening spent on the flagship "General" with the naval Generaloberarzt Dr. Trembur, was, as is inevitable on the sea, somewhat moist.

I celebrated a happy reunion with First Lieutenant Schultze, the commander of the motor transport troops. He had been with us during the advance from Galicia and we had become friends. Now we greeted each other as old acquaintances. He placed at my disposal a motor as often as I needed, and promised me his aid for the trip to the interior of the country, which he fulfilled faithfully. The first thing that happened was that in a solemn session in the officers' club I was promoted on account of my many travels to the grade of auto-corporal, and I had the corporals' button with the initial K (Kraftfahrer, the German for motor-driver) placed on my shoulder straps, which event was duly celebrated with a good deal of champagne. Joesten laughed when he detected the following morning the new insignia! Friday was Selamlık, the solemn ride of the sultan to the mosque. The procession was headed by naval troops with their band, followed by the guard clothed in scarlet red, next came a troop of cavalry mounted on shining light bay horses, their lances having multi-colored streamers. Then came an auto with a princess and her children who watched the approach. Finally came the sultan's retinue. At the head, a few priests carried incense vessels, then came the senior equerry on a magnificent black Arab horse, shining and prancing, then the carriage of the sultan drawn by two heavy fiery horses, resembling those painted by Velasquez, tightly harnessed, with

the chins drawn almost to the neck. The sultan, slunk down, with a short cut gray beard and pudgy face, slowly turned his face towards the officers and saluted with the dignity and speed of an old turtle. Then he disappeared in the mosque. I was to have been presented to him on this occasion, but Suleiman Numan, who alone was entitled to make the presentation, was still away. I still lived in the Pera hotel. For a few days the variegated life there amused me. In the hotel lived a merchant of Berlin, who had traded in the Orient for many years and, foreseeing the fashion in Germany, was making wholesale purchases of rugs. He was a richly experienced man, who knew the country and the people. He was accompanied by his lively daughter, who was engaged to Oberstabsarzt Goldammer, chief physician in Sofia, an excellent military physician and savant. All three were overtaken by sudden death. This merchant left on a journey. Behn, too, went away towards an adventurous future. He went to Asia Minor with a Bavarian first lieutenant of the reserve, and there, as I heard, must have led a sort of piratical life at the head of a Turkish band, gravely irritating the British who were guarding supplies on coastal islands. The official war reports say nothing about this, but perhaps Behn, who can wield the pen as skilfully as the chisel, will some day tell us of his experiences.

For me the Pera hotel had lost its attractions in spite of the magnificent fish, and lobsters of the Bosphorus, and I moved to the residential ship "Corcovado." This was formerly a ship carrying emigrants to Brazil, later was in the East Africa service, and at the outbreak of the war barely managed to escape to Constantinople. Now it was anchored at the Golden Horn and served as quarters for men and officers. There all met who wanted to get to the interior or had come from it. The physicians exchanged their experiences during "carbolic evenings," attendance at which gave me more information than I could gather in the hotel.

In the meantime Numan Pasha had returned. I had seen him in Berlin, and he had been our guest in Warsaw, so we exchanged greetings as old acquaintances. He was a lithe, handsome man with smooth, winning ways, known as a good politician and active member of the Young Turk committee. He directed that I first go to Aleppo and from there in an eastern direction, and later to Syria and Palestine. He was

to assign to me as a companion one of his officers at the SOS station Bosanti, in Taurus, and generally aid me in any way possible.

The few days which I had planned had now become two weeks, weeks of impressions of all sorts, of insight into the large amount of administrative and scientific work, of the advantages and weaknesses of the institutions and installations, of knowledge of the personages in authority, but also of the personal and professional differences and jealousies—a general conception of the enormous difficulties presented by the situation of the land. Here every regulation of sales had been neglected, and probably could not have been carried out if it were ordered, for which reason one could get everything, but only at high and constantly rising prices. Bad crops, bad administration, and wild speculation, which rumor attributed to certain men in power, worked hand in hand. Although grave famine, as I saw it later inland, did not occur, this was solely due to the support which Germany provided the capital of her ally from her own limited supplies. If this was the situation at the capital, what must it be with the army?

Now I urged my departure. Two German and two Turkish military bureaus as well as the numerously divided directorate of the Anatolian railroad, controlled the train schedule, that is to say, they declared "We don't know, perhaps tomorrow!" The same reply was given on Saturday, Sunday, Monday, Tuesday, and finally on Wednesday it was said, "There will be a train at seven in the evening and perhaps earlier." The director of the Anatolian road, however, said, "It is entirely a freight train, fully loaded, and it is impossible to take any one." The German bureau's advice was, "Drive there and see for yourself." Now I pulled every wire, distributed my visiting cards and cigarettes. The result was, special compartment (due to v. Gwinner's recommendation), small change at the bank (due to the recommendation by Hans Jordan). At half past two I had my luggage taken, and drove to Haidar-Pasha. The director of the bureau of communication, Mr. Portmann, proved to be from Lucerne, and when I addressed him in dialect he became affable, offered me Swiss foods, cared for me, and, most important, the train actually pulled out at seven on schedule. One must have experienced such details to understand why the war in Turkey cannot be measured by German standards.

There was a wide chasm between what was needed and what was provided.

The journey along the gulf of Ismid proceeded during the night. At six in the morning we halted. Small urchins in blue jackets, red belts and indefinable pants, offered eggs. An old woman had cheese for sale while a peasant tendered clabber, that fermented, savory milk food, which may be taken without risk, because the milk is boiled before preparation. Everybody ran to the pond to clean up.

Then the train gradually ascended to the Anatolian high plateau, the meadows in their first green, the trees still barren, a few larks and butter-cups to be seen, about as in south Germany at this season. The mountains are beautiful, dotted with grayish green bushes, the valleys show plane, alder, olive and fig trees, occasionally a hamlet with houses of brick or clay. In the evening we got to Eskishehir and were afforded time to eat in the pleasant soldier home. The next morning I awoke in Afiun-Karahissar. There I beheld a new picture. A mountain range with rounded crests rises from a wide, flat land. In front of it is a mighty porphyry block, crowned by a stronghold, the city at its feet, clay-gray like the mountains except for the white mosques presenting a contrast. From there the train follows the south border of the Anatolian plain, to the right the border mountains, still covered by snow, to the left the steppe, scarcely interrupted by flat hill chains. Here and there were puddles, full of ducks and snipe. Each part of the day has its color: the morning silver gray, noon clay-yellow with glittering sunshine over the melting snow of the mountains, night with a starlit sky. The train rode or stood, as it desired, but with the constantly changing pictures the journey was never tiresome. Everywhere one could get eggs, bread, and kaimak, the tasty thick Buffalo cream, which serves as milk and butter.

The next train brought us at noon to Konia. As usual, the train halted indefinitely, a messenger service assuring that we got aboard before departure. This gave us time to view the magnificent mosques built by the old Seldshuk sultans, the knowledge of which we owe to Sarre. Our kind guide was the naval Stabsarzt Börnstein, who lived here as the physician of the railroad company in a native house with his wife and children, he having made all the furniture with his own hands. A dignified mullah led us into the Kasr Tai mosque. The won-

derful, multi-colored tiles, which lined it throughout, had become loose at the roof and endangered the environment. We asked the mullah why he did not have them fastened. He said: "Up there I allow no one, as then soon there will not be a single genuine piece!" We were embarrassed how to reward the mullah. After a ceremonial good-bye we placed a medjidj on a stone, and we saw while leaving how the pious man picked it up with a smile.

As we rode farther we saw the canals with which the German bank irrigated 40,000 hectares with the melted snows of the mountains. For the rest the high plateau retains its character as a steppe. The waters have no drainage to the sea, but collect and evaporate in a sink, around which the railroad goes in a curve. At some places the glistening surface reaches to the tracks, but is covered with reeds inhabited by birds. In Ula-Kishla the railroad pierces the mountains of the Bulgar Dagh between steep, bare, snow covered heights by a valley sparsely covered with wild pines and shrubbery. In Tshifte Han is a mighty hot spring of sulphate of lime. In 1912 the German bank obtained from me an opinion as to its medicinal qualities, and I was now interested in the site of the future kurort (resort). At noon we reached the terminal of the railroad—Bosanti. If there had not been barracks and tents one could imagine being transported to the Allgäu or the Vorarl mountain, a broad valley traversed by a river, wooded heights, and snow-covered crests which reflected in the evening a magnificent Alpine glow. But instead of cow bells one heard the call to prayer of the muezzin from the minaret of the small mosque.

Here was built an extensive SOS station with German and Turkish lazarets. The Turkish SOS physician was Hüsni Bey, a lively, enterprising man, who had had a detail in Germany and had learned to speak German fluently. He had installed under great difficulties a delousing plant, running water, drainage, and good latrines, and tried to get his soldiers and natives accustomed to the use of the strange and dismal arrangement. He had orders from Suleiman Numan to accompany me to Aleppo. Bosanti was important as a railroad and observation station. The German lazaret also served the road-constructing companies, pioneers and motor transport service, in which more than a thousand men were permanently employed.

From there led the famous road across the Taurus, which

for thousands of years had been crossed by warring armies. Then, in 1915-16 it was built up as a motor road, a true wonder work, facilitating the only possible transport to Mesopotamia, Syria, and Palestine.

A good automobile took us at first between wooded heights towards a camel caravan, which carried cotton in the direction of Germany. A fort-like barrack, built by Ibrahim Pasha in his campaign against the sultan, was the landmark on the height of the pass, from which one had a view over the snow crests of the Taurus. Now the road enters a narrow defile, the Cilician gate. Alexander's chiseled memorial record is still there. The automobilists have established themselves in a branch valley on the southern side. Their camp was neat and habitable, as could be expected of technically trained men. They had had heavy and important work, which was slowly eased by a tunnel field railroad train. Unfortunately they were decimated by malaria, partly because their physicians did not anticipate this marsh disease in that region. It was late when the proper measures were taken, after which the disease was checked.

The road descends rapidly. Each quarter hour brings a new picture of vegetation, rhododendron with violet buds and spurge-laurel, next a sort of stone pine, then patches of oaks, juniper, mastic, laurel, the ground covered with yellow and white aster flowers. Next appear the first stony and dry fields, with a few apple and cherry trees. The mountains gradually become flat, intersected by deep-cut water courses, and carpeted by tall blue-gray lilies, countless red anemones and violets. It is overrun by agile lizards and geckos, and slowly strutting turtles. Next comes the great, fertile Cilician plain, which extends to the sea. Here we were surprised by fate. The last tire blew out and we had to walk four kilometers to Gülek, a small village at the junction of the road and railroad. There we were greeted by the commander of the SOS, Risa Bey, one of those Turkish officers who enforced order and cleanliness as a matter of duty, based on intelligent appreciation of their importance. A pleasant military home gave us shelter for the night and we enjoyed a good Turkish meal, tomato soup, white beans, pilaw, fresh and cool water, with a little shot of raki.

March 27 the motor took us to famous old Tarsus, even today a stately city in the midst of orange groves, sugar and cotton plantations. Of the ancient splendor only a city gate is

left, the so-called Paul gate, the "tomb of Sardanapalus," the foundations of a Roman temple. In the afternoon we drove in a hand-car over the temporarily unused railroad tracks to Mersina. While Tarsus is purely oriental, Mersina is a European city with handsome villas of rich Armenians, Greeks and Levantines. We found a fairly presentable hotel. In the evening the director of the Orient bank, Schünemann, invited us for a morning ride on horseback the next day. He rode a new, young horse and gave me his frisky, Anatolian light bay horse. The morning temperature was that of a warm day in August, the ride pleasant, and after two hours we reached the estate of a friend and ate plenty of Japanese medlars which had just become ripe. On the way home Schünemann's horse ran away, and absolutely uncontrollable the bay naturally kept pace. I let it run with its fine, easy gallop and only reflected, what will happen in the city? The horses doubtless had thought of that too. At the limit of the town they fell into a slow pace and brought us home decorously. A sea bath refreshed us, then we rode in the hand-car to Jenidze, where we waited for the train to Adana. We passed the time chewing sugar cane which, with cotton, is the main product of the region. The plain is richly cultivated, populated by herds of buffalos, camels and asses, and has flat clay huts, scarcely to be distinguished from the soil, with here and there a pleasant and more pretentious farm house. The peasants were mostly Armenians, many of whom had been severely mistreated and exterminated.

The train took us to Adana, a stately commercial city. Here was established an Austrian field laboratory under the direction of the regimental surgeon Dr. Schiller, a pathologist of Vienna. He had charge of the bacteriologic examination of Austrian and Turkish units, the specimens being sent in from a wide circuit. Schiller complained about the indifference of the Turkish physicians who sent no specimens or used no judgment. He gave me interesting information about the admissions of sick to the large Turkish lazaret. It was surprising that in this moist and hot climate pneumonia and articular rheumatism were very prevalent. Frequently Plaut-Vincent's angina was the cause of admission.

During the afternoon the train took us to Mamure, a small hamlet at the foot of the Amanus Mountain. We spent the night in a small German SOS lazaret which was rigidly ruled by an able-bodied sister.

There was the beginning of that magnificent road which had been built during the war by German engineers to replace the age-old border path. With easy curves it crossed the mountains with gentle and equalized grades and excellent paving, the very thing for motor transport. The Amanus with its rocky precipices is more picturesque than the Taurus. It is wooded up to the top, the villages are built of stone, in the midst of fruit groves. They are gravely infected by malaria and dysentery. The motor men had their park on a height in Hassan Beli. Their physician was Dr. Pentzold, son of the well known clinician in Erlangen. He told me that his father, who had considered himself afflicted with a lung disease and for years had carefully spared himself, was now in Valenciennes as consulting physician, completely rejuvenated and possessed of great working capacity. All sorts of hunters' trophies decorated his room, among others the pelts of two porcupines who during a hunt ran in front of his gun.

At the foot of the Amanus lies Islahije, where road and railroad come together again. We came just in time to board the train, arriving at Aleppo the evening of March 30. It had taken ten days for the journey from Haidar Pasha to the place from which the road runs east to Mesopotamia and Armenia, and south to Syria and Palestine. The transport, which had to supply the armies with all their needs, moved at an even gait, for the country itself provided little except inadequate subsistence. The one-track Anatolian railroad suffered, as we have seen, from a dearth of coal. To be sure there was coal in the land, but mining had only just begun. The transport by auto had to be made over two mountains. That required a great expenditure in equipment and personnel, while the danger from malaria, typhus, and relapsing fever also necessitated close medical supervision. Much in this respect has been accomplished, not only by the Germans but also by the Turks. Schilling, who had not traveled over the stretch for months, was astonished to see the progress of the Turks. The Turkish soldier was willing and useful, provided he was properly led and directed. It was chiefly to the credit of a few military physicians, who took up new duties with zeal and patriotic inspiration and tried to carry it through as well as the means allowed that this was achieved. One of them was the SOS physician of Bosanti, Hüsni Bey, my travel companion. We had

come close to each other in the course of our days together and his manner of reserve and yet of frankness, was very agreeable. He sprang from an old Turkish family in Asia Minor. Of his parents he spoke with the greatest reverence, and stated that he would never take a seat or light a cigarette in their presence without specific permission. When he was transferred to Constantinople, his mother warned him about the pool of iniquity where the women go about unveiled. During his detail in Germany he was a keen observer, with high regard for Germany's virtues, but not blind to her defects. It was with regret that I parted from him.

Schilling, too, had attained his goal in Aleppo. He had there the position of a German SOS and of a Turkish army hygienist, and worked in the laboratory with a German assistant, Dr. Schiff, with the Arabian Dr. Haddat, with an Armenian pharmacist and a nurse. By calmness, patience and energy he acquired the confidence of the Turkish physicians and induced them to send all their material for his investigation. Thousands of specimens passed through his hands. The work was not so convenient as at home, for every wind raised immense clouds of dust, which passed through every chink, soiling the bacterial cultures. Periodically Schilling traveled over the large territory, conferred on installations, and knew how to spur the ambition of the Turkish physicians by suggestions and praise. In addition he managed to continue the investigations of blood, which have made him known, and he generally kept his eyes open with regard to the land and its people. Among other things he brought with him an interesting collection of prehistoric objects which he excavated at the foot of Tel in the vicinity of Aleppo.

Spring had come. The grass was sprouting, the wheat was a foot high, poplars and alder trees were in the first spring gleam, figs and pomegranates had the first leaflets, the air was warm and somewhat sultry, day and night, the flies and mosquitoes not yet at hand—glorious weather for traveling.

The first duty was to make visits, personal as well as official. First I reported to the Turkish general Shewki Pasha, a large, heavy-set man, who granted the audience with immense dignity. Next I visited the German consul Rössler and his wife, a lady from Berlin. They occupied a pretty house, not in the elegant district of villas, as for this the German empire was too econom-

ical, but behind the bazaar, and my motor could squeeze through only after a sick camel and a balky mule had been driven out of the way. The German commander of the SOS, Grafenstein, a skilful wholesale merchant and clever organizer of Berlin, attained good relations with the Turks after many vain efforts, by inviting them to splendid banquets. Consul Hoffmann had fled from Alexandretta when the English fired upon the city. Now he lived here with his wife and three children, who had been severely attacked by malaria. A very important visit concerned Frau Koch. Her husband was a wholesale merchant and had lived for years in Aleppo. Frau Koch spoke Arabic fluently and was the trusted friend and helper of all resident and transient Germans, a warm friend of von der Goltz, adviser of all friends of art and museums, and herself an enthusiastic collector.

CHAPTER XXXI

EXTRACTS FROM MY LETTERS

Aleppo, Sunday, April 1, 1917.

Of Aleppo I saw the new city, with broad streets, naturally unpaved and dusty, with wide villas of rich merchants, each with a miniature garden. In each house is a large salon, into which open all rooms, hung with rugs. In the distance is a tempting dervish cloister and a citadel, which are to be visited today. I write early at seven, in my night shirt, for throughout the day I cannot get time, as I am escorted and feted.

Evening. An interesting day. Very warm. Early visit to Turkish stations and German installations. Noon I spent with Frau Koch, then I viewed the things worth seeing, had towards evening a whiskey-soda at Koch's, dined in the home, and now a few words to you.

Aleppo is a very attractive city, the new quarters are elegant, the old ones narrow and picturesque, populated by variegated and wild folk, Arabs, Armenians, refugees, deserters, gypsies, thieving children, dangerous looking men, hideous old women with tearful eyes and Aleppo boils. Near the city are wide caves in the chalk rocks, which extend for miles, in which live all sort of migrating folk. Wild dogs breed in them. Then a whole quarter of old walls and graves of royal **mamelukes** of fine architecture, largely despoiled by robbery and pillage during the war. A mighty stronghold on the old citadel hill, which required for building from 2000 B. C. to 1300 A. D. One can see from below vultures and kestrels fly around, but from above you can throw salt on their tails and view the whole city, everything being in all color shades between silver gray and clay yellow. Visit to two native families. One an Arab who collects rugs and Chinese porcelain and whose daughter is a poetess, and the other a former Greek family, which for 100 years has collected everything, from the Hittite sculptures of the 20th century before Christ to Chinese porcelain and wall stones of the 16th to 18th centuries. Two fine women with natural dignity. Schilling has vaccinated them and says he has never seen such filthy legs. Koch's is the meeting place of all foreigners. There was Professor Koldewey, who was exca-

vating in Babylon and accidentally escaped from the English without luggage and with only a few silk rugs from Persia, which were lost when his mule ran away while enroute. He kept his sense of humor, "Thank Heaven, now I have no more treasures on earth, where moths and rust do corrupt, or thieves break through and steal." Then there was Dr. Haerle of Bagdad, whose patients soaked his written prescriptions in water and drank it as magic. I myself feel as if I had taken a magic remedy: daily from morning to night new impressions for the eye and ear, ever new reports on the land and the people, nice ones and not so nice ones which will take long to masticate and digest. Tomorrow Hüsni goes back to Bosanti, and I will work only a few days in the laboratory and make a few visits, then I will go to Mardin where another Turkish officer is already awaiting me. For today enough, for we have been April fooled twice, at the noon meal by Koldewey who asserted there was a solar eclipse and lured everybody to the window, and in the evening when we were given blown out-eggs and wurst with stones, inventions of Princess Brigitte Reuss who directs the home. Now I have earned some sleep.

April 3. Aleppo is inexhaustible. Yesterday I was early in the laboratory, the afternoon I spent in the old city under the guidance of the indefatigable Frau Koch. Two stately private houses, the one now a German technical school, was built about three hundred years ago. One steps from a narrow little street into a large courtyard with a well, surrounded by the living quarters, whose walls are of wood, on which are superimposed plaster-of-Paris moulding (ornaments) and which are painted in delicate colors like old Japan lacquer with ornaments, quotations from the Koran, flower vases. The doors are inlaid wood work, the ceilings are chased and painted in many colors, the whole being serene, dull-finished, and in spite of the detail work, uniform. A beautiful domed room for a bath has interesting capitals. The cupola is laid out with painted glass, leaving an opening. The outside walls are plain, but finely chased marble inlays are above the doors. Everything shows signs of decay, yet one still has a full impression of former beauty. The other is the king's house, in which even today live the offspring of the princes, who had been independent during the 16th century for a brief period. We are escorted by a dignified old man and a few "princes," blond, brown and

black. In the court of this house is a broad basin, a niche on the left and on the right, each most beautifully tiled in blue. Here men and women assemble in the evening. The last "king" had 40 wives, who, on beautiful summer evenings, were compelled to form in line and at the king's command jump into the water, there to act in lively fashion while he sat, drank coffee and smoked the nargileh (hookah). The present occupants are penurious, and as they are princes and must not work, they occasionally take out a tile or painting, sell it to some collector, and thus have something to live on for a while. There are two large mosques, one with the grave of Zacchary, a great sacred shrine. Behind a costly partition is a recess lined with tiles, rugs and embroidery. The other, now a dysentery hospital, has beautiful columns and capitals of the 12th century, wood inlays and tiles. While we were admiring these beauties now one and now another patient sat on a small pot relieving himself with groans. As a lazaret it was kept clean, but the poor devils were given nothing to eat. There is general dearth in the land. There is no lack of supplies, but they are hard to secure. To this one must add much speculation in wheat and oil. Now and then the police make raids for recruiting purposes, but whoever delivers 3000 kilos of corn is free from military duty. One can buy rugs and antiques by the wholesale, and some are really beautiful, but the prices are high, because of the war, and the people sell only for metal money, which has three to four times the value of paper money, and can be secured only with great difficulty in roundabout ways. The bazaars are incredibly variegated, each street displays a different article. The laborers work hard; boys ten or twelve years old forge horse shoe nails, an old man turns with his toes an antediluvian lathe; women offer Urfa laces, flat breads, oranges and rice. The children have big malaria bellies, the adults almost without exception have scars of Aleppo boils, sick eyes and massive skin eruptions. To this add weather hot as August and pleasant aromas, but as yet no flies or mosquitoes. I buy nothing as yet and am saving for the return trip. I must see first how I can get along with the money, and it is said that in Diarbekr and Mosul, away from the stream of strangers, one can find more beautiful things. Now I am going to post the letter, repack to reduce baggage to a minimum, and make some visits. Today or tomorrow I go in an eastern direction

The days in Aleppo were well filled. Germans and Turks vied with each other in courtesies and accompanied me the whole day. At my departure this led to a small calamity. At the station I had a large escort of Turkish physicians and the animated conversation continued to the last moment. My traveling bag was at my side, Joesten forgot to put it aboard, and it was only on the way that I noticed that my toilet articles and important papers were left behind. After 10 minutes the train stopped—engine defect, how fortunate. I sent Joesten back to the city. The train was supposed to wait until his return, but went on nevertheless, and so I sat in the train without luggage, and Joesten in Aleppo without anything. But he knew how to look out for himself, and caught up with me after three days, by a freight column.

My goal was Mardin, the city where the road branches off northward to Armenia. The railroad passes at first a river valley with orchards, almond, peach, cherry, and pomegranate trees, all in the first bloom of spring. Next come wide wheat and cotton fields. Gradually the steppe becomes evident, with rich buffalo herds and yellow clay huts, which look like bee hives. Then the train reaches the Euphrates and passes over a magnificent new bridge. At this place the Euphrates is a wide and stately river, studded by islands and islets. The right bank is the seat of an age-old Hittite fort, in which the English have excavated remarkable reliefs. Beyond the river one again beholds the monotonous steppe. At night we reached a small hamlet, Ras ul Ain. Here we were supposed to be taken in by a German home, but there was no tent and the place not free from lice. We had as a traveling companion the chief of railroad operations, Engineer Hilfiker, whose wife was a country-woman of mine, and thanks to this contact all difficulties were overcome, a car being pushed onto a siding in which the whole society spent the night. We had with us the cavalry captain v. Roell, the new commandant of the motor transport detachment in Mardin, who had ordered his auto to await him in Ras ul Ain, and he took me to Mardin. First we had breakfast in the Turkish restaurant, coffee and tea in cups of the size of egg cups, stone hard bread, which I had brought with me from Constantinople and which I found to be glorious, fresh eggs of the locality. I visited the stronghold, also Hittite, which a former patient of mine, Baron v. Oppenheim, had excavated. The

Hittites are a people of whom little was known up to a few years ago, but who inhabited Asia Minor from 2000 to 1200 B. C., left writings and sculptures, and were characterized by Jewish facial features. Thus there is here the statue of a queen with a treble chin, the nose long and curved, and the mouth from ear to ear. Alongside is a goddess with brutal features, but still with an expression of loftiness, which the artist secured by tilting back the head. There are a few sphynxes and griffins, some inscribed tablets—not much, and yet everything characteristic. (The works can now be seen in Berlin and in the Tell-Halaf museum, which Baron v. Oppenheim erected on his 70th birthday.) The stronghold, traversed by ditches and shafts, lies on a river which teems with fish. They had just caught a mirrorcarp which they offered for sale. Alongside is a warm sulphur spring, which affords a pleasure resort for turtles and countless frogs. The meadows are full of daisies and poppies not larger than a pfennig (a German coin smaller than an American one cent piece) and violet in color. We proceed through the steppe. There travels a German auto-column which supplies the entire Second Army, battling the Russians in Armenia. The railroad is being built and will have a branch to Mardin, which will be opened in the near future. The steppe extends to the south beyond our vision, in the north at a great distance one sees a blue mountain range, the last spur of the Armenian Taurus, the goal of our travels. There were also a few rivulets, even now the snow is melting. Farther south it is dried up in the gravel. Here and there is a well in a village inhabited by Kurds, the men sinewy, in heavy brown overcoats at a temperature of 35 to 40 degrees (C), the women without veils, the children beautiful as pictures, with shining teeth, blond, black or red hair; they run after the auto and beg or show their knowledge of German, “wun piaster” and “heidi go.” On the road is an endless column, men, women and children wrapped in rags of all colors, travel about laden with their little possession, so hungry that they eat grass, eagerly falling over a few pieces of bread. These are exiled Kurds, driven into misery by the government, no one knowing why. To the right and to the left of the road lie skeletons of mules, horses and camels that have fallen by the way, avidly sought by vultures as long as there is a remnant of meat, the vultures with large wings flying about in great numbers. The steppe itself

now appears green, but looked at closely it has a yellow clay soil from which shoot here and there small grasses, intermingled with flowers. The flora changes every few minutes. Where a plant finds root it multiplies and assembles about it a family of offshoots of generations in a space of several hundred meters circumference. There are patches of charlock, daisies, hellebore, St. Johns wort, and a plant with grayish yellow leaves and deep yellow fruit, which, I think, is colocynth. The auto races through all these glories without feeling and leaves us little time for observation and none for reflection. Towards noon one observes the mirage, things like Zeppelins hang in the air, hills are seen upside down, then there appear shining large seas, which disappear at the next puff of the wind. A city, Tel Aman, has a ruin of a magnificent mosque of Saladin, of which the portal and the prayer niche are still preserved. The villages consist of flat clay huts which can scarcely be distinguished from the soil, the inhabitants are Arabs, Kurds, Armenians, in brown or checkered overcoats, an inexhaustible material for paintings in their faded colors and in the glaring sun.

Slowly the mountain range comes nearer, a completely barren limestone mountain, yellow red, silver gray. One can distinguish flat tops and crown-like pinnacles. At the foot of a wide, reddish pinnacle rises slowly a gray sea of houses. That is Mardin. Now the road goes up over chalk hills, terraces with peach and olive trees become visible, and finally after passing bazaars and miserable huts, and traversing streets with stately houses, we reach our quarters at the auto detachment. We are in a house built against the mountain, belonging to a rich and now exiled Armenian, reached by terraces and steep stairs, the doors framed by artistic stone sculpture and wood carvings, and provided with knockers. In this house I shared with a chaplain a tower room, infested all day by kestrels, who made a great noise. Behind the house rises the poorer city quarter, above that the steep cliffs which terminate in the ruins of the stronghold, the whole a fantastic theatrical scenic effect, especially under the moonlight. Below is the city with its variegated mass of men and animals, the flat roofs of the lower quarters on which the children play, next the hill spurs with their white and red rocks, then a few green fields and behind them, disappearing in a marine blue background, is the endless Mesopotamian plain. My work here is done, the one German and the sev-

eral Turkish lazarets have been visited, the stronghold was ascended early today, and now I am waiting to be driven on, which depends on the will and opportunity of the motor drivers. Today, on Good Friday, the long awaited and desired rain came. Without it the country would have had poor crops, and it is therefore regrettable that it was not heavy enough. For my travels the fine weather is favorable, as otherwise the lime stone steppe would be transformed into a soap through which no vehicle could pass. Therefore rainy weather delays me. Yesterday evening there was a small fête in honor of the new commandant of the motor detachment; today dinner with the Turks, who for a long time have been sitting behind tables and eating from plates, like ourselves. This evening I am with the railroad construction company. Of the war one feels little here, and it is said that in this army it is not being waged very violently. My aim is to go from here to Diarbekr and Charput, where we have flyers and motor transport men and where are large Turkish lazarets, from there I intend to go to Mosul on the Tigris, back to Aleppo, and thence to Jerusalem. My companion with this army is Murad Effendi, who had practised surgery in Hamburg and longs to be back in Germany. Most of the Turks talk fairly good French, so that we can easily understand each other. The lazarets are pretty good, the patients, to be sure, are very miserable, exhausted by malaria and typhus, but above all by hunger. It is all due to dearth of necessities in the land but especially to inadequate transportation.

The lazarets in Mardin, Turkish and German, are pleasant and clean, but occupied by more patients than should have been necessary. The subsistence of the motor drivers was miserable. The Turks were obligated to provide flour, but what they produced was not much better than sweepings of the floors of the warehouses. From this was baked a truly frightful bread, and that our motorists had to eat. Now good flour could be purchased in the open market, but this was forbidden by the military mission, which stuck to it in spite of complaints, until the commandant on his own responsibility circumvented the order, and the SOS inspector while on a tour of inspection personally saw the bad situation. This was another example of the futility of attempting to conduct a war by orders from a distant central bureau.

Zealous work was being done under the direction of Major

Günther of the engineers in building a branch railroad which was to connect Mardin with the main line and later to extend also to Armenia. The construction was greatly handicapped by dearth of labor. To be sure the Turkish government provided laborers, Russian prisoners, Indians, and drafted Anatolians. But when they arrived their condition was such that weeks had to be spent in curing and feeding them before one could demand of them any work.

CHAPTER XXXII

ARMENIA

April 8 I was heading northward in the direction of Diarbekr. At 3:30 AM a two-ton truck, loaded to the top with woolen bags, took us along. The road traverses the heights of the limestone mountains with their peculiar piers and bridges, and attains a slightly undulating high plateau, covered by thin grass and thickets which bloom like peaches. Wherever there was a rivulet appeared poplars and pastures, green meadows with a small dark red poppy. Every hour we passed a miserable Kurd village with women in rags, but the prettiest children. Towards noon, on the top of an elevation one began to see far north a ribbon of snowcaps with a bluish sheen, the Armenian Taurus. With this splendor in front of us we jolted through heat and dust until towards evening there appeared a glistening strip of river, banked by poplars, the Tigris, spanned by an old Roman bridge. Beyond that was seen a black ribbon, which, as we came closer, assumed the aspect of a wall with towers. That was Diarbekr. On the way Murad had repeatedly whined because we were riding on a freight truck. I had little sympathy for him, and I thought, "What suits me, ought to suit you." But half an hour before reaching the city we were met by a beautiful passenger car, which took me on. At the gate stood the army physician, with the entire medical staff and sanitary personnel to extend solemn greetings. In a duster, and with my face decorated in a clay yellow, I had to review at his side the guard of honor and shake countless hands. Now we proceeded into the town. It is built of black lava and on this account looks dark and gloomy. But the impression conveyed by the interiors is still more gloomy. The house in the Orient must not betray the wealth of its owner, and borders the street with a barren stone wall. The streets were particularly narrow and dirty. Countless houses were in ruins, whole places were only rubbish heaps, given over to wild dogs and cats. The population, what was left after hunger, epidemics and Armenian slaughters, looked unspeakably miserable. The children had big malaria bellies, with sick eyes and faces of senility. Typhus and relapsing fever were rampant. A few cases of cholera, too, had

made their appearance. Although an effort was made towards sanitation, a running water supply planned, and the streets half-heartedly cleaned, all this was insufficient, and the impression conveyed by the capital of a once rich and fertile territory was sad beyond expression. I was billeted in the beautiful summer home of a murdered Armenian, beyond the city limits, and was fed noon and evenings in Turkish fashion. A sample of a menu, tomato soup, barbecued mutton (kebab), bereg, that is, puff paste with cabbage and cheese, then a sweet dish, and again mutton ragout with sweet potatoes, pilaw prepared with mutton fat, another sweet dish, and at last a small cup of Turkish coffee. With the meal we had gloriously cool water and a heavy red wine from Damascus. It was my experience that in this climate water agrees best and tastes best, and therefore I understood why there are among the Turks water connoisseurs who identify certain springs with the same exactness as a wine connoisseur identifies brands. I have easily accustomed myself to mutton fat, which here completely replaces butter. The best kind is obtained from the tail of the fat tail mutton which yields several pounds of a soft, white, almost tasteless fat. Ordinary mutton fat, to be sure, was very disagreeable to our taste. Eating, at least at that time, was a social function and one had to get accustomed to hearing the guests express satisfaction by smacking and belching. To me personally these endless meals were more disagreeable than days of hunger.

I postponed inspection of the hospitals until the return trip, and on April 10 rode again by an auto truck to Mezereh-Charput, the GHQ of the Army of the Caucasus.

From the high plateau of Diarbekr one sees in the north the snow chain of the Armenian Taurus, in the east flat heights, and in the west the broad flat back of the Kara Dag, which has flooded the plain with lava. Often barren stone can be seen, which after long exposure to weather becomes very fertile red-violet earth, in which corn can be raised. But now much of the land was barren, covered by narcissus and red tulips amongst which large turtles wobbled along. Here and there was a Kurd village, and everywhere, on both sides of the road plenty of skeletons of horses and camels, the bones picked clean by vultures and jackals, and bleached white by the sun. After five hours we approached on both sides limestone mountains and finally two steep peaks, at their feet a city—Osmanje-Argana. The peak

of one mountain is crowned by the Armenian cloister Marja-Mama. Here one again beheld one of the excellent war roads. Between steep mountains which simulated portals and battlements, it rose to 1400 meters and descended after that by many turns to a bridge across the Argana-Su, the upper course of the Tigris. After the monotonous stone desert the yellow green of the poplars and the gray green of the pastures had a most pleasing effect. Also the mountain sides have been colored by exposure, as I have seen nowhere before; bright yellow, orange, iron red to dark violet. The background of this glory of colors was the broad snowy chain of the Armenian Taurus with its peaks and glaciers. After crossing the bridge the road rose anew through marble and red slate and attained the small city of Argana-Maden. Here is copper ore, mined by the government. Whoever had money to buy a sufficiently large quantity of brush wood acquired also the ore and melted it in a crude copper mould. There were such moulds on the road, bought long since by Germany, but not yet transported. The ore was handled carelessly, large pieces being built into houses and walls, and a small pond emptying into the Tigris was discolored bluish green by the copper salts.

We spent the night in the house of a Turkish physician. At dawn the next day we went on along the Tigris, which has a number of falls in a wild, rocky valley. After two hours the valley spreads out as a plain with peach, almond and pear trees and fields which were just being plowed in most primitive fashion. Two small boys with an ox team were attending to this, the oxen going under a yoke, the plow being a crooked branch of a tree, just as in the time of Abraham. On the left appeared a lake, the Gjöldik, mirroring the snowy mountains. It is the source of the Tigris. By long turnings the truck climbed to the height of the pass at 1600 meters. We rested between snow patches and bushes of dragon blood. To the left there is still the view of the Gjöldik, to the right a wide green plain, traversed by the Murad, the eastern branch of the Euphrates. The two rivers at their sources are that close, and reunite again only at the Persian gulf. The trip to the plain was not without its thrills. The road was built insecurely and badly maintained, the melting snows had flooded the turnings and we were often glad when at least two wheels still touched the ground. But our driver, a small black Turk, did his work famously and brought us at noon happily into the valley.

There I was received by the army physician of the Caucasus group, Ibrahim Tali, whom I had met at the Warsaw congress. He took me to El Asis, the seat of the commanding general of that army. Three minutes was the time left to clean up, then came the presentation and inevitable dinner with the commander, Izzet Pasha. After dinner I made the rounds of the lazarets which were installed in the German, French and American missions for the Armenians. A German school under Pastor Eymann had retained its buildings and looked after orphaned Armenian children. In the evening again a banquet-like table, then I was given "Pasha quarters." To be sure there were bed bugs and mice, and the bed broke down during the night, but it was nevertheless a great mark of distinction! El Asis and Merzereh, modern cities, are in the plain, while the age old Charput is on a steep mountain. That town was visited the next morning. I inspected the lazarets and convalescent homes, all very nice and clean, but the men in a pitiful condition of hunger and emaciation. At noon again a luxurious meal, which I wished could have been given to the hungry in the lazarets. Izzet Pasha invited me to make with him a journey to inspect the troops. That certainly would have tempted me, but would have required four weeks. That much I had no right to sacrifice to an enterprise which was outside my mission.

The next day I drove back over the passes, spent the night in the community house in Osmanje-Argana in the company of the gentry, and the following day to Diarbekr. I would have liked an hour of rest, but the army physician dragged me to a big feed with the commander of the Second Army, Mustapha Kemal, the present ruler of Turkey. The afternoon I spent with the Austrian motor detachment, which as usual had a few artists among its men.

On the 15th I made another inspection of hospitals. At noon a solemn meal with all physicians, followed by a meeting with many remarkable reports, then I visited the Austrian lazaret. A bare wall with a barred lookout window and a narrow door in a small dirty street hide a magnificent court yard, from which an open stair leads to a wide terrace. On this is the house beautifully ornamented with tiles, plaster moldings and arabesques—the palace of a rich Armenian.

But the city did not improve on closer acquaintance. It was in a frightful condition of misery and hunger, and at no other

time but just then the governor must get the idea to beautify it with new luxurious streets. The oriental despot has ever had the ambition to perpetuate his memory in buildings, and so began the new era with the demolition of whole sections of the city and the Austrian motor transport instead of carrying food-stuffs to the army, carted away rubbish.

A single structure of luxury, though in ruins, decorated the city, the palace of a Sassanide king, built in hellenistic style interwoven by oriental motifs, which was shown also by Baalbeck. The bazaars were entirely emptied, my expectation here to discover specimens of Armenian art, were not realized. Even the generally resourceful Austrians had no luck.

My next goal was Mosul, located downstream on the Tigris. One can reach it by the water route if one makes use of the customary kelek, a raft of poplar trunks kept afloat by inflated sheep skins, which by some divine guidance safely navigates the rapids and whirlpools. The journey lasts 8 to 10 days. Moltke made it and has described it in detail. A military preacher was ready to accompany me, but he was suddenly called to a distant duty, and I concluded that alone, and without a knowledge of the native language the adventurous trip was too risky. I renounced it with the greatest regret, and rode back to Mardin in the old wagon, accompanied by the harem of the Turkish officer, custom demanding that I should not look at them, but in spite of that I felt no temptation to do so.

The excursion to the Caucasus was instructive in some respects, even though the impressions were frightful. The desolation of the land as a result of the persecutions of the Armenians was most distressing. In Mardin and Diarbekr scarcely an artisan remained alive, the rest of the population were miserable and famished. The most terrible impression, however, was made by the lazarets, even though they were neatly installed and kept up, for they contained only skeletons covered by skin, the patients not only suffering from epidemic typhus and relapsing fever, but from diseases resulting from hunger—scurvy and noma. We had seen scurvy in Roumanian prison camps, even at home some few dozen cases due to improper nutrition having been observed, but here it was present en masse. Noma is not known to us. It is an inflammation of the mouth, produced by a spirochete and a bacillus jointly—Plaut-Vincent's angina. In the most reduced patients the infection breaks through the cheek,

making a hole, destroys the bone and leaves frightful mutilation, if it does not lead to death. This is what took place here often enough among soldiers and civilians. Like all spirochetal diseases, noma, too, is favorably influenced by salvarsan. I was shown several cures.

The acquaintance with Izzet Pasha was profitable. He was a big, very heavy set man, with sharp eyes and an energetic face. A descendant of a prominent Albanian family, and trained in a Hussar regiment in Cassel (Germany) for two years, he planned the reorganization of the Turkish army. But Abdul Hamid was afraid of him and banished him to the Yemen. In 1908 he was recalled as Chief of the General Staff, soon was sent again to the Yemen and returned only shortly after the conclusion of peace following the first Balkan war. The young Turk cabinet appointed him generalissimo of the army, and though he was in disagreement with the rulers, both as to the entry into the war and the strategic plans, he made the sacrifice of undertaking the command of the Second Caucasus Army.

CHAPTER XXXIII

THE WAR AT THE CAUCASUS FRONT

Enver was by no means the cool calculator, as one might assume from his impenetrable countenance. He conceived elaborate, fantastic plans for a union of all Turkish peoples of Central Asia, who lived under Russian rule. For this reason he undertook as early as November, 1914 the direction of the battles on the Caucasus front.

For centuries war between Turkey and Russia had been almost uninterrupted. At the era of the great sultans Turkey possessed, in addition to the Balkans and Hungary, the entire territory surrounding the Black Sea. Catherine II conquered its north border and the Crimea (1783), to which was added at about the middle of the preceding century the Caucasus with Tiflis, while Batum and Kars were secured through the treaty of San Stefano. In the Balkans Roumania was wedged between the two countries. Accordingly there remained only Armenia as a frontier area for attack. In November, 1914 the Turks succeeded in advancing to Kars under Enver and his German chief of staff Bronsart v. Schellendorf, when they were counterattacked. January 4, 1915 the Turks were decisively defeated and forced to retire behind their frontier. In this winter campaign they were nearly annihilated, for just as it is hot in summer, so is it cold in winter in that trackless, mountainous country, all passes of which lie above 3000 meters. According to Liman v. Sanders only 12,000 men returned out of an army of 90,000, the rest succumbed to hunger and cold. This failure was carefully guarded as a secret, and was entirely unknown in Germany. The rest of the winter was calm and so the army could be replaced. But in May the Armenians started uprisings in the rear of the army. This caused their removal from the zone of operations. The deportation was entrusted to the civil authorities with Hit on the Euphrates as the destination. This involved many hundreds of thousands of individuals of all ages and sexes. Frightful things took place during the operation. Deportations en masse are difficult enough under favorable conditions, but under the conditions of war, dearth of food and money, bad transport and roads, they result only in catastrophe,

even if the intense racial hatred were not present. Part of the Armenians were turned over to their arch enemies, the Kurds, who robbed and massacred them; others were let loose in the steppe without food, others were taken to Aleppo by trains where they were decimated in their overcrowded concentration camps by hunger, typhus, dysentery and cholera. Where the Armenians were the stronger, they dealt with the Turks even more cruelly, if that is possible.

The Russians took advantage of these riots and of the weakness of the Turkish army, and advanced to Wan and Bitlis. Their plan was to join the British forces in Mesopotamia. In the fall of 1915 Grand Duke Nicolai Nicolaievich assumed command of the Russian Army of the Caucasus and ordered the resumption of the offensive, with his accustomed energy. They took Erzerum February 15 and Trebizond in April, and organized their line of communications. At this dangerous moment Izzet Pasha took command of the Turks. The Third Army was at that time in Thrace and was ordered to his aid, but long before that could be accomplished the Turks were again defeated and lost the second Armenian capital, Ersindhjan. At the beginning of the winter the Russians withdrew their lines, but the Turks could not do that on account of lack of means of transportation, and so the unfortunate troops remained hungry and freezing, exposed to the elements on the high mountains. Only a small part survived. That consisted of the sick I had been enabled to see in Charput.

After the Russian revolution the Turks met with no resistance when they advanced in the spring of 1918 to Tiflis and Baku. This was in accord with Enver's old dream, and also, there was the temptation of the oil wells of the Caucasus. To insure a rational utilization of their yield, the Germans were compelled to send troops under General Kress von Kressenstein to Tiflis. They remained there to the end of the war, and returned home by adventurous routes. Their garrison lazaret remained as a German hospital for the strong German colony Helenendorf, conducted by five capable physicians until 1928, when due to the hostility of the Georgian soviet government it was forced to close its portals.

Izzet Pasha was a politician of uncommon ability, as is shown by his memoirs which appeared in 1928 in a German translation. He was to me an amiable host. He allowed me to ride on one

of his horses, of which he had a dozen, representing the most famous breeds of Arabia, eleven stallions and one mare, whom he visited daily and kissed on the nose. To ride such horses is an indescribable pleasure; they need neither bridle nor thigh, they guess the wishes of their riders by scarcely perceptible signs.

Colonel v. Falkenhausen was chief of staff. He had a heavy job. As usual, successes were credited to the Turks and failures to the Germans. On top of all this Falkenhausen had the misfortune to contract an Aleppo boil. Following Lossow's advice I left him a bottle of Benedictine. He later sent word to me that when things went too badly, he drew forgetfulness from it.

CHAPTER XXXIV

THE WAR IN MESOPOTAMIA AND PERSIA

Mesopotamia was a remote theater of war, nevertheless it had significance concerning the course and ending of the war. Germany guaranteed in her pact with Turkey the integrity of the latter's domain. For this reason Germany had to provide not only material equipment to the greatest extent, but also troops, especially technical troops and officers, who were given important missions. In addition there were economic considerations. Iraq was in olden times a paradise of fertility and the seat of mighty empires, and the problem was to restore the neglected canals which once irrigated this land. Then the oil tracts which traverse the land from Persia proved a great attraction. After discussions of years, the Bagdad railway, built by the Deutsche Bank, came to an agreement with Great Britain, in which the latter reserved for herself the terminal at the Persian gulf. In Germany one dreamt of "Berlin to Bagdad," of the colonization of German farmers in Iraq. These were Utopias, but Germany could expect from the political agreement a share in the future development, and fought here for her economic expansion.

But England, too, counted Iraq as in her sphere of influence, politically and strategically, as a connecting link between Egypt and India. She maintained at Basra, which could be reached by ocean going vessels, great trading establishments, the merchant flotilla of the Lynch organization plied the Tigris, but most important of all, she had secured the south Persian oil fields, piped the oil to Mohammerah on the Shat-el-Arab to the refineries, from whence it was shipped by sea.

To protect these interests England had landed an Indian brigade in October, 1914 before Turkey had declared war. The brigade occupied Basra on November 22, and on December 8 occupied Gurma at the confluence of the Tigris and the Euphrates. There Turkey had too few regular troops for an effective opposition, nevertheless Suleiman Askari Bey risked a counter-attack, but was thrown back at Sheibe on April 12. An English war prisoner, whom we later met in Asia Minor, told us that the British were ready to retire, but when they saw that the Turks

retired they credited themselves with a victory. Both forces were gradually strengthened, slowly the British advanced north along the east bank of the Tigris, while the Turks retired, fighting.

About 30 kilometers south of Bagdad are the ruins of ancient Ctesiphon, and about 100 kilometers farther south the Tigris makes a sharp bend to the east, followed by another bend south-east opposite the dry valley of the Shat-el-Hai, where lies the city of Kut-el-Amara. This city was occupied by the British in the fall of 1915, and then followed the attempt to capture Bagdad. At Ctesiphon they were checked and forced to retire to Kut-el-Amara. This took place November 22. December 12, Field Marshal von der Goltz joined the Turkish army, and finally the 72-year-old man had the opportunity to lead the army, to the reorganization of which he had devoted a large part of his life.

He recognized immediately that the entire English army had strongly fortified itself in Kut-el-Amara, and that the previous attacks had resulted in useless losses. This opinion was not shared by the Turkish leader, Nurredin Pasha, with the result that there arose differences, which were overcome only by the personal prestige of the German leader, who had also to take over the affairs of the civil administration to establish order. Command of the Turkish army in Iraq was assumed by the youthful uncle of Enver, Halil Bey. The Turks, while closely besieging Kut-el-Amara, occupied a strong position at the village Fella-hieh, between the Tigris and the inaccessible marsh territory of Suwadshe Hor, where they repulsed a British replacement army under General Aylmer, although this force had thrown a bridge across the Tigris and had troops on the west bank of the river. A last attack by the replacement army, this time under Sir George Goringe, which was opened with drum fire, was again repulsed, and so General Townsend was forced by hunger and epidemics to surrender Kut-el-Amara with 13,300 men (April 28). He was accorded the honors of war, and went to Constantinople, while his officers were sent to Brussa, and the men to Anatolia, where they were given work on farms and railroads and were treated with kindness. Of this I myself had opportunity to become convinced.

Field Marshal von der Goltz did not live to see the success of his efforts. Simple as were his needs, he undertook the re-

turn trip from Kut-el-Amara to Bagdad in an overcrowded ship, which carried sick and had not been disinfected. There he contracted typhus, and died April 19. His remains were solemnly buried in Bagdad, and removed June 24 for the last rest to the garden of the German embassy in Therapia on the Bosphorus.

The defeat at Kut-el-Amara had brought grave reproach upon the British army. This was not justified as to the soldiers and their leaders, who had fought bravely and endured much, but should have been laid solely at the door of the authorities who had failed to provide necessary equipment. There was dearth of suitable food, resulting in an outbreak of scurvy, of medical equipment and of many other materials required for a colonial war. Realizing all this, England soon organized another army, now properly equipped and provided with adequate artillery, even heavy guns, aviation, and gun boats. Thus equipped the English attacked the Turks at Kut-el-Amara anew on January 9, 1917 and in spite of heroic defense by the Turks, captured one position after another, by the aid of the gun boats and cavalry directed against the hostile flanks. The aridity was so great that even the salt marshes offered no protection. Against such superiority, the British artillery being fifty times stronger, the weak Turkish army could not endure. It retired to the north and occupied Selmanpak as a last defensive position, which at least enabled the Turks to save the supplies and railroad material from Bagdad by transfer to Samara. The large radio station was blown up. March 10-11 Bagdad had to be evacuated.

It was a serious loss. Politically it deeply affected the entire Turkish empire. Strategically the defeat contained the possibility of a union of the Russian and British armies, to prevent which was the object of the German and Turkish expeditions into Persia. This necessitates a brief account of the struggle in Persia.

CHAPTER XXXV

PERSIA

The Persian state had collapsed under weak and bad government. This attracted stronger powers. Russia desired the fertile northern strips of land, above all hoping through them to reach Afghanistan and thereby to threaten the frontier of India. England in turn tried to prevent this, and had since the acquisition of the south Persian oil wells strong economic interests. Other great powers sought there a market for their wares, as Germany did for her dyes. In Teheran and a few cities of the north a glimmer of civilization was visible, such as street cars, electric lights, a parliament and political parties, progressive, democratic and conservative, the property owners belonging to the latter. The military power consisted of a gendarmerie of 3000 men under Belgian officers. The power of the government was limited, the mountains to the south and west harboring tribes in complete independence of the Persian government.

When England and Russia joined the Entente, they settled their differences over Persia. They divided the country into a northern or Russian sphere of influence and a southern or British sphere of influence, the two separated by a neutral strip, Ispahan-Kermanshah. At the outbreak of the war Germany and Turkey directed their attention to Persia, the Turks with the hope and expectation of a pan-Islamic movement, the Germans in the hope of being able to incite Persia and Afghanistan against England, which would have forced that country to maintain large forces in the Orient.

Persia at first remained neutral, but Russian Cossacks who were stationed in the north province even before the war, fought against Turkish irregulars at Tabriz. England occupied Bushir and Bender Abbas on the Persian Gulf, to protect her oil fields. In May, 1915 Germany tried to build a supply road through Persia; officers were sent to important places under the title of consul, and an expedition Hentig-Niedermayer aimed at and attained, after adventurous experiences, Kabul the capital of Afghanistan. An expedition under Captain Klein was organized in Bagdad and pushed to Kermanshah in September 1915. In the meantime preparations were made for a pact with Persia. German gold exerted its influences, and with its help tribal

princes were won over. Part of the gendarmerie went over to the German side, emissaries like Consul Schünemann in the north, Consul Wassmus in the south won over the tribes, and the democratic party was favorable to the enterprise. On November 15 the legation councillor of the embassy, Count Kanitz, attempted a "putsch" in order to bring the Shah to Teheran and under German influence. The attempt failed, and now a Russian army all ready in the north, began an advance to the south, occupied Teheran, Hamadan, and threatened Kermanshah, near the frontier passes. A radio message of the Russian General Baratov to Townsend was intercepted and betrayed the plan to unite the Russian and British forces in Mesopotamia, after having crossed the Zagros passes. Under these circumstances Field Marshal von der Goltz, who had arrived in Bagdad in December 1915, decided to utilize a part of his weak Mesopotamian army, which he sent to Persia under the Bavarian Colonel Bopp. This detached force met the Russians in battle, and while the latter were numerically superior, the winter in these inhospitable highlands prevented them from exerting their full strength. The Germano-Turkish troops received some replacements, but the conditions were disheartening. The Persian democratic party was without power and influence, the cavalry put in the field by the tribal princes was picturesque, but not cavalry. The gendarmerie was divided, the Persians were divided, some being pro-Entente, some pro-German, some pro-Turkish. Germany and Turkey had come to no understanding as to their diplomatic goals and worked against each other. On the German side there functioned, in addition to the Perso-German military mission under von der Goltz, the so-called intelligence officers who were directly under the foreign office, with Count Kanitz and the consuls, all independent of each other. The worst however, was that Persia and Afghanistan had been promised gold and arms, but the machine guns and artillery could not make the 2500 kilometers to Bagdad and thence the additional 340 kilometers over the very poor roads. It was utterly impossible to satisfy the gold hunger of the helpers, one tribal prince, Nizam es Sultaneh, having made a contract with Count Kanitz for 80,000 gold marks as a monthly contribution.* "Persian patriotism has become an

* In 1921 we had a South-Persian prince in the Charite for treatment of stiffening of the spinal column. We succeeded in improving his condition to such a degree that he could again mount his horse. This success made him rather friendly and he confessed that during the war he had been given much German money, but that his brother got English money!

industry which has a devilish similarity to extortion," was von der Goltz's characterization. Nor did it help that a "special Mission P" was sent to Bagdad under the direction of Duke Adolf Friedrich von Mecklenburg. It was to be the nucleus of a new Persian force, but it could not be raised.

Under these circumstances Kermanshah fell to the Russians, and in May the Paitak pass at the frontier was evacuated. With this the prospects of success in Persia and Afghanistan vanished. True, after the fall of Kut-el-Amara another advance was undertaken, Kermanshah was reoccupied, and the consuls remained with the tribes stirring them to activities which "contained" (held fast) hostile forces. But after the fall of Bagdad the German-Persian expedition hung in the air and withdrew to the Sixth Mesopotamian Army. That took place during my visit, for which reason I was advised not to advance towards Persia as I should only embarrass the retreating force.

The further course of events in Mesopotamia is soon told. Germany had guaranteed by pact the integrity of Turkish territory, for which reason the Jilderim expedition was given the mission of recapturing Bagdad. After long consideration and much investigation it appeared that the security of the Palestine front was more urgent. The English, too, remained content with the occupation of Bagdad. It was only in October 1918, when the Turkish front collapsed everywhere, that they cut off the rest of the Sixth Army in its retreat to Mosul, and forced it to surrender at Kerkuk on October 30, 1918.

CHAPTER XXXVI
EXTRACTS FROM MY LETTERS

Mosul, April 20, 1917.

Here I sit on my field cot at six in the morning in a large, completely bare room of a deserted house, the quarters of the Germans. Joesten is boiling tea. On the ceiling swallows have their nests, at the door are pigeons, on the wall a stork, and all have been making noise with full throats since five o'clock. To this add the noise of the asses in the street, of the bells on the goats, and the crying of the children. It is as hot as noon, the sky clouded, but the natives find it as usual. That is Mesopotamia. Yesterday we crossed it. On account of a slight intestinal catarrh I allowed myself two days rest in Mardin. Yesterday an opportunity presented itself to make the journey in a passenger car that had been ordered, over a road, which is not really a road, but only a track where wagons have been driven over the flat steppe, and which is so smooth in stretches that one can make 60 kilometers as if on a paved highway. At first we went over the Mardin mountains down to the plain and south-east. On the left were the spurs of the Tur, which here become lower and lower, on the right at a great distance a blue mountain range. Along the mountains are fields and isolated villages, many deserted, others inhabited by Kurds, and a city, Nisbin, which once important as a seat of learning, is now but a miserable, filthy hole. Gradually we got away from the mountains and the fields disappeared. The plain extends in a slight undulation, at present green from grasses of many kinds, sage, poppy, anemones, thistles and all sorts of unknown plants, everything having hurriedly grown fruits, getting ready for the dry summer. Here and there the green is already yellowish, the ground stony hard and broken by cracks. It is an uncommonly dry year. The usual spring rains have been lacking, and even in Mardin were already held prayer processions for rain, with drums, fifes and litanies. Large herds of rams, small neat cattle, asses, buffaloes and camels appeared, the camels with their young, black, brown or white, and occasionally wonderful horses. The herdsmen are Bedouins in long shirts with thick white burnouses, the heads tightly wrapped in head cloths, which are held

together by rings like a crown. We passed a few camps with their black tents of goat skin, magnificent men, old and young, greeted us, and smiling children, all with shining teeth. As far as one could see horses, camels, asses and cattle were grazing. Who would not think of Job?

After a long journey we arrived at the filling station, a tent in which lived one solitary non-commissioned officer with two Turks. He dispensed gasoline, and at night had to defend himself against Arabs, who desire his shoes and especially his carbine. With it he had recently shot a wild boar, whose young, 8 days old and not larger than a rabbit, striped black and white, was confined in a box, and quivered with indignation when we disturbed him during his rest hour.

Mosul, April 22 1917.

Stabsarzt Schwarz was so kind as to give me his room, shady and cool, with table and sofa. Now I sit at 5:30 in the morning, while outside the storm is whirling up the sand and the Turkish recruits are drilling, and I think of you. One is here so entirely out of the world, without newspapers, poorly furnished with army reports. There are discussions about the negotiations with Russia, but no one knows anything definite, not even the general. At Schwarz's natives appear in masses, they chew for hours in the courtyard waiting to be treated, patients with eye troubles, Aleppo boils, leprosy and whatever else this blessed land has. The German lazaret is a model, white beds with mosquito-screens, good food, some games and books, our men as brave as usual. There are three sisters, with a number of Armenian women as help, and a few Arabs as house servants. Schwarz knew how to stand in with the general and with the Wali, and gets from them, though slowly, everything he needs, wood, food, etc. He is indefatigably industrious, spends the entire day in the laboratory in which a Jewish pharmacist of Constantinople, working together with a sanitary soldier and an Armenian, are staining and examining the countless specimens of malaria and relapsing fever germs. The Turkish lazarets, too, are not bad, one even luxurious, it belongs to the Red Crescent (the Turkish equivalent of the Red Cross), which, so far, I have encountered nowhere else except in Constantinople, where it is the center of aristocratic society. The men are much better nourished than in Diarbekr and in Charput, medically there is not much, one physician and two thermometers for 500 patients,

no temperature charts and no histories of cases. I am particularly interested in what happens and in what does not happen, *e. g.* no scurvy, and no gangrene of the extremities in typhus.

In the city there is much life. Yesterday nomads passed through from their winter quarters in the plain to the mountains on the other bank with endless herds. On an ass were hung bags containing young lambs, on a camel two bags with children, in front a newborn camel, the forelegs hanging to the right, the hindlegs to the left. A young, magnificent herder was all business, he had no eyes for our auto but only for his animals who were about to cross a bridge.

He urged them on with sounds from a region of the throat, unlike anything known to us. Among the children many are blonded, the girls wear as an amulet an earring with blue stones drawn through the right nostril. I have struck a history book on West Asia and I am reading zealously Babylonian and Assyrian history. It becomes most real here, everything is exactly as it was in the distant past. Only the automobile is anachronistic. Great was the fright of men and animals when the first aeroplane ascended, especially the camels are said to have been much upset.

Stabsarzt Schwarz is the son of the Berlin mathematician. He was in East Africa and managed to get through to Germany with the loss of every possession. Now he collects marten skins, which are here particularly beautiful, for a coat for his wife, so that she should have at least one valuable object as a souvenir. At noon we have 45 degrees (C), but the heat is not unpleasant. Only when walking in the sun does one feel oppressed. The gentlemen of Bagdad have suffered more. There the heat rises to 55 (C) and even more, and one cannot endure it in the houses, so they spend the day in the cellars and go to the flat roofs only after sundown. To work in this season is no pleasure. One said, "Each order is a personal insult;" another, "The summer in Bagdad is a plague." All feared a second summer. The heat was so great in the summer that even the lice disappeared. But all are enthusiastic about one local product—the fresh dates. Unfortunately there are none now.

Mosul, April 24, 1917.

Towards the river the small streets become narrower, more angular, filled with men, asses and cattle. There is the bazaar, but it displays only utensils and even these are scarce. Trading

can be done only with paper money, and as this is regarded as but an eighth or tenth of the value of silver, the people hold back everything. Secretly one can buy anything. Domestic art objects and silverware, to be sure, are seen here not at all. Of architecture there is little here, only that the mosques have leaning minarets, because (as they say) they made a bow as the prophet passed them and have then forgotten to straighten up. Still there is one surprise. The filthy streets of the lower city terminate in a picturesque little space, the houses of which have all stories decorated with bowers, on which coffee is being drunk. A wall with a narrow gate encloses the city, passing which one's view rests on the wide, clay yellow Tigris, spanned by a heavy ponton bridge. Yonder is the left bank, rich in trees, a hill with village and mosque, Nebi Juna, the grave of Jonah, who is here revered as a national saint. Alongside is a circular wall, flat and wide, with a flat peak in the center, intersected by caves and tunnels. That is the ruin of ancient Nineveh. Here Sir Henry Layard excavated in 1849 and discovered the royal library which is now in London, to which we owe our knowledge of the ancient history and languages of the land.

I visited the Jonah mosque, the grave is surrounded by a magnificent bronze fence and decorated with precious brocade. There is also a piece of the holy fish which swallowed Jonah, the jaw of a shark. On the floor was an Ispahan rug of about 1700 A. D., the only valuable piece I have seen on my journey; it was however so threadbare that it was not worth stealing.

Mosul, April 25, 1917.

A good opportunity takes me in the early morning southward, only 120 kilometers, but that much farther away from the mountains blessing us with rain. At half of the distance the fields and meadows cease, the steppe becomes yellow and burnt, the flowers have lost their bloom, the little grain is approaching ripeness. On the road we pass the naphtha wells, black, malodorous pools from which two men fill a few drums, about 30 to 40 per day. And in Aleppo a drum costs 20 marks and is hard to get. We had suggested to the Turks to let us exploit the fields, but they would not have it, out of pure jealousy. For this reason petroleum had to be brought from Roumania, and gasoline even from Germany to the armies. A large part "evaporates" en route, or, properly translated, is stolen.

Here and there a height, the Tigris ever on the left. Then a flat hill with holes and excavations. That is Assur, the Kalat Shergat of today, where Dr. Schacht, whom I met fifteen years ago in Todtmoos, with two officers, lives among the Turks in the old excavation house, practically idle. We created quite a sensation with a few canned vegetables and cigarettes. They had lived on mutton, rice and eggs, and had smoked cigarettes for which the Arabs allegedly picked up the paper wherever they found it. They told a good deal about the excavations in Persia and Bagdad and showed me the finds. The good pieces collected by the German Orient Society, arrived before the war in Lisbon in 140 boxes. There they were unloaded and sold to England. Now one sees only caves, stones, pieces of pots and bricks with insignia in wedge writing. En route we met a swarm of locusts, not very thick but much like a snow storm. In Shergat they crawled on everything, food, walls, beds. One simply wiped them off the bread and meat. I caught a tarantula and am bringing it back in alcohol as a souvenir. I returned in the evening tired but pleased.

April 26.

Today I learn that an auto column will go tomorrow to the roadhead with Turks, deported persons and other carriers of lice, but also with a German captain. Therefore, we shall try our luck. Now I have to make visits to Colonel Kretschmer and General Gressmann, who had told me much of interest about the battles of Bagdad, to the kindly Consul Hesse, to the gentlemen of the mess, to the Austrian Dr. Jerolimek, who was surprised by the war in Persia where he was excavating and now is a German SOS officer, to the intendant Eiermann, a friend of Dr. Adams. The old Armenian, who serves us, steals cigarettes and matches and sells them at the bazaar, also waits to have his hand shaken. Parting with Schwarz whom I have learned to esteem greatly, is very hard.

Demir Kapu, April 27, 1917.

You will find this place on no map; it is a tent in the middle of the steppe, a few Kurd houses, but also a clear, rapidly flowing rivulet, for which reason it is a rest station for the freight columns between Mosul and the railhead of the Bagdad railroad. Rose at 3:00 AM, rode away at 4, at first in the cool of the morning, then with the ever increasing heat, sultriness, and dust, through the steppe. At 1 PM I was at the rest house, with

the temperature of a hot house, bath, food, and sleep. Then again a river bath and a magnificent evening meal—curds (clabber) and fish caught in the rivulet. These are here so stupid that they will bite a crooked knitting needle. As a dessert we had horse-crabs, but they taste sweetish and stale. Chat with the motor drivers, all young fellows who for years have driven in Persia, Bagdad and Taurus. They teased each other and were jolly, but never did a raw or indecent word pass their lips. Otherwise they are slick sharks, strong in "clawing." Spent the night in a tent guarded by a dog, who was so keen that he would not let me in after a short walk during the night, and only quieted down when he recognized the smell.

April 28, 1917.

Early we went onward, over the very road which I had driven eight days ago. The flora is completely changed. What then had been in bloom has ceased blooming. Now we see vines, red and white, also large and tall malvaceous plants like hollyhocks, white and then at the end of one hour red. Many larks, blue pigeons, bee eaters, a large bustard, which I tried to shoot but did not hit. At 10 a halt at a Kurd village, which became lively, the inhabitants offering milk, curds, eggs. I sketched the village, surrounded by young onlookers, who took a lively interest and happily pointed with their fingers when one recognized his house. At noon arrival in Derbessije in a terrible sand storm, so that one could not see the hand in front of the eyes and could hardly breathe. In the German SOS no one could be found, I waited an hour, finally it appeared that the SOS inspector, General Back, had arrived and everybody had gone to receive him and for inspection. We ate with him in a soldiers' home, which was pleasantly managed by catholic sisters. He was accompanied by the Osanoff (senior medical officer, abbreviated) Collin, by the SOS physician Klages of Aleppo and other gentlemen, who had already befriended me. We played together a tropical "skat" (a German card game) to pass the afternoon, my last bottle of cognac was accepted with gusto. That night I was in a freight car with 12 Germans, 5 Turks, 2 children, 1 dog. The dog was the cleanest and noblest of them all, a thoroughbred Arabian greyhound. There were also the families of a few Turkish officers with endless baggage, from which now and then tea and indescribable liquids spilled over my trunks. They are very sensitive, but by means of cigarettes, courtesy and the

French language we got along. Klages tells me there is much mail and a fat Austrian decoration waiting for me in Aleppo.

Aleppo, May 2, 1917.

I believe I shall have to extend my detail to get through. The trips proceed slowly, the distances are great and the obstacles many. That is the very reason why the food supply is so unequal. We suffer no want, but the populace and the troops are poorly nourished, and the new crops which should be available in May, are threatened in places by the drought.

Coffee is scarce, and yet it is here indispensable, as it drives away hunger, thirst and fatigue. As soon as the train halts one sees the Turks run out, collect a few stalks and boil in a small pan, the *Gesweh*, a thimbleful of coffee. Now it is rationed out to the officers. At each report it is customary to offer a small cup. Then there is always a small scene; while talking the officer opens a drawer, takes out a tin box of coffee, hands it to the orderly, who brings the coffee in two minutes, the officer then examines with one glance whether the fellow has taken too much, and locks up his treasure. At the same time the most careful courtesies are being exchanged. Still more remarkable is the fact that here where tobacco is grown, hardly any can be had. The trouble is with the transportation.

Yesterday I was with Schilling in Djerablus on the Euphrates, where the English had excavated a Hittite city. A luxurious street led to the temple on the height, decorated on the right and left by reliefs and writings that no one can read: riders, battle scenes, camels, sacrificial scenes, musicians, portraits, everything well preserved and put up. The Turks have no interest in this and use the figures as targets.

The next destination is Jerusalem which I preferred to attain by the most direct road. I restricted my luggage to the essentials and happily found a place in a fully occupied train. The train passed southward through a region which at other times yields abundantly wheat and oats, but this year looked almost barren. Many fields had not been ploughed at all and were covered by thistles of all colors. At a village a half-grown youngster showed his skill in riding a magnificent Arab, using only his thighs and his tongue as a rein, as is customary here. When we started out he raced with us but soon got far ahead of the train. It was a beautiful scene. A meadow was, as far

as one could see, full of storks, thousands upon thousands, who were resting on their migration to the north. When the train halted at Homs I went to the station to take a cup of tea, and there came up a Jewish physician in practise there, who had studied in Switzerland and had attended my lectures. I met among the travelers many acquaintances, including the capable Risa Bey, who had extended hospitality to me in Gülek. He had been transferred to Jerusalem. We spent the night closely huddled together and in the morning reached Rajak, a hamlet in the plain between the Lebanon and the Antilebanon, the old Coelesyria, which, being irrigated by the two stately rivers Orontes and Liones, has ever been a larder of corn. Here began the misery of the railroads. English and French each did not want the other to have the building of the road, and the sultan granted the concession only after endless discussion and much bakshish. This explains why at this transfer place there were two railroad stations, half an hour distant from each other. With effort we secured a wagon drawn by an ass which transferred the luggage. After a brief visit to the collecting station for the sick we went on in the direction of Damascus. The road ascends along a clear flowing rivulet through orchards and clean villages and across the Antilebanon. As soon as the height is passed, one can see the wide plain, and at the foot of the mountain the city of Damascus.

CHAPTER XXXVII

DAMASCUS

A stately river, the Baradach, is fed the entire year by the snows of the Antilebanon, and traverses with countless branches and windings the city and its vicinity. Yonder it dries out in the desert in wide marshes and salt lakes (sinks). The city is set amongst great orchards, apples, pears, cherries, peaches, quinces, pomegranates, figs, nuts—all in luxurious profusion. Immediately behind this splendor are the rocks, bare and burned yellow. For the inhabitants of the desert Damascus with its plentitude of water is a paradise, but even we from the northlands are enchanted by its luxurious fertility. We arrived at three o'clock and heard that a train would leave from one of the five railroad stations at some time tomorrow. Thus we had a day in which to see the most interesting things, the bazaar, the mosque of sultan Suleiman, St. John's church, several palatial residences, each of which had a small garden with a babbling fountain. I was received kindly in the German Club, and given there information. I found a billet in the soldiers' home, which was run by a long bearded Capucin in proper fashion. A German lazaret under Dr. Schlagintweit of Munich was excellently equipped, but had few patients. I was especially glad to meet Privy Councillor Wiegand of Berlin. Djemal Pasha, who ruled the land autocratically, at first was mistrustful and wanted to have nothing to do with the German archeologists. Wiegand then came as a Bavarian reserve captain with an artillery transport, and it was due to his diplomacy that he won Djemal over to his plans. Now he could survey and excavate to his heart's content. He had just returned from the expedition to Tadmor, the ancient Palmyra, which had produced such beautiful results. He lived like a prince in the palace of a murdered wholesale merchant and held daily court with his staff of savants and officers. The next day a train actually departed. The railroad was on the right of the snow-covered mountain, and one recognized in the distance the flat peaks of the Hauran, which are high enough to attract rain, and whose fertile lava has for ages made the region a corn larder, over which many battles have been fought. On account of lack of wood the train

was held up for the night at Wadi-Sarrar. I slept on a chair in the open. The Turkish station commandant kindly offered me his room, but any gentlemen who accepted his invitation had a violent battle with fleas and bed bugs the next day.

Wadi-Sarrar lies on the south end of Lake Gennesareth, 108 kilometers from Jerusalem as the crow flies. Nevertheless the journey took a whole day, but the trip was entertaining. At the stations bread, eggs and oranges were offered for sale, but only for coin. According to a strict order by Djemal paper money had to be accepted at the current rate, and now and then a transgressor was hanged. But that, too, did not help. Paper money was rated at only $1/4$ to $1/5$ of the face value, and food-stuffs were sold only for metal money. A Turkish officer showed an orange-woman a metal piaster, secured the fruits and then paid her in paper money. Now came a scene. The woman shrieked, called everybody to witness, put the bill on her hand and blew it into the air, "See, that is supposed to be money!" Then she rued it, caught the bill and tied it in her coat tail, took it out again and began anew. The officer laughed and threw the peelings in her face.

In Afule a Jewish physician, born in America and speaking Galician Yiddish, boarded the train to inspect for cholera. He showed me the Turkish collecting station for the sick, a clean place in tents with beds and mattresses, conducted by two German sisters, of whom one was all dried up, by 25 years in the land. She still spoke her undefiled Braunsbergian East-Prussian dialect, was glad to get news from home and treated us to a feast, egg plants baked in oil.

Afule lies in the fertile plain Jesreel. In the west on the height one sees a stately city with large buildings; that is Nazareth, the home of Christ. There were lazarets and convalescent homes for 3 to 4 thousand men, but that was not on my route.

Now began the mountain landscape proper of Palestine, bare heights, whose valleys were cultivated in oats and wheat. The slopes, carefully terraced high up, grow grapes and olive trees. The localities high on hills are surrounded by walls. Even the oat fields and orchards were fenced in by thick cactus, which bore just then their bright yellow blooms and small fruit.

We arrived in Jerusalem at eleven in the evening. The station (every village in Germany has a larger one) was with-

out lights. With the aid of Austrian sanitary soldiers we succeeded in temporarily storing the baggage and securing a cab to seek our billet.

Jerusalem, the goal of countless pilgrims, had only one hotel, but many large lodging houses, which had been established and were maintained by many countries as religious foundations. Mine was the Austrian hospice, excellently conducted by the splendidly educated prelate Fellingner, who knew the land and people well. The first night I passed without sleep—I was no longer accustomed to a bed.

Jerusalem is entirely different from other cities of the orient. Situated on a barren high plateau, in great part still surrounded by walls, it harbors infinitely dirty Arab and Jewish quarters, alongside of large and stately buildings that have been erected by the piety of the world during many centuries. Our Austrian hospice was a luxurious edifice with terraces, gardens, cool rooms and passage ways on which were painted the coats of arms of all noble pilgrims. Alongside were hung memorial tablets of pilgrim expeditions *e. g.*, a troop of body guards, entire villages of Tyrol, pious societies. Similar hospices were owned by the Germans (Paulus foundation), the English, the French, but most magnificent of all by the Russians, to which must be added gigantic cloisters. The Turks had installed in all of them their lazarets, very neat and clean, partly manned by good and attentive physicians, who collaborated well with the German physicians. The Germans and Austrians, too, had excellent lazarets. Here was shown the skill with which the Austrian knew how to handle the Oriental. The German lazaret did its duty, but played no other role, the Austrian was placed beyond the city in the mighty foundation Ratisbona. It was headed by Professor Hermann von Schrötter of Vienna, a splendidly educated physician, naturalist and connoisseur. There were but few Austrian troops in the land, but Schrötter knew how to render his lazaret influential. He drove along the front in his automobile, picked up officers and pashas who were sick or wounded and took good care of them. He invited Europeans and Turks to brilliant banquets and in that manner occupied an important and generally recognized position. Now and then he assembled all physicians of the locality for evening discussions. One such was held in my honor and was extraordinarily instructive, because many physicians who had lived in the land

for decades and the German, Austrian and Turkish military physicians exchanged their experiences.

Djermal had established his headquarters in the Augusta Victoria Foundation, the mighty German creation on Mt. Olivet. I was very desirous of making the acquaintance of this extraordinary man, who with Enver and Talaat held the fate of the country in his hand. A medium tall, delicately built man with brown hair, short parted beard and sharp eyes, agile, skilled in conversation conducted in excellent French, he was open to every suggestion and observation. No one would have believed him capable of the cruelty with which he raged among the Arabs. He was much interested in my journey, called my attention to several points, and asked for a report of my observations.

I was repeatedly Djermal's guest. He was fond of surrounding himself with an inspiring circle. For example I made there the acquaintance of the celebrated builder of the Hedjas railway, Meissner Pasha, a small, dry, very likely Saxon, now entrusted with the development of the railroads in Palestine. I had been told much about an architect Zürcher of Switzerland. He had executed important buildings in the Prussian service, among others the Academy in Rome, had been recommended to Djermal, who had appointed him a Colonel, Aide-de-Camp, and Director-General of building construction within the area of the Fourth Army. One evening entered a man, who, according to stature and formation of the mouth could be only an East Swiss. I approached him and addressed him in dialect. He almost fell over backward from surprise. It was really curious to hear a Prussian colonel of the medical corps and a Turkish aide-de-camp talk Swiss and precisely in no other place than Jerusalem. Now he told me of his activity. His mission was to construct palatial buildings in Damascus. He had just come from Germany where he had made his drawings and sketches, weighing $3\frac{1}{4}$ cwt. Now he considered his mission ended, he did not care to undertake the buildings, for he knew the Turks too well! After a few days I met him again, this time he was very meek, for Djermal had ordered him to undertake the construction, and resistance was futile. His work was never finished, he himself being overtaken by a sudden death.

The birthday of Empress Zita, May 9, was observed with a high mass in the Church of the Sepulcher. This church, built

with an ugly exterior in a mixed style, has in the interior a simple dome with a very high cupola. In the center over the holy grave is a chapel of colored marble with countless lamps and candles. The mass was sung by Franciscans according to a solemn rite and with harmonious voices, their bassos alternating with the boy choir placed somewhere on high. The patriarch, a handsome apostolic head with a long black beard, the suffragan bishop, a fat colossus of waxen pale and cold inquisitorial face. In this Parsifal atmosphere the Austrian military band was out of harmony, as it sounded the melodious passages of a Schubert mass between the psalmodies of the monks. I am a great admirer of Schubert, but here his naive piety had the effect of a pretty peasant girl alongside of high dignitaries.

Later I had an opportunity to see the Church of the Sepulcher under the kind direction of Professor Alt, the old-testament theologian. It is hard to entertain the naive conviction, that one's salvation depends on how close one can come to the holy place. But this belief was and still is living among primitive peoples. All confessions, Roman and Greek catholic, Armenian, Jacobitic, Coptic, Abyssinian, churches have endeavored to reach the holy spot. In one of the chapels of the sepulcher hung several dozen lamps, exactly divided, so many for the Romans, so many for the Greeks, Syrians, Copts and Armenians, and all this after centuries of fighting and intriguing.

Professor von Schrötter celebrated the birthday of the empress with a splendid banquet at the Ratisbona, again the military musicians played, but this time on self-made bow and pick string instruments. The mandolin was made of a turtle shell, the guitar of a food box, and all musicians played with zeal and success. In the course of the days I naturally visited everything worth seeing, of which the city has a good deal, the temple place, the two glorious mosques, and on Friday evening the wailing wall with its immense square stones, at which Jews in multi-colored silk coats with costly fur trimmings, stepped from one foot to the other, murmuring their prayers. Our presence seemed to disturb their devotion, one turned around and said, "Gif me at least a sigareht."

The confessions had their narrowly restricted spaces also in the mighty basilica of the Church of the Birth in Bethlehem. In front of the altar was a rug cut to angles, if one crossed the border, the Copts fell upon him and beat him up. The German

mission has shown what care and industry can make of this barren land. With great effort the rock has been leveled, the earth scraped out of the caves, the clefts filled, and all irrigated by cisterns with regularity. It was a paradise of fertility. I was shown with pride a cherry tree, the only one in the country.

Bethlehem also harbored the leprosarium. Dr. Einsler had conducted it more than 30 years. Leprosy, indigenous to the Orient for ages, had been carried by the crusaders to Europe where it became epidemic among the peoples. Most of our old hospitals were pious leper foundations. Now leprosy has almost died out in Europe. Germany had a very few cases in the extreme corner of the Memel district. In the orient it has lost its intensity, runs a mild course, but resists every treatment. In Palestine there probably live two or three hundred lepers. Eisner knew them all and tried to get them to his institution. They did not remain long, as they found it more entertaining to beg at the bazaars and at the mosques. Contagion, Dr. Einsler says, is rare, and concerns the children of lepers almost exclusively. There was known a leprous married couple which even had healthy children. The patients were well off in the home and appeared to be in good humor. A little old woman had lost both hands, but swung about her stumps and told her neighboring women an evidently humorous story.

One day I made a trip to the Dead Sea. When Emperor William visited Jerusalem in 1895 the sultan had built a road to Jericho and the ford of the Jordan. By great turns it descends from Jerusalem between completely barren wild rocks, on which here and there an anchorite cloister is visible. It must descend about 1200 meters, for Jerusalem lies some 800 meters above, while the Jordan lowland lies 400 meters below sea level. The Jericho of today is not on the site of the ancient city. There is an extremely fine spring, which makes possible under the high annual temperature the tropical culture of palms, cotton and bananas. A banana grove was full of long clusters in all stages of ripeness. Behind Jericho starts a salt steppe, at first covered by grayish green bushes and thorny shrubs, then completely barren, without vegetation. The sea itself does not make a bad impression. It is ultramarine blue and bordered by steep rocky mountains of glaring colors. Here the Turks had a landing place for the motor boat. The East Jordania is extremely fertile in corn, which was carried from Kerak at

the south end of the sea by boat to this place, and from here freighted by trucks to Jerusalem. After the commandant had examined the boat and found the motor in good order, we rode along the east shore. At a height of about 30 meters ran a terrace which passed in rear into a gorge, Wardi Zerka. There was a spring of 41 degrees (C) temperature, it was made a basin by stones and covered by a roof of reeds. A path led down to the sea which had on its bank a cold spring and fountain. We took a sea bath which was pleasant with its water temperature of 27 degrees, but took great care not to have the strong salt solution get into the eyes or mouth. A splash which struck the uniform burned white spots which required days of effort to wash out. We desalted in the warm spring and enjoyed very much the cooling in the cold spring. In antiquity there was at this place a famous bathing resort—Kallirhoe. Of its ruins we saw nothing. Another fountain-spring was on the west shore. One had to penetrate a reed thicket of twice the height of a man to reach a ragged pond valley, behind which rose a veritable hell gorge, through which a dangerous foot path led to the height. Here ceased the last plant known to us, for we were at the region of Arabo-Nubian vegetation, gum acacia with its spreading horizontal branches and savory berries of the size of cherries, tamarisks, camel thorn, Sodom's apple, a man-high underbrush with greenish, shriveled, air-filled fruits, which in the interior enclose a sort of feather covered cucumber, a solanum species, whose leaves, buds and fruits resembled a potato, but had a wooden stem and frightful thorns. A third hot spring, Ain el Fechsa, formed a pond, surrounded by reed marshes teeming with snails, minnows and crabs.

Jerusalem was in regular communication with East Jordania by freight trucks. I attached myself to the men of an auto truck. The road led via Jericho, and thence through the salt steppe, which had peculiar little salt mountains, to the Jordan. Suddenly one finds oneself at the river bed, in which the torrential, clay-yellow Jordan flows through dense bushes of acacia, licorice and alder, spanned by a wooden war bridge, hammered together with risky knots, but strong enough to carry the heavy auto trucks. All is enveloped in swarms of mosquitos and animated by caravans, camels, asses and all sorts of folk. Here live not only Bedouins and Fellahs, but also Tsherkessen, who, having been expelled from the Caucasus as eternal trouble makers,

have settled here, and in clean villages industriously cultivate corn and fruit. Beyond the Jordan the long and hot road leads to the mountains through the steppe, with tamarisks and Sodom's apples. A lively little stream, bordered by reeds and blooming oleander, flows down from the mountain, a road ascending parallel to it through clay hills and rocks, at first barren but later flanked by all sorts of trees. After an hour appear gardens with grapes and figs and finally quite a city—Es Salt. The road passes by that city, a short noon halt refreshed us with Arabian bread cakes, flat like omelets, curds (clabber), and cucumbers which are here so delicate that they are eaten like fruits. Now appears a wavy hill region, cultivated with oats and wheat, partly standing in stalks but partly already harvested, finally the high plateau is reached, in the flat valley of which lies el Amman, the age-old capital of the Ammonites.

Considering this fertility one understands the battles of the Jewish kings for this region. To be sure it is only a small strip of heights, and beyond begins the Syrian desert, in which live a few Bedouins and which is traversed by a very few caravan roads. The Romans kept in el Amman a strong frontier garrison; there still remain ruins of temples, a market and the seating tiers of a large amphitheater. When one thinks of our garrisons at the eastern frontiers, especially the notorious seven: Schrimm, Schroda, Bomst, Meseritz, Schönlanke, Krojanke, Filehne, one has to admit that the Romans took their civilizing missions more seriously.

Again I was subject to great temptation. Amman lies on the Hedjas railroad, the one for pilgrims which has been built with Mohammedan money under the direction of Meissner Pasha. Somewhat south, to be reached by a day's ride on horseback from the railroad, was Petra with its remarkable rock excavations. The railroad itself terminated in Medina. *That* was a temptation. Inquiry, however, showed, that trains left only occasionally and no one knew whether they went as far as Medina. Four to five weeks might elapse before I could return. Whatever was along my route I could take in, but to separate myself for weeks from the real purpose of my detail, the damned sense of duty did not permit. Today after years I realize that the warning of the Turks was well founded. For the English orientalist Lawrence had incited the Arabs under Sherif Faisal against the Turks and led a guerilla war in which

raids and destruction of railroads played the principal rôle. Lawrence has described this in a magnificently colored book, and we should be glad that he has rendered the German opponent full justice.

I therefore, returned the way I had come. The night was spent in Jericho. There was an inn, owned by an Arabian host, of whom it was said that he could cheat the pilgrims in 14 languages. He pressed us to stay in his house, but I preferred to remain in the open although it was disagreeably cold, the wind having thrown over my camp bed and blown away my cap. The Turks who had stayed with him, were nearly eaten up the next day by the fleas and bed bugs. On the other hand he prepared for us a few wild pigeons and grouse we had shot on the way, as savory as I have ever tasted before or since. The Arabian cuisine is justly celebrated. Again I had keen pleasure with our famous young auto drivers and their appreciation of hygiene. They swallowed their quinine conscientiously, having learned the consequences of omission in their own midst.

An excursion led me to Nazareth. Since Mardin I had had no Turkish companion, but the Turks maintained a surveillance service over me. I made my decisions independently, but it has happened quite often that I was received with the words, "We expected you already yesterday." Thus I found in Afule a motor ready to take me to Nazareth. At that place I was given a surprise. I have already spoken of the activity of Major Lange, the music master of the army. He had also composed accompaniments for Turkish and Arabian songs. They have only one voice, and the music is executed rhythmically on drums or guitars. This, Lange had arranged for snare drums and wind instruments. The music scale of the Orient is different from ours, the tierces and diatesserons are higher, impure according to our conceptions (so-called Alp horn tones). But the oriental likes that. I heard a clarinetist play the tunes of the land for his pleasure and he squeezed the tones high artificially.

In Nazareth the military band was posted in my honor, and greeted me with the sacred melody of the hymn, *Lottchen, wir fahren Automobil* (*Lottie, we go riding by automobile*).

CHAPTER XXXVIII

EXTRACTS FROM MY LETTERS

April 29, 1917.

Nazareth lies in a bowl of the mountains, a stately city with a very large number of pious foundations, orphan homes, cloisters and hospices. The Turks have made use of them and have equipped 3 to 4 thousand beds, very neat and quite luxurious, the bedsteads having white linen. To a limited extent sisters of peace are still active here, Vicentines who speak French, Scotch women who speak English, and Franciscans of all tongues. Two nursing brothers from the Tyrol are physician, nurse and cook in one person, famous fellows, veritable giants; also there is an isolated German nun, who lived in an idyll of a cloister garden and was made happy to hear German words. There are here also many English, who had been wounded and captured at Gaza, all young fellows. They are treated well and properly nursed by the Turks. The chief physician Hassan Bey, is a serious, reticent, capable man, and some of the physicians, too, made a good impression, but they lack many essentials. As always, the administration of a lazaret is not as good as its equipment. Best of all was a convalescent home, a palatial edifice on a height next to an uncompleted church. From there one could survey the whole land, Haifa with the Mediterranean, the mountains Carmel, Tabor, the Great and the Small Hermon, the lowland of the Jordan and the fertile plain Jesreel. The entire holy land is very small, and if the railroads did not crawl so painfully one could traverse the length and width of it on a Sunday excursion.

In Nazareth itself there is little to be seen except a mighty spring, today as of yore the only one in the place, inclosed simply under an arch and called Maria spring. A grotto, over which is built a Franciscan church, is accepted as the place of Annunciation, alongside are age-old remnants of ancient chapels from the time of the Crusaders and the empress Helena. Joseph's journey staff and other holy jokes are also revered. It seems that every object of the Old Testament must have its assigned place. I live in the hospice of the Franciscans. A giant bed bug which has cost me two nights rest is not to be

charged to their pious account, but is a memento of the Hedjas railroad which is teeming with vermin, is never cleaned, and transports sick and well alike. On orders from higher authority the Turks were very kind, dragged me through the lazarets from 6 in the morning to 7 in the evening. In the evening Hassan had invited me to a genuine Arabian meal and also invited the old cloister woman, a jolly smart person, who defended the domain of her church and cloister against death and devil, and had treated with Djemal and all other generals. She laughed and stated that that was the first time that she had entered the house of a Turk, but she happens to be married, only one does not see the bridegroom. The whole evening she teased the Turk who hinted at her single blessedness. At the leave taking she said to Hassan, "I cannot repay you, but my bridegroom will," and as Hassan laughed, she added, "He can do it, he is the richest banker." After the conclusion of the meal the little son was carried around and duly admired. To ask about the wife would have been the greatest discourtesy.

The next morning a diminutive wagon with two lively mules took me across the baked high plateau, past Kafr Kenna, the ancient Cana, where a wedding pitcher is still revered, to Tiberias at lake Gennesareth. This city, in the first centuries of our calendar the seat of a famous rabbinical school, is today a filthy, decaying country town. The picturesque ruins of an old Saracen fort command the approach, while the pilgrims were cared for in the clean inn of a host whose family had immigrated two generations ago, but who had preserved their undefiled Swabian dialect. Here, too, the Turks had lazarets which they showed me with pride. I was greatly interested in a fountain which springs from a rock outside the town, at 55 degrees. They allowed the water to cool in the air to 45 degrees and led it under a cupola to a basin made of yellow limestone. Women and children with skin diseases and scrofula sought the bath. I decided to try it. One went into the water by steps. The water reached to the neck. At first one experiences discomfort even fright from the heat, after a while gets inured to it, but must remain still as movement brings fresh hot water in contact with the skin. After 20 minutes I left the bath but then began the trouble. The sweat ran in streams from all pores and it was impossible to wipe myself dry. The bath attendant took pity and threw a bucket of cold water over my back, after which it was possible to get into my clothes.

Upon my return I discussed with Djemal the installation of bath resorts and he was very favorable to the plan. A well known technician in Germany, specializing in fountains and springs, was communicated with, but the matter dragged along and later came the collapse. I am convinced that Tiberias and Wadi Zerka could become good bath resorts, provided malaria be first exterminated. Also one must place no reliance on winter visitors for the winter in Palestine is too cold, as the summer is too hot. Only spring and fall attendance may be expected.

I had an opportunity to visit one of the Jewish agricultural colonies at the outlet of lake Gennesareth. Young men in sport clothes were busy bringing in the rich harvest of oats and onions. It was one of the few colonies which were still operating. As is known, Baron Hirsch in Paris had founded several hundred colonies. The men worked as long as they had to, then they employed fellahs, but their children they sent to the commercial school in Beirut or to study in Europe. It is said that before the war only five colonies were in operation. I also visited the old templar colonies in Saronia near Jaffa. They were about 80 years old and were in full bloom, well built villages, well cultivated fields and orchards, serious, dignified men, industrious women and bands of children. They were the best producers, and with the high prices earned much money. I also visited the port city Haifa. It has achieved under the sign of Zionism a good development.

CHAPTER XXXIX

THE WAR IN PALESTINE

After Turkey entered the war, Djemal Pasha, then minister of the navy, assumed command of the Fourth Army in Syria and Palestine. In November in Damascus, the commandant Mersinli Djemal (called the small Djemal in differentiation), whose chief of the general staff was Colonel Kress von Kressenstein, until then member of the military mission, handed the army commander a completely elaborated plan for an attack on the Suez canal. Djemal accepted the plan, uncertain whether it would succeed in inciting the Egyptians, but convinced that it would "contain" considerable British forces. Between the last inhabited place in Palestine, Beersheba, and the canal was a desert stretch of 350 kilometers, traversed only by caravans, and sparsely provided with wells. The first problem, therefore, was to establish at short distances SOS points, to irrigate with artesian wells and to establish supply depots. 11,000 camels were to provide the transport. After these preparations the advance began on January 14, in the rainy season, with 14,000 men, a few mountain batteries, a howitzer battery, and 10 pontons, which like the guns had to be dragged through the desert sand. 20 days later the army was about 11 kilometers from the canal. The English were entirely unaware of the movement. Their officers could be seen playing football. But the pontons were late, day had already arrived and after 600 men had been sent across to Ismailia the English approached with quickly concentrated troops, armored and auxiliary cruisers, and heavy artillery. Though the Turks succeeded in sinking an auxiliary cruiser, it did not block the channel and they lost seven of their pontons, while flyers reconnoitered their positions and directed the artillery fire. Thus the contemplated surprise failed and further success could not be expected. Djemal ordered the return march, which was completed without interference. England collected troops, but for the present did not advance, the Turks, too, held back and sent troops to the Dardanelles.

Djemal had personally learned the imperfections of the SOS roads and began to build them up. Palestine had two railroads, the line Damascus-Deraa-Haifa, and in the south the line Jaffa-

Jerusalem. Djemal had Meissner Pasha connect them between Afule and Ramleh and extend the track south to Beersheba. That was the artery that was to carry the SOS stream to Jerusalem and the south. The Hedjas railroad east of the Jordan had no connection with Palestine and Djemal ordered the construction of a route from Amman to Jericho. In the meantime the English fortified their bridgeheads at Cantara and gradually advanced while building railroads and water lines towards Palestine. In addition they contrived another annoyance for the Turks. The Arabs under the Sherif of Mecca, Hussein, and his sons Faisal and Ali, amply supported by England with money and arms, deserted the Turks. This forced the latter to leave numerous detachments along the Hedjas railroad, and larger garrisons in Maan and Medina. That was the plan which E. T. Lawrence initiated and which I have already mentioned. From a military point of view it had little importance, as the thousands of Arabs occupied Maan only in January 1918, and completely failed to conquer Medina. But it did consume the resources of the Turks in Palestine and Syria.

In July 1916 Kress undertook a new advance, but did not reach the canal; he was forced to withdraw to El Arish, at about the middle of the desert, and later to the frontier on the line Gaza-Tel Sheria-Beersheba. The English advanced against Gaza March 25, 1917 and surrounded the town. Both sides fought valiantly, but again the Turks were repulsed, in which operation Major Tiller earned special glory. They intrenched, the enemies facing each other at a short distance, between Gaza and Beersheba, the Turks at the border of the inhabited territory, the English in the desert, but amply provided from the rear by railroad and water supply. The German field flying squadron No. 300 in Ramleh had the mission of watching the hostile activities and bombing the enemy's railroad and water supply as often as possible.

Such was the situation at the time of my arrival. But a change was in course of preparation. General Allenby was given command of the forces in Egypt. He came from the west and knew the value of material preparation. On the Turko-German side the Jilderim expedition under the direction of Field Marshal v. Falkenhayn was set in motion. Originally created to regain Bagdad, it had to be employed on the seriously threatened Palestine front. But the difficulties of the SOS

route and of recruiting continued, and so the English, thanks to their numbers and equipment, succeeded in advancing anew against Gaza and Beersheba in November, occupying these places, and taking Jerusalem and Jaffa in January, and Jericho in February. In the spring of 1918 they penetrated East Jordania via Jericho, but the German-Turkish forces were still strong enough to check them. In September, 1918, the front at the coast collapsed before the English numerical superiority, the rebellious Arabs invaded East Jordania and now the army could no longer be saved. The troops that were not dispersed or made prisoners withdrew in good order via Damascus and Lebanon, and reached Haidar Pasha. Thus after a brave defense of four years, in this theater of war too, the army ended in annihilation.

CHAPTER XL

AT GENERAL HEADQUARTERS TEL SHERIA

An auto truck took us from Jerusalem south on a good, new road, past the Abrahamitic city Hebron to Beersheba and through the increasingly barren steppe to Tel Sheria. Here General von Kress had his headquarters, a camp of tents of the Cook company, which had been founded in Jerusalem. Living in them was quite comfortable, the greatest inconvenience being the sandstorms, which began at about 11 AM with regularity and covered all papers and maps with a fine layer of dust. General von Kress was one of the few German officers who enjoyed the full confidence of the Turks. Calmness and certainty, justice, and the intelligent use of praise and censure had built up and maintained his reputation. He saw to it that German and Turkish officers messed together, therefore the meals were Turkish, with which lukewarm and somewhat brackish water was drunk. The front extended from Gaza eastwards via Tel Sheria to Beersheba. Gaza, a pleasant garden city of small size, was only a few hundred meters from the British trenches, the beautiful German lazaret with its palm grove had to be evacuated, as it was greatly exposed to hostile fire. General von Kress was so kind as to take me with him on a ride through the positions. In the rocky ground only shallow trenches could be dug, which would not have withstood serious artillery fire, however, they were not attacked. The Turks had a field lazaret in tents near the railroad station, filled with patients with typhus and relapsing fever. The most essential needs were missing, and lice crawled on the beds. The lazarets in Gaza were better, the best was a German lazaret in Beersheba in which a daughter of Frau Koch in Aleppo worked indefatigably as a "desert sister." Daily flying communication was maintained between general headquarters and the aviation station in Bamlah. I was given permission to fly and to please me the flyer made an excursion over the British positions. From above, the country with its widely spread dry valleys and the waves of the sand dunes, made a surprising impression. The flyers had as their quarters a cool Spanish cloister and applied themselves to their important work of reconnaissance. Evenings they as-

sembled and compared their photographs and observations, correcting topographical errors. There prevailed between them and the British aviators that chivalry, which was peculiar to that arm until it was utilized in masses. The English knew and highly esteemed the chief of the aviation detachment, Captain Felmy. When one of their flyers was forced down and captured, he stated that he was proud to have been overcome by such an opponent. He was received with kindness and regaled with food. After some time a letter addressed to Captain Felmy, with the insignia of the British flying corps was dropped. Felmy was told to carry it, so that if he should happen to be captured he would be sure of good treatment. When Felmy was detailed to a pursuit echelon on the western front, he ascended once more with his steady companion, did as much damage as he could and dropped a note, "We are those, who here and there have blown up the railroad and water supply. Friendly greetings. The two old Sportsmen." The aviation quarters in Ramleh was famous for its hospitality. Djemal liked to spend hours with the lively young men, and there, though a strict Moslem, was by no means an enemy of alcohol.

Here I may be permitted to introduce a flyer anecdote. Christmas 1916 a letter addressed to Field Marshal von der Goltz was dropped. It contained a toy crab, a note that the plum pudding did not turn out well, and an iron cross of wood with the inscription, "God punish England." To this was added, "We do not think so." Crab and pudding are English Christmas dishes, but what was the meaning of the cross? It appeared that a German flyer had thrown it down on the Palestine front as a joke, and now the English were in Bagdad and returned it with their annotation.

I returned to Jerusalem. In the meantime General von Falkenhayn had arrived and had secret dealings with Djemal. A solemn, endless meal on Mt. Olivet concluded the day. Today we know that the secret concerned the preparations for the so-called Jilderim expedition, the direction of which Falkenhayn had assumed. He hoped to be able to improve the transport conditions by German administration, and was given assurances by the Turks on which he relied, contrary to the advice of men who knew the country. The future showed that this advice was wise, the supply remained imperfect, and under more favorable conditions was never as good as that of the English.

My stay in Jerusalem, originally planned for eight days, had now lasted nearly three weeks. It was full of new impressions and experiences. For the thinking physician it is always a tempting problem to establish which diseases occur or do not occur at a definite place, in a definite climate. This leads to conclusions regarding their cause and, occasionally, also their prevention. There are first the climatic diseases and colds. Dr. Einsler and Dr. Cahan, two physicians who had practised a long time in the country, assured me that rheumatism of the joints and the heart diseases resulting from it are unknown. Pulmonary tuberculosis was brought to the country a few decades ago by Russian pilgrims, who settled there. The dust plague with its consequences for the eyes and lungs was of recent date, for as long as one traveled with horse and ass, the age old stone block sufficed for paving, and only after the roads had been macadamized for motor travel did the dust become a factor, so that today every European wore a white duster over his clothing, as otherwise he would look like a miller's apprentice. Scarlet fever and measles were unknown, diphtheria rare, but strikingly often Plaut-Vincent's angina occurred. The louse diseases, typhus and relapsing fever, prevailed regularly. Syphilis was widespread, also in the families. The main disease, however, was malaria in all its three forms. This aroused attention on account of the high and dry location of the city. Jerusalem does not lack rain, but the strong rains fall within a few weeks in the spring and fall, and between these periods complete aridity prevails. For this reason the water as it falls from the roofs is collected in cisterns, which often are age-old excavations in stone, available at every house. That is the breeding place for mosquitoes. If one raised a bucket it was full of mosquito larvae. The bucket was then raised and emptied a few times, the larvae then fled to the depth and the water came up clear. Malaria had aroused attention even before the war. Professor Mühlens found in the schools 30 to 95% of the children infected. On account of the many pilgrims who visited Jerusalem, the city was to be made sanitary. There were several committees of different nationalities; they united during the war and assured harmonious cooperation through a wise distribution of the missions. The population, dependent on begging, thanks to the influx of strangers, was now in great misery. Failure of crops and speculation forced prices high,

bread costing ten to twenty times the normal peace price. The poor Jews suffered particularly, the donations from Russia and America no longer arriving. The government was glad if it could give the army half rations, and did nothing for the civil population. The misery was everywhere very great.

Heartily but with regrets I bade farewell to all the gentlemen who had shown me kindnesses, Hegler, v. Schrötter, Consul Brode, prebendary Jeremias, Hüsni Bey, who was now the army physician of Jerusalem, prelate Fellingner, and the German and native physicians. Djemal personally pinned on me the iron crescent, I wear it with pleasure to this day as a memento of this remarkable and important man, who ended so miserably. After the conclusion of the war he had to flee, and lived long and unrecognized in Berlin. Finally in the hotel *Silvretta* in *Klosters*, where I became acquainted with his weak and sickly son, he was murdered by a revengeful Armenian.

CHAPTER XLI
EXTRACTS FROM MY LETTERS

Damascus, July 1, 1917.

We have happily reached Damascus. In Samar we took a walk to the Jordan past a Jewish colony, and wanted to bathe, but the train whistled and we hastened to the railroad station. But it was a train going in a different direction, so we were still able to enjoy our bath, and after the usual bargainings and cigarettes, we were placed in a baggage car with many boxes of tomatoes. After an hour we were told that the engine was too weak, the wagon must be left behind, therefore change of quarters was necessary. Fortunately an English booty-auto was taken along, which was to be delivered to the Wali of Damascus. We took a seat in it. We spent the afternoon vainly endeavoring to negotiate a curve up a mountain. Again and again the engine made a start. Finally after four hours the locomotive engineer gave it up. The train backed down, a few cars were released and now the curve was taken with much coughing and spitting. Finally we arrived at noon in Damascus, having traveled a distance of 50 kilometers, about as far as from Berlin to Brandenburg, in 24 hours. The Jarmuk valley, through which the train passed, is wonderful as a landscape, a deeply rugged valley beneath white rocks, above black lava, the rivulet bordered by blooming oleander. At some places the valley widens out, and here hot springs rise under stately groups of palms. In all this beauty of the land I think of you and how much you would enjoy seeing it, but the travel itself would be less to your taste. Much patience, indifference to heat, cold and dust, as little baggage as possible, these are the first necessities. Water is a rare delicacy, even if it comes from the well for the locomotive. In 24 hours our entire food was a small piece of Arab bread and two raw cucumbers. It is remarkable how little one needs to drink in spite of the heat and dust, one or two glasses of water sufficing for a whole day. Fruits are almost everywhere, the oranges are going out, but the apricots are ripe, small and sweet, but must be taken with care because the vendors always handle them with their fingers. Cucumbers and tomatoes count as fruit, small, still unripe apples and plums are offered for

sale, but are inedible even for us lovers of half-ripe fruit. The Turks are strong for the unripe, in love as in food.

Rajak, July 4, 1917.

The day in Damascus was very pleasant, the Turkish army physician Mahmud Bey, a smart and interesting man, his adjutant, a very young doctor, immediately asked about His's bundle*. In the lazarets there was not much. So I bummed around with an interpreter through the bazaar during a forenoon, and left in the afternoon. I bought a few little things, but the prices are ridiculously high, entirely out of proportion to value. That is so throughout the land. The artificial relation between paper and coin money is noticeable, especially by the officials and soldiers who are paid in paper. In all this misery Djemal has built a luxury road, that is to say, he has torn down a quarter and in the midst of the rubbish goes a glaring, straight street, with a few wretched palms and eucalyptus; there lacks only Schiller's statue to make the modern city beautification complete. European culture does not fit the orient. The oriental has much to learn, but one builds the house from the roof.

An Arabian confectioner's shop exhibited the most tempting cakes. I entered but was almost thrown back by the smell of mutton; after a few minutes I got used to it, and then the cakes, puff paste with honey and pistachio, were wonderfully good.

A railroad leads from Rajak over the Lebanon to the old commercial port Beirut. There again was a new world. The very first station is Mullaha, a neat village with white tile roofs, beautiful gardens, a crowd of men and women in European clothes, though with the tarboosh. We went to the height of the pass in a funicular train. There opened a vista of the entire Lebanon range and the Mediterranean sea. One village after another follows, all with clean railroad stations, pleasant country homes, and finally even modern hotels, in which the rich merchants from Beirut and Alexandria pass the summer, to amuse themselves, especially by gambling, which they love. The mountain with its terraces, cities and orchards reminds one strongly of Tuscany. Slowly by sharp turns the train gained the coast. For a time we stopped at the upper station of Beirut. A French man-of-war lay in the port, and we could not ride to the port station. Therefore out with the baggage! But there

* Professor His is the discoverer of the "bundle" in the heart, named for him.

came a counter order. The warship proved to be a fishing steamer, which daily examined the port for hidden U-boats. It had again departed. A few weeks ago it mistook an old Turkish gun boat for a U-boat, shelled it thoroughly, but outside of a few holes in the Orient Bank did no damage. Therefore we again loaded our baggage and went to the port station. Here was an incredible crowd of colored porters, but the owner of the hotel, Mr. Gassmann, was present and took us at once under his wing.

In this blessed strip of land reigned hunger. Even en route children like skeletons forced themselves near the train and fought for every cucumber and orange peel that was thrown away. In the city it was worse yet. Every evening starved beings could be seen prostrate in the streets, too weak even to raise the head and to beg. The fertile and cultivated land produces fruit and silk, but neither meat nor corn. Previously these were brought by sea, but now that had stopped. Speculation and chain trade* drove the prices high, and so the most terrible hunger was inevitable. Rich Europeans have at first endeavored to check the misery, but found it impossible to feed the hundreds of thousands. One could only prolong their torture by a few days.

Beirut, like all Syria was strongly under French influence. French Jesuits maintained a medical school with a magnificent botanical garden. An American college maintained faculties of law, commerce, medicine and theology. The president, Dr. Bliss, a fine scholarly man, received me kindly. "I and my wife have taken oath before God, that we will not allow our personal relations to cease even in war." He asked me to transmit warm greetings to Harnack, whom he greatly admired. A German Johanniter hospital, Ballei Brandenburg, was managed by an English and an American physician, for the rest an old rubbish heap, anxiously guarded by an extremely energetic German prioress. The Turkish medical school taught in the German hospital.

The return trip was beginning to remind one of home with its regulations and chicaneries. They wanted to throw brave Joesten out of the first class. Properly speaking he did not belong there with his ticket for 3rd class, but since the Balkan

* Selling from producer to consumer by a chain of middlemen, the prices constantly going up.

trip no one had raised any objections, and I particularly desired to have him with me in my car, as on Turkish trains no one knows what fate may overtake a neighboring car. In Rajak I was glad to see that the German soldiers' home had greatly improved in the few weeks. Now the beds had mosquito netting, which had already become necessary. For dinner at about 40 (C) we had white beans and boiled potatoes, which had been secured from the Lebanon by immense effort. I asked the sister whether that was the proper diet for this season of the year. She replied in the most beautiful Swabian dialect, "Ve like to mek the men so comfy like to home."

On the return trip I stopped in Baalbek. Good reception in hotel Zapf, but bed bugs of such unusual size that I took one along for the collection of the clinic. Here was a Turkish recruit depot under the direction of a Baden lieutenant colonel, Würth von Würthenau, who cared for his men like a father and was revered by them as such. Recruiting has become more difficult from year to year. Anatolia, the land of the good Turkish soldier, was exhausted, Arabs and Bedouins cared little for war or were downright hostile to the Turk. All who could not buy their freedom were recruited by force. Chained in pairs they were brought in. They were not used to so much justice and benevolence as Würth showed them. Even the natives came to him with their affairs and disputes. At first they had been indulging in robberies and Würth had to organize a punitive expedition and kept as a pledge, nay as ransom, the greatest treasure of the tribe, a mare of the purest blood. He rode her himself, and whenever he came to their region, young and old ran to him and stroked and petted the mare, for the wealth and the fame of the entire tribe depended on the possession of a highly aristocratic mother animal.

Baalbek owes its fertility to an enormous spring which feeds a beautiful pond. It irrigates a garden land of some leagues in length and width. Here on the ancient place of the worship of Baal, the Romans in the period of the Empire built immense temples and named the city Heliopolis. The buildings have been destroyed by earthquakes and the ruins were later used by Arabs and crusaders as a fortress and church, and as stone quarries. There still remain vast ruins. From the distance one sees six columns with their entablatures above all the trees; they belonged to the large temple. Close to them is a smaller

temple of Bacchus, better preserved, still a giant structure. Stone blocks of astonishing size are built in. To set them, even in our machine age, would be a great task. The ancients accomplished that by hand. Beyond the city there are still present the stone quarries, including a great ledge, worked from five sides, still clinging to the bed-rock. The beauty of the structures is enhanced by the golden coloring which the limestone has taken on in the course of centuries and which makes a beautiful contrast with the green of the oasis. At sundown the magnificence of the colors beggars description.

An auto truck with empty gasoline tanks picked me up and June 9 I was in Aleppo, which looked to me like home. Suleiman Numan, to whom I was to report my departure, was expected on the 12th, so I had to remain a few days. Scarcity of commodities and prices have meanwhile increased. For example there was entire lack of tobacco in this land of that commodity, which is so indispensable in the Orient. Coffee was rare, and yet it was part of each visit, while at each formal report a small cup had to be drunk. First Lieutenant Wagner, who had to arrange quarters for the staff of the Jilderim in Aleppo and accordingly had to advise 39 prominent families that they would have higher officers as guests, came in the evening exhausted to his friend Frau Hilfker, who was sorry for him and said, "You are entirely kaputt, shall I perhaps make you a cup of coffee?" But in the course of the day he was forced to drink 39 small cups of coffee and smoke as many cigarettes. After this confession she made for him strong soup, which put him back on his feet.

Here I received the sad news that my assistant, Dr. Willi Lange, son of the Turkish music master, had died of typhus. Grown up in Constantinople he spoke Turkish fluently and was an experienced and thinking physician of great devotion to duty. Repeatedly I had called the attention of the war ministry and of GHQ to him, but they had for the linguist-physician no better employment than in a subordinate position in Brandenburg. Finally they sent him to a typhus lazaret in Roumania. Unfamiliar with the conditions, helpless in the face of the inadequacy of the equipment, he deemed it his duty to put his shoulder to the wheel, he carried patients about, infected himself and died.

June 16, 1917.

In Aleppo there was great excitement. Enver Pasha came, and

with him Suleiman Numan, whom I should have liked to see, but they came late, there was a "12-storied" banquet and then everybody faded rapidly away. At that I talked with Suleiman Numan for 5 minutes and thanked him for his aid. The parting from Frau Koch and the Röslers was hearty. Frau Rösler, whom I told of the misery in Germany, wants to send packages. Yesterday she bought 100 eggs, beat them, put them in plates and exposed them to the sun, so that in the evening they were a hard crust or meringue, which can be conveniently put into chocolate tins. These I shall take home.

The journey home began June 15. My travel companions were Murat Effendi, who had charge of a transport of wounded who were to get new legs and arms in Constantinople, and Dr. Schacht, whom I had visited in Kalat-Shergat. We all had taken with us some provisions as a matter of precaution, but Schacht appeared without luggage. "I have never yet starved," he said. True enough, benevolent sisters provided him from their well stocked hampers. Aleppo and Bosanti were ruled by no less than eight railroad bureaus which cooperated so beautifully that the train one wanted to take had always just left, partly with and partly without cause. The tunnel builders allowed no trains to pass after ten o'clock, so that they could work, and as we happily had passed through, there was missing the baggage so that I had to wait a day in Gelebek. This gave me an opportunity there to become familiar with the excellent arrangements for the housing, subsistence and care of the laborers under the direction of the engineer. Then we went on, and after many delays reached Constantinople June 21. Four days we have lived, slept and cooked on a hard bench. Even the sisters who were so talkative at first became almost mute. He who travels through Anatolia in this broiling heat, can have but a poor conception of the terrific cold which prevails there in winter. In February 1917 a train with soldiers had to halt for days in the open at a temperature or 32 degrees centigrade (about 26°F) below zero. The majority of the soldiers froze to death.

In Constantinople I was again provided with quarters on the *Corcovado*. Then I had still another mission, a visit to Smyrna. A large steamer, packed tight with soldiers and all sorts of riff-raff, filthy, with bundles and in rags, went slowly across the Sea of Marmora to Panderma, which then was an open roadstead.

We had to make land by boats, a procedure which took place to the accompaniment of loud shouting, impertinent demands and indescribable crowding. My travel companions were two officers who were to serve in the mines. One of them was already retired and was therefore permitted to take along his wife, a petite Saxon of Freiberg, who was making her first long journey and looked with frightened eyes on the tumult. In Panderma there was a small train of three wagons for all these humans. I managed to find a little space, the others remained behind and spent the night in the lazaret. We spent the whole night in the overcrowded train and the morning in the company of two Turkish physicians and a mullah. It was Ramadan, and the Moslems were not permitted to eat and drink from sunrise to sunset. They made up for this during the night. All minarets were illuminated, and there was much excitement in every locality. One of the officers was fearfully anxious to take a drink of raki, but he was afraid of the mullah. No matter how often the train halted no food was offered for sale and we suffered from hunger. The railroad led through wide, fertile valleys cultivated with fruit trees, corn fields and vineyards. In the midst of all this plenty speculation has succeeded in driving the prices to unbelievable heights.

Smyrna is located at the head of a large bay, rises gradually, and is populated almost entirely by Greeks, Armenians and Jews. Englishmen and Frenchmen went about undisturbed. The native ladies, their legs exposed to the knee, were unbeautiful, with large waists and heavy corsets, overdressed, and smelling of musk. Beneath this false bloom was hidden the most terrible misery. A kilo (2.2 lbs.) of bread cost 4 marks, milk 8, a cucumber 1, an orange 4 marks. Tobacco was not for sale. There were stores for millions in the warehouses, but they belonged to the Americans and were respected, as America had not declared war against Turkey. The physicians and authorities faced a difficult situation. A camp for children was allotted 200 grammes of black bread per head, but nothing else. There were measles, typhus, dysentery, and no physicians. A laundry issued one pound black bread daily, working men crowded it. Near it a Turk had built a factory almost from nothing in which he produced wagons, beds, disinfecting appliances, horseshoes, nails and other indispensable articles, and even repaired autos. In 1916 a grave epidemic of cholera had broken out. The Wali

in his distress appealed to the German physicians, who succeeded in subduing the epidemic. This secured for them a respected position. In this place were working Dr. Rodenwald, the well known hygienist, and Dr. Heinemann, a pupil of Hildebrand of Berlin. His wife was a nursing sister. An archeologist earned much merit by assisting in the administration, a counselor of mines had just discovered an hour from the city a coal mine and has initiated its exploitation. Funny country—it possesses everything and utilizes nothing.

Now comes a surprise. I was introduced to an Arab banker with three daughters. Two played the piano, one the violin. And what? Bach, Beethoven, Brahms. A large picture of Brahms hung over the grand piano, and they were very glad when I told them that I had known him and had played under him. They had been educated in Paris by an Austrian and were thorough musicians. We played concerts the whole afternoon with zeal.

June 29 I was again in Constantinople. I should have liked to visit the theaters of war in Macedonia, but Schjerning sent word that there was nothing interesting going on. Added to this were domestic cares, sickness of my wife, early change of residence and the need to work up the material and observations I had accumulated. Finally the desire for a short rest, too, was a consideration. My weight, which was 160 before the war and 145 before this last journey, had gone down to 112 pounds. At that I was in good physical and mental shape. Throughout I had only once a brief intestinal disturbance. I have rapidly gotten rid of it by my method of complete abstinence from food except raw tomatoes and cucumbers.

So I decided to go home, and reached Berlin July 5 without further embarrassments.

CHAPTER XLIII
RETROSPECT

A retrospect of the observations of this journey may not be amiss, for they were made in a sector of the theater of war which was not lacking in importance and interest. Without the Turkish defense Russia would have forced the Dardanelles, Hungary would have been surrounded, and the road to Vienna would have been open to the Entente.

At the very least the Turkish theaters of war contained considerable forces of the Entente. The English military critic Repington gives the following statement of Allied troops in this sector:

End of 1917 for Egypt	353,000
" " " " Mesopotamia	419,000
" " " " Salonika	216,000

Though these are ration figures and not combat effectives, they prove what importance the Entente attached to the battles in the East.

The European powers have for a hundred years talked openly about the division of Turkey. The one large power that desired no territory but only commercial relations, was Germany. Turkey attached herself to Germany with particular pleasure, because the Deutsche Bank and the Anatolian railroad had enriched the resources of that country. Under Abdul Hamid the conditions grew much worse, favorites squandered the public resources, officials and officers received their pay not at all or only after months and then with deductions. Recruits were drafted among those who could not purchase their freedom, the military service lasted 7 to 8 years, pay and clothing were not given, subsistence was meager. The officers came from the ranks and were uneducated, the higher positions were filled by favorites. True there existed since 1885 the German military mission for the training of higher officers, and this in spite of the jealousy of the other powers, but the instruction remained entirely theoretical. Under Abdul Hamid no field exercises were permitted. The same applied to target practise. The year 1910 brought the revolution, Abdul Hamid was dethroned and held incommuni-

cado, Sultan Mehmed was placed on the throne, and the government was conducted by the Committee of Unity and Progress. This committee came into power with the aid of the army, it now had to remove opponents, change the bad conditions and use all means to overcome enemies. The opposition was not in the parliament, for this was paid by the committee and took care not to resist, but there were capable statesmen and patriots like Kjamil, Talaat and Izzet, who by no means agreed with all of the committee's plans.

The Balkan war which brought the Bulgars to the gates of Constantinople was not yet two years past, fighting was still going on in Tripoli against Italy. In this situation Turkey entered the World War.

It is one of the riddles of history how this shaken country was able to carry on through four years. Certainly strong-willed men stood at the head, whose political farsightedness and strategic skill our competent critics have acknowledged unreservedly, and they were all the more admirable since they rose from below and had had no preparatory training.

But the difficulties were enormous and increased from year to year. The Arabs in Syria, Mesopotamia and Arabia recognized the Turkish rule and the caliphate of the sultan most unwillingly. Provided with much gold by England, they rose in rebellion, and Djemal had to conduct a bloody rule in Syria. The Armenians, obedient subjects in earlier times, nationalistically incited since decades, engineered with the support of Russia uprisings behind the Caucasus front, and had to be removed from the zone of operations. The world will never fully know the atrocities which were committed. But there was at least an excuse of military necessity.

The administration remained inadequate also during the war. Habits of thousands of years cannot be changed in so short a time. Selfishness is stronger than political power; we ourselves have experienced that. Feeding of the army and of the inhabitants was rendered difficult through the scarcity of transportation. Whoever controls that, commands the equalization of production and consumption. It was known that trains with foodstuffs were forwarded only for compensation. Even war material, like copper and chrome ore, which were useful to Turkey for munitions, were transported only under endless difficulties and by endless bribery. The increase of prices of goods was enormous.

Oranges in Jaffa cost one quarter of a piaster (about one cent) in Jerusalem 1 to 2, in Aleppo 10, in Constantinople 20 to 30 piasters (about \$1 to \$1.50). With the Osanoff was a smart young Jew as an interpreter, he had an unpronounceable name and was called Slibovitz. He accompanied Collin to Smyrna. On the return trip he asked permission to make use of the free baggage privilege which was allotted to us. He bought raisins and made in Constantinople a profit of about 2000 marks (\$500.00). I have frequently mentioned the difference in the rate of exchange between paper and coin money. No regulation, no threat proved effective against it. The goods disappeared or else the metal money followed the ratio of paper money. That under such circumstances speculation and chain trading should cause a tremendous rise of prices was inevitable. All nations have had similar experiences.

By this the subsistence of the people suffered even more than that of the army. Even in regions remote from the famine districts the soldier was poorly fed. And yet one always saw him chewing or nibbling. No one could tell me whether he received pay, especially regular pay. The strong family ties of the Turks insured to many money, sent from home, for the Turkish postal service was developed under the guidance of post councillor Orth as a slow working but reliable bureau. For the rest the soldiers helped themselves as best they could, the sale of uniforms and accouterments was common, nay, there were those with amputated limbs who stripped the leather from their crutches and sold them at the bazaar! How great the Turkish losses were, no one knows. In Gallipoli they were estimated at 200,000, while hundreds of thousands succumbed to hunger and cold in Armenia. By far the greater number died from epidemics (dysentery, typhoid fever, typhus, and relapsing fever). Turkey entered the war almost without a medical service. There were a few military physicians, who had been trained by Haidar Pasha, some of whom perfected themselves in Europe. But the great majority were civilian physicians, mostly Armenians and Jews, with no military training and therefore not familiar with their obligations, duties and rights, and impotent against the bureaus, which were almost all composed of time-servers without scientific knowledge or interest. There was no trained sanitary personnel, and schools for female nurses were established in Beirut and Damascus only in 1916, admission to which was sought especially by Armenian girls.

In spite of these difficulties the skill and energy of the Turkish physicians succeeded in creating lazarets which were in general fairly efficient installations. That which Hüsni in Bosanti, Ibrahim Tali in the Sixth Army, Nejad Omer in Jerusalem and Hassan in Nazareth had accomplished, was excellent and need fear no comparison. I saw a few good field lazarets, others are said to have been very primitive. Almost everywhere the separation of the wounded from the patients with infectious diseases was carried out. All suffered from lack of equipment and fuel for delousing. The after care was exceedingly imperfect. There was a lack of maxillary and dental departments in the hospitals, and artificial limbs were obtainable only in Constantinople, so that Murad was compelled to take the soldiers with amputations to Gülhane (hospital). All in all Turkey deserves great praise for what she accomplished in the sanitary service in the face of apparently insuperable obstacles.

Turkey would never have accomplished her military achievements without German aid. To begin with, Germany provided the largest part of the equipment, from uniforms to guns, munitions, sanitary materièl, coal, gasoline, and even corn, to which should be added large financial contributions. Then, above everything, the German officers brought what most of the Turkish officers lacked—thorough knowledge of tactics and strategy, sense of order, organization and discipline, especially the technical troops, engineers, road builders, motor drivers, aviators, were indispensable. Each higher Turkish staff had a German chief. The inspector general of the SOS, the commandant of the naval forces, the chief of the military mission were Germans.

Collaboration, however, did not proceed without friction and became more difficult from year to year. Germany enjoyed great esteem before the war, her science and technics, her army, her husbandry excited admiration and great respect. After the successful defense against the English naval attacks in the Dardanelles, and the Russian attacks at the Bosphorus, and especially after the victory of Gallipoli, the self-confidence of the Turks rose mightily, and it went against their pride to feel themselves tutored. The behavior of some of the Germans gave cause for all sorts of criticisms. Many mistakes were made in that regard, beginning with the selection of the personnel. Many of the detailed officers were old Africans (meaning army officers who had served in German East Africa with colonial troops) some of

whom were heavily "Kaffired" or "bushed," and did not appreciate the difference between a "nigger" and a Turk. The Turk has little modern civilization, but he has an age-old culture, and he stresses personal dignity. Impatience or, worse yet, a sharp word, is regarded as very offensive and creates bad feeling. Nowhere was a military rebuke less appropriate than here.

To this must be added the lack of organization. In Constantinople six independent bureaus were alongside each other, disagreements were inevitable, and the sly orientals knew enough to take every advantage of them.

Another evil was centralization. Considering the wide dispersion of the German installations, the war should have been conducted as a colonial campaign, and each individual group should have been accorded as much independence as possible. Instead the minutest details were governed from Constantinople. An officer said to me, "If I should arrange my enemies according to their degree of menace, the military mission would be placed first, the war ministry second, and then only, the enemy." Another confirmed this opinion with a laugh.

Also there is the known German discord. In Aleppo the consul did not associate with Frau Koch. It was considered a joyful effect of my visit that they mutually extended social invitations to each other. In Mosul were stationed 30 to 40 German officers in five or six groups, and it was impossible for me to find out whether and where a flyer, to whom I had a note of introduction, could be found.

"Military channels," that product of old-Prussian training of officers and officials, is a wonderful scheme, but not universally accepted. The oriental does not care for it. He understands only personal contact. The Turk is hospitable and expects reciprocity. Those who understood that and established the personal touch easily gained friends and influence. But in this respect the German officers were in a bad plight. They received 7 pounds of their pay in gold and the rest in paper money, irrespective of whether its rate was high, as in Constantinople, or very low, as in Mesopotamia. The Austrians were more fortunate, for they received 22 pounds monthly, and for every official journey one gold napoleon per day. In that way they were able to play a brilliant social role, which they cleverly made good use of in their official relations.

Serious complaints were heard about the quartermaster

bureau. No doubt it had to struggle against heavy odds. But its shortcomings became unpleasantly noticeable. In Bagdad, nay even in Jerusalem and Aleppo, pay was withheld for months. In Bagdad aid had to be sought from the German consul and later from the Orient Bank, until these agencies were exhausted. In Adana the commandant reported himself and his command as local paupers, with the result that help was secured through the foreign office.

It is a common experience in the wars of coalitions that brothers in arms go separate ways. It was so here, and even the mutual confidence between Enver and the German high command could not prevent it. A leading officer said to me when I checked out at the completion of my mission, "Tell them in Berlin, that I am ready every day to slide on my knees along the railroad back to Germany."

This sentiment became gradually more pronounced also among the Turkish civil authorities, and they created difficulty after difficulty. A consul wisely gave the advice, "Settle that with the Turks direct. If we should take this up, it will cause you difficulty and delay."

For political reasons the German government promised the cessation of capitulations, that is, independent judicial control. The Germans were unhappy on that account. In Constantinople there may have been courts after our fashion, but in the provinces there was nothing but despotism. Penal judgments entailed danger to life in that the prisons were filled with dirt and alive with vermin. The owner of an inn in Nazareth was cited as a witness to Damascus, was transported by force, became infected and died of typhus. The Turks became especially suspicious as a result of the use of such careless expressions as "penetration," meaning the settling of German peasants in Anatolia and Mesopotamia. Under such circumstances Professor Jaeckh's "German-Turkish Friendship League" was hailed with open derision by Germans as well as by Turks.

Unfortunately these sentiments persisted. Many officers and physicians had come to like the country and hoped to settle there after the war. At first this was prevented by the Entente, but later by the nationalism of the Turks. At this time not a single German physician works in that land.

Why recall all these memories? I believe that in the critical times of the history of the world everything, even little things,

is worthy of thought and of preservation. It will always remain a matter of wonder and admiration how Turkey, in spite of all her deficiencies, managed with German aid to contain and ward off an enormous mass of English and French troops for four long years. It does not dim her glory that she finally was overcome by superiority of resources. It is my lasting profit to have been able to gain an insight into the tremendous achievements of Turkish and German officials, officers and physicians.

After reporting to the surgeon general I asked for a few weeks leave of absence. Having sent a detailed account of my observations I returned to Biala on August 5. Here in the meantime the Kerensky offensive had been repulsed and the counter-attack carried out. The martial spirit of the Russian front was extinguished, and our arms were resting. I visited as usual the lazarets, in which dysentery gave us special trouble, until the end of September, when it rapidly died out.

CHAPTER XLIII

CAMBRAI

On November 20, 1917 the English made a surprise advance at Cambrai in which for the first time appeared gigantic tank squadrons. In this attack they broke through the German front. The attacks were violent, the defense stubborn, and the demands upon the troops tremendous. At my suggestion the surgeon general detailed me to visit those troops which had most actively participated in this battle. I was interested to learn of their physical and psychic condition for comparison with that of the combatants at Verdun. In Le Cateau, the headquarters of the Second Army, I met my old SOS physician Gossler, who was the army physician. He and the chief of staff gave me directions as to where to find the combatant troops. I was enabled to visit the field lazarets, to talk with the physicians and line officers of the troops at the front, and to become familiar with the experiences of the neurologists in the great hospitals for nervous diseases at Malonne near Namur and St. Solf in Valenciennes.

On this part of the front the picture was essentially different from that at Verdun. The troops were called upon for Herculean efforts, and in carrying them out, the so-called elastic front, that is, the placing of listening and security posts in front of the trench line, imposed upon individuals the very maximum of physical strain. The shock troops, composed of the strongest and most energetic men and officers, were thrown in here and there and placed wherever there was a shortage. They had little rest and were fed most irregularly. Nevertheless there was an almost complete absence of the symptoms of psychic shattering. True, there were in the lazarets isolated individuals with fright neuroses, heart complaints and the like, but of the peculiar desertion that was noticeable at Verdun, not a single instance could be found. A few short days of rest restored the exhausted men for further duty.

Fascinating were the narrations of the soldiers of the impressions which the tanks had made on them. These heavy monsters, which jumped over trenches and obstacles, fired machine guns in every direction, and broke through the lines, caused great confusion. They were not proof against shell fire, but artillery

was scarce, their thick armor resisted infantry missiles, and their only vulnerable part appeared to be the chain which engaged the rear wheels. Against this even a hand grenade was useless. The Germans conceived the idea of the "fisted charge," that is, five hand grenades tied together, and behold! the chain was broken. In that way the tanks were rendered helpless, for when immobilized they could not resist the hand-to-hand attack. I have seen a few in the main battle area, the Bourlon forest, mighty as prehistoric monsters, but lying helpless, burned out, empty, behind them a trail of broken bushes and trees like that of a herd of elephants. A non-commissioned officer made a particularly clever attack. Unseen he climbed from behind to the roof of a tank, and when the crew, after the penetration of the German line, opened the air vent, he disposed of them by a hand grenade. "All eight I have bowled over," he reported with pride. Truly danger is a mother of invention. The greatest joy was afforded by the contents of the captured tanks: warm, soft overcoats, good shelter tents, magnificent meat tins and, best of all, chocolate. In a lazaret I met one patient who had taken sick from overeating chocolate, which at home was now known only as a pleasant memory. The medical experiences have been summed up by me in the report to the surgeon general as follows:

I have tried to learn whether the nervous disturbances have progressively increased with the duration of the war, whether the influence of age was demonstrable, and above all how the replacements, for whom in the course of the war the physical standard had been lowered, have been affected. Numerical data for such investigations are difficult to procure at this time, but I have accepted the statements of the officers and especially of the physicians with the troops at the front, wherever possible of those who had been with the same unit since the beginning of the war. The following results have been found:

1. The number of hysteroid (resembling hysteria) disturbances depends on the nature of the combat, in which the troops are engaged. Differences between older and younger men are not manifest, but there is a difference between races. Pomeranians, Mecklenburgians and Lower Saxons are essentially capable of greater resistance than Saxons, Thuringians and especially Poles. Cures are essentially easier with educated classes than with men of lower intelligence. With the latter a mental impression is more difficult to create, but harder to dispel. Increase of the neuroses due to the prolongation of the war is not appreciable.

2. A report of professional findings on men who have left the front has been asked for and was received by the neurologic lazaret in Valenciennes. This deals with about 350 men. The cases are fairly equally distributed as to time of occurrence, an increase lately not being noticeable in spite of the severe battles of the Second Army. The younger replacements exhibit no special conditions.

One may draw from all these data the consoling certainty that the will and power of resistance of our troops has suffered no demonstrable diminution in spite of the protracted duration and increasing intensity of the war and the lowered physical standards for enlistment.

CHAPTER XLIV

THE UKRAINE

At the second peace conference in Brest-Litovsk in January, 1918, appeared a delegation from the Ukraine, which had declared itself an independent state, desirous of concluding a separate peace. To the Central Powers this division of Russia was very opportune, and they concluded a separate peace with the Ukraine on the 9th of February. When soviet Russia, in spite of her pledge to respect the right of self-determination of the nations, desired to carry the revolution to the Ukraine, the Central Powers found themselves compelled to send troops for the protection of that country, and accordingly made it a condition in the peace treaty with Russia of March 7 to occupy the land with troops. So General v. Linsingen, who was later relieved by Field Marshal v. Eichhorn, occupied Kiev, Taurida, the Crimea, the territory of the Donetz with its coal mines, and in May reached Rostov on the Don.

The main purpose of the occupation was to utilize the rich resources of the land, which possessed much corn, cattle and horses in addition to the large coal mines in the Donetz territory. To insure the requisitions and to prevent an invasion by the Bolsheviks, small detachments were distributed all over the land with larger units held in the larger cities as reserves, where also numerous lazarets and convalescent homes were established. I had returned in June to my field post in Biala, and on July 12 received an order to report at the headquarters of the army group Eichhorn, in Kiev. But that could not be accomplished as rapidly as ordered, for the Ukrainian railroad men had gone on a strike. Their work had been heavy. Long trains carried cattle and foodstuffs, but the principal traffic was returning refugees, part of whom came from the Ural and Siberia. Many brought with them cattle and horses which they had "found" on the way. The Jews intercepted them, told them that the animals would be requisitioned by the Germans and bought them for a song. During the war the Jews in Poland became rich. The Poles clenched their fists and said, "We wait only till you have gone, then we will make pogroms."

So the railroad men struck. For the past three months they had received no pay and they supported themselves by thefts of

railroad property. Now they wanted both their salaries and the privilege of theft. In spite of my impatience the days proved of some advantage to me. I purchased all sorts of things and sent them home for a winter supply. In those days the good Joesten was parted from me. He was finally promoted to the rank of a non-commissioned officer and was reclaimed by his factory near Bonn. I shared his joy. Almost four years he had accompanied me, always reliable, loyal, indefatigable and of unflinching good humor. His successor was a young merchant of Berlin. Finally on July 24 word was received that trains were again running, at least occasionally. I rode to the frontier station Goluby and found welcome, information and aid in that always safe refuge—the collecting station for the sick. In Goluby was an enormous transfer railroad station, 3 kilometers in length and 2 kilometers in width, provided with one track of Russian and another of German (standard) gauge. The installation proved to be too large and unwieldy, for which reason property thefts were the rule. The Jews drilled holes through the floors of the cars during the night and let the corn run into their bags.

A long train stood ready, two passenger coaches full of Ukrainians and Jews, the cushions torn out, the fillings teeming with bed bugs. The freight cars were occupied by men on furlough who desired to return to their units, now that the ban had been lifted. We succeeded in requisitioning a freight car for myself and two nursing sisters. Finally the train started. At each station was a halt, half an hour, an hour, then sudden departure without warning. One of the sisters who had left the train, was caught by surprise and compelled to board the moving train. But the Russian cars are tall, the floors being shoulder high and without steps, and we had great trouble in assisting the somewhat corpulent woman aboard. The next car had a hot-box, and we had to take in its passengers, a non-commissioned officer and 30 men. For the sisters a corner was partitioned off by shelter tents and the rest of us were disposed on the floor like a picture puzzle. The men were jolly, smoked their birch leaves, told stories and teased each other. They belonged to the detachment in a large village and were to requisition corn. A maximum price had been fixed, but the peasants refused to sell. "In that case we must inscribe the prices on their behinds," the non-commissioned officer said.

The landscape at first was undulating, partly wooded, changed later to a treeless area of large corn fields and pastures with great numbers of lean cattle. After a trip of thirty hours we neared Kiev. The large city first appeared as colonies of villas in which the Jewesses of Kiev, dressed in white to the knees, walked about during the Sabbath eve. Another half hour we passed through a great freight railroad station. A collecting station for sick again took care of me and had me driven to my quarters in the Hotel Continental, a neglected but luxurious edifice in which animated Russian social groups were enjoying Lucullian meals. The army physician, Generalarzt Thiele, to whom I reported soon after, desired an early report on the hospital installations, which he did not know by personal inspection, and thus I saw of Kiev only a few of the main streets and gained an impression of tremendous speculation and war profiteering.

I was taken in by a hospital train which belonged to the Ukrainian Red Cross. Its director, Count Ignatiev, I had met before in Rovno. He collaborated with our authorities in the care of the countless refugees and returning wanderers. The hospital train was well equipped, but the physicians spoke only Russian, a blonde nursing sister only a few words of German. With pleasure I spent an evening hour with them at tea, which they mixed with the juice of raspberries. I had with me a few cans of Russian military meat, spiced and very savory, which a soldier had gladly sold me. He had eaten ten cans in one day and was tired of the food. At the stations eggs, magnificent white bread, butter and fruits were offered for sale in clean station-restaurants, but at profiteers' prices. Our trip was frequently interrupted, now a hot-box, now lack of water, and once we all had to help put the derailed engine back on the track.

After five days I reached Taganrog on the Sea of Azov, the ancient Cossack region which Danilevsky has so beautifully described in his "Pioneers of the East." I had read the book on the way. Now, to be sure, the steppe was cultivated with wheat and turnips; mills and factories had been established and the coal of the Donetz made it the richest spot of all the rich country of Southern Russia. This was expressed in the character of the construction in the small city-wide streets bordered by trees, luxurious villas, rich clubs, large port installations and factories. Two factories for munitions and aircraft had been transferred

from Riga and built up in great style, but never utilized. The population was a mixture of Russians, Cossacks, Greeks, and Armenians, among them many strikingly beautiful figures. Everybody seemed to spend all day on the beach, where in perfect naturalness men and women bathed together, entirely nude. Evenings people congregated in the city park, whose beautiful trees and flowers were carefully watered and cultivated. Theater, concerts, and vaudeville lasted late into the hot night. At the cashier boxes sat dignified colonels and generals in uniform with full decorations and orders, earning their living in that way.

My billet was in the house of a rich merchant. I presented my visiting card and spent an hour with him in animated conversation in French. The Bolsheviks, at first doctrinaires, then riff-raff, had comported themselves terribly, robbing, and murdering. After they had been driven out by the Germans, a force of about 10,000 men came over the Sea of Azov, and so fanatical were they that they showed no mercy and could expect none. Since their annihilation quiet and order have prevailed. The region constituted an independent state practically without a central government. The men were grateful to us for our aid, but would have been more glad to be rid of us, except that in such a case the rabble would have cut the throats of the war profiteers. Therefore they tolerated us and consoled themselves by charging outrageous prices. Our lazarets were placed poorly. A large club house, in which gambling for high stakes took place every evening, would have suited us better, but had been refused us.

August 5, 1918, I went on a small steamer, overcrowded by all sorts of folk, to Rostov on the Don. The first part of the trip was over the Sea of Azov, smooth as glass, to the river Don, whose outlet is an endless reed marsh, then the steamer followed along the river winding through a large plain, the banks alive with wild geese, ducks, gulls and fish-herons. On the right, on a hill in the distance, appeared the old city of Azov. Gradually country estates and suburbs announced the city of Rostov. A gigantic bridge, not entirely completed before the war, reflected the light of the setting sun from its bright red paint. Through it could be seen the high bank with the imposing churches, palaces and business houses of Rostov. The stores in the wide streets were stocked with delicacies and articles de luxe. There were gigantic depots of corn, leather and oil, the prices tremen-

dous, but the people able to pay, as they were by no means in poverty and misery. Two cigarette factories equipped with modern machinery produced 10 to 15 million cigarettes daily, and found a quick market. The region here, too, constituted an independent state, the Republic of the Don Cossacks, but the government was completely powerless except to cause us difficulties. Beyond the Don began the state of the Kuban Cossacks, which was in the pay of the Entente, in great fear of us, but gladly selling corn, wool and leather.

Rostov was occupied by Württembergians. In the house of the commander I was treated to genuine Swabian dumplings. Here I met Colonel Bopp, who had taken part in the expedition to Persia and of whom I had heard a good deal in Turkey. He told us charming stories of his various experiences. Field Hospital No. 258 was located in a barrack camp, which had to be cleaned bit by bit. The convalescent home was in a club with a beautiful garden, in which concerts were given every evening.

The University of Warsaw was transferred here in 1915, a luxurious edifice having been built for it. We were on friendly terms with its medical professors and we worked hand in hand. Malaria and dysentery were the predominant diseases among our troops. Just then the Spanish grippe (flu) began to spread, at that time in the beginning, it was relatively benign. We worried about a few cases of cholera, but the Russo-German city physician Lindenberg reassured us. Since 1901 the disease is said to have been brought from the Caucasus, but restricted to a very few cases. Now the danger was great. Returning refugees without homes crowded at the railroad stations, life at the port was congested and out of control, and the epidemic evidently was widespread among the neighboring Kuban Cossacks. Measures of prevention were discussed, but it was found that because of the utter helplessness of the authorities they could not be carried out. In spite of these unfavorable conditions all told only 139 cases appeared, 67 of which were fatal, 12 German soldiers being among the victims. That was, however, a low incidence, considering the bad hygienic conditions and the season of the year. Evidently the danger from cholera had lessened in Russia in the course of years.

In the meantime the surgeon general had ordered for me a Russian-speaking adjutant, my friend Dr. Victor Salle. A descendant of a German family in Kharkov, he was banished dur-

ing the military uprisings, fled to Switzerland, where he studied under me, and later went to Berlin as Heubner's assistant. Today every physician knows him as the editor of the *Klinische Wochenschrift* (Clinical Weekly) and of the *Congress Central News*. Speaking Russian fluently, and interested in many things, he mingled with all classes of the population and had always something interesting or amusing to tell. In Rostov he visited the family in which almost 20 years before, he had earned his bread as a private tutor.

The following weeks led us to the different places where we maintained lazarets and collecting stations: Taganrog, Kharkov, Kiev, Odessa, Nikolaievsk, Kherson, the trips being made on the trains, which were now gradually getting back to regular schedules. The cases were much the same everywhere, principally dysentery and malaria. But the Spanish grippe spread more and more and passed into pneumonia, attacking particularly young and strong men, who often succumbed to it. We had had experience with the spread of this grippe in the epidemic of 1898-1900. Then old men died, but now it is the young.

Of the south Russian cities each had its special characteristics. Kharkov, stately, and very modern, was the seat of a university with excellent professors, with whom I was well acquainted either personally or by reputation. The medical faculty maintained laboratories and a hospital, and we worked well together. Here I also met General Mengelbier, whose room in Rastenburg had afforded me lodging for a year. His wife had all these years been without a home, and only now had she settled in Freiburg and regained possession of her furniture—a typical soldier's wife.

Kiev was entirely different. Built on seven hills, like Rome, it spreads out a long distance along the Dnieper and into the country. In the center it has broad streets with stately business and banking houses, traversed by many autos and other vehicles. The highest city quarter has walls with trees and luxurious villas, on which owners and architects had allowed their fancies free rein. The out-buildings, in accordance with Russian fashion, show signs of wealth. To be sure everything showed traces of the Bolshevistic rule. Before the war a Russian anarchist told me, "When the great revolution comes we shall first destroy the water supply and drainage, then the bourgeoisie will suffocate in their own filth." So it really happened,

and with it everything was overrun by bed bugs; I had terrible nights.

Kiev is the mother of the Russian church. The first monks had built for themselves in the clay of the steep embankment, tunnels and catacombs, and lived there in niches which were constructed like sarcophagi. From each coffin protruded a hand of a martyr, wrapped in heavy brocade. Over these catacombs rose a pious city of churches, chapels, schools and pilgrim houses—the Lavra. The golden domes of its towers and cupolas, set in the midst of orchards, shine at a great distance. A deep and soft bell welcomed us. A solemn mass in honor of the murdered archimandrite was being held in the main church, the priests with hair and beards that are never shorn, many in beautiful brocade coats, singing in their magnificent Russian voices, the cantor a basso who could compete with the large bell. The stately columns of the Russian baroque, the ancient pictures of the saints in their halos, the vestments and emblems of gold and silver inlaid with precious stones, all glimmered in the light of candles and the rays of the sun. At noon we met the clergy in the refectory. They had just finished their vegetarian meal and had sung the Gracias. This was followed by an hour of singing for boys and monks. Salle's Russian opened all hearts. They admitted how glad they were when our troops arrived. The Bolsheviki had slain the archimandrite and had then begun plundering.

An express train with clean sleeping cars brought us speedily to Odessa. The city is entirely modern with beautiful boulevards above the port. The streets are stately but monotonous. Here I met as the German general in Odessa the former SOS inspector Count Waldersee, who again was detailed to a completely useless activity, for here ruled the Austrians, who seized all supplies and made our lives miserable. They acted like princes and acquired money by private business transactions, which doubtless were most remunerative. An apple cost a rouble (50 cts.), a bottle of wine 80 to 100 roubles.

A steamer took us to Kherson, and an Austrian military train to within 8 kilometers of Nicolaievsk. There we boarded the engine to the railroad station, took a most dilapidated cab to the hotel, which shone with cleanliness, and was managed by a senior sister. The city, at the mouths of the Bug and of the Dnieper, which empty into the Black Sea, is pleasant, with

streets bordered by trees, large factories and dockyards, which had just been taken over by Blohm & Voss. In the vicinity were many well-to-do German colonists. Everywhere were old canons which had served as landmarks for cultivated land. The Bolsheviks had torn them out to be melted, but then had let them lie. Here, too, we found a beautiful German lazaret.

From Odessa I visited the aviators, a few of whom I knew in Palestine. They were housed in the German colony Lustort (literally, a place of amusement), where the men and women celebrated Sunday in old-fashioned multi-colored clothes.

My mission now led me to the Crimea. In 1913 I had presided over the international congress of physiotherapy in Berlin. The next congress was to be held in 1916 in St. Petersburg and to terminate with an excursion to the Crimea. Now I was glad to see this land, though under very different circumstances.

Slowly and always hugging the coast on account of the danger from mines, the steamer sailed through a brilliant moonlight on a tranquil sea, amongst the playful dolphins. At noon of the third day we reached Sevastopol. On a flat coast, with the distant, blue heights of the Tshatyr-Dagh as a background, opens the bay, flanked on the left by the historic old forts, and on the right by the houses and domes of the city. In the rear glistened white hills and the Malakoff mountain, which played such a great rôle in the siege of 1855-56. In the port lies the war fleet, everywhere are dockyards, military barracks, forts, a motley picture, ever changing. We were lodged in an officer's home with Russian servants. Here was an unique existence. At first the Bolsheviks ruled in their characteristic manner, by emptying the banks and factory cash safes and dividing the loot. Whoever resisted was hanged. The mob elected the government. Male nurses ruled in the lazarets and established the rates of pay, 500 roubles for the male nurse, 200 for the sister, and 100 for the physician. An old physician, who had founded and maintained the marine hospital with his private means, was rewarded by being beaten to death. Another presented his well-stocked wine cellar to his servant, saying "It will be requisitioned after all, so let the poor devil have a few happy days." Now the proletariat had assumed something of the aspect of a bourgeoisie. Tuxedos and workingman's blouses mingled in the finest restaurants and all flashed bills of large denomination. Everybody had money, even the street gamins pulling 20 or 30

roubles from their pockets with a laugh to pay for a melon or a pound of grapes. The beach promenade was beautiful.

The fleet had been in a state of mutiny ever since the beginning of the war. Of three large dreadnoughts one was sunk in the open sea, one lay in port with its keel uppermost, and the third, still afloat, was manned by 500 sailors. They had nothing to do except play with a young bear, named Mishka, who was very smart and funny. A bee had stung his paw, so he himself hobbled to the lazaret and had it dressed. The Bolshevists did not take kindly to us. The lieutenant who guided us was very meek and scarcely dared open his mouth.

Much amusement was created by the daughter of a millionaire of an old and renowned family. She was taking the cure in the Caucasus and was cut off from her kin by the revolution. At first she earned her bread in Tiflis by playing the piano. Now she was supposed to be an interpreter at the German command, but acted less like an employe than like a spoiled child, domineering and seeking to be courted.

My next goal was Simferopol, but first I made an excursion to Bakshi-Sarai, the seat of the Tartar khans, who have had their homes here for centuries and at one time even conquered Moscow. Here we have a bit of Asia in Europe. A timbered river valley, bordered by perfectly bare rocks, spreads out, to contain a perfect little Turkish city with an open bazaar, displaying beautiful embroideries, with coffee houses, and a mosque with minaret. In front of the city is the palace of the khans, a wooden edifice painted in many colors under mighty trees. In the interior is a peculiar mixture of oriental architecture and Russian baroque. Close by are the graves of the khans. On the height is a Mohammedan cemetery, overtopped by rocks eroded to the shape of pinnacles and towers. The place is quite isolated and without military occupation, nevertheless the usual high prices were found. I bought a melon for a rouble. The tradesman laughed and said, "Formerly we gave them away to any one who asked."

Simferopol was the seat of the Tauridan government. It consisted exclusively of ministers, who could do only what the German command desired. At this moment they were engaged in negotiating a loan. Here, too, we found lazarets, the largest devoted to venereal diseases. The men had little duty, youth asserted itself, opportunity was great, and control similar to

that employed in Warsaw, could not be carried out. In Simferopol we were received very kindly in Dr. Grassmück's house and introduced to the German colleagues who occupied a respected position and maintained their own neat hospital.

I met old acquaintances among the officers, and thanks to these relations we succeeded in getting "the" automobile for a ride to Yalta. The main purpose of the trip was to take to Yalta 15 million roubles, packed in a paper box, to pay for supplies. The ride was very exciting. Near Simferopol are corn fields, the river valleys covered with fruit trees and poplars. Now we proceeded slowly upward through beech and oak woods past precipices similar to the Swiss Jural mountains. Finally the height was reached, marked by a gate similar to the Brandenburg portal. Once one has passed it there appears with theatrical effect the view of a steep coast and the blue sea. While halting at this Bajdar gate for breakfast, three ragged fellows played vulgar songs with pipes and drums. At our request they changed to a presentation of native dances. Soon there appeared a prim soldier who laid aside his arms and danced to our heart's content. Now the road lay along the height, on the left the rocks, on the right the sea, and passed through low forests with yoke elms, cornel berries, pine and all sorts of southern bush plants. We passed isolated villas, here and there a Tartar village, a few lean cows, lonely and hot. At about noon we reached Alupka, still high above the strand, where a convalescent home awaited us. We had hoped for a dinner, but the physicians and sisters, until now in Jablon, were in despair, without equipment, without subsistence, reduced to the fruits of the garden. So we drove on to Yalta. Here too, was a dearth of billets, the collecting station teeming with bed bugs. I slept in the car under the open sky, so I at least escaped the bugs.

In Yalta the mountains recede somewhat. A beautiful bathing resort is established on the wide rolling declivity, ascending gradually, behind which is a hilly country cultivated with grapes and tobacco, and merging into wooded mountains. In peace Yalta was an exclusive resort for the high nobility and wholesale merchants. Jews were not admitted. Now it is the reverse, all war profiteers of Odessa and Kiev have here a rendezvous and vie with each other in luxuries. The prices here reached the maximum. Our soldiers' homes and lazarets, which were dependent on supplies by open purchase, were in despair. Tremb-

ling the sisters went early to the market to secure something for the hungry ones. At that time they did not even have wood.

The western side of the hill was occupied by a large park, a possession of the czar; on the height was the glistening white palace Livadia. It was simple inside as well as outside, comparable to the country home of a rich Englishman, with beautiful lawns and gigantic cedar trees. A former imperial servant with white side whiskers showed us the rooms, especially the room of the czarevich, with the school desk and the schedule of lessons still tacked to the wall, next to it the room of the old sailor, to whom the boy had become attached and who followed his every step. Towards the sea the park merged into a natural forest, a long, steep wooden stair leading to the beach. An old stone sarcophagus served as a bathtub for the empress, the emperor disrobed in a tent. Thus plainly lived the autocrat of all the Russians.

Around the palace were about 50 other buildings, stables and administration buildings with lawns and trees. Here the Bolsheviks had placed the unfortunates who had become consumptive in the prisons, a remarkable collection ranging from criminal types to gentle idealistic dreamers. Here, too, we should have liked to secure some space for our sick, but the "administrator of the imperial estates," Mr. Salomon Salomonovich Krim, informed us that our Kaiser had ordered that the imperial buildings should not be used for military purposes. He himself lived in a magnificent imperial palace in the midst of gardens.

My next goal was Theodosia. A port detachment of three officers, a non-commissioned officer, an interpreter, etc. held out little prospect of available accommodations. We looked out for ourselves. There was a small steamer ready to depart. At my request the captain waited until my luggage could be gotten and took us on the overcrowded ship. Captain, helmsman and officer were three very young, good looking fellows, former pupils of the naval academy, thrown out of their normal vocations by the revolution. But being evidently enterprising they had chartered this small transport and did a splendid business, utilizing their monopoly of transportation to exact the highest prices. Yesterday they had earned 3000 roubles from a cargo of fruits and tobacco, and this they invested in champagne. The trip along the Crimean coast is one of the most beautiful one

can imagine. From the bay of Yalta we passed timbered mountains with their parks and castles, the mountains gradually becoming barer and steeper, but still wooded and inhabited. The rock comes closer and closer to the sea, a few large pieces having dropped into the water, against which break the waves. A mighty block, Agir Dag, called the Bear, pushes itself forward, behind it a pleasant health resort, Alushka, with grapes and fruits. Now again steep rocky slopes appeared, interrupted here and there by oases of fruit trees, wherever a spring makes vegetation possible. After a few hours a great rock point protrudes, crowned by an old Genoese castle, with pinnacles and turrets. Slowly the steamer sails around this wonder and lands in a bay, in which terminates a wide green valley, containing a town with villas and sanatoria, mosque and minaret—Sudak. Gradually evening falls, the mountains turn to gold, then purple, finally to lavender gray, the sea a dark ultramarine, the stars sparkling, the Milky Way illuminated like a band of moonlight. Finally in the distance appears a cluster of lights—the port of Theodosia.

This is a well-to-do town, on a height overlooking the bay, with luxurious villas that belonged to manufacturers of cigarettes, the exteriors neat and decorated with stone carvings, the interiors congested with vulgar display of wealth. Our lazaret was comfortably installed in one of those palaces. In the evening a train brought me to Kerch.

Kerch lies on the spit which separates the Sea of Azov from the Black Sea, an important trading city with great port installations and corn granaries. The vicinity is treeless, covered by countless so-called Scythian grave mounds, excavations also yielding small specimens of Greek art. Here Mithridates ruled his mighty empire; he is said to be buried here and a Greek temple on the brow of a mountain is dedicated to his memory. Here, too, a lazaret had been installed, but fortunately few beds are occupied.

Again the chiefs of the port and fleet failed us. In a smeary Armenian café, in which a Russian general and a couple of Armenians were discussing cocaine speculations, I was told that a Russian steamship line maintains regular schedules in these waters. This fact was known to all except our authorities. They had nothing to do and had become completely stagnated. A steamer actually took us to Rostov via the corn cities Berdiansk,

Mariampol and Taganrog. Cabins were "not appropriate" for German officers, so we spent the night on the deck of the "Lazy Sea," which was very animated. The host of passengers was variegated: women of the Orient in negligee, with an aroma of musk and dirt, laborers in dirty blouses but with pockets stuffed with money, gentlemen who had come from Petersburg and Moscow and talked interestingly, traveling salesmen, a gypsy gang, all mixed together and sufficiently entertaining. In Rostov I found the lazarets essentially improved, in Taganrog they had occupied the club house, and there were no special difficulties. I should have liked to make an excursion to Tiflis, where then General v. Kress commanded two regiments, but the aviation detail in Kerch had only two old ramshackle planes and did not wish to take me over. Other means of transport did not exist, so I returned via Kharkov to Kiev to report to the army physician and to check out.

CHAPTER XLV

SOME REFLECTIONS ON THE UKRAINE

This land with its luxurious fertility and its wealth in horses, cattle and mines is a paradise. It suffered little or nothing from the war. Geographically the Ukraine is an entirely artificial land. The western part has always been a bone of contention between Turks and Poles, the border on the Black Sea was Turkish, a South Russian dialect was spoken in East Galicia (Ruthenia, Podolia, Wolhynia), another farther east, but only by peasants, a sparse literature existed in Galicia. In Russia printing in that language was prohibited. The dialects were so diverse that the Ruthenians did not understand South Russian. The Ruthenians had their own church, South Russia was Greek orthodox. In the Crimea lived Mohammedan Tartars, Armenians everywhere in cities, close to Rostov they inhabited a city of 80,000 to 100,000 population—Natchichevan. The colloquial language was exclusively Russian, and under Russian rule the land passed from steppe economy to the cultivation of corn and turnips, and became rich. Enormous wheat shipments are sent out of its ports.

The reason why in the peace of Brest-Litovsk Southern Russia was separated from Northern Russia was the hope of securing from the rich strip of land the subsistence needed by the suffering homeland, Germany and especially Austria. To be sure Austria had in Hungary a corn larder, but Hungary gave nothing to Austria.

After the unfortunate experiences in the home land with compulsory husbandry, it was decided here to let "legitimate" commerce alone. The legitimate commerce did not wait to be told twice. In a few weeks it drove the prices up to ten to twenty times the normal. The value of money sank lower and lower, and the prices for all the necessaries of life rose unchecked. To this add the misfortune that our government had agreed with the Ukrainian government on a fixed rate of exchange for the rouble. As a result our good mark went down with the rouble in buying power. We now felt the effects. In spite of the "Ukraine extra pay" we had to practise careful economy. Russian officers complained that we did not care to

drink a bottle with them, but for a bottle of wine at 100 or a bottle of champagne at 400 marks the additional pay was not sufficient. The Russians did not like to appear in uniform at social gatherings. In Kiev, Kharkov, Odessa evening clothes were the rule, and personal relations were indispensable for the transaction of business. Our officers asked for extra funds for full dress suits. They were justified in this, for a suit cost 2000 to 3000 marks, a pair of patent leather shoes 800. It was not granted, the officers were referred to "military channels," and this method, as is known, fails completely in all dealings.

Our soldiers knew how to help themselves. In their villages the prices were also beyond reach, but the peasants cared nothing for money, for they had it to excess. What they *did* want was utensils and these were scarce in the land. So the soldiers had sent from their homes pocket knives, scissors, razors, ladies' stockings, which they exchanged on a most favorable basis. 40,000 to 50,000 soldiers' parcels went back to their homes every week, filling many a hungry stomach. I myself tried to bargain where I could. My best medium of exchange was ten pairs of shoe soles which have kept me and mine from going barefoot for two years. In spite of price-boosting there was no misery in the land, in contrast with conditions in Turkey. There real scarcity prevailed and mismanagement did not create the misery, but merely aggravated it. Here everything was available, only the value of money had gone down. Accordingly the pay of workers and business earnings rose, and therefore everybody, from the wholesale speculator to the street urchin, could realize all their wishes.

In the meantime my presence at home was desired. Years ago I should have taken my turn at the deanship; now the faculty insisted on it. Medical affairs in my army were well regulated, and there were no longer any special need for my presence. Accordingly I asked for a detail to Berlin, prepared to return to the field if so ordered. I arranged my affairs in Biala and Warsaw and was in Berlin September 18.

I consider it a blessing to have been spared witnessing the collapse and the precipitate retreat of our Army. With me remains the picture of that splendid Army at its best, as with its incomparable organization and discipline it held out during four arduous years and did its full duty.

CHAPTER XLVI

VALE

Dear Reader, I am grateful that you have followed my little narrative thus far. I have taken you into many of the theaters of the Great War, and amongst many of the peoples of Europe and Asia, thus creating (I hope) the effect of a vast and rapidly changing panorama passing before your eyes. I have endeavored to describe what I have seen, simply and dispassionately, uncolored by any sentiments of my own, leaving you to interpret it as you wish.

I have regarded the Great War not as the greatest catastrophe in the history of mankind, as some assert, but rather as the greatest of human experiences, which it certainly is. In view of the terrible things that took place during those four bloody years some may think that I look too frequently upon the little sidelights of human contacts which distract attention from the darkened background, that what I may call my "major key" is unduly optimistic. So I should like to relate an experience of my youth.

We were youngsters of sixteen or seventeen years, great pessimists, who read Schopenhauer and allowed ourselves to be influenced by his gloomy teaching that only misery makes an indelible impression and is retained by the memory. Then came to us a mature man, highly educated and of good family, who had roamed the world as a cowboy, miner, sailor. He laughed at our theories and told us he had suffered shipwreck in the Sunda Archipelago and been tossed about for days on a plank. Years later he encountered his companions of that period. Not one spoke of the shipwreck, but "Do you recall the fine turkey we ate together in Singapore?" or "Do you remember the pretty girls in Penang?"

I have thought of him often while reading books about the war. They are all worth reading, but many are written in a gloomy vein. With the pacifist Barbusse, for example, it always rains, everybody is filthy, everything is gray and set in gray. Remarque is more true to life, he describes the eating of a stolen goose and a jolly affair with a woman. I like to talk to the war veterans. They say little of the misery and suffer-

ing, but they love to tell of the little fleeting pleasures they have enjoyed in out-of-the-way places.

In submitting these selections from my notes and letters it was not my purpose to entertain. I believe that we can draw lessons from the experiences of the war which will be useful to us in the future.

Will there be war again? Shall we live to see it? Who can say as to that? I should like to believe in perpetual peace, but I cannot. The impulse to grow and to be strong is a natural impulse, and whatever opposes it it tries to overcome. It is immaterial whether we have to deal with pastures or oil wells, with sheep herds or industrial production there is always the urge of growth of a nation, and capitalistic enterprise is only a sign and medium of it. For this reason I dare not hope for eternal peace, even if the national tensions, with which the wise peace treaties have blessed every land, should dissolve in benevolence and unity.

But let us allow that war will die out. The medical lessons of the war will last. What problems did the war give us? One is the care and restoration of the injured. From this as a problem in mass we desire to be spared. Another is the shelter, feeding, moving and care of masses under primitive conditions, that is, the control of epidemics. The following statistics will show what has been accomplished.

The number of killed (German) was estimated at the end of May, 1919, as 1,531,000 men, and the number of those who died from disease as 155,000. That is a ratio of about 10 to 1. Now let us compare these with the statistics of previous wars. The ratio of killed to died from disease was:

In the war in the Crimea 1854-56 (English)	1 to 3.6
In the Italian war 1859	1 to 3.3
In the Austro-Prussian war 1866 (Prussians)	1 to 1.3
In the Franco-Prussian war 1870-71	1 to 0.53
In the World War (Germans)	1 to 0.1

Not more vividly nor in fewer words can the progress of medical science between 1850 and 1920 be portrayed.

The enterprises of peace present the same problems as war. The French could not complete the Panama canal, not because they wasted a few millions in bribes on their parliamentarians, but because they could not keep their laborers alive. The Amer-

icans began with the sanitation of the land, fought malaria and yellow fever, kept up the strength of the work armies and completed the task. In this field the late war has shown new successes. The frightful tetanus (lockjaw) destroyed thousands during the first months, but when every man with a ragged, dirty wound was given an injection of serum, tetanus disappeared. Of the inoculations against typhoid fever and cholera we have already spoken; the struggle against typhus was carried out on a great scale for the first time. The French army at Sevastopol in 1854-56 suffered from it to such an extent that the army had to be replaced three times, but we could keep our army almost entirely free of it. And let us not forget that the homeland, though threatened by epidemics from the west and the east, was completely protected—so great is the power of preventive medicine.

And now, dear reader, look about you. You will find an army of enemies of the physicians and of enthusiasts for natural healing. The physicians are no good they say, they ruin the system with poisons, inoculate with pus against small pox and cut up the body with knives. Air, light, water and vegetarian diet, those are the sole medicines! I am the last man to deprecate these remedies. But they are not panaceas. The Turks and Arabs lived in the air and sun, ate wheat groats, fruits and cucumbers and drank plenty of water. With it all they suffered frightfully from malaria, dysentery, skin and eye diseases, and were happy over a pill of quinine or an eye wash. Antitetanic serum, protective inoculation, delousing, salvarsan, emetine and quinine were discovered by physicians; were they really on the wrong track?

And now one more lesson, and perhaps the most important of all. Europe is a country of old culture and civilization. Does it show signs of senility, is there danger of the "Decline of the West?" Well, I think that when a family degenerates after a glorious past, the first thing to go is not the intellect, but the will power. The same no doubt applies to nations. He is overcome or degenerates who has not the will to resist.

All the participating nations have shown in a war of unexpected duration a tenacity that is astonishing. We have dozens of books which describe in detail the life in the field, in trenches, in battle, on the sea and in the air. They must be read with judgment. For they are written by intellectuals who had an axe

to grind, a motive, be it patriotism, pacifism or socialism. Many have been written from a bird's point of view, others again from a toad's point of view, but they all contain a kernel of truth. The main question, however, is, what was the relation of the mass, of the simple soldier to the war? He has not written, has not given us his impressions. The initial enthusiasm soon was replaced by the daily grind of duty, the war became a job, a vocation. And it was precisely the simple soldier who filled it, whether he was a German, Frenchman, or Englishman, with the full activity, tenacity and endurance of a healthy, strong race, city bred and country bred, the hand laborer and the mind worker. This truly does not look like degeneration. Enormous crises rend the world, courses and aims diverge, life seeks new forms. The kernel, and that is the teaching of the war, is the essential good in all European peoples. Their future happiness depends only on the manner in which they express their talents and virtues.

I am, therefore, of the opinion that Germany has no cause for despair. Though the political situation may be dark, though the way to its amelioration may be long and tortuous—a nation that has demonstrated and that still possesses so much virtue and stamina, cannot and will not be long kept in bondage. There is an eternal justice manifest in the history of the world.

Again I have struck my "major key," and in that tone, dear reader, I bid you farewell.

FINIS