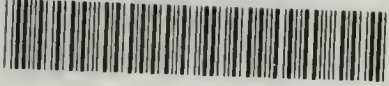


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CAVALRY—THE REGIMENTAL STANDARD

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THE ARMY OF THE UNITED STATES





THE organization of the army of the United States depends on the law-making power of the nation—Congress. Its strength has hitherto been regulated by the apparent necessities of the country, being at times reduced to a few thousand men, while at others it has numbered more than a million. Its history, on the whole, is one to be proud of, though, through no fault for which it can be said to be responsible, there is much in its record that reflects discredit on the country. Its recruitment depends ordinarily on voluntary enlistment, and its efficiency on the ability of its officers and the length of time the men have been in the service, subjected to discipline and drill. With the officers of the army as a body the history of our last two wars shows there is no shortcoming. Whether graduates of the Military Academy—the best for the purpose in the world—or selected for their energy, capacity, and brilliancy in actual service, they are by common consent equal to the officers of the best of European armies. In the war with Mexico and in that of the rebellion it required at least one year to make the army fit for the field. At the end of that time these armies, as well as that disbanded in 1783, were soul and body like the army maintained in times of peace, and then called the regular army.

The genius of the Government contemplates that all able males of proper age in the country should constitute

the army of the United States. The officers and soldiers are at all times citizens of the country, with all the rights and privileges of the most favored civilian. The army is the body in which the military spirit of the people is fostered. The relation of the parts could be improved, and some ways in which this improvement might be effected will be incidentally suggested in the course of this paper.

It is an anomaly in history that the people of the colonies immediately after the war of the Revolution neglected to recognize the services of the army, and treated it with great injustice. Men and officers who had given their time and property for the welfare of the nation were turned out of the service without pay or recognition of any kind. Representing their grievances for themselves and for the men of their commands, a committee of officers in an address to Congress said: "Our embarrassments thicken so fast that many of us are unable to go farther. Shadows have been offered to us, while the substance has been gleaned by others. The citizens murmur at the greatness of the taxes, and no part reaches the army. We have borne all that men can bear; our property is expended, our private resources are at an end." Taking advantage of this discontent and unjust treatment, there was no lack of evil-disposed persons who for sinister purposes sought to foment an insurrection, but these were foiled, and the army remained true patriots to the end. "It was," says Bancroft, "a source of irritation that the members of the Legislatures never adjourned till they had paid themselves fully, that all on the civil lists of the United States regularly received their salaries, and that all on the military lists were as regularly left unpaid."

This history is in marked contrast to that which char-



acterized the disbandment of the army of the country three-quarters of a century later. This army numbered thousands where the army of the Revolution counted tens, but it disappeared noiselessly and quietly, well paid and full of honors, and continues without dissent to receive the care and blessings of the nation it saved.

Following the war of the Revolution there was on all sides a fictitious fear of a "standing army." Whether this arose from the events which we have hastily surveyed, or whether it was an inheritance born of the hatred of monarchical institutions, it is not the purpose of this paper to inquire. In the sequel it proved worse than disastrous to the honor of the country. Less than thirty years after the close of the war of the Revolution the American people were again called upon to take up arms to perfect their independence of Great Britain. The records of the events of the War of 1812, so far as the army was concerned, contain a history which is calculated to bring the blush of shame to the cheek of every American. Blunders of officers, misbehavior on the part of men, mixed with failures in every direction, were the governing incidents of a campaign which ended in the rout of the army and the destruction of the Capitol and public buildings of the infant republic. Almost the only gleam of the military spirit which had achieved the independence of the country came from the South, at New Orleans, where Jackson with a command of volunteers defeated a force of the veterans of Europe.

After the conclusion of the war with Great Britain, Congress reorganized the army on a peace footing, with proper proportions of Infantry, Cavalry, and Artillery. Its strength was 10,000, exclusive of the Engineer establishment. This force was reduced in 1821.

The war with Mexico, whatever its political aspects, re-

sulted with great honor to the army. The known weakness of the militia system, still fresh in the memory of those responsible for the transaction of affairs, was avoided. The President called for volunteers, not to exceed 50,000, and these with the regular army fought a series of successful battles, which ended in the capitulation of the capital of Mexico.

At the inception of the War of the Rebellion the army of the United States was by law about 12,000 strong. The system initiated and tried in the war with Mexico was again adopted. Volunteers were called for, and incorporated as far as was possible with the regular army, so that the army was increased to 186,000 in 1861, to 637,000 in 1862, to 918,000 in 1863, and finally to the enormous strength of more than 1,000,000 in 1865.

#### ORGANIZATION

At the present time the army consists of twenty-five regiments of Infantry, ten of Cavalry, and five of Artillery, constituting a force of—not to exceed 25,000 men. The organization of each infantry regiment is familiar to the reader, consisting, as in the State volunteer organizations, of ten companies each, officered by a captain, one first and one second lieutenant, and of two extra lieutenants, who are the adjutant and quartermaster of the regiment. This, with the colonel, lieutenant-colonel, and major, completes the officers of the infantry regiment. The cavalry regiment consists of twelve troops, or mounted companies, with three officers to the troop, one captain and one first and one second lieutenant, and has three majors instead of one as in the infantry. In the artillery the regiment contains twelve companies, or batteries, each being officered by one captain, two first lieutenants, and



INFANTRY ADVANCE-GUARD

one second lieutenant. Consequently, in the artillery regiment there are twenty-six first lieutenants, allowing two for each company, and one each as adjutant and quartermaster. The field officers consist of a colonel, lieutenant-colonel, and three majors.

In each regiment of artillery there are two horse batteries, the officers of which are changed from time to time with the officers of foot batteries, so that all may be in

structed in this important part of the artillery officer's duties. The other batteries, or companies, are foot troops, instructed both as infantry soldiers and in the handling of heavy guns in the permanent forts on the sea-coast and elsewhere.

The General officers of the line of the army are three Major-generals and six Brigadier-generals. The senior Major-general now commands the army. The other Major-generals command departments, as do also the Brigadier-generals.

The administration of the army is conducted by bureaus or staff departments, whose chiefs or heads have the rank of Brigadier-generals. These are the Adjutant-general's Department, the Inspector-general's Department, the Judge-advocate-general's Department, the Quartermaster-general's Department, the Subsistence Department, the Medical Department, the Pay Department, the Engineer Bureau, the Ordnance Department, and the Signal Corps. Each of these departments has a history of which its members are proud. It is not the intention to enter into these histories. It is enough to say that each department is the growth of necessity, and each has been remodelled, changed, and improved as experience has indicated. Nor is it too much to say that each of these departments is as near perfection in the accomplishment of its duties as the creations of man for such purposes usually become, made so by trials in war which tested them in a manner not possible in generations of service in peace times.

The Adjutant-general's Department is charged with the correspondence of the army, the issuance of orders, the keeping of the records, and the general management of recruiting the army. Here are kept the monthly and other reports of the army, so filed and tabulated that on

any day in any year of his service the exact status and occupation of any enlisted man or officer can be determined. The records are as complete for the millions of men in the army during the Civil War as for the thousands who now constitute the regular establishment. Does X claim to have been injured in the line of duty at any time in the past, even beyond the memory of man, the proper machinery set in motion in the Adjutant-general's office will soon determine whether the claim is well founded. In short, without entering into particulars, every matter that is of interest to soldier or civilian, covering the service of a soldier duly enlisted, can be investigated in the smallest details, and most positive conclusions arrived at through this well-conducted department. With its rests the supply of recruits for the different organizations of the army, the assignment of officers to arms of the service, the discharge of officers or men by sentence of courts-martial or otherwise, and generally all the details resulting from the orders of the President of the United States, the Secretary of War, and the General-in-chief. If an officer desires a leave of absence or a soldier a furlough, he applies through this department, and the result of an application on this or any other subject is returned through the "channels." It has been the fashion to decry the "red tape" connected with the administration of the army through the Adjutant-general's Department, but the charge is not well founded. For work that demands celerity the telegraph is brought into requisition, and through this medium the entire army of the United States could be put in motion, equipped for war service, in six hours or less time.

The Inspector-general's Department, as the name indicates, is charged with the inspection of the army through every department and branch of service, and of all mat-

ters relating to its operations and involving its efficiency. This department is responsible that no order goes long neglected, no continued fraud or mismanagement of fiscal concerns exists, that want of discipline is discovered, and, generally, that the state of efficiency of the army in all its parts is known to the authorities in command. It is the great safeguard of the military establishment, for when it is properly conducted no neglect, incompetency, or mismanagement, anywhere throughout the system, can long go undiscovered, and as a matter of course uncorrected. The office has from time to time been combined with that of the Adjutant-general, but experience has taught, as reason indicated, that by the present management, when each department is separate, and responsible in its own sphere of action, the best results are accomplished for the good of the army.

The duties of the Judge-advocate-general's Department are, as indicated by the name, those that are demanded by the jurisprudence of the army.

Of the supply departments of the army that of the Quartermaster-general is second to none in importance. On it depends the supply of the army of clothing, forage, transportation, and everything that is required by the soldier in barracks or in the field connected with these. The quarters of the soldier, whether houses or tents, the storehouses, the stables for animals, the wagons, or cars, or steamboats, or other means of transporting the army or the supplies of the army, all depend on this department. Beds and blankets for the men, forage, straw, and shelter for the animals, must be looked for from the quartermaster of a command. In fact everything, save what is eaten by the men or used in the case of the sick or wounded, or especially intended for armies in their special work of giving battle, must be furnished by this department.



QUARTERMASTER-GENERAL'S DEPARTMENT—READY FOR THE MARCH





It is not difficult, then, to conclude how easily a poorly-conducted Quartermaster-general's Department embarrasses and paralyzes an army. It was this that Washington had to contend with in the dark days at Valley Forge. It was this, in part, that stultified the preparations of the army in 1812. It was from such cause that resulted the suffering of the British army in the Crimea in the war with Russia. And to a well-conducted Quartermaster-general's Department may be attributed, in so far as these things go, our successes in the great War of the Rebellion.

Equal in importance with any other for the army in the field is the Subsistence Department. In fact, while its duties are not so complicated as are those of the Quartermaster-general's Department, the adequate supply of food to the men is of more importance than is the supply of forage to the animals of an army, or of clothing. Any neglect in the Subsistence Department is quick to be felt and resented, and soon ends in demoralization. "An army moves on its belly" is an aphorism which officers of the army have had impressed on them by every experience, commencing with the first day in campaign. When it is considered that each man's ration, of an army consisting of 100,000 men, is made up of some dozen or more articles of food, and several of the parts of the ration are interchangeable with three or four others, the exactions of the duties of the Subsistence Department may be understood. The magnitude of the operations of the Subsistence Department is indicated by the fact that during the four years' war of the Rebellion this department disbursed for supplies nearly \$362,000,000. Secretary Stanton, in his annual report after the close of the war, said: "During the war this branch of the service never failed. It answers to the demand, and is ever ready to meet the national call."

To the Medical Department belong the duties of taking care of the sick and wounded of the army, and the prevention, as far as human science can go, of the first and greatest source of an army's depletion in the field—sickness in camp. These duties involve part of those of the Quartermaster-general's Department, and part of those of the Subsistence Department, while they have much that is common to neither to attend to. In other words, an efficient medical officer must be a good quartermaster and a good commissary, and, above all, a skilled surgeon and physician.

#### THE HOSPITAL CORPS

The Hospital Corps is a body of soldiers permanently attached to the Medical Department, and all the duties devolving upon the Medical Department must be discharged by it. It consists of non-commissioned officers (hospital stewards) and privates, a small proportion of the latter being graded as acting hospital stewards.

This corps is recruited by the voluntary transfer from other branches of the service of men who have served at least one year, and have thus become trained to military discipline, or by direct enlistment of soldiers whose terms of service in other organizations have expired. In time of peace not more than ten civilians may be enlisted in the Hospital Corps, but each of these must be attached to a company of the line for at least one year, to become thoroughly instructed in a soldier's duty.

The qualifications of a private of the Hospital Corps, in addition to the physical soundness required of all soldiers, are ability to read and write, natural intelligence, temperate habits, and good general character. No married men are accepted, and if a private marries he cannot be re-enlisted.

The acting hospital stewards are detailed by the Secretary of War from the privates, after at least one year's service in the corps, and passing an examination in pharmacy, arithmetic, dictation, the regulations of the Medical Department of the army, the principle of cooking, minor surgery, and nursing. Their pay is \$25 a month and the other allowances of a private. They may lose their position for misconduct, on the recommendation of a medical officer, or by sentence of a court-martial.

Hospital stewards are non-commissioned officers of the highest grade, ranking as sergeants of the non-commissioned staff. They are appointed by examination from among the acting hospital stewards after at least one year's service in that grade. They are examined in the same subjects as the acting stewards, but more thoroughly, and their capacity to control men is taken into account. They must be men of good habits and of unimpeachable integrity. They cannot be reduced to the ranks. Their pay is \$45 a month.

At every post in the army there are at least one steward and three privates, and at the very large posts there may be as many as three or four stewards or acting stewards, and twelve or fifteen privates. They are subject to the same conditions of subordination and discipline, and differ from other enlisted men only in the nature of their duties. They are equipped as infantry, excepting when serving in the field with cavalry or light artillery, when they are mounted, but they carry no offensive weapons. They are armed with a large knife, and one-fourth of them carry a medicine case—a box supplied with certain appliances.

They are instructed in their special duties both theoretically and practically, every man being required to learn all forms of work necessary in a hospital. This instruc-

tion is given by the medical officers, by the stewards, and by the privates longest on duty. When well instructed they are assigned to such duties as they are best suited for.

Besides their duties in-doors they are drilled in the use of litters and ambulances, which involves the careful and expeditious transportation of a wounded man from the place of casualty to the bed of the hospital. These drills in and out of doors are carried out with the precision and attention to detail that mark other military exercises.

A day in a military hospital for the enlisted men of the Hospital Corps is much as follows: All the men rise at reveille; the cook, his assistant, and the mess-room attendant earlier. In the wards the nurses see that those patients allowed to do so wash and dress themselves properly, open their bedding for proper airing, and later make their own beds if strong enough. They wash and make more comfortable those patients unable to get up. They carefully sweep the floors, opening such windows and ventilators as the weather may allow; dust all chairs, tables, windows, and other objects; cleanse the spittoons and any vessels belonging to the bedridden, and prepare the ward for the morning visit of the medical officer. In the mean time breakfast has been prepared, and the nurse sees that the patients who go to the table are neatly dressed. He brings in the breakfasts of those who cannot go to the table, and gives them such assistance as is necessary. All day he is employed in keeping the ward tidy, in administering the medicines or arranging the dressings that may be ordered, and in keeping the apparatus in the ward, and the wash-room and water-closet that usually adjoin it, scrupulously clean. In the rougher and more ordinary part of this work he is assisted by such patients as are convalescent. The nurse is in military charge of the

ward, and is responsible for the good conduct of the patients, who are bound to obey him. In case of disobedience he at once reports to the steward, who exercises his authority, or, if that is unavailing, reports the case without delay to the medical officer.

The right of appeal to the medical officer always exists. The nurse sees that there is no disorder at any time during the day and no noise at night, the lights being extinguished at a fixed hour, except such as are necessary for the care of the sick. The nurse carefully observes the sick, and at any sudden change for the worse he promptly notifies the steward. When patients require special watching or care, drafts are made from the other patients for temporary duty.

The privates not directly employed as cooks and nurses begin their duties at reveille, and keep the administrative parts of the hospital and the grounds and out-buildings in order, take care of the cows and the garden, and generally discharge the several duties to which they are assigned. As they usually are intelligent men of good habits, all this work is done regularly and uniformly with little urging. Nevertheless, the stewards exercise a general supervision, and are held responsible for any lapses in neatness or discipline. About nine o'clock every morning the sleeping-rooms of the hospital corps are inspected by a medical officer, as the company barracks are by a company officer; the wards are visited and the patients examined at least twice daily; and the whole hospital and every man in it is carefully inspected once every week. To be ready for these inspections requires constant and intelligent work by the men of the corps.

The stewards are directly occupied with dispensing; with acting as dressers for the graver cases; with drawing and distributing the rations and supervising the cook-

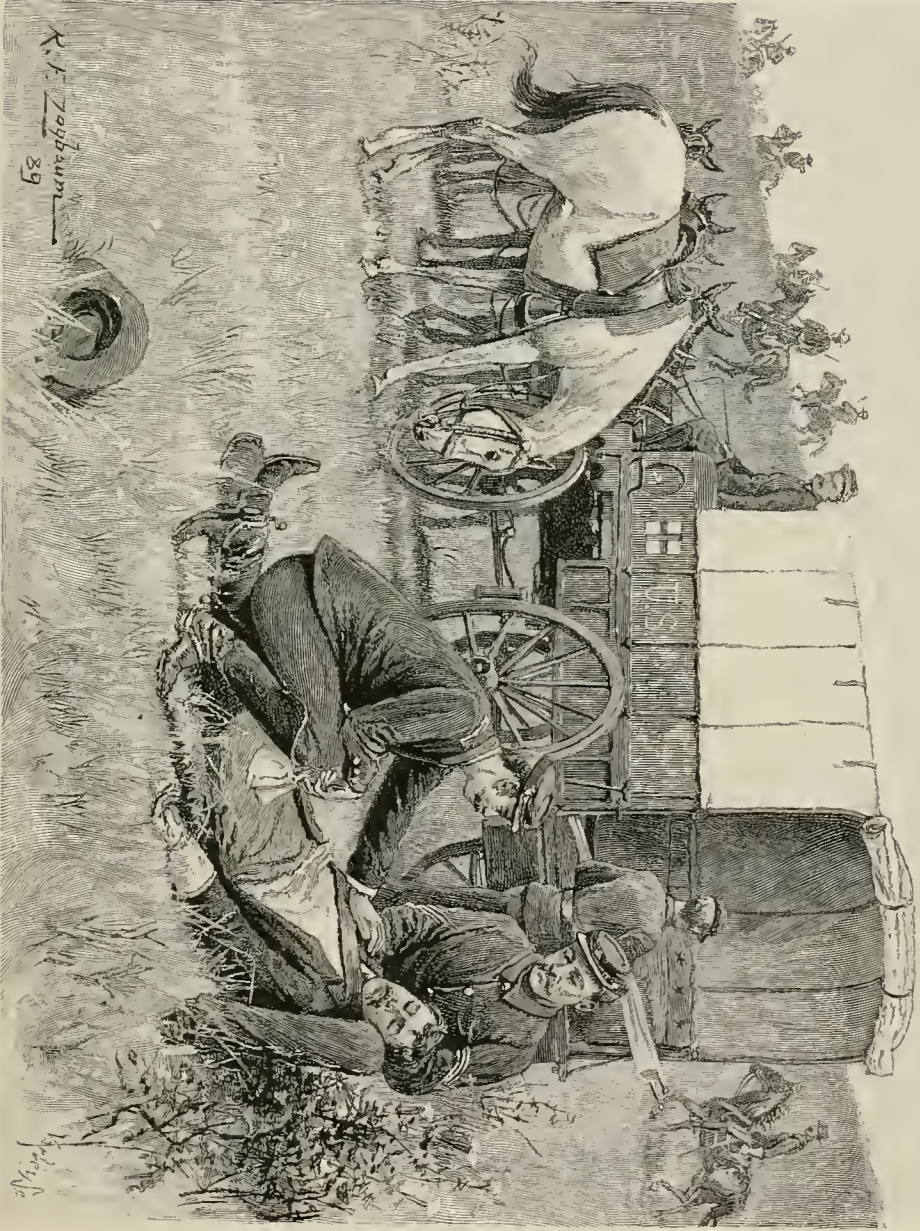
ing; with attending to the clerical work, which is always large and requires exactness and skill; and with a constant oversight of the more seriously sick or injured, under the medical officer's instructions.

The duties of the Pay Department are sufficiently indicated by its name.

### THE ENGINEER CORPS

The Corps of Engineers was called into existence by the necessities of the war of the colonies for independence. Its origin was in the appointment by Washington, under resolution of Congress, of four officers of engineers from the army of France, who came to this country seeking service immediately on the outbreak of hostilities with the mother-country. At that period France had produced the best military engineers in the world. The list of eminent men in this branch of science included during the seventeenth and eighteenth centuries the names of Pagan, Cormontaigne, Vauban, Carnot, and Montalembert, and their pupils were the founders of the Engineer Corps in this country. As early as 1778 Congress established an organization of three companies of engineer troops with proper officers, which companies served through the war of the Revolution with distinction, but were mustered out of the service, together with the Corps of Engineers of the army, in 1783.

In 1794 Congress provided for a permanent establishment of a Corps of Artillerists and Engineers, and the establishment of a school of instruction at West Point, New York. From this originated the Military Academy, though it was not fairly established, owing to accidents from fire and a want of funds, until some six or seven years afterwards. From the date of its establishment up



MEDICAL DEPARTMENT—THE RED-CROSS AMBULANCE





to a period after the Civil War the Military Academy at West Point continued by law a part of the Engineer Corps of the army, and it was controlled and managed by officers of that corps. By act of Congress of 1866 this control and management passed to the army at large, or rather to the War Department, the superintendent being selected, and the officers and instructors being detailed, from any arm of the service. This step was taken by Congress after discussion based on the experience of the Civil War, with a view to liberalizing and broadening the instruction of the students who were to become officers. The Academy, whether considered before or since the change, has produced results of which its friends are justly proud, and which must for all time be a credit to the country and a monument to the corps of officers who nursed it into life in the early history of the country, and have since given it vigor and vitality in the performance of its important work.

Up to 1863, when it was merged by law with the Engineer Corps, there existed with variable importance a Corps of Topographical Engineers. The duty of this corps in time of war was such as is intrusted to officers charged with the details of preliminary reconnoissance of a theatre of war. In peace times this corps was occupied in the then western country making explorations—geographical and geological. The result of their labors in this direction and those of the Engineer Corps proper for more than three-quarters of a century has been the location and construction of the roads, canals, important public works and improvements of the country, including the accurate methods of surveying—geodetic, topographic, and hydrographic—that are now in use.

In the time of war the duties required of the Corps of Engineers are mainly the work of planning and superin-

tending the construction of all fortifications required in military operations, including the auxiliary works involved in the attack or defence of fortifications. The corps is also charged with procuring and embodying in maps all information involving the topographical features of the country comprising the theatre of war or a field of battle. They may be charged, as staff-officers, with the selection of camps, and should be consulted in the choice of all places to be fortified and held, as also to obtain information of the enemy's strongholds, works, and resources. They are charged with the care and management of the bridge equipage of the army, with the construction of bridges in an advance, and the destruction of those which, being of value to the enemy, are ordered to be demolished.

The only troops authorized by law as a part of the Engineer Corps are four companies, officered by captains and lieutenants of engineers. These companies, three of which are stationed at Willets Point, and one at West Point, New York, constitute the basis for an increase to meet the exigencies of war. They are constantly instructed, theoretically and practically, in sapping, mining, and pontoniering, and comprise a force of material for non-commissioned officers in the event of a large increase of the enlisted force of engineers.

In time of peace the Engineer Corps must attend to all usual duties expected of such corps in an army always ready for war, besides being charged by legislative enactments or by executive orders with a multitude of responsibilities which it is difficult to enumerate in detail. These include surveys for planning and construction of permanent fortifications on the sea-coast; the surveys for the planning and construction of works for the improvement of rivers and harbors; the construction of beacons, light

houses, and all fixed aids to navigation; the construction of public buildings and works in charge of the War Department; the surveys of the great lakes of the country; the astronomical determination of boundaries and initial points; the surveys of the Territories; the supervision of the construction of bridges over navigable waters; and the study and perfecting of the system of defence depending on the use of torpedoes, and the necessary submarine mines connected with the defence of our large commercial cities.

With all these diversified duties, which require at times the application of the highest attainments in science and the arts, it is the pride of the Corps of Engineers that with an expenditure of millions of money yearly for the last half-century no defalcation or misappropriation of government funds has ever occurred; but, on the other hand, through care, industry, and intelligent supervision of the officers of the corps in charge of public works, the Government has habitually received full value in work for the money expended. If there is a single exception to this, it in no way involves the reputation of the corps, and stands chargeable to the individual, who, as an exception, is the more prominent.

In the discussions already referred to in Congress growing out of the experience of the war, it was urged that the education and daily duties in his profession unfitted an engineer officer for brilliant, independent, and responsible command of an army engaged in a hazardous campaign. It was urged that his habits of thought in the prosecution of the labors of an exact science, in the work of which a large factor for safety is always allowed, unfit the engineer officer for the risks of independent command. There is no need to discuss this question at this time. It is enough to say that officers of engineers combat the proposition

with fervor, and insist that they should be considered as officers for command of troops rather than as staff-officers. Whatever may be the conclusion in regard to this, the army at large will always share in the pride of the Engineer Corps, which arises from the fact that if the education they receive unfits the officers for command when large risks are involved in contending with an active enemy, it peculiarly fits them for control in public works and scientific pursuits where constant watchfulness, extreme caution, and a large element on the side of safety are inseparable from satisfactory service. And thus the loss of the corps in one direction is its gain in another.

#### THE ORDNANCE DEPARTMENT

As early in the history of the country as 1794 three or four arsenals were provided for, and between 1791 and 1812 more than eight millions of money had been appropriated for ordnance purposes.

The Ordnance Department was formally established by act of Congress in 1812. It consisted of a Commissary-general of Ordnance, having the rank, pay, and emoluments of a colonel of infantry, and thirteen other officers, eight of whom had the rank of second lieutenants of infantry. The duties of the department as prescribed by this act are almost identical with those now performed, which, in general terms, are to procure by purchase or manufacture the armament for sea-coast defences, and the arms and equipments and all other ordnance stores for the army, the militia, the Marine Corps, and for all the executive departments, to protect public money and property. The colleges authorized by law to receive arms for instruction are supplied by the Ordnance Department.

In 1813 the number of assistants of ordnance was in-

creased to sixteen, and their pay raised to that of a first lieutenant of infantry. By act of 1815 the duties of the department were reiterated, and the senior officer of ordnance—no longer called the Commissary-general of Ordnance—was given general control of the public armories. Six years later the Ordnance Department was merged in the artillery, and ordnance duties were performed by artillery officers selected by the President.

In 1832 the Ordnance Department was re-established, and in 1838 the number of officers increased.

The present organization of the Ordnance Department is as follows: A Chief of Ordnance, with the rank of brigadier-general; three colonels; four lieutenant-colonels; ten majors; twenty captains, and sixteen first lieutenants.

All vacancies in the grade of first lieutenant are filled by transfers from the line of the army, and promotions to the other grades are regular, except that the Chief is appointed by selection.

The Ordnance Office is at the War Department in Washington, where the Chief of Ordnance, with several assistants, supervises and controls all matters pertaining to the department. The arsenals of construction are: the National Armory, and the Frankford, Watervliet, Rock Island, Watertown, and Benicia arsenals. The arsenals of storage are: the Allegheny, Augusta, Fort Monroe, Indianapolis, Kennebec, New York, and San Antonio. Besides these there are a number of powder and ordnance depots located at points in the country most convenient for the purposes of supply.

From 1875 to 1882 an officer was designated as Constructor of Ordnance, and to him was intrusted, under direction of the Chief of Ordnance, the designing and construction of all guns and carriages. In 1882 this office was abolished, and its duties were assumed by the Chief

of Ordnance. While utilizing the services of officers stationed elsewhere, he has a staff of officers in Washington mainly employed on construction work, and officers employed as resident inspectors at private foundries and establishments engaged in work for the Government—such as the West Point and South Boston foundries, and the Midvale and Cambria steel-works. These inspectors are the medium of communication between the Chief of Ordnance and the establishment to which they are attached, and it is their duty to supervise every detail of the work, and make the various inspections provided for in the contract and in the ordnance instructions.

Intimately associated with the Ordnance Office has been, since 1875, the Ordnance Board, which to-day consists of three members, with stations at the New York Arsenal, Governor's Island. This board has charge of such experiments at the proving-ground at Sandy Hook as are not by law required to be otherwise conducted. The members of this board, associated with two other officers, constitute the board for testing rifle cannon. The proceedings of this board, limited, as its title indicates, to experiments with rifled cannon, are forwarded through the Chief of Ordnance to the Secretary of War.

A third board, designated the Board on Ordnance and Defence, relieves the two before-mentioned boards of much work. Being a mixed board, it is independent of the Ordnance Department, except in the matter of expenditures for ordnance purposes.

The ordnance proving-ground is under the command of the president of the Ordnance Board, with an officer as assistant in charge. Here are mounted and proved all new constructions in the way of guns and carriages. All experiments are here also made with powders, high explosives, projectiles, fuzes, sabots, primers, etc. The estab-



THE ENGINEER CORPS—INSTRUCTION IN FIELD FORTIFICATION





lishment is provided with the most modern ballistic instruments, with devices for the analysis of gunpowder, and with a testing machine for metals. There is a machine-shop at the station, where all repairs are made, and occasionally original constructions of considerable importance. Prior to the completion of the testing machine at Watertown Arsenal, all the metal employed in gun construction was tested here, and the specimens were here cut out and turned.

It is at the proving-ground that the various inventions presented by civilians from any part of the country are tested. The inventor, through his member of Congress, approaches the Secretary of War with his war balloon, his contrivance for firing dynamite shell, his improved projectile, sabot, or fuze, and is referred to the Chief of Ordnance, and by him to the Ordnance Board, which carefully examines the plans and specifications. Unless the device is palpably absurd, the inventor is then given the opportunity of a test.

The National Armory was established at Springfield, Massachusetts, in 1794. Excepting occasional experimental work, the only products of the armory are rifles, carbines, and side-arms. Pistols and Gatling-guns for issue are obtained by purchase, but they are inspected by officers and employés of the armory. In 1888 there were manufactured not to exceed 41,130 rifles and carbines, but it is stated that the armory can now turn out 1000 rifles per day. During the Rebellion, from 1861 to 1865, there were made at this armory 805,537 rifled muskets. One important result of the establishment of this National Armory should not be overlooked. The Government has here educated a class of skilled workmen, who have been distributed from time to time through the various private establishments in the country. These from their training

have attained a high standard of workmanship, which has placed our private manufactories at the head of this industry. Under this tuition have been developed the greater number of the labor-saving and accurate machines which are now universally employed in the fabrication of small-arms.

Frankford Arsenal, Philadelphia, was established in 1816. At the present time its productions are limited to the manufacture of ammunition for the rifle, carbine, pistol, and Gatling-gun, of fuzes, primers, and military pyrotechny. The powder used is obtained from private manufacturers, after inspection by ordnance officers.

Watervliet Arsenal.—In 1887 the principal fabrications at this arsenal were leather-work, harness, equipments, and accoutrements. Selected, however, that year by the Gun Foundry Board as the most eligible arsenal for the concentration of the Government plant, it is now one of the most important of ordnance establishments. Machinery was transferred from Watertown and from the South Boston Iron-works, and with the facilities already existing in September, 1888, its capacity was about fifty field-guns and one eight-inch and one ten-inch gun per year. As funds become available this plant will probably be increased, enabling the Government to make, in limited quantities, modern guns of at least twelve-inch calibre.

The Rock Island Arsenal was established as an arsenal of storage and repair, but from its inception it was hoped that it might be developed into an arsenal of construction commensurate with the requirements of the Mississippi Valley and the West. In 1865 General Rodman assumed command, and commenced the preparation of plans for the construction of an establishment which should be at once an arsenal and an armory. The buildings and equipments, the plans of which were somewhat modified after

his death, are now almost completed. Eight immense finishing-shops, one forging-shop and foundry, and one forging-shop and mill are now finished, and provided with every modern appliance. A large part of the stores for issue to the army are now made at this arsenal. These include horse equipments and cavalry accoutrements, infantry equipments, targets and supplies for target ranges, arm racks, and other like appliances.

The Watertown Arsenal, near Boston, Massachusetts, was established in 1816. The principal work undertaken there of late years has been the manufacture of field-guns and projectiles, the alteration of sea-coast gun-carriages, and the manufacture of various experimental siege and sea-coast guns.

The United States Testing Machine, the finest as well as the most elaborate machine in the world for testing the strength of materials, is located at this arsenal, and is in almost continual use on work connected with civil pursuits as well as for the Government.

Benicia Arsenal is important as the only manufacturing arsenal on the Pacific coast, and efforts have been made to increase its capacity. At the present time it is dependent upon other establishments for most ordnance supplies.

The method of appointment of officers to the Ordnance Department has resulted in its being filled by some of the brightest and most talented officers in the service. Among the young officers of the department are found those who by earnest application have mastered and become eminently proficient in the courses taught at the Military Academy or the colleges of the country, and who, having carried their habits of study and application into the army, have in the season provided for by law been examined and admitted into this important corps.

In this method of appointment it is claimed by its friends that the Ordnance Department is being recruited by much of the best material in the army. The nature of its duties and the constant emulation in these most important departments of supply among armies make this a source of gratulation to the American people.

The Signal Corps, as now constituted, can scarcely be said to be a part of the army, and its organization is well known.

### ARTILLERY SCHOOL

FORT MONROE, VIRGINIA

Though this school was established as early as 1824, when eleven companies of Artillery were ordered to take station at Fort Monroe to constitute a corps of Artillery instruction, yet the school, as such, existed in name only. No attempt was made at any system of recitation or study; but instruction was confined to practical artillery work, discipline, and such other exercises as should be practised at any well regulated Artillery post. Indeed, the institution was established as a school of Artillery practice, and was intended to supply a remedy for the evils which "inactivity and want of competition," consequent upon the wide dispersion of the Artillery troops in small garrisons along our extended frontier, entailed upon this diminished arm of the service. This gave to the Artillery the benefits of concentration, and these benefits were sufficiently manifest within two years to remove all doubt of the excellence and utility of the school.

The troops selected for the school represented all four of the Artillery regiments; some regiments furnished two companies and some three, so that by a system of rotation, all the Artillery companies could, in time, be brought under the established course of instruction.

In 1867 the school was reorganized and placed upon a new basis; it became a school in the true sense, where student officers pursued a prescribed course of theoretic instruction by recitation, and followed this by practical work in the field.

The system of to-day is essentially that of 1867, with such improvements in the methods of instruction as experience suggested, and such modifications of the curriculum as were necessary from time to time to keep pace with the progress of the times.

Prior to 1875 the course covered but one year; at that time it was changed and extended to cover two years, though no corresponding increase in the scope of instruction was introduced.

In 1878 Congress appropriated \$3925 for the purposes of the school equipment, etc., and since that time has appropriated \$5000 annually; this amount has been judiciously expended, so that now the school is fairly equipped in its various departments.

## THE PRESENT SCHOOL

### ORGANIZATION

“The Artillery school consists of the commandant, the directors of instruction, instructors, assistant instructors, and such officers, troops, and enlisted men as may be assigned to it for duty or instruction.”

The management of instruction is intrusted to the staff composed of the commandant, the two other field officers of Artillery stationed at the school—who are the directors of instruction—and the commanding officer of the Fort Monroe Arsenal; the adjutant of the post is secretary of the staff.

The instructors are selected at large from the Artillery arm on account of special fitness, and assigned to the charge of the different departments of instruction.

Five batteries of Artillery, one from each Artillery regiment in the service, are stationed here as instruction batteries. The captains of these batteries are instructors in practical tactics, discipline, etc., and remain permanently with their batteries, while the subalterns of each battery are the student officers from the regiment to which the battery belongs.

The garrison includes one extra battery, making a total of six batteries, but the officers of this are not in the class undergoing instruction. A band is also specially provided, and forms a part of the permanent garrison.

#### INSTRUCTION

The instruction is divided into two general departments; one for officers and one for enlisted men, the latter being naturally much simpler than the former, and a decidedly secondary object of the school.

Let us look first at the commissioned officers' department.

The class is composed ordinarily of twenty officers, four from each regiment, who are nominated by the regimental commander. A regular roster is kept, and those officers are detailed who have been longest off this duty. The custom has been to detail two first lieutenants and two second lieutenants; but as this operates to return some lieutenants who have been through the school, while leaving others with the regiment who have not had that advantage, it is probable that the custom will be modified so that four lieutenants, irrespective of rank, will be detailed. This will operate to send young officers

to the school within from two to five years after joining their regiments, a period best suited to the benefit of the individual and the interests of the school. The course covers two years, and but one class at a time is under instruction.

The members of the new class report on September 1st, when ten days are allowed for settling in their quarters and getting ready for work. On the 10th the course begins and continues until July 1st; on the 1st of September following the work is resumed and continues until July 1st as before, a short period of cessation being allowed at the discretion of the commandant for the holidays.

This covers all the time except July and August of each year, and these months are devoted to the regular Artillery target practice.

The day is divided into two recitation hours; the A.M., 9.30 to 12.30, and the P.M. from 2.30 to 4.30; dress parades and drills in season, take place after the P.M. recitation. Practical work in any branch of instruction is usually assigned to the P.M. hours.

The course comprises the following subjects, each covering the time set after it:

Engineering, 10 weeks (A.M. hour); Steam and Mechanism, 13 weeks (A.M. hour); Ballistics, exterior, forty-nine recitations (A.M. hour); interior, sixteen recitations (A.M. hour); Artillery, theory, 17 weeks (A.M. hour); Electricity and Submarine Mining, theory and laboratory, 13 weeks (A.M. and P.M. hour, alternate days); Military Science, 15 weeks (A.M. hour); Chemistry and High Explosives, 13 weeks (A.M. and P.M. hours); Cordage, 7 weeks (P.M. hour), Telegraphy, 25 weeks; Photography, 7 weeks, (P.M. hour).

In addition to the foregoing, which may be called the theoretical part of the course, Artillery practical exercises

are carried on through the entire two years. These comprise exercises in field guns, including machine guns; siege guns, howitzers, and mortars; sea-coast guns and mortars, and machines and appliances for moving heavy Artillery; Artillery firing practice: This latter includes firing at known distances and at unknown moving target, and with sea-coast guns and mortars, siege guns and howitzers, and mortars; field and machine guns. Instruction in Infantry drill, as well as the small-arms firing, is also carried on in appropriate season.

A graduating thesis is prepared by each member of the class upon some military subject assigned to him by the staff. The class is arranged according to order of merit, as determined by the staff from a consideration of the daily marks of the instructors, the examinations, essays, maps, etc. The staff notes in each department those student officers who are entitled to be "Distinguished," and also states the professional employments for which any of them seem to be specially qualified. Those officers who pass successfully through the entire course of instruction receive certificates, signed by the staff, setting forth their proficiency.

The compass of this article will not permit the mention of more details of this course of instruction; it may be remarked, however, that the course is comprehensive and thorough, as well as exceedingly well adapted to fit the student not only for his own arm of the service, but for the more general duties that may devolve upon an officer of the line.

#### THE ENLISTED MEN'S DEPARTMENT

The charge of this department is consigned to an officer or officers detailed by the commandant for the purpose.



ARTILLERY—A LIGHT BATTERY





Attendance is compulsory upon the non-commissioned officers, and optional with the privates. Upon completing the course and passing a satisfactory examination, each non-commissioned officer is entitled to a certificate of proficiency, which excuses him from further attendance. The course extends over two years, and comprises the following subjects :

#### FIRST TERM

The use of angle-measuring instruments, including quadrants, azimuth instrument, transit and protractor, plotting board in vessel-tracking, etc.; sights and sighting; implements used in mechanical manœuvres; adjustments of instruments used in target practice.

#### SECOND TERM

Tidball's Manual; gunnery; use and care of machine guns, etc.

#### THIRD TERM

Elementary surveying; lectures on permanent and field fortifications; practical work in field fortifications, constructing batteries, revetments, bridges, etc.; lectures on high explosives.

#### FOURTH TERM

Electricity: batteries, telegraph instruments, dynamos, etc.; transportation of Artillery on land and water; notes on military hygiene; practical instruction in moving boilers and engines in Artillery school shops; tactics, outpost duty, scouts, etc.

Examinations in this department are annually conducted by the staff of the school, or by committees thereof appointed by the commandant.

## GENERAL REMARKS

It should be remembered that the best military authorities advocated the necessity of this school at the time of its first establishment. To understand how much more important it is now, we have but to consider how immeasurably greater are the requirements of an artillery officer of to-day. The requirements are based upon the modern development of war appliances, the use of electricity, torpedoes, and dynamite, a knowledge of which involves a knowledge of many cognate branches of science heretofore considered as unconnected with the military art.

## METHOD OF INSTRUCTION

The method of instruction was and is still, to a large extent, by recitation; the need for this has passed away, and the school is rapidly approaching the system indisputably adapted to the class of students sent there, *i.e.*, the lecture system.

In 1867 many men who had gone to the war instead of the college and served their country with distinction, were assigned to the Artillery arm. These men lacked a fundamental knowledge of mathematics, especially in the higher forms, so essential to the pursuit of a scientific course; they lacked also the mental discipline and habit of study that might have been theirs had they continued their collegiate courses. Now all this has been changed. The student officers are, almost without exception, young graduates of the Military Academy, and as a result the study of mathematics has been dropped, and the time heretofore allotted to that preparatory study is now spent on the main objects of the school. In two of the courses recitation has been entirely abandoned, and it is doubtless

the intention of the present staff to go further in this direction. They are moving with wisdom, and hence with caution, towards this important change. It is even to be hoped that the change will go further, and result in an elective course at this school. This is an age of specialists, and we could perhaps better subserve the interests of our service by educating a special talent in one subject.

#### LIBRARY

The school library has received special attention from the staff of the school, and every effort has been made to improve its condition. The library began with a donation, many years ago, and has been added to from time to time as funds became available. It is essentially a military library, and comprises upwards of 4000 volumes of standard authority. The lighter books of romance, etc., have been removed from the library and consigned to the post reading-room for the enlisted men.

#### INFANTRY AND CAVALRY SCHOOL

This school, at Fort Leavenworth, Kan., was established in 1881, as a school of application for Infantry and Cavalry, "similar to that now in operation for the Artillery at Fortress Monroe." The Artillery school at Fortress Monroe was taken as a model, and the regulations governing there were to prevail until a new code could be prepared and approved; necessarily, then, this school is very similar to the one just described.

The school consists of three field officers of Infantry or Cavalry, such instructors and assistant instructors from the army at large as may be needed, and eight instruction organizations, four companies of Infantry and four troops

of Cavalry. In addition to these there is, of course, the class of student officers who are detailed one from each Cavalry and Infantry regiment in the service, and such other officers and enlisted men as may be sent there for instruction.

The headquarters of an Infantry regiment is habitually stationed at the post, and the colonel is the commandant of the school. This furnishes a band to the school for military exercises. The student officers are assigned to the different companies for regular instruction in duty and discipline, as the Artillery officers are attached at Fortress Monroe.

The staff of the school consists of the instructors in charge of the seven departments of instruction, hereafter to be mentioned, and their duties are analogous to those of the Artillery-school staff. A secretary of the school is appointed by the commandant; he acts as secretary of the staff, and is the custodian of school records, the school fund, and property purchased from this fund.

The school is divided into seven departments :

Department of Military Art, department of Military Engineering, department of Infantry, department of Cavalry, department of Law, department of Military Hygiene, department of Artillery (including a limited course in Ordnance and Gunnery).

## INSTRUCTION

The course of instruction embraces two years of study and practical exercises, each year constituting a term. The first term begins on September 15th, the second on September 1st, and both end on May 31st. The fifteen days from September 1st of the first term are allowed for the new class to get settled in quarters. The months of

July and August are devoted to practical exercises in the field.

The student officers are arranged in one class, and divided into sections of convenient size for the purpose of instruction. Daily marks are kept of the recitations, and student officers may be transferred from one section to another by the commandant upon the recommendation of the instructor. At the end of each week the instructors submit a report of the marks given to the officers under their instruction, and such marks are considered by the staff in determining the proficiency and standing of the students.

The studies embrace the study of text-books and recitations therefrom, supplemented by lectures and exercises in application.

#### EXAMINATIONS

Examinations are semi-annual, and are held in January and June, under the supervision of the staff of the school.

In determining the order of merit of the students in any branch, the daily recitation marks, the examination marks, and any essays, papers, maps, etc., that may have been required, are all taken into consideration by the board. In determining final order of merit, due weight is given to the proficiency of the student in field exercises; his ability to command, direct, and impart instruction; his soldierly bearing, and such other qualities as go to make up a good officer.

#### COURSE OF INSTRUCTION

Of the course of instruction but a brief general idea may be given.

The department of Military Art comprises eight differ-

ent parts, including strategy, tactics, grand and minor tactics, reconnaissances, military geography, etc. Under each of these heads the details are thoroughly studied.

Exercises in application also form one of the branches of this department, and under it the student is required to write an essay, and make drawings explaining in detail the attack and defence of a selected piece of ground assigned to him for the purpose.

The department of Engineering is divided into six parts, including topography, field engineering, field fortification, signaling and telegraphy, and building superintendence.

Under the first, instruction is given in the use of surveying instruments, and in making the various kinds of surveys, leveling, etc. Under the second, hasty intrenchments, defilade, and like instruction is given practically in the field. Under field engineering, bridge-building, and railroad-building, management, and destruction are taught. The other subjects indicate the scope of instruction given under them. The department of Law is divided into three parts: military, constitutional, and international.

Under the Infantry and Cavalry departments, instruction is given in the authorized tactics pertaining to these branches, as well as in Infantry field service, fire tactics, equitation, and hippology.

Under the department of Artillery instruction is given in the manual of field pieces, machine guns, mechanical manœuvres, ammunition, official courtesies, and the different systems of breech-loaders.

The student officers of this school may be either graduates or non-graduates of the Military Academy at West Point; but it is to the non-graduates that the school is specially beneficial. Many of these young men, appoint-



ed from civil life or from the meritorious list of non-commissioned officers, have had but an elementary education, and no instruction in the military art. Here they find opportunity to familiarize themselves with their profession, and acquire information and habits of study which prepare them for their subsequent duties, and put it in their power to become efficient army officers.

It is customary to send these young men to the school within two to four years after their appointment, if possible, and there teach them the rudiments of their profession early in their career.

#### LIGHT ARTILLERY AND CAVALRY SCHOOL

FORT RILEY, KAN.

By act of Congress, approved January 29, 1887, the Secretary of War was "authorized and directed to establish upon the military reservation at Fort Riley a permanent School of Instruction for drill and practice, for the Cavalry and Light Artillery of the United States. . . ." By the same act the sum of \$200,000 was appropriated for the construction of necessary quarters, barracks, and stables. Work upon the buildings was begun as soon as practicable, and we now have constructed a post creditable to the service, and entirely adequate to the purpose for which it is intended.

The post is divided into two parts; one for Cavalry and the other for Artillery, and both are well supplied with quarters, barracks, and stables. A riding-hall has also been erected, in which the troopers can be thoroughly instructed in horsemanship, and the various exercises pertaining to that branch of instruction.

All recruits for the Cavalry are required to be sent to this post, and, as a result, the mounted organizations are

to receive recruits well grounded in the duties pertaining to the horse. The school is not yet in full operation, it having been regularly established as recently as March 14, 1892, by orders from the War Department.

The order establishing the school requires that "the garrison shall consist of one regiment of Cavalry, such batteries of Light Artillery, not exceeding five, as may be found practicable, and such other officers and enlisted men as may be assigned to duty at the school for instruction."

The colonel of the Cavalry regiment is the commanding officer of the school, and he, with the field officers of the Cavalry and Artillery present, constitute the school staff.

The troops of each arm constitute a sub-school of practice, each under a director, who is the senior officer of the arm present, not including the commanding officer of the school. The adjutant of the Cavalry regiment is the secretary of the school.

The principal object of the school, as announced in the order establishing it, is instruction in the combined operations of Cavalry and Light Artillery. One-half of the school year is to be devoted to the instruction of the sub-school in its own particular arm; the other half to the instruction in combined operations. The schedule of each year's instruction is to be arranged by the staff of the school, but nothing has as yet been announced from this source.

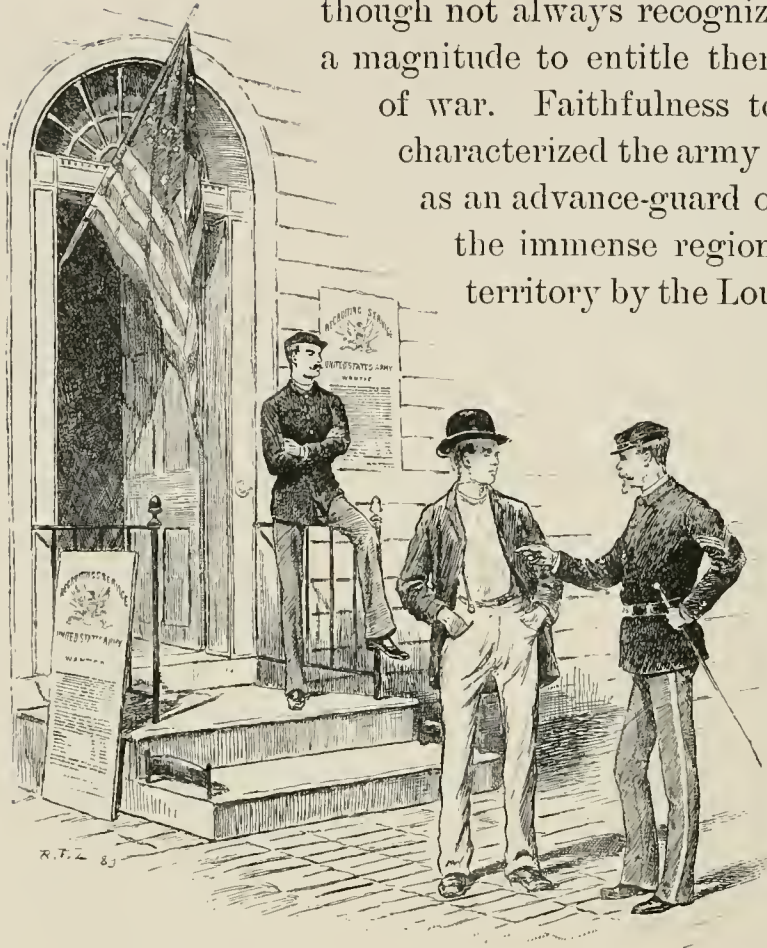
#### RECRUITING

With this hurried glance at its organization, we now proceed to consider the method of recruiting the line of the army.

The recruiting of the army depends on voluntary enlist-

ment; the term of service is five years. In all the principal business centres of the country, on a side street near one of the main thoroughfares, the recruiting office may be found. It is designated by an American flag not too ostentatiously displayed, and is generally up one flight of uncovered stairs. In front of the doorway in favorable weather a neat, dapper, well-dressed man in blue, with brass buttons, stripes on trousers, and chevrons on closely-fitting, well-made blouse, may be seen; this is the recruiting sergeant. And while none of the wiles known to the English recruiting sergeant in securing recruits are supposed to be practised by him of the United States army, he undoubtedly paints the service to the inquiring seeker after military glory in as rose-colored tints as his views of fair dealing will permit. The first inquiry as to the candidate is regarding his physical fitness for the service. To determine this he is critically examined by a surgeon of the army. This examination also involves his habits, and as far as possible his character and past record. If everything is satisfactory the candidate is received as a recruit, is dressed in the fatigue uniform of a soldier, and despatched to the rendezvous at Jefferson Barracks if he enlists for the cavalry, or to Columbus Barracks or David's Island if he chooses the infantry or artillery. At the rendezvous he is taught his duties, and is drilled to a fair state of soldierly perfection, after which he is assigned to his regiment and conducted to his new home on the frontier.

Here for more than half a century, with the exception of the period of the Civil War, the greater part of the regular army has been employed in keeping the peace between the Indians and whites. This has required military operations of more or less importance, which have at all times been attended with bloodshed and loss of life,



THE RECRUITING SERGEANT

though not always recognized as attaining a magnitude to entitle them to the name of war. Faithfulness to its trusts has characterized the army in all this work as an advance-guard of civilization, in the immense regions added to our territory by the Louisiana purchase

and the war with Mexico. It stood guard over the scattered and meagre improvements of the pioneer long before and during the time that thousands of miles of railroads were being built, and when the only

lines of travel were the trails of millions of wild animals now nearly annihilated. In this time cities numbering thousands of inhabitants have replaced the rude habitations of the frontiersmen, and the walls of hundreds of manufactories stand where a few years since the Indian pitched his tepee unmolested.

In recent years much has been done to popularize the army with the young men of the country. By new regulations a soldier may be discharged under certain conditions after three years' service upon his own application, or he may purchase his discharge under regulations made

in the interest of those who have good reasons for engaging in other pursuit. In addition to these advantages in the case of legitimately severing his connection with the army, everything possible has lately been done to improve the daily life of the soldier. He is furnished with good clothing, excellent food, means of amusement, school advantages which, in addition to liberal pay and prospects of promotion equal to those of any profession, open to young men of the country a most desirable occupation. A term of service, judiciously spent in the army, is an advantage to a young man, second only to a university course. It improves him physically, broadens his mental view, and fits him to compete in life with the educated and enterprising. Some of the most successful men in the western country are among those who have served a term of enlistment in the army. They are proud of their service and grateful for the advantages it has brought them. No young man not having superior advantages need now hesitate to adopt the army as an experience which will increase his opportunities for success in any profession.

#### THE ARMY AS A NATIONAL POLICE

Any characterization of the occupation of the army which fails to refer to its services in maintaining order as a national police is not complete. True, the intervention of the army has not often been necessary, but the occasions when it has been called on, and the manner of efficient work, show how much the knowledge of its existence alone does in keeping turbulent spirits quiet.

The particulars of the riots of 1877 are now matters of history. They commenced in West Virginia and Maryland, reaching their greatest fury in Pennsylvania, and

spread throughout the Middle States and the West. The civil authorities were unable to contend with them, and in the three States above mentioned the State Executives called on the President for assistance from the army. In other States threatened, as in Indiana, Kentucky, Ohio, Illinois, Missouri, New Jersey, and New York, United States troops were present to protect the property of the general government, and their presence undoubtedly saved communities from depredations.

It is not necessary to enter into calculations as to what might have occurred if the power of the army had not been invoked. It is a fact that wherever the army was, in even the smallest force, the mobs were awed into silence and quietness, and peace, without the destruction of property or loss of life, was established; and where the army was not, the reverse occurred. The blood shed and property destroyed were not the only injuries resulting from the success of the turbulent elements. A graver danger threatened the thousands of residents in the larger cities, resulting from the paralyzation of traffic and the failure of supplies.

The riots threatened for about a month, and in some parts of the country the presence of troops was required for a much longer season. The Executives of States and officers of corporations, without dissent, bore testimony to the efficiency of the army, wherever present, in quelling disturbances, and this effectively and without loss of life or property. Could the better classes of those who commenced the troubles have expressed themselves, they would undoubtedly have joined in commending the methods of the army, for

“If it were done, when 'tis done, then 'twere well  
It were done quickly.”

## THE RELATION OF THE ARMY TO THE MILITIA

From whatever point of view the operations of the army are discussed, whether as a force to defend the country against foes from without, to fight Indians and compel their obedience to the laws of civilization, or to maintain the domestic peace of the nation, one fact is prominent above all others, and that is that our army has not been, and is not now, of adequate strength. The changes which have taken place in the science of war render an increase imperative.

The militia of the United States will answer well the purpose of a "second line" in case of war with a foreign power, but it is not now, and never has been in the first days of war, fit to take the field. This may not be a popular view to take of our citizen soldiers, but it is a fact that not one single circumstance in all our experience as a nation contradicts. Our Civil War was with an enemy as deficient as ourselves in instructed soldiers, and during the first year of the war there was not a battle fought where half the number of regular soldiers would not have defeated both armies united. In saying this in regard to the militia it is not intended to underrate the material of which it is composed. In my opinion there is not an army in the world that could defeat an equally strong American army, prepared with proper drill and discipline. But these take time, and neither ukase of Czar, bull of Pope, nor act of Congress can make an army without them.

It was not till one year after the commencement of the Rebellion that we had an army prepared to take the field, endure the hardships of a campaign, and fight battles; but from that time on, supplying fresh material from the farm, the shop, and the office, we had till the end as good

armies as the world ever saw. But if we are involved in war with a foreign power a year's time will not be given us to prepare.

The war between France and Austria (1859) lasted two months, and that between Austria and Prussia (1866) lasted little more than a month. The Franco-Prussian war of 1870, in which the territory of the French was completely overrun, their capital and central city besieged and captured, and the nation made to pay a ransom such as modern statesmen had not dreamed of, was finished in a little more than half a year. The war between Russia and Turkey, with its sieges of fortified places and severe battling at the passage of rivers and mountain ranges, was concluded in much less time than one year. In other words, no war between the war-making powers of Europe in the last thirty years has occupied the time it would take to prepare the best reserves we have for the field.

It is easy to understand why the militia are not efficient for war. The merchant cannot go into court and conduct an intricate law case to a successful conclusion, nor can the mechanic prove a successful tradesman. Enthusiasm and patriotism will not only not gain battles, but may add to the gravity of disaster; and experience shows that in the midst of hardships in the field and the terrors of battle they soon disappear, succumbing to the thousand and one reasons which present themselves to the mind why one should rather be at home supporting those who are dependent on him than in the field following a trade he has never learned, and in regard to which he has been deceived.

Then when battles come, and disasters follow, there is an accord in the disposition to make excuse—"incompetent generals," "overwhelming numbers," "masked batteries," and "Black-horse Cavalry," any or all these, with



a thousand and one consequences, such as being "cut to pieces," "overwhelmed and demoralized," and other imaginary features, figure with themselves and with their friends at home to account for defeat. This was not only so in the commencement of the Civil War, but the same things were heard from individuals in the army of France during the war with Germany. As the unfitness of untrained soldiers is more marked the more difficult war-making becomes, it is certain that the militia will be even less efficient in the future with the changed conditions of war.

An English authority on this subject says: "Formerly we depended on the perfect drilling of our men; henceforward it is upon the efficiency of battle training and fire discipline we shall have to rely. Unless our regiments be first-rate in both those points we can no longer hope for victory, although they may be able to march past like a wall, and go through the most complicated barrack-yard evolutions with the utmost precision."

It is said that even in the German army, perfected as it was for war in 1870, numerous mistakes in troop-leading and tactics were made. What is claimed for this army is that its discipline is so perfect that the officers and men learn by actual experience in battle how to avoid and how to repair their mistakes, and apply these lessons at the time. The state of preparation which permits this concedes an amount of drill and discipline of which the best-trained soldiers in our army have never dreamed.

It is no part of the purpose of this paper to enter into the details of the changed conditions of war, or the modifications which they necessitate in the modern army. It is enough to say that the officer must be as intelligent and brave as heretofore, and more than this, he must be a student, and devote his time to his profession as has hith-

erto been required of those who hoped to succeed in the law or in medicine. The days for the devil-may-care, happy-go-lucky leaders of forlorn hopes have passed. An accomplished authority has declared that armies are no longer machines—they are living organisms; and the leaders of men in the line of the army must know all about tactics, and must not be without a knowledge of military science in its higher applications. The heavy lines in battle have disappeared. Fighting must hereafter be done in dispersed order. The shoulder-to-shoulder movements, under fire, which gave confidence to the recruit standing side by side with the veteran, will not be known in the successful armies of the future, but the dispersed order, where the individual discipline of the poorest soldier in the shock of battle is the measure by which the strength of armies must be tested.

There is one reflection with which the people of this nation may be gratified, and that is that the material it possesses for the war-making of the future is superb. The pluck, intelligence, and self-reliance inherent in the Anglo-Saxon are the qualities which, properly handled, must make the best soldier for the modern army. But while we have the metal in the crude state, it needs reducing and refining to become the stuff of which armies are made.

As it seems to be the policy of Congress not to increase the army to the strength thought necessary, it remains to devise the best means open for the Government to prepare, without an increase of the army, for the exigencies of war. The suggestions made by those who have studied this subject all look to an expansion of our present organizations for the purpose. With a view to this the infantry regiments should be given an organization to consist of three or four battalions, with a corresponding increase of

officers. Then the details of the expansion could be easily carried out, and our small army augmented to over 100,000 men, composed in its increase of those who had seen service of one kind or another. Such an army might be strong enough to combat the advance of any foreign army which could be thrown on our shores, and the militia in volunteer organizations would form a "second line."



THE STANDING ARMY OF GREAT BRITAIN



IN England, from time immemorial, there has been an instinctive dislike and distrust of a standing army.\* In days gone by it was commonly regarded as a menace to what we believed to be our inherited liberties. When "divine right" carried real power with it, our kings generally understood when it was necessary to give way with a generous grace to all just and strongly expressed popular demands. The strong and wise knew when to concede; the weak, foolish, obstinate, and shallow seldom perceived when the time had arrived for concession. The Tudor sovereigns belonged to the former, the Stuart kings to the latter class. Charles I. strove long and gallantly to coerce his people by means of an army, which, it may be said, was furnished by the landed gentry. Cromwell, one of the very greatest of our rulers, governed the country by means of an army with a grasp and power which no sovereign since his day could pretend to wield. His standing army of about 80,000 men was, I think, by far the finest in every respect that we know of in modern history. His government was essentially military, and the civil rights of the community were ignored when they clashed in any way with the army exigencies of the moment. In this respect Charles II. would have liked to follow in his footsteps, but he lacked the spirit and courage to make the attempt, nor did he possess the self-abnegation which failure would have entailed. His great dread always was

\* This was written in 1888-89, but the figures have been corrected to 1892.

that he might have to begin again those "travels" which were associated in his mind with everything that made life miserable. His brother, James II., less wise, but more obstinate and daring, openly strove to rob the people of their civil and religious liberties by means of the standing army he had collected ostensibly for the suppression of Monmouth's rebellion. He was driven from the throne by William III. and his Dutch troops, backed up by a combination of those who then possessed most power in England, and, above all things, helped by the influence which Lord Churchill was able to exert over that very standing army in which James had placed so much reliance. Had the Prince of Orange failed—and I believe he would have failed if Churchill had thrown his conscientious scruples about Protestantism to the winds—James would certainly have ruled despotically without a Parliament by means of a standing army, as Cromwell had done.

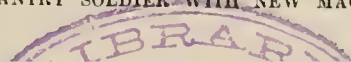
All through the reign of William III. the people evinced the greatest jealousy of the troops he kept constantly under arms. The nation was determined he should have only a few battalions to guard his person, and to garrison the scant number of fortified places on the coast we then possessed. Ungenerous as this conduct was towards a prince to whom they owed so much, with the events of the Commonwealth and of James II. so fresh in their recollection, it is little wonder that our forefathers should have had so great a dread of a permanently embodied army. This dread became an inherited prejudice with the English people, and continued to be an article of national belief long after the danger which gave it birth had entirely disappeared.

To this prejudice was added, later on, a strong dislike to an establishment whose members were governed by laws on entirely different lines from those under which





BRITISH INFANTRY SOLDIER WITH NEW MAGAZINE RIFLE





the civil community existed. Then, again, the officers were drawn almost exclusively from the sons of peers and the landed gentry—an exclusiveness that did not add to its popularity. The idea of a military caste, separated from the general body of the people, was extremely distasteful to all classes. The debates in Parliament, when it was first proposed to build barracks for our soldiers at home, instead of having them billeted upon the public-houses, indicate the prejudice which then existed against the army, and the objections entertained against any measure which tended to widen the gulf already existing between the soldier and the citizen. In fact, until lately, the soldier has never been permanently popular in England, whatever might be the feelings towards him in moments of great national danger. The following doggerel has always been only too true :

“When war is rife and danger nigh,  
 ‘God and the soldier’ is the people’s cry ;  
 When peace is made and all things righted,  
 God’s forgot and the soldier slighted.”

It was the creation of the Volunteer force which first gave the British soldier any good and permanent social position. That force so well represents all classes that its respect for the army on which it was modelled, and by whose members it was drilled and trained, has caused the soldier to be now regarded everywhere with general interest.

It is a curious fact that the objects for which our army exists have never been clearly defined. Its original purpose was the defence of the realm, to which was subsequently added that of aiding the civil power to maintain law and order. In the preamble to the annual “Mutiny Act,” which governed the army until the passing of the “Army

Act" in 1880, it was stated how the "raising or keeping a standing army at home in time of peace, unless with the consent of Parliament, is against law." It then recorded the decision of Parliament, "that a body of forces should be continued for the safety of the empire and the preservation of the balance of power in Europe." This policy of the "balance of power" had, I may say, been invented by William III., and the reference to it which I have quoted was retained in the preamble to our military code until 1868, when it disappeared forever.

The early history of our oldest regiments would be a history of England between the military but glorious rule of Cromwell and the accession of the house of Hanover. It would be impossible to attempt here even any bare recital of those regiments' names and titles. Two regiments of Foot and one of cavalry had their origin in our acquisition of Tangier as part of poor Queen Catharine's dowry. In the reigns of Charles II. and James II., and for many reigns afterwards, most of our foot regiments consisted of only one battalion of from six to sixteen companies. In peace these companies were often reduced to only fifty men each; but, as a rule, the company was composed of one captain, two lieutenants, two ensigns, three sergeants, three corporals, two or three drummers, and one hundred privates. The captain when on duty carried a pike, the lieutenants partisans, the ensigns half-pikes, and the sergeants halberds. In each company of a hundred men thirty were armed with pikes fourteen feet long, sixty with matchlock muskets, thirteen with firelocks, and all carried swords besides. Not until 1745 were the swords taken from the private infantry soldier. In 1678 a grenadier company was added to all regiments, each man of which carried a fusil with slings, and a bayonet, a grenade pouch, a hatchet fastened with a girdle, and a cartridge-box.

This use of the grenade by the infantry soldier was continued only to the end of the seventeenth century. The peculiar dress and special arms, etc., of these men are thus referred to in the old and well-known song of the "British Grenadiers."

"Then let us crown a bumper,  
And drink a health to those  
Who carry caps and pouches,  
Who wear the looped clothes ;  
We'll give it from our hearts, my boys,  
We'll give it with three cheers,  
Then huzza, huzza, huzza, huzza,  
For the British Grenadiers."

Although grenades soon fell into disuse, the companies concerned continued to retain their name of grenadiers until quite recent years. The men in the Grenadier Company were selected as being the tallest in the battalion, just as those of the Light Company were chosen for being the smartest, best drilled, and best shots in it. The flank companies of each battalion were thus composed of selected men, and during war it was a very common practice to form those of each Division or Brigade into one or more choice battalions. Altogether, this system of flank companies was a bad one, for in order to form two good companies in each battalion the remaining companies were almost emasculated. It exists no longer, but we perpetuate the name in the very old regiment now known as the "Grenadier Guards."

The pikemen and musketeers wore round hats with broad brims turned up on one side, not at all unlike the present full-dress hat of the United States army. The grenadiers wore fur caps with high crowns, and crests made of fox tails. Evelyn in his diary mentions seeing this newly raised arm during a visit he paid to the camp

at Hounslow in 1678. He says, "They had furr'd caps with coped crowns like Janizaries, which made them look very fierce, and some had long hoods hanging down behind, as we picture fools. Their clothing being likewise pybald, yellow and red."

The practice of clothing soldiers, by regiments, in one uniform dress was not introduced by Louis XIV. till 1665, and did not become general in our army for many years afterwards. It is, however, curious to note, that for the hard marching and many bodily exercises which fall to the soldier's lot on active service, our army was more suitably dressed in the reigns of William III. and of Queen Anne than it has been generally this century. We have lately done something to improve our style of soldier's dress, but no men tied up as ours are in tightly fitting tunics can do a satisfactory day's work during war. We dress our sailors for the work they have to do, but we still cling to a theatrical style of garments for the soldier. There are, however, some difficulties attached to this question of dress in an army raised, as ours is, on a system of voluntary enlistment. We must make the soldier's clothing acceptable to the men who have to wear it, and, strange to say, they like very tightly fitting coats and trousers, to swagger about in with their sweethearts. They like those ridiculous forage-caps stuck on the side of their heads, and which are no protection from either sun or rain. I suppose the house-maid "Jill" prefers her soldier "Jack" in this outlandish costume, for in no other way can I understand why the wearers should like such tawdry and uncomfortable finery. The change hoped for generally is that we should have two costumes—one for active service and field manœuvres, of the color we use in India—it is a light tawny, resembling that of the hare—and fitting very easily everywhere, especially about the throat; the other,



CROMWELL AT MARSTON MOOR

scarlet and very smart, and ornamented with braids and buttons as at present, to satisfy the young soldier and his "Mary Anne." In all our recent little wars we have used a special dress made for the occasion, and what we now want is to make that special dress the undress uniform of the army. Is there any one outside a lunatic asylum who would go on a walking tour, or shoot in the backwoods or the prairies, trussed and dressed as the British soldier is? This applies to all ranks, for I confess to a feeling that the dressed-up monkey on a barrel-organ bears a strong resem-

blance to the British general in his meaningless cocked hat and feathers of the last century, and in his very expensive coat, besmeared both before and behind with gold-lace.

From Queen Elizabeth's time to that of William III., each company carried a color, and the company was, in consequence, styled an "ensign." The latter monarch reduced the number of colors to three per regiment—one for the pikemen in the centre, and one for the grenadiers and musketeers on each flank. Each arm had thus its own color in the event of its being separated from the others. In Queen Anne's reign the number of colors was reduced to two, at which it still remains. Modern arms of precision, and the tactics they have rendered necessary, have, however, struck a death-blow at the use of colors in action. The color in the German army has been reduced to a pole, for when the silk part faded away and disappeared in the course of time, it was never renewed. This color-staff can be easily carried in action without attracting an enemy's attention, while our large silken colors cannot be so. We give each regiment and battalion new colors when the old ones are worn out, and consequently we have been forced in all our recent little wars to leave our colors behind. The general who would condemn any one to carry a large silk standard under a close musketry fire ought to be tried for murder.

Until the days of Frederick the Great our men always stood on parade with their legs somewhat apart, as all ordinary human beings do when standing still. It was then we introduced the grotesque absurdity of standing with heels close together. A child can push over sideways the tallest soldier when standing in this unnatural and constrained position. Until we go back to the ordinary habits of man as regards his natural movements, we shall



never get as much out of the soldier as he is able and willing to give the nation.

When James II. came to the throne our standing army numbered about 20,000. The population of England was then about 5,000,000—that is, one soldier to every 250 people. Now the proportion is 1 to about 183.

It was our wars with France which made us a nation. It would seem that constant pressure from ever-present danger is required to consolidate the foundations on which alone true, sound nationality can be built up. The history of those wars is a proud record for the English-speaking race of all countries. But although our reputation for courage and dogged determination has been high in all ages, I think that our present military renown may be said to date no further back than to the victories of Marlborough. For centuries we have plumed ourselves upon the glorious events of Crecy and Agincourt, but it was Marlborough who first showed Europe that England could not only produce stout soldiers, but also able generals to lead them. William III. was found great fault with because he preferred to employ Dutch to English generals; but the accusation was unfair. With the exception of Marlborough, we had no man then capable of conducting a war. The science of war had not been studied in England, and even its arts were very imperfectly known. In Charles II.'s time we had to send to Holland or to France when we required a general.

Until political faction had undermined Marlborough's reputation he was generally popular, and his popularity rested very much on the fact that he was the first Englishman who had distinguished himself abroad as a general; indeed, the first great English military leader since the regicide Cromwell. Marlborough showed astonished Europe that an English army, led by English officers,

could triumph over the veteran armies of France, led by the ablest marshals of Louis XIV. It may be said with all truth that the military spirit which characterized our army under Wellington, and which still animates her Majesty's troops, was born at Blenheim.

Military service has never been very popular with the English people. Even in Anne's reign, when Marlborough's victories gave glory and lustre to our arms, recruits were obtained with much difficulty. The jails were often emptied to send the prisoners as soldiers to Spain or Flanders. During Marlborough's glorious decade the press-gang was at work everywhere; all justices of the peace were authorized to use it. Only those who had votes for Parliament were exempt from its dreadful clutches, and the power it gave was often shamefully abused.

We now obtain as many recruits as we require, and they are quite as good as those we used to obtain thirty years ago, or at any period during this century. No one can have a higher opinion of our rank and file than I have. Varied recollections of their daring valor when greatly outnumbered, their uncomplaining endurance, unquestioning obedience, and their devotion to Queen and country, endear them to me with the strongest ties. It is because of my regard and affection for them, as well as on public grounds, that I long to see all bad characters, and those who have no love for their trade, driven from the army. But to enable this to be done, a solid increase to the pay of the private soldier is indispensable. Without such increase we can never hope to compete for the best men in the open labor market. The number of recruits we required annually was very small during peace, when men enlisted either for life or twenty-one years. The few who joined a regiment during the year could be easily hidden away in the rear rank until they "filled out" and grew to



R. Cowley Woodville.  
1669

OFFICER OF THE GUARDS IN THEIR FIRST AFRICAN CAMPAIGN (TANGIER, 1686)



be men. We cannot do this now, for every corps requires from three to four times as many recruits as formerly, and the consequence is, battalions at home are so drained annually to supply trained soldiers to the foreign battalions of their own regiments that they consist almost entirely of young striplings. In the seventeenth and eighteenth century wars the men forced into the army by the press-gangs were kept as long as the Crown had use for them ; but those who enlisted voluntarily were engaged for only two or three years, or, still more commonly, for the duration of the war. Men have, very naturally, always had a great repugnance to engaging for long periods ; and even with the high bounties we offered during the great war with Napoleon, we could only obtain lads so young and unformed as to be unfit for the fatigues of active service in the field. Whenever in our history we have experienced difficulty in obtaining the number of recruits required, we have invariably made it a practice to reduce the period for which the man was asked to engage. For instance, during the Crimean war we were glad to enlist mere boys—we could not obtain men—for two years. A short-service system is therefore nothing new in our army. How much men prefer short periods of enlistment was proved a few years ago when the numbers in our brigade of Foot Guards fell off very seriously. We could not obtain suitable recruits, so the period of service with the colors was reduced to three years, and with the best results. The brigade filled up to its establishment in a few months. There has been a great deal of a very misleading character said and written about our adoption of a short-service system, but the fact is, it was forced upon us. We could no longer keep the army up to its establishment under the old system ; so, if for no other reason, we should have been compelled to reduce the term of service with the colors. But

there was another and a very cogent reason, namely, the necessity of creating an army reserve. To have left the army any longer without a good reserve would, in our next big war, have inevitably led to a military collapse and failure similar to that which we experienced in 1854-55 when at war with Russia. When our little army perished before Sebastopol, chiefly through the ignorance of the ministry which had sent it there, we had no troops in reserve to replace it. That lesson sank deeply into the minds of all thinking soldiers, and, as a consequence, the creation of an effective army reserve had long been called for. The subject was never grappled with in any practical fashion until 1870, when Mr. Cardwell put it in the fore-front of the army reforms he meant to carry out.

You may collect together in a few months a great mass of armed men that will do to fight another mass of men similarly organized and constituted, but all experienced soldiers know how ridiculous it would be to send newly-raised and untrained levies into action against a well-established regular army. As no State could afford to keep permanently under arms all the soldiers it would require for a serious war, the present system of army reserves has become general, and such reserves can only be obtained by a well-regulated short-service system. Our present system of Army Reserve is not satisfactory. The men are never called out for training, nor are they ever inspected to see that they are fit for work, or even in the country. To drill them for a fortnight every two years would cost money, so it must not be thought of. This is on a business par with the man who bought an expensive engine to protect his house from fire, but who would not pay the few shillings annually for the oil which was necessary to keep it in working order.

The present establishment of the British standing army



R. Caton Woodville.  
1889.

OFFICER OF THE GUARDS IN THEIR LAST AFRICAN CAMPAIGN (METEMNEH, 1886)





(all ranks included) is as follows: cavalry, 20,896; infantry, 141,602; artillery, 35,902; engineers, 7420; colonial troops, 5239; departmental corps, 9702; staff of militia and volunteers, 6934; and miscellaneous establishments, 857. This gives a total of, say, 228,000 of all ranks. The First Class Army Reserve now consists of about 80,000 men, which, added to this total, gives a grand total for our standing army of, say, in round numbers, 308,000 men. The number of horses and mules—officers' chargers not included—is 25,871, of which a very small proportion are mules. The law forbids us ever to exceed by one man or horse at any time throughout the year the establishment fixed annually by Parliament; so, with an army scattered all over the world, it is practically impossible to keep it actually up to that fixed number. As a matter of fact, we are generally now about one thousand under our establishment. Our number of field guns on peace establishment is 600, to which 36 guns would be added upon the mobilization of the army.

Of this army 72,648 British soldiers, 11,303 horses, and 318 guns are in India; 36,126 men and 947 horses are abroad elsewhere; the balance being at home.

In addition to this, we have an Indian regular army of 21,700 native cavalry, 109,000 native infantry, and 2000 native artillery, all under the command of 1411 British officers. With the exception of 48 mounted guns, all the artillery in India is now English. From these figures it will be seen that of the army with which we hold India, not more than 36 per cent. are English, while 64 per cent. are natives.

This article deals only with our regular army, but still it would be absurd to make no allusion in it to the yeomanry, militia, and Volunteer forces. I shall not attempt any description of them, but will content myself with giv-

ing their numbers. The actual strength—all ranks included—of all the military forces of the Crown is as follows:

## REGULAR STANDING ARMY

	Total of all Ranks
At home.....	114,931
Abroad.....	108,774
First Class Army Reserve.....	80,000
Militia Reserve for Regular Army.....	30,000—333,705
Yeomanry Cavalry.....	11,000
Militia, exclusive of Militia Reserve.....	108,000*
Volunteers.....	260,000—379,000
Native Army of India.....	134,100
Grand Total.....	<u>846,805</u>

Besides the numbers here given there are about 800,000 men who have been trained as Volunteers, one-quarter of whom, it is calculated, would be available for the defence of the country if the emergency were great. I do not profess to enter upon the strength of the military forces maintained by Canada, Australia, and our other colonies, but they are of great importance. Their importance will be fully recognized by the world whenever God in His mercy is pleased to send us a statesman wise enough and great enough to federate and consolidate into one united British Empire all the many lands and provinces which acknowledge Queen Victoria as their sovereign.

The organization of our infantry of the line is based on the theory—I regret it is still only a theory—that one half of the battalions should be at home, the other abroad. This balance is, however, often disturbed, for many years together, by foreign complications—the occupation of Egypt, for example; but the measures prescribed by our military system to meet these contingencies are never

\* Includes Channel Isles militia.

carried out by any government. The reason for this unbusinesslike departure from our accepted military system is, that to readjust that balance would require the addition of some battalions to the army, and would consequently entail expense, owing to the somewhat larger establishment of men we should require. The result of this



BENGAL LANCERS—INDIAN NATIVE CAVALRY

false economy is, that our whole military machinery is always seriously strained, and that, in order to make "both ends meet" we have to send young and immature youths to fill up the annual wear and tear of our battalions abroad.

This expedient leads to increased mortality, more young soldiers in hospitals, a larger number sent home annually for discharge as invalids, and consequently a larger number of recruits to take their places. These broken-down and starving creatures, who are to be found in our workhouses and as beggars on every highway, bring the army into disrepute among the classes from which we obtain recruits. There never was a more cruel or a more short-sighted or a more unbusinesslike policy than that of sending immature youths to do the work of men soldiers in India and in other very hot countries. But until the home establishments have been augmented, and the balance restored between the number of battalions abroad and those at home which have to annually supply the former with drafts of trained soldiers, our present vicious, dangerous, and unbusiness-like practice will have to be continued. The British soldier is now enlisted for twelve years, seven of which, if at home, and eight if in India, are spent with the colors, the remainder as a civilian in the First Class Army Reserve. In our departmental service we seldom keep the private soldier more than three or four years, the remainder of his term of twelve years being passed in the army reserve. In the Foot Guards, also, the men are only enlisted for three years' color service. Those household troops never go abroad during peace, so there is no difficulty in carrying out this very short service system with them. It is very much to be regretted that we cannot extend that system to the whole of the army. It would vastly in-

crease the popularity of our military service if we could do so.

A far larger proportion of well-to-do men enlist now than formerly. The advantages which the non-commissioned officer enjoys, both in pay and pension, are at last beginning to be generally known, and men enlist for the career thus offered to all well-behaved and fairly-educated men. Many sons of gentlemen also enlist now in the hope of obtaining commissions. Fifty-three sergeants became officers in 1886; in 1887 the number was fifty-one; and in 1888, up to September 1st, forty-five commissions were given to men from the ranks. In one regiment not long ago the colonel told me he had thirty sons of gentlemen in the ranks, whose influence he assured me had improved the tone of the whole regiment. A large proportion of these young gentlemen come from those who have failed to obtain commissions by competitive examination. The pay of a private soldier of a line infantry regiment—which is the smallest man's rate of pay in the army—is 1s. per diem. In addition to his pay he receives a daily ration of three-quarters of a pound of meat and one pound of white bread. During peace everything else he requires as food he has to purchase from his daily pay. When on active service he is well fed free of all charge.

There has been a great deal of nonsense talked and written of late about the insufficiency of the soldier's food. The fact is, he gets plenty to eat, but he has to pay for much of it out of his own pocket. Examine any corps on parade, and the plump, ruddy appearance of the men will prove how well he is fed. In addition to the daily rations, which I have already described, every company mess purchases tea, sugar, milk, vegetables, etc., at a daily cost of about  $3\frac{1}{2}d.$  to each man. Most men also buy in their canteens beer, hot sausages, butter, jam, and

other luxuries. In his recreation-room the soldier can be served at all hours with good tea, coffee, bread-and-butter, etc. The question for the Government to consider is how much of the soldier's daily food is to be paid for by the State.

Except when on guard or other duty, the soldier is generally master of his own time after 3 o'clock P.M. He has to be in barracks at 9 or 9.30 P.M., according to the season of the year, but all fairly behaved men can obtain passes to stay out till midnight, to go to a play or other late amusement.

Every well-behaved soldier begins to draw 1*d.* a day extra as good-conduct pay when he has been two years in the army. For every year that he serves with the colors he earns £3, which is given to him in a lump sum when he passes into the reserve at the end of seven years' service, or whenever he is sent to the reserve on public grounds before that period. He thus takes away with him into civil life a little capital, which helps him to establish himself in some business. While in the First Class Army Reserve he receives 6*d.* per diem, and when the full term of twelve years for which he enlisted has expired, if he be a good soldier, he can re-engage in the Supplemental Reserves for four years more, receiving pay at the rate of 4*d.* a day. Of course while in either of these reserves he is liable to be recalled to the colors at any moment in the event of war.

Those who are allowed to re-engage to complete twenty-one years' army service, at the expiration of that time receive pensions, the lowest of which is 1*s.* per diem. If, when discharged, they are non-commissioned officers, they obtain pensions for life of twice, three, and even four times what the private soldier is given. No man can now become a sergeant unless he passes a good educational examination.



John Woodville  
1889.

THE DUKE OF MARLBOROUGH ON THE MORNING OF MALPLAQUET





The necessity for amusement is fully recognized in our army, and regimental officers do a great deal to amuse and make their men happy. A love of cricket, foot-ball, quoits, and all other manly out-of-door games is fostered in every corps, and the officers join freely in them with their men. This does much to maintain the good feeling and comradeship between officers and privates, which has always been strong in our army. I am sorry to say that much yet remains to be done by the Government in the way of making the men's barrack-rooms more habitable and comfortable. More light in the evenings and far better fires in the cold weather are required. We cannot expect men to sit night after night in their present cheerless, comfortless, and dreary sleeping-rooms, for with us the soldier has his meals in the room where he sleeps, and where he is also supposed to sit with his comrades at night. An excellent canteen, and a recreation-room are, however, now provided in almost every barrack. They are entirely self-supporting institutions, and all profits earned by them are spent for the benefit of the soldier. In fact, these institutions are very much like ordinary clubs. In the latter the soldier can have good extra meals, and in the former plenty of beer on payment. He has bagatelle and billiard tables; plenty of books and newspapers are provided for his amusement; and in many places there are good barrack theatres for private theatricals. Fives courts, skittle-alleys, and quoit-grounds are also to be found in most barracks. Altogether, his life is by no means a bad one, and he has enjoyments and amusements and creature comforts unknown to his brother in civil life.

The present standing army may be said to date from the reign of King Charles II., although some few of the oldest regiments claim, and with justice, to date back to

the previous century. Cromwell's army, which was disbanded at the Restoration, was certainly the best, most disciplined, most sober, and most highly trained army we have ever had in England. The reason for this is easily understood. Whereas at present we make no attempt to compete in the great labor market for others than the youngest and poorest hewers of wood and drawers of water, Cromwell paid his men so well that he induced those best suited for a soldier's life to join his ranks.

He fixed the pay of the private soldier of the remodelled parliamentary army considerably above the rates paid them for ordinary labor, and so attracted to his ranks a class of men morally and physically superior to those who have since then composed the bulk of our army. If now we would only offer as pay and rations what the United States soldier receives we should obtain all the recruits we want, a far larger number of eligible men would seek to enlist, and we could then afford to be more fastidious and particular as regards the health, strength, moral qualities, and social position of those we enlist. Such a proposal would, of course, shock the regular Treasury official; but I verily believe it would, in the long-run, pay the nation hand over hand to do so. Not only would such a system provide us with a far more efficient army than any we have had since Cromwell's time, but in the end it would be an economical plan. We should save large sums in both our hospitals and prisons. Fewer men would be annually enlisted with such weak constitutions that they break down in the first year's training, or are sent home early in their career as invalids from foreign stations, to fill our hospitals and increase our pension list. We should have far fewer men in prisons all over the world, for we would enlist no suspicious characters, and a bad man found out would be at once dis-

charged. The annual loss from these causes would be less, and consequently we should require fewer recruits annually. I am certain it would pay us well to give every soldier at home and abroad, when at his duty, 6*d.* a day at least in addition to his present pay, and to make his barracks comfortable by lighting and heating them properly. This is a big question, but it is one which well deserves the serious attention of the people, and unless they take it up seriously, no ministry is ever likely to do so.

The charms and romance of a soldier's life, the variety of scene and incident which army service affords to all ranks, will never fail to attract the roving, adventurous, and ambitious spirits of all classes. But the supply from this source is not large enough or sufficiently constant during peace for our wants. The better classes, who now only enlist in small numbers, would flock to the army if we could protect them from the undesirable associates to be met with in all barrack-rooms under our present system of low pay. At present we only offer boy's wages, so, as a rule, we only obtain boy recruits. It ought not to require much genius or brains to understand that a standing army only about 220,000 strong, more than one-half of which is always abroad, cannot be in a healthy or effective condition that has to absorb annually into its ranks between 30,000 and 40,000 young lads, and that has to send abroad every year about 19,000 or 20,000 trained soldiers to maintain the corps in our foreign garrisons at their established strength. Our best officers who have most studied the question tell us that the army at its present strength cannot effectively fulfil the many duties imposed upon it at home and abroad.

Under our present short-service system we require annually from about 25,000 to 40,000 recruits. Of those who present themselves for enlistment, we reject for vari-

ous medical reasons from about 50 to 55 per cent. If we offered the British soldier the same pay and rations that are given in the United States army, the number of desirable young men anxious to enlist would be so much larger than at present that we could afford to reject a larger percentage than we do. That extra percentage of rejections would cover all the cases of doubtful physique which we are now forced to accept in order to keep our ranks full. The physical standard for our recruits is higher than for any other European army; but as a man's age is not to be ascertained by his teeth, we are obliged to accept the ages stated by the men themselves. We are supposed to accept only those between the ages of eighteen and twenty-five, and in order to protect the army as far as possible against youths below the minimum age, we have laid down what we assume to be its fair physical equivalents. If the recruit possesses them, he is accepted; but, as might be expected, we are often taken in by youths under that minimum age.

To somewhat alleviate the evils attendant upon this unfortunate system of boy recruits, Parliament, I rejoice to say, has forbidden any to be sent to India who, if under twenty years of age, have not been one year in the army. Had Parliament gone thoroughly into the matter it would, I think, have fixed that period at two years instead of one. Putting aside altogether the inhumanity of sending immature lads to India and other tropical climates, common-sense tells us how much wiser and more economical it would be to send there none but trained men soldiers. To do this would require an addition to the army establishments at home; an increase which sooner or later we must have for defensive purposes if our coaling stations abroad, and our coasts at home are to be rendered secure.

We pride ourselves upon being a practical, business-like



R. Sadler Woodville  
1879

ROYAL HORSE ARTILLERY LIMBERING UP



people, and so we are in our private concerns; but as a government we are often short-sighted and penny-wise and pound-foolish about the army. The present administration has done much to supply our military shortcomings, but much still remains to be done. Until public opinion forces us to keep the army sufficiently strong to enable it to properly discharge the duties imposed upon it with due regard to the health of the men, and until we deal with our soldiers on the business principles on which the United States treat theirs as to food and pay, short of resorting to some form or other of compulsory service, it is impossible that it can ever be as efficient and as useful as it ought to be. At present we are like the "jerry" builders who use poor materials—soft deals, for example, where there should be seasoned oak. The officers must, however, do the best they can with the raw material supplied them by the State; that it is not as good as it should be, and that they are not permitted to keep it longer to season in England, is not their fault. They do their best to let the people know the truth; they cannot do more.

Because our army is so small for the amount of work it has to do all over the world, it should be composed of first-class materials only. It should have the best men as soldiers, and the best arms and equipment that money can purchase. There may be two opinions as to what its numbers should be, but there is no one silly enough to say we should be content with boys instead of men; with obsolete guns and rifles in place of the best modern weapons. If the army were governed upon a purely military system, upon common business principles, it would soon be for its numbers the finest in Europe, which it certainly is not at present, and the gain to the nation would be incalculable.

Thanks to the enlightened views on army matters entertained by the late Prince Consort, the army was provided

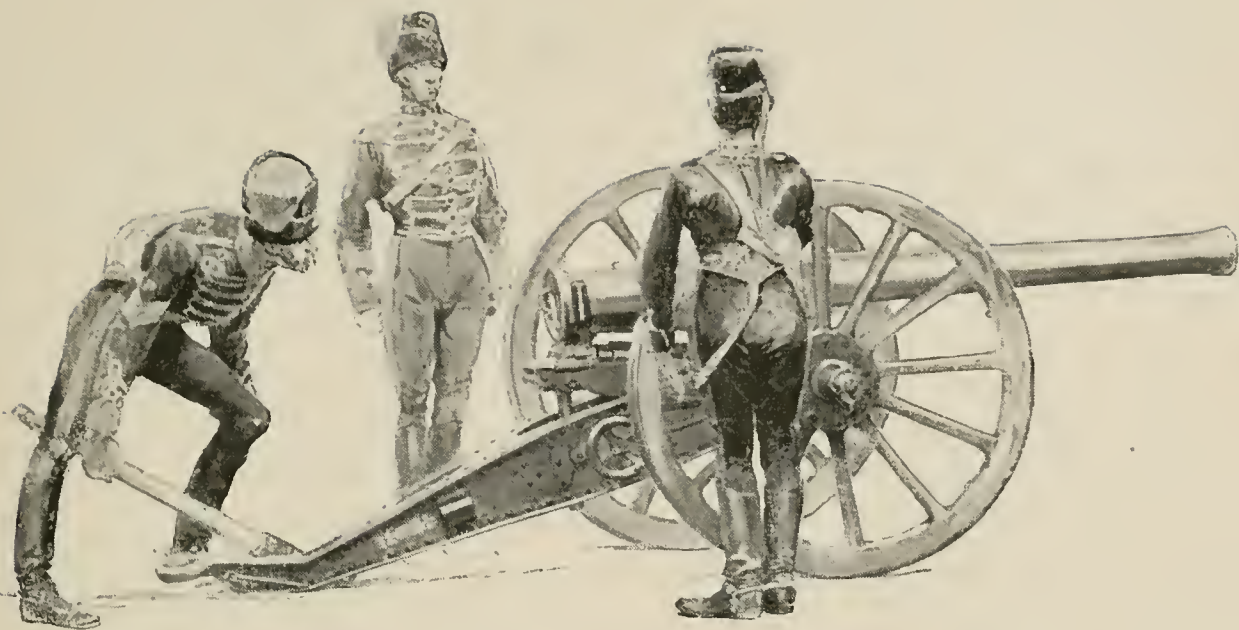
with a rifle musket in 1854. We were thus well ahead of the French, Russians, Turkish, and Sardinian armies in the Crimea. At present we have in use the Martini-Henry rifle, an excellent arm, but now being replaced by a superior magazine weapon. The new arm is of 0.303-inch calibre, and is believed to be equal to all and superior to most of the magazine arms now being adopted by other European nations.

The armament of our field artillery still leaves much to be desired. If we mobilized now for the defence of the kingdom, the Volunteer field artillery would turn out with guns of three calibres, some loading at the breech, others at the muzzle, and all different from the guns of the standing army. This is and has long been our condition, although the most ignorant soldier is well aware of how pregnant with disaster in battle such a condition of things must be.

I leave all experienced soldiers to estimate the confusion, possibly ending in disaster, which this medley of breech-loaders and muzzle-loaders of many different calibres would entail had we now to mobilize all our military forces to fight for our national existence.

The command of the army is vested in a general officer. He is controlled in all his actions outside the military training of the troops by the Secretary of State for war. He may point out that the forts for the protection of our ports and arsenals and dock-yards are badly and insufficiently armed, and that the garrisons of our foreign fortresses—without the aid of which our fleets could not in these days of steam keep the seas—are dangerously small. But not only has he no power to correct all this, but his opinions on these subjects of life and death consequence to the empire are not made known to the people. In fact, the British nation has no recognized means of ascertaining





*R. Caton Woodville*  
1879

THE NEW TWELVE-POUNDER BREECH-LOADING FIELD GUN

what its best soldiers and sailors think of the strength and state of the army and navy. It is content to take the opinion of whosoever may be the two civilian ministers whom the accidents and exigencies of the party government have for the nonce made responsible for those two great services.

Our system of military administration has been growing more and more civilian in character since the days of Wellington. Then, the Commander-in-chief had far more power and influence in the decision of military questions than at present. Then, the supply of guns, arms, ammunition, and of all sorts of military materials was in the hands of an officer selected on account of great experience in war. He was styled the Master-general of the Ordnance. He was a member of the Government, and often a cabinet minister. He was, in fact, the adviser of the Government on all military matters. That office was abolished, and at

present all this duty of supply, which requires great technical training and military experience, is relegated to a civilian member of Parliament. Soldiers don't think the arrangement a good one.

Our army has far greater practice in war than that of any other nation. At this moment we may be said to have three little wars on hand, besides having a number of officers engaged in the defence of Suakin, which is besieged by the Arabs.\* If there were a temple of Janus in England, it would seldom be closed, and never for long. While the armies of other European powers can only gain annually some insight into war with the blank ammunition fired during autumn manœuvres, Queen Victoria's soldiers learn their lesson with ball-cartridge fired in real warfare, and with almost annually recurring regularity. It is the varied experience, and frequent practice in war, provided for our officers by the nature of our wide-extending empire, which makes them what I believe them to be—the best in the world. A far larger proportion of them know the sensation of being under fire than those of any other army. Other things besides this frequent practice of war also contribute to make the English officer what he is. He belongs to the class which has at all times been the backbone of the nation. As an English gentleman, he is by birth what we believe to be the representative of all that is noblest, most manly, brave, and honorable in human nature. His innate love of sport in every form drives him to the remotest corners of the earth. You will find him climbing Alpine mountains, crossing Swiss glaciers, tiger shooting in Bengal, hunting lions in equatorial Africa, or other big game amid the snows of Thibet. To ride well to hounds is one of his cherished ambitions, and,

\* This was written in 1888–89.

as a matter of course, he loves cricket, polo, and all manly out-of-door games. All these experiences train him to a self-reliance unknown to the men of other nations. In fact, the British officer is by birth and education the natural leader of the British private, who has the same sport-loving instincts. The officer of to-day is a far better soldier in every way than his predecessors of thirty or forty years ago. In future it is intended only to accept men as officers on probation. The period of this probation is to be three years, and if at the expiration of that period, or at any time within it, the young officer be found wanting in zeal, energy, ability, tact, or character, he will be ruthlessly discharged. The nation cannot afford to pay useless officers, and, above all things, it must not allow them to be intrusted with the lives of gallant soldiers.

There are and long have been two distinct schools of thought in our army. One of pure and simple conservatism, whose articles of faith are based upon the fact that our army under Wellington overthrew, time after time, the finest armies of France. This school flourishes almost exclusively among our older officers. The other, the young school, wishes to make the army a profession, and has "progress" for its motto. The men of the new school wish to see every encouragement given in the adoption of new ideas, while all that is best in the sentiment and tradition of our old army is retained. They wish to see the able and hard-working officer selected for promotion, and the stupid and lazy passed over. This is the system we have long followed in making our non-commissioned officers, and it answers admirably. The young school want to know why it is not followed in the promotion of officers? The system of cold seniority kills all emulation, and is a serious bar to all efficiency. The young school want to have the army ruled and administered upon sound

and simple business principles. Our ancestors gave up the long-bow when it grew out of date, and we have in this century given up the use of the flint musket, with which so much of our military glory was associated. We now begin to recognize that all our old-fashioned stiff dress and formal drill would be as much out of place on the field of battle of to-day as the cross-bow would have been at Waterloo. We see that it is now necessary to train the army for war instead of, as heretofore, drilling it for parade. We have at last awoke to the conviction that we must cease to train our men for a condition of warfare that we can never see again, for war will not conform its procedure to the picturesque notions we had formed of it from field-days and from the pages of Napier. We must closely study in the history of recent wars what battles now are really like, how they are conducted, how they are lost and won, and train our soldiers for those new conditions.

Armies to be efficient must not stand still, and ours, which is so very small, and has such wide extending duties to perform, can least afford to do so.

THE GERMAN ARMY OF TO-DAY



## I.—MILITARY CONSTITUTION OF THE GERMAN EMPIRE

**A**FTER the close of the war of 1870–71, from which Germany came forth as a national unity, it was desired that visible expression should be given to the latter by a uniform organization of the German military forces. The necessary provisions have been embodied in the Imperial Constitution of April 16, 1871.

Its first article provides that all German States shall constitute a federal territory under the name of the "German Empire," over which the King of Prussia presides as "German Emperor." The Emperor has the power, in the name of the empire, to declare war and to conclude peace; a declaration of war, however, being subject to the consent of the Federal Council, composed of representatives of the members of the federation, except in case of an invasion of the territory of the federation or its coasts.

The entire land forces of the empire form a union army under the command, in war and in peace, of the Emperor, who has the power and whose duty it is to see to it that every part of the army is complete in numbers and in fighting trim, and that uniformity is established and preserved as to organization and formation, armament and equipment. The Emperor also regulates, by way of imperial legislation, the active strength, formation, and distribution of the several contingents composing the imperial army.

In conformity with the treaty of federation of November 23, 1870, the above-cited provisions do not apply to Bavaria, the Bavarian troops, however, being pledged to render in war-time unconditional obedience to the orders of the commander-in-chief of the federation. The Bavarian army, therefore, forms a distinctive contingent of the imperial army, with an entirely independent administration. While her army budget is not submitted to the consideration of the Reichstag, Bavaria has pledged herself to expend for her army the same amount proportionally as is *per capita* appropriated by federal legislation for the remainder of the federal army. Regarding formation, strength, armament, and equipment, the Bavarian army corps are perfectly assimilated to the other army corps.

Unless otherwise provided by distinctive conventions, the reigning princes of the federation appoint the officers, and are themselves the chiefs of the military contingents belonging to their own territories.

The military relations of the several States are regulated by distinctive conventions. While Saxony and Würtemberg put up an army corps each for herself, the other contingents are amalgamated with the Prussian army.

All expenses for army purposes are included in the budget for the maintenance of the empire, and any savings made on army appropriations do not revert to the different States, but invariably to the imperial treasury.

While the most important provisions of the Military Constitution are thus contained in the Constitution of the Empire, additional provisions, such as to the strength in peace-time—that is, the number of men actually kept under arms and forming the peace army, their organization and completion, discharge from service, and service



relations of those absent on furlough—are contained in the military law of the empire of May 2, 1874, which has been repeatedly amended in the course of time. By its original provisions the peace strength was placed, up to December 31, 1881, at 401,659 non-commissioned officers and men (not including officers and one-year volunteers); this number was increased, after April 1, 1881, to 427,274; after April 1, 1887, to 468,409; and after October 1, 1891, to 486,983 men. Adding to these 22,000 officers, surgeons, and bureau officials, and also 7000 one-year volunteers, we have a total strength of 516,000, which is still 30,000 less than the force which the French Republic deems absolutely necessary to keep constantly under arms.

In reference to distribution and organization of the imperial army, the amendment to the military law of the empire, passed January 27, 1890, provides that an army corps shall be formed of two or three divisions, with the corresponding artillery, pioneer, and train formations, and that the entire land forces of the German Empire shall consist of twenty army corps, of which Bavaria furnishes two, Würtemberg and Saxony one each, while Prussia, together with the remaining States, puts up sixteen army corps. For military purposes the territory of the empire is divided into nineteen corps districts (*Bezirke*), the Prussian guard corps recruiting throughout the whole Kingdom of Prussia.

A comparison of the peace strengths of the armies of the Continental powers of Europe shows that Germany stands but third on the list, and keeps a smaller number of men under arms than either Russia or France, while it has a stronger peace army than Austro-Hungary or Italy. The number of troops kept in active service by the above-named powers in time of peace is shown by the following exhibit, giving the different figures for October 1, 1890:

	Battalions Infantry.	Squadrons Cavalry.	Field Batteries.
Russia.....	1029	687	405
France.....	561	420	480
Germany..	538	465	434
Austro-Hungary.....	458	252	241
Italy.....	346	144	207

## II.—LIABILITY TO SERVICE

Every German is liable to service, and in the performance of this duty no substitute is allowed. By adhering to this principle, which has sprung up in Prussia under the necessities of a grave time, but was accompanied by brilliant success, a people's army has been created in the truest acceptance of the term. Exempt from compulsory service are only the members of the reigning or formerly sovereign houses, to whom this exemption has been secured by distinctive treaties, who, however, without exception, deem it proper to enter the army.

The liability to service commences with the completion of the 17th year, and ends with the 45th year of a man's life. The time is divided between service in the ranks and in the defence of the country (Landsturm). During his liability to service every German has to serve in the ranks, generally from the 20th year of his life up to the 31st of March of that calendar year in which he attains the age of 39. This period is subdivided into active service in the ranks, the Landwehr, and the Ersatz reserve. All liable to service, but not enrolled for active duty in the ranks, are subject to Landsturm duty. Unqualified for duty are those not capable of bearing arms or undergoing the hardships connected with the military profession; all criminals are excluded from the honor of belonging to the army.



GENERAL AND STAFF OFFICER

During the time a man belongs to the army he serves 3 years in the ranks, 4 in the reserve, then he belongs for 5 years to the first levy of the Landwehr, up to his 39th year to the second levy of the Landwehr, and, finally, up to his 45th year to the Landsturm. The time of active service in the ranks is reduced to one year in the case of young men of education and means, who bear all expenses of clothing, equipment, and support, and pass a certain examination; also in the case of graduates from teachers' seminaries, who, in the interest of public education, may be allowed to pass into the reserve after a short instruction in the usage of arms, generally confined to a period of only six weeks.

Not all the men, however, enrolled for three years' active army service are kept continually under arms for this whole period. As the strength of any troop must under no circumstance be exceeded, and the number of recruits is generally larger than the number of men whose regular term expires, a select number of such men as excel in conduct and training receive their discharge in the second year at the close of the fall manœuvres, and are placed at the disposal of their troop.

The Ersatz reserve is made up of such as have not been enlisted, either because of being above the required number of men, or of having been found only conditionally fit, owing to some physical infirmity. The term of service in the Ersatz reserve is 12 years, after which these men are subject to Landsturm duty up to their 45th year. They may be called out in case of mobilization, or in order to fill up the army, and for the formation of depot troops (Ersatz Truppen). The duty of the Landsturm, finally, is to take part in the defence of the country. The Landsturm is called out by imperial order.

Voluntary entry into the army is permitted at the age of 17 years; these young men have the privilege of choosing their own garrison and troop. Some regiments recruit chiefly from such volunteers, as, for instance, the Ziethen Hussars.

The number of recruits to be raised every year is determined by the Emperor, according to the demands made by the different parts of the army, and this number is apportioned among the several States of the Federation in proportion to their population. Recruits are generally enrolled in the same army corps district in which they are raised. An exception from this rule is made in the case of the Prussian guard corps, which is recruited throughout all Prussian provinces and Alsace-Lorraine, and to

which are assigned recruits of superior personal appearance and behavior. The recruits raised in Alsace-Lorraine are at present assigned to Prussian regiments.

The entire forces of the reserve, Ersatz reserve and Landwehr, continue beyond the term of their active service to be subject to the control of their respective district commanders, so that the abode, occupation, and number of men on leave residing in any one district can be ascertained at any time. The reservists have to take part in two field exercises of 8 weeks' duration each; the Landwehr men of the first levy in two of 2 weeks' duration each. Neither the Landwehr of the second levy nor the Landsturm is called out in times of peace. Those assigned to the Ersatz reserve have to participate in three exercises covering together a period of 20 weeks.

The institution of the one-year volunteers, originally introduced in Prussia, and afterwards adopted by all large armies of the Continent, requires some remarks explanatory of its importance and peculiarity. The reduction in the active army service from three years to one implies unquestionably a privilege for certain classes of the population which is not otherwise recognized in the organization of the German army; yet it is just as unquestionably in the interest of the people that the studies of those striving for a higher standard of learning in the professional branches should not be interrupted by a full term of three years.

A young man may be enlisted as one-year volunteer either upon passing a scientific examination, or by producing a certificate of maturity issued by one of the specially authorized educational institutions attesting his qualification for one of the upper classes of a high school or college. The one-year service may be rendered in the ranks of any troop of the choice of the volunteer, or

among the pharmacists of the sanitary corps. Medical students desiring to enter the sanitary corps have to serve six months under arms, and after their graduation six months more in the capacity as non-commissioned or under-surgeon. Having afterwards been elected military surgeons, they may be passed into the reserve. All other one-year volunteers, so far as they are qualified by general education, military ability, and zeal, are trained for the rank of officers of the reserve or Landwehr. They



JÄGER

receive, accordingly, particularly careful instruction, both theoretical and practical, and at the close of their term of service, and upon passing the officers' examination, they are assigned to the reserve as reserve officer *aspirants*. As such they have to render active service in two exercises of 8 weeks' duration each, for the purpose of further training for the rank of officer. The appointment to this rank depends, firstly, upon the civic occupation of the applicant, which must command a respect corresponding to that due the rank of an officer; secondly, upon an election by his comrades.

The expenses connected with the service of one-year volunteers are by no means inconsiderable, and may be estimated at 1500 marks in the infantry, and from 1600 to 2000 marks in the cavalry and field artillery, as service in the latter arms requires extra contributions for the use and maintenance of the troop horses. In exceptional cases, and on proof of indigency, a few one-year volunteers may be supported at public expense, and allowed to lodge in the barracks.

### III.—COMPOSITION OF THE ARMY

#### A.—THE WAR MINISTRY

The executive organs of the administration of the army are the War Ministries at Berlin, Munich, Dresden, and Stuttgart, for the Prussian, Bavarian, Saxon, and Würtemberg contingents, headed each by a general officer of superior rank as War Minister. The War Ministries regulate and conduct all affairs regarding the completion, maintenance, armament, and administration of the military forces and war materials. There is no War Ministry of the empire, all orders of the Emperor, as well as newly prepared or altered regulations, being conveyed through

the Prussian War Ministry to the War Ministries of the other States, by which they have to be put in force in their armies. The Prussian War Ministry at Berlin, having a *personnel* of 390 officers and officials of every rank (in the French War Ministry more than 800 officers and officials are employed), is, therefore, the centre from which issue all measures of organization and administration. Its work is divided among the Central Departments; the General War Department, comprising the army, fortification, and foot and horse divisions; the departments for financial management, invalids, and armament, and the supply and medical divisions.

Besides, there are a number of other boards and institutions under immediate orders of the War Minister, who has also to represent the army in the Reichstag.

#### B.—THE MILITARY CABINET

In Prussia all affairs relating to the *personnel* of officers and military officials are attended to by the Military Cabinet, which is placed directly under the Emperor, and forms a distinctive division of the War Department. Its chief is the Adjutant-general of the Emperor and King; he has to submit to the decision of the supreme commander all matters relating to appointments, promotion, and discharge of officers, also applications for pardon made by military persons.

#### C.—THE COMMISSION FOR THE DEFENCE OF THE COUNTRY

This commission has to examine into and consider all questions touching the erection, completion, or abandonment of forts, as also more important questions of organization and training. It receives its orders from and reports to the Emperor directly. After his retirement from the position of Chief of the General Staff, General Field-





INFANTRY IN MARCHING ORDER



marshal Count von Moltke was placed at the head of this commission. His successor is General Field-marshal Prince Albrecht of Prussia, Regent of the Duchy of Brunswick.

#### D.—THE GENERAL STAFF

The Chief of the General Staff of the Prussian Army occupies an independent position, co-ordinate to the War Minister, and responsible for the conduct of his office to the Emperor directly. He is assisted by three quarter-masters-general, who, in case of war, are appointed chiefs of the general staffs of the chief commanders of armies. There is no exclusive corps of general staff officers, these being selected from the standing army, into which they return after a number of years' service on the general staff.

In the field the general staff has to attend to all matters touching the movement, quartering, and engagement of troops, and to the drawing up of orders. The officers of the general staff are the assistants of the generals commanding to whom they are assigned. They must be possessed, besides clearness of thought and perspicuity of expression, of the gift of quick conception, of indefatigable working faculties, and of a high degree of military training. Their duties are extensive and arduous, but of a thankful character.

In peace the majority of general staff officers are engaged at work at the Great General Staff of the army at Berlin, which is divided into a department of military history, four departments for the study of foreign armies and seats of war, and the railway division. On the last devolves the disposition of all matters relating to the use of railways by military forces. The remainder of the general staff officers are detailed to the army corps and

divisions. A special branch of the Great General Staff is serving purely scientific purposes. Under the immediate supervision of the Chief of the Great General Staff are placed the Railway Brigade, the survey of the empire—comprising the trigonometrical, topographical, and cartographical divisions—and the War Academy at Berlin. Into the last, officers especially recommended for ability and zeal are admitted after passing an appropriate examination. During a course lasting three years they receive a careful training in the military and auxiliary sciences, which qualifies them afterwards for appointment on the general staff as aides-de-camp or teachers. The attendance at this academy is, however, not an indispensable condition for admission to the general staff. The number of officers detailed to the latter is about 300.

Bavaria has her own military academy at Munich; Saxon and Würtemberg officers participate in the course of the Prussian academy.

The Chief of the Great General Staff of the army is General Count von Schlieffen, who in February, 1891, succeeded Count von Waldersee, who had, in 1888, been promoted to this eminent position as successor of General Field-marshal Count von Moltke, to whose genius the army owes the splendid organization of this training-school for superior army officers.

#### E.—THE MILITARY INTENDANCIES

Upon the military intendancies devolves the duty of regulating all matters relating to the maintenance, payment, and quartering of the troops. In war they have also to provide for food, either through organized conveyance from home, or by off-hand purchases, or, in case of necessity, by requisition.



UHLANS



## F.—DISTRIBUTION OF THE IMPERIAL ARMY

The army of the German Empire consists, as mentioned before, since April 1, 1890, of 20 army corps. With a few exceptions, the troops of an army corps are garrisoned within the army corps district, and complete themselves from the latter. The Prussian guard corps has no corps district of its own, and is recruited generally throughout the monarchy. The army corps in Alsace-Lorraine receive their complement chiefly from other sections of the empire, while the recruits raised there are distributed among regiments of other corps districts. With the exception of the guard and the two Bavarian army corps, all other army corps are known by continuous numbers from 1 to 17. Their principal forces are stationed and headquarters located as follows :

## GUARD CORPS (BERLIN) AT BERLIN AND SURROUNDING TOWNS

1. Army Corps (Königsberg) East Prussia.
2. “ “ (Stettin) Pomerania.
3. “ “ (Berlin) Brandenburg.
4. “ “ (Magdeburg) Prussian Province, Saxony.
5. “ “ (Poseu) Province Posen.
6. “ “ (Breslau) Silesia.
7. “ “ (Münster) Westphalia.
8. “ “ (Coblenz) Rhine Province.
9. “ “ (Altona) Schleswig-Holstein, Mecklenburg-Schwerin, Mecklenburg-Strelitz, free cities of Hamburg, Lübeck, and Bremen.
10. “ “ (Hanover) Province Hanover, Oldenburg, Brunswick.
11. “ “ (Cassel) Province Hesse-Nassau, and the Grand Duchy of Hesse.
12. Royal Saxon Army Corps (Dresden), Kingdom of Saxony.
13. Royal Württemberg Army Corps (Stuttgart), Kingdom of Württemberg.
14. Army Corps (Karlsruhe) Grand Duchy of Baden.
15. “ “ (Strassburg) Alsace.

16. Army Corps (Metz) Lorraine.
17. " " (Danzig) West Prussia.
1. Bavarian Army Corps (Munich) Bavaria.
2. " " " (Würzburg) Bavaria.

In peace the army inspections are formed by the different corps, as follows :

The 1st, 2d, 9th, 10th, and 17th army corps form the 1st Army Inspection, at Hanover.

The 5th, 6th, and 12th army corps form the 2d Army Inspection, at Dresden.

The 7th, 8th, and 11th army corps form the 3d Army Inspection, at Darmstadt.

The 3d, 4th, 13th, and the two Bavarian army corps form the 4th Army Inspection, at Berlin.

The 14th, 15th, 16th, and 17th army corps form the 5th Army Inspection, at Karlsruhe.

The army inspectors are :

For the 1st Army Inspection, General Field-marshal Prince Albrecht of Prussia.

For the 2d Army Inspection, General Field-marshal Prince George of Saxony.

For the 3d Army Inspection, Grand Duke Ludwig of Hesse.

For the 4th Army Inspection, General Field-marshal Count von Blumenthal.

For the 5th Army Inspection, Grand Duke Friedrich of Baden.



UHLAN TRUMPETER



An army corps is headed by the general commanding, who has charge of all the troops and of the forts within his corps district, and is responsible to the commander-in-chief for the condition and training of his forces. He has also to see to the maintenance of peace and order in his district. The power exercising the highest authority in an army corps is called the General Command, the business of which is conducted, under the supervision of the general commanding, by the chief of the general staff of the army corps. The latter is assisted by two or three officers of the general staff, two or three aides-de-camp of the rank of field officers or captains, the judge-advocate of the corps for conducting the courts-marshal business, the surgeon-general of the corps, the veterinary surgeon of the corps, and the corps chaplain for attending to military-clerical affairs. The intendants have charge of all administration business.

Not all army corps have the same composition. Each of the army corps, from the 1st to the 10th, and from the 13th to the 17th, consists of two divisions, besides the artillery, pioneer, and train formations, while the 11th and 12th army corps have each a third division, which bear the numbers 25 and 32. The latter forms part of the Saxon army corps, while the former represents the contingent of the Grand Duchy of Hesse. Likewise the 2d Bavarian corps has a strength of three divisions. Each division, except those of the guard corps, consists of two infantry brigades and one cavalry brigade (the first division having two of the latter). An army corps, furthermore, comprises a field artillery brigade, a battalion of train, and a battalion of pioneers, the last, as also the garrison artillery, located within a corps district, being subject merely in a territorial meaning to the corps command.

The Prussian regiments and independent battalions are

known—besides their regular number, and, in case of the cavalry, by the description of arms, whether cuirassiers, hussars, or uhlans—by the name of the province from which they are recruited.

By order of the commander-in-chief a number of Prussian regiments and independent battalions bear the names of princes and prominent generals, for the purpose, as it is expressed in the order, “of honoring and keeping alive for all time the memory of his [the King’s] ancestor’s resting in God, and of such highly merited men as stood by their side in peace and in war, and by their distinguished services acquired just claims to a grateful remembrance by King and fatherland.” A few regiments were also given names of families who have excelled by furnishing for long years an unusually large number of their members to the army and to prominent positions in the same.

#### G.—INFANTRY

The infantry is the principal arm of the army, not only in regard to numbers, but for its capacity of being employed at any time and in any country. It forms, consequently, the principal part of the army, and is organized, since October 1, 1890, in 538 battalions, of which 519 are comprised in 173 regiments, while 19 are forming independent Jäger battalions. The number of infantry regiments contributed by Prussia is 133; Bavaria, 20; Saxony, 12; Würtemberg, 8; and of Jäger battalions by Prussia, 14 (including the guard Schützen battalion); Bavaria, 2; Saxony, 3.

The regiments are differently described as infantry, fusileer, grenadier regiments, also a Schützen regiment in the 12th army corps, but they do not differ in armament, training, and employment. The names of fusileers, gren-



DRAGOON



adiers, and Schützen have merely a historical meaning. In point of fact the infantry in the German army is a unity, which extends also to the rifles, although they have preserved some peculiarities. The Prussian rifle battalions are mainly recruited from professional rangers and foresters, who, as a rule, engage for eight years' active service, whereby they establish a claim for employment in subordinate positions in the Government forestry service.

A regiment has three battalions, each battalion four companies. The regiment is headed by a colonel, each battalion by a staff-officer as battalion commander, each company by a captain as chief of company. For internal service the company is divided into inspections under the supervision of lieutenants, and in corporals' guards under the guidance of non-commissioned officers.

To the infantry belongs also the training battalion at Potsdam, which is attached to the guard corps, and to which officers, non-commissioned officers, and men from all infantry troops except the guard and Bavarian corps are detailed, generally for a period of six months. During winter the training battalion is reduced to the size of a company.

Among the men levied for the army, only such are mustered into the infantry as are able to bear arms and the fatigues of marching. They must have a height of at least 1.57 metres (61.8 inches). The most alert men are assigned to the rifles. For active service under arms each battalion draws annually 230 recruits if it is kept on the higher, 200 if on the lower standard.

#### II.—CAVALRY

The cavalry is the only branch of the German army which has not been increased since the Franco-German

war ended. The authorities consider the present strength of 93 regiments, or 465 squadrons, sufficient for all the duties devolving upon this arm in times of war, which are principally reconnoitring, watching the movements of the enemy, and pursuit, leaving a sufficient force available when the use of large bodies of cavalry appears necessary during a battle. Germany has more cavalry than any other European power, Russia alone excepted; the latter, counting in the Cossack formations kept under arms in peace-time, has 116 squadrons more, while France has 45 squadrons less than Germany.

Of the 93 regiments, 73 are formed by Prussia, 10 by Bavaria, 6 by Saxony, and 4 by Würtemberg. According to the lighter or heavier material—horses as well as men—entering into the composition of the regiments, they are distinguished as light, medium, and heavy cavalry. The hussars, dragoons, and the chevau-légers of Bavaria belong to the light, the cuirassiers to the heavy cavalry, while the uhlans are an intermediate arm. While the existence of these different kinds of cavalry cannot be called an absolute necessity, especially as drill, tactics, and employment have become uniform, historical tradition favors, and to some extent justifies, their retention.

According to the above distinction, 12 regiments are cuirassiers, or heavy horse, 27 regiments are uhlans, 34 are dragoons and chevau-légers, and 20 hussars. The regiment of the Garde du Corps is included in the cuirassiers.

The eight regiments of the Prussian guards form the cavalry division of the guards, which is divided into four brigades. Of the line regiments, two or three form a brigade, which is designated by the number of the division to which it belongs.

To consider, experiment, and consult upon all questions of interest to the arm, a cavalry commission was formed



HUSSARS





in 1890. Members of this board are, among others, the two cavalry inspectors, whose duty it is to superintend the annual cavalry manoeuvres and the journeys of the general and staff-officers for the study of tactics. They perform these functions under the direct personal supervision of the Emperor, while under that of the Minister of War they inspect the training-schools and the depots for remounts.

Each regiment is composed of five squadrons; of which, however, four only take the field, the fifth remaining at home to form the depot. Every year another squadron is designated for this service. The total strength of a regiment is 25 officers, 667 men, and 792 horses; 62 of the last are officers' horses.

As forming part of the cavalry, must be further mentioned the military riding-academy at Hanover, consisting of a school for officers, and one for non-commissioned officers of the cavalry and field artillery, who, in a two-years' course, receive a thorough training as riding-teachers. Similar objects are pursued by the military riding-academy at Dresden and the Equitation Institute at Munich, both of the latter selling also trained horses to mounted officers of the infantry at fixed prices. Veterinary surgeons are educated at the Royal Veterinary School at Berlin; farriers, in several training-schools formed for this purpose.

The horses for the cavalry are in times of peace entirely obtained by off-hand purchasing from dealers. In Prussia the horses are bought at three years old by commissions composed of officers, and under orders of the remounting department of the War Ministry; for the purpose of further development, they are turned over to remounting depots. After remaining there for a year, they are sent to the regiments, where they are carefully

trained, and, as a rule, are not put into active service until they are six years old. A similar system prevails in Bavaria, while in Saxony the horses are turned over to the regiments as soon as purchased. Germany is fortunate in possessing an abundance of excellent horses, which, after careful training, answer every requirement of the service.

For the cavalry, men of good muscular development are selected who are accustomed to horses, and physically particularly adapted for the exigencies of the service. For this reason they should not be too heavy, and the limit of weight is about 65 kilograms (or 146 pounds) for the light, and 70 kilograms (or 157 pounds) for the heavy cavalry.

#### I.—ARTILLERY

The consideration of all questions relating to the organization, employment, and armament of the artillery is in charge of the General Committee for Artillery Affairs. Tests of new material are carried on by the trial battalion under the direction of a permanent commission formed for this purpose. In order to reach the greatest possible efficiency in target practice and the handling of the guns, officers and non-commissioned officers receive instruction in two schools of gunnery, which are maintained for the field and garrison artillery. In the technical institutions—artillery workshops, pyrotechnical laboratory, gun foundery, ammunition factory, and powder-mills—the whole equipment of the artillery as well as the train material for the other branches of the service is manufactured.

The artillery consists of field and garrison artillery—the former attending the operations in the field, the latter being employed at the attack and defence of fortified places. Since the war of 1870–71 the artillery has considerably grown in importance, and in consequence its



CUIRASSIERS

strength has been materially increased. Nevertheless it has not reached that of the French army, which has, even in peace, 46 field batteries more than Germany.

Recruiting and training are entirely different in the two branches of the arm; and while the field artillery forms part of the army corps organization, and is placed under the general commands, the garrison artillery, which as foot artillery is often called the infant arm of the army, forms a distinctive branch under the command of an inspector-general.

The German field artillery consists of 43 regiments, formed in 20 brigades. Prussia has 30 regiments, Bavaria 5, Saxony 3, and Würtemberg 2. One brigade, consisting as a rule of 2—but in the case of the 11th, the 12th, and the

2d Bavarian corps, of 3 regiments—is attached to each army corps. The total number of batteries since April 1, 1890, is 434, of which 46 are horse batteries, the men following the guns on horseback, while in the remaining 338 field batteries the men ride upon the caissons. The horse batteries are naturally able to cover much more ground at a quicker pace, and are therefore especially adapted for use in connection with cavalry.

The number of batteries varies in the different regiments, some having 12, others 6, 7, 9, and 11 batteries. As a rule, 3 field and 2 horse batteries form a division (*Abtheilung*), and 3 or 4 divisions a regiment. A regiment is commanded by a colonel, a division by a staff-officer, and a battery by a captain as chief of battery. On war footing a battery consists of 6 guns, 8 ammunition caissons, 2 magazine wagons, and a forge. In peace only 4—sometimes 6—guns are kept in service. For this reason the number of horses required on mobilization is increased almost twofold.

Since the field artillery has been attached to the different army corps as to tactical training, organization, mobilization, and personal matters, the position of Inspector-general of the Field Artillery has been created, who has the supervision of technical matters and of the target practice.

The composition of the garrison or foot artillery is of a different nature. Under an inspector-general as commander-in-chief, there are 4 inspections, each composed of 2 or 3 regiments. In addition, Bavaria maintains a separate inspection. The total strength of the foot artillery consists of 31 battalions, of which Prussia furnishes 24, Bavaria 4, Saxony 2, and Württemberg 1. In all questions relating to territorial matters only the foot artillery is subject to the jurisdiction of the army corps within

whose territory the different regiments are stationed. The majority of the regiments are, for speedy readiness in war, garrisoned at the large forts near the borders of the empire.

The large quantities of material—cannons, wagons, harness, etc.—not used by the troops in times of peace are stored in artillery depots, under the charge of staff-officers or captains, who are responsible for the preservation of the goods, which must always be kept ready for immediate use. For purposes of additional supervision four inspections of artillery depots are formed, each under command of an inspector with the rank of a staff-officer or major-general.

#### K.—ENGINEERS, PIONEERS, AND RAILWAY TROOPS

The engineers and pioneers of Prussia are under the command of an inspector-general as highest in authority; they are divided into four engineer and two pioneer inspections. The former comprise all fortifications; the latter, the pioneer battalions. Bavaria has one inspection of engineers and fortifications, the pioneer battalion of Saxony is attached to the artillery, and that of Würtemberg stands directly under the general commanding the army corps.

The officers of the engineer corps are either employed in the construction and maintenance of fortifications, or they do service with the pioneer battalions. One of the latter is attached to each army corps, bearing the number or designation of the latter. But the jurisdiction of the commander of the army corps extends only to territorial matters, and he is in virtual command only during the large manœuvres of field exercises; the supervision and regulation of the drill and the technical training are exclusively in charge of the inspectors. Of the 20 pioneer

battalions, Prussia has 16, Bavaria 2, Saxony and Würtemberg 1 each. As parts of the Prussian engineer corps, are to be mentioned the committee on engineering affairs, a board composed of general and staff officers, which has to consider all questions arising in connection with this branch of the service; a school of fortifications, where non-commissioned officers and privates are trained for service as subalterns in the construction of fortifications; and the telegraph inspection, with a school of telegraphy.

A battalion of pioneers is composed of four companies, whose drill differs, inasmuch as one company is trained principally in bridge-building and another in mining. All pioneers must also pass through the regular infantry drill, for, in case of need, they are used as infantry, and must know how to fight as such.

The railway troops consist of the Prussian railway brigade, in technical and scientific matters under the command of the Chief of the General Staff of the army, and of the Bavarian railway battalion. The former is composed of two regiments of two battalions each, a battalion being subdivided into four companies. The Bavarian battalion has only two companies; Saxony and Würtemberg furnish each one company of the second Prussian regiment. During a war the railway troops are charged with the construction of new railroads, the repairing of lines destroyed by the enemy, and the demolition of others, when this becomes a necessity. In times of peace these troops receive a thorough technical training, for which purpose the entire management of a military railroad running from Berlin to the rifle range at Kummersdorf—a distance of about 33 English miles—is under their charge. This line is also open for the use of the public. To the railway brigade is attached an aeronautic detachment, which pursues experiments with balloons, with



FIELD ARTILLERY

W. STIMP





special regard for their use in war for military purposes. As soon as the problem of aerial navigation has been satisfactorily solved, this detachment will, of course, greatly gain in importance, and will be correspondingly increased in strength.

For the technical organizations men are selected who are fit to work in the open air and under unfavorable conditions without showing fatigue when special exertion is required, and who in their private life have had some experience in kindred occupations.

#### L.—MILITARY TRAIN AND TRANSPORTATION

The German army has 21 train battalions, of which 17 are formed by Prussia, 2 by Bavaria, and 1 each by Saxony and Würtemberg. With the exception of the 16th and 25th, which consist of two companies, and the 12th battalion, which has four, each battalion is composed of three companies. To each of the Bavarian battalions a sanitary detachment is attached. In addition each battalion includes a company composed entirely of men who are bakers by profession. They are in peace-time employed in the military bakeries established in all larger garrisons, where the bread for non-commissioned officers and privates is made. At mobilization they furnish the material for the field bakeries.

The train battalions form part of the artillery brigades, except in Bavaria, where they are subject to a distinctive inspection.

These train organizations, which have to furnish the men and horses for the transportation system of the entire army, require naturally a large number of men as soon as the army is put upon a war footing. For this reason their method of recruiting and drilling is entirely different from that of the other branches of the service.

They draw fresh recruits twice a year, who, after being drilled for six months only, are placed in the reserve, only a limited number serving three years for the purpose of being trained as non-commissioned officers. In addition, a number of non-commissioned officers and privates of the cavalry are every year instructed in the service and placed in the train reserve.

The whole system is divided into three parts, viz.: for the transportation of the baggage of officers and administrative officials, together with the latter's bureau materials, as also of a supply of clothing to replace that worn out by the troops; for transportation of a supply of provisions; and, finally, for transporting a supply of ammunition to replenish the stock of the troops. Sanitary detachments and field hospitals are also formed by the train battalions.

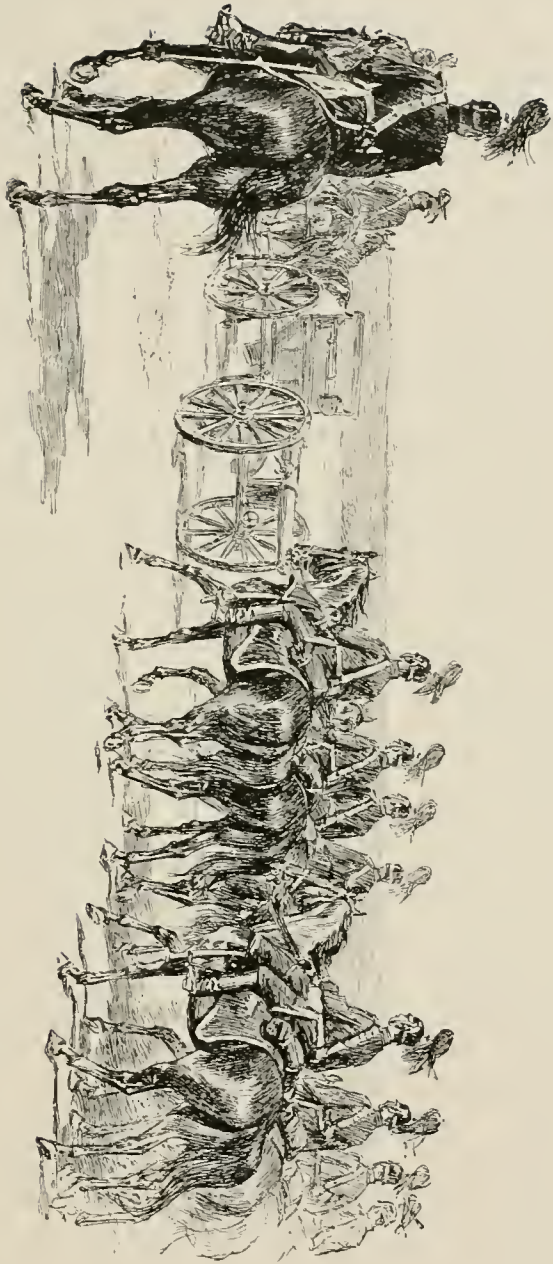
At mobilization the wagons are divided into two columns or echelons. One, called the small baggage, carries everything necessary for the troops during or immediately after a battle, while the heavy baggage follows at a greater distance, and carries all supplies required for the sustenance of the army during its operations in the field.

Every army corps has its own train, divided into wagon columns as above. They comprise ammunition trains, provision trains, the pontoon train, the field bakery, a depot of remounts, and the field hospitals.

While it has been the constant aim of the authorities to reduce the number of wagons to what absolute necessity requires, the train of an army corps at present comprises at least 1700 wagons and 6000 horses.

#### M.—THE MEDICAL DEPARTMENT

In accordance with the principle that the maintenance of the efficiency of the army is the prime condition of



HOISE ARTILLERY

*W. H. R.*



final success, and that the care for the troops is one of the most important duties of the commander and the administration, the greatest attention has been paid in the German army to sanitary matters. The system is divided into the medical *personnel* and the sanitary institutions. The former comprises all sanitary officers, including the apothecaries, who rank with administrative officials, the non-commissioned surgeons and apothecaries, the hospital stewards, the nurses, and, in war, the men carrying away the wounded. The sanitary institutions comprise, in peace, the garrison hospitals and regimental wards for sick soldiers; in war, the sanitary detachments, the field hospitals, the war *etappen* and reserve hospitals, and the sanitary trains upon the railroads.

The highest authority in peace is the Medical Department of the Prussian War Ministry; in war, the chief of the sanitary service, who is attached to the headquarters of the army. Under the direction of the Surgeon-general of the army, a surgeon-general supervises the sanitary service of each army corps. In Bavaria and Saxony a sanitary department or a sanitary director takes the place of the Surgeon-general. In each division the surgeon oldest in rank has general charge of the sanitary affairs, while the practical work devolves upon the staff and assistant surgeons attached to every body of troops, who are in turn assisted by non-commissioned surgeons. All surgeons have the rank of officers, and occupy positions of absolute equality with the latter.

It may be mentioned here as a matter of interest that the death-rate of the German army in peace is smaller than that of any other standing army. The same applies to the number of sick and disabled persons.

In war every sick or wounded soldier, as well as any person charged with the care for the same, is protected

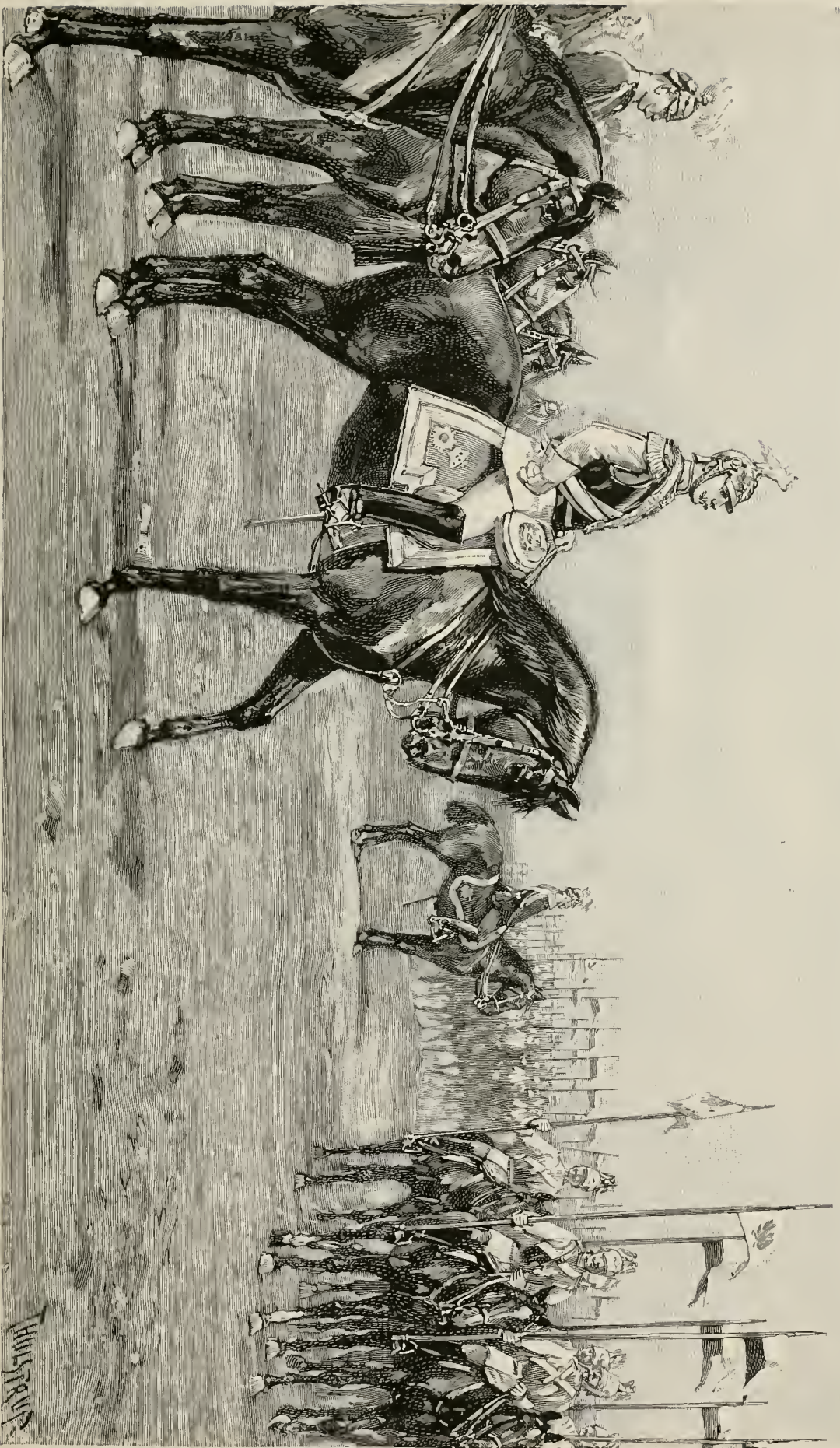
by the stipulations of the Geneva Convention. All those connected with the sanitary service carry, therefore, the well-known badge, the red cross on white ground, which is also painted on every wagon belonging to the service, while a flag showing the same emblem floats over every hospital. Red flags, or red lanterns during the night, make known at large distances the places where the wounded are collected and where the field hospitals are established.

Every soldier carries a small package of bandages, and around his neck a badge with his name, for purposes of identification. Every hospital steward carries a satchel with bandages, and a bottle with restoratives; every surgeon a case of instruments. Every battalion of infantry or regiment of cavalry is followed by a medicine-wagon, filled with medicines and bandages, stretchers, and everything else necessary for the care of wounded or sick soldiers during march or battle.

The voluntary medical service has become a valuable adjunct to the regular military sanitary service since it has been regulated by proper rules. It is under the direction of a commissioner appointed by the Emperor, and many excellent young men entered its ranks during the last war who were incapacitated from some cause for other service. Many eminent physicians devoted themselves likewise to the care for the sufferers by accepting positions as consulting surgeons-general.

#### N.—MILITARY ADMINISTRATION OF JUSTICE

Military justice is administered under the direction of the Judge-advocate-general in Prussia, the Judge-advocate in Bavaria, and the Supreme Court Martial in Saxony, by corps, division, brigade, regimental, and garrison courts. Subject to military justice are all persons in ac-



THE EMPEROR REVIEWING CUIRASSIERS OF THE GUARD

HANS TRUPP





tive service, all officers retired with half-pay on waiting orders, and the administrative officials of the higher grades. There are higher and lower courts. The former adjudge all cases where officers are concerned, or where the accused is a non-commissioned officer or private, and the punishment in case of conviction would be harder than simple confinement, reduction in rank, or transfer into the second class. All other cases belong before the lower courts. Every one of the courts named above is composed of the commander of the respective troop as president, and a judge-advocate. In the regimental courts the place of the latter is taken by an investigating officer. After an investigation conducted by the judge-advocate or the investigating officer, with one or more officers as assessors, the case is submitted to a court-martial of the higher or lower order, as the case may be. A court-martial is always composed of a judge-advocate or investigating officer and five classes of judges, whose rank depends upon that of the defendant. If the latter is a private, for instance, three judges are officers, one a non-commissioned officer, and one a private. The court-martial is presided over by a staff-officer or captain. The judgment must be confirmed by the president of the judicial district.

In Bavaria, military district courts take the place of the higher courts-martial, and the proceedings are public.

Offences against military order and discipline for which no punishment is mentioned in the code, transgressions of regulations, and such infractions of the rules as render the defendant liable to slight penalties only, are subject to so-called disciplinary punishment. This applies in times of war also to all civilians connected with the army in any capacity whatsoever, and to prisoners of war. Power to execute disciplinary justice is granted only to officers in command of troops from the rank of captain

upward, and the extent of their power is regulated by the position they occupy. On the effective use of this power the discipline of the troop depends to a very large degree.

#### O.—SEPARATE ORGANIZATIONS

To the army belong several separate organizations. One of them is a corps of mounted rifles employed as couriers in peace as well as in war, and in the diplomatic service. Another one is composed of non-commissioned officers of the guards who have passed a long term of service, and whose duty it is to watch the royal palaces and gardens, and to mount guard at special occasions and celebrations; this organization is called the Company of Palace Guards. The corps of body gendarmes furnishes the orderlies in personal attendance on the Emperor. The territorial or field gendarmery, under command of a general, is composed of non-commissioned officers. Its discipline and subsistence are regulated by army officers; its functions and duties, by officials of the Ministry of the Interior.

#### P.—CHAPLAIN DEPARTMENT

At the head of the military clergy of Prussia are placed the Protestant and the Catholic *Feldpröpste* (chaplains-general), directly under the War Ministry. To each army corps a chaplain is attached, while two or four division chaplains, some of them Protestants and some Catholics, are subject to the chaplain's orders. These clergymen have charge of the spiritual affairs of the congregations into which the troops are united. All soldiers must attend church on regularly designated Sundays and holidays, and take communion at least once a year. In the field the duties of the chaplains are especially beneficial and gratifying. By holding religious services and dispensing consolation and encouragement among the sick

and wounded, they are most efficient instruments for preserving and animating religious sentiment in the army.

The army chaplains are officials of superior rank, and wear a distinctive official dress when officiating and in the field. In Saxony the system is practically the same as in Prussia, while Bavaria and Würtemberg have no army chaplains in peace, their duties being performed by ministers connected with the churches at the different garrisons.

It must be added that all denominations have equal rights in the army.

#### IV.—TRAINING

The final object of all training in peace is to secure success in war, therefore all efforts must be directed to a martial training of individuals as well as of tactical bodies. This duty devolves upon commanding officers of every rank, from the captain upward, who shall in their work be allowed as much latitude as possible, superiors only to interfere in cases of mistakes or failure of progress. The system of advancing from less to more difficult training has to be strictly observed; individuals and smaller squads must be thoroughly drilled before they are made part of larger formations. The thorough and skilful schooling of the individual soldier and of the single horse is rightly considered of the utmost importance.

The drilling of the recruits takes generally from two to three months, whereupon they are mustered into the companies, squadrons, or batteries, where they are instructed in regular evolutions and movements, in common with the older men. Then follow the exercises in battalions and regiments and in mixed divisions; and, finally, the fall manœuvres, which are held in the open field, and

made to approach as near as possible the realities of war. Some army corps have Emperor's Manœuvres, so called from the attendance of the Supreme Commander and officers of foreign armies. The remaining army corps exercise in division formations, with their allotments of artillery and pioneers. There are also arranged every fall fortification exercises on a large scale, and manœuvres of cavalry divisions formed by the concentration of a number of cavalry regiments.

General officers commanding troops have to inspect the troops under their care in order to satisfy themselves of the degree attained in training. Time and duration of such inspections are regulated by general rules. At the conclusion of every inspection the inspector-general shall give, in the form of an instructive criticism, his opinion of the bearing and performances of the troops.

#### V.—ARMAMENT

The rifle model of 1888 in use in the German infantry answers all requirements of a hand fire-arm. A breech-loader by construction, allowing the simultaneous loading of five cartridges united in one frame, it covers a maximum range of 3800 metres, although sure effects can be guaranteed only at distances up to 1500 metres. The rifle is of 8 millimetres calibre, and the bullet, made of hard lead with a nickel covering, weighs 14.5 grams; the composition of the powder and the size of the powder measure are secrets of the Government. Besides the rifle, the infantry carries side-arms, which can be attached to the rifle as a bayonet, rendering the former also useful for close fighting. Officers and sergeants-major wear swords and revolvers.

A uniform armament of the entire cavalry has been



ILLUSTRATION

PIONEER



established by the equipment of cuirassier, hussar, and dragoon regiments with steel tube lances. Disputes about the value of the lance are probably as old as the cavalry itself, says a prominent military author, but its superiority over other weapons when used in pursuit or single combat is generally admitted. The cavalry soldier is armed also with carbine and sword, the former enabling him to take part in fights at short distances.

The entire field artillery has guns of 8.8 centimetre calibre, as yet of two slightly differing kinds of construction, known as the heavy field-gun and the field-gun proper. The former is used by the field artillery, the latter by mounted or horse batteries. As the construction of heavy field-guns has been abandoned, it is but a question of time when the entire field artillery shall use uniform material, an advantage not gained yet by the field artillery of any other country.

Fortress and siege guns differ in construction and calibre, according to the different objects of their use in fortress wars.

## VI.—EQUIPMENT AND CLOTHING

The uniform of the German army is handsome and practical; a few changes, however, are just now being contemplated. Officers and military officials have to provide their own clothing and equipment, while non-commissioned officers and men receive the same from their respective troops, special funds being allowed the latter for that purpose.

The regulation or field-service head-dress of the infantry, artillery, dragoons, and pioneers is the helmet; of the rifles (*Jäger* and *Schützen*), the “*käppi*,” of the uhlans, the “*czapka*,” of the hussars, the fur cap; and of the

cuirassiers, the steel helmet. The uniform coat of the infantry and pioneers is dark blue; of the rifles, dark green, collars and cuffs being red and black respectively; the shoulder-straps bear the number of the regiment or the monogram of the princely chief. Cuirassiers wear white coats, the several regiments differing by the color of the sleeve revers and braiding; the dragoons have light-blue coats; the uhlans, dark-blue "ulankas." The hussar regiments are distinguished by the different colors of their "attila" (red, green, light and dark blue, and black, with white or yellow braiding). The difference in color and equipment of the several branches of the cavalry is founded on historical traditions which the army likes to preserve. The cuirass is only worn at parades, but no longer in the field, as it oppresses and hinders the horseman.

The trousers are almost without exception made of black cloth, riding-boots being worn by all mounted troops, as also by the general and staff officers, and by mounted officers of the infantry.

All troops of the guard corps and the body-guard regiments are distinguished by white or yellow stripes upon the collar. As to color, style, and equipment, the uniforms of the non-Prussian army corps differ in several regards from the above description. In Saxony, for instance, the artillery has kept the dark-green, the cavalry the light-blue coat; in Bavaria the predominant color of the infantry is a light blue; of the cavalry a steel green.

Complete uniformity, however, has been established throughout the German army as to the rank distinction, those of the non-commissioned officers being marked on collars and cuffs, of the officers on the differently shaped shoulder-straps. By the number of stars attached to the



latter the rank of an officer is recognizable. Epaulets are only worn at grand parades, court festivals, and for full toilet.

## VII.—OFFICERS, NON-COMMISSIONED OFFICERS, AND PRIVATES

### A.—THE CORPS OF OFFICERS

“The spirit of the Prussian army is moulded by its officers,” said one of the heroes of the wars against Napoleon I. This utterance is as true now as it was eighty years ago, for the spirit governing the corps of officers, its condition, and efficiency have a decisive influence upon the whole army. The corps of officers is entitled to a privileged position in the community, which is shared by its individual members in private life.

The corps of officers completes itself from graduates of cadet schools and from young men called “avantageurs,” who enter the army with the expectation of being promoted. In cadet schools, principally sons of officers of the army and navy and government officials are educated; in limited numbers also sons of civilians. They enter the schools at the age of ten in Prussia, at the age of twelve years in Bavaria and Saxony. The plan of instruction is substantially the same as that of an industrial high-school, the tuition fee is moderate, and the principal part of the cost of maintenance is borne by the State.

The officers are divided into four classes or grades: subaltern officers, or second and first lieutenants; captains, called “Rittmeister” in the cavalry; staff-officers, comprising majors, lieutenant-colonels, and colonels; and finally generals, subdivided into major-generals, lieutenant-generals, generals of the infantry, cavalry, or artillery, colonel-generals, and general field-marschals.

The pecuniary compensation granted to officers is, generally speaking, sufficient, though in the lower grades exceedingly moderate. It is hardly possible for a second lieutenant, whose monthly income, inclusive of the allowance for providing quarters, averages about 120 marks (about \$30), to make both ends meet without the aid of a private income, even if he exercises the strictest economy and avoids all expenditures not absolutely necessary. Officers who have no private means whatever, or whose relatives are not in a position to assist them, receive a small extra allowance out of special funds or from the Emperor.

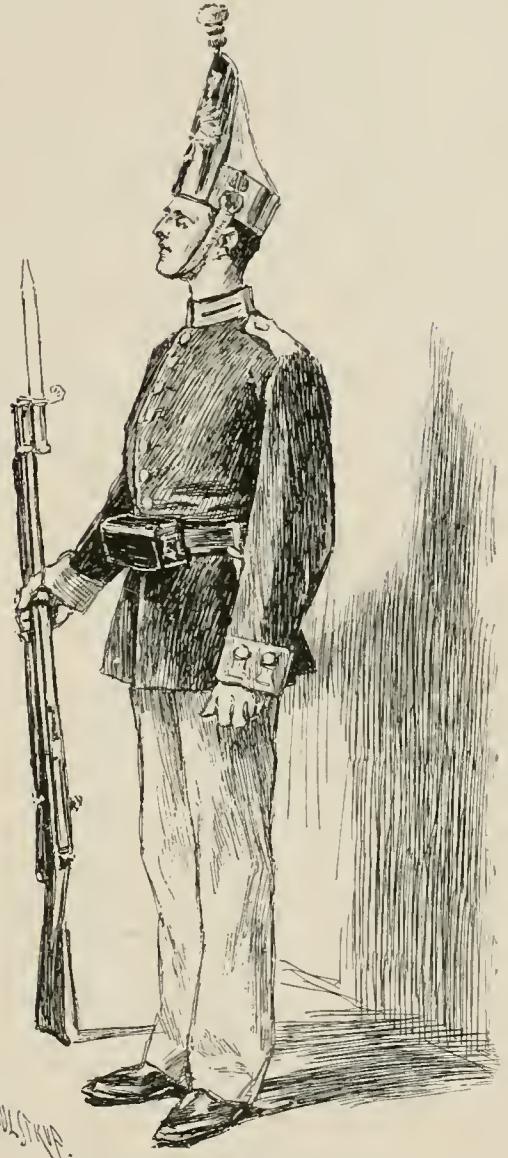
Officers of the rank of captain of the first class (captains and Rittmeisters are divided into two classes, according to the salary they receive) and officers of the higher grades receive a compensation which may be called sufficient for providing the necessaries of life and meeting the expenditures connected with the position. Still, the purchase and maintenance of the horses require monetary sacrifices of considerable magnitude, as the Government grants only an allowance for the daily rations and the stabling of horses where they are not provided for in barracks. It is intended to extend this allowance to the purchasing and replacing of horses. The total annual income of a captain of the first class is about 5000 marks (\$1250); that of a major or lieutenant-colonel, 6600 marks (\$1650); of the commander of a regiment, 9000 marks (\$2250). In addition to the actual salary, every officer not stationed in barracks receives an allowance for providing lodgings, which is measured by the prices ruling in the garrison in which he is stationed and by the rank of the recipient.

It is impossible for a young officer to maintain by his salary a family in the style made necessary by his social

position. If he wants to marry, he must receive permission from the Emperor, and is required to furnish satisfactory proof of a reliable private income amounting (in Prussia) to at least 1800 marks per annum; in some of the other States it is even higher. Captains of the first class and officers of the higher grades are not required to possess private means. The future wife of an officer must enjoy an unblemished reputation, belong to a family of unquestioned respectability, and possess all the qualities which tend to make a worthy member of the society she enters.

Officers who, on account of old age or physical infirmities, are incapacitated for service in the field are discharged with pensions or placed on waiting orders.

An age limitation, as in France and in the United States, does not exist. The amount of the pension is regulated by the grade of the retiring officer, the salary he receives, and the length of service; it is never higher, however, than three-quarters of the amount drawn at the time of retirement. Widows of officers, and orphans until they are seventeen years old, receive pensions and allowances



GRENADIER OF THE GUARD (FUSILIER BATTALION)

for purposes of education out of the Imperial Fund for Officers' Widows.

As a rule, every regiment maintains a *mess*, or officers' club, which forms the centre of social intercourse among the officers, and affords an agreeable meeting-place after duties have been attended to.

#### B.—NON-COMMISSIONED OFFICERS

Non-commissioned or under officers are taken from among such privates as have distinguished themselves by close attention to duty, manly and honorable bearing when off duty, and who exhibit military qualities. Their promotion to the rank of officer is not possible in times of peace, but may take place in war as a reward for exceptional bravery.

Only after a term of service as high-privates (*Gefreiten*) are men promoted to the rank of non-commissioned officers. They become then superiors of the privates, and must be saluted by them. Non-commissioned officers are divided into two classes, those with and those without the *portepée* (silver sword-knot). The former class comprises the *Feldwebel*, called *Wachmeister* in the mounted troops, and several classes of officers designated by various names, but of the same rank and with the same functions. The last-named class is subdivided into sergeants, *unterwachmeister*s, and *unter-officers* proper. The position of the *Feldwebel* (sergeant-major) is a highly important one. He is the captain's first assistant in all matters relating to the internal management of the company, and is therefore appropriately called the "mother of the company."

It is the good-fortune of the German army to possess in its non-commissioned officers an abundance of material fully competent for the arduous duties assigned them.

Prince Bismarck gave expression to this fact in his memorable speech of February 6, 1888, when, during the debate on the bill providing for an increase of the army, he said, "We have sufficient material for officers and under-officers to lead the army, and no other people on the face of the earth can compare with us in this respect." This utterance is entirely correct, for in no other country has education so thoroughly permeated such large masses of the people, enabling them to furnish capable commanders and leaders of others, either as officers or non-commissioned officers.

In a financial respect it may be said that the non-commissioned officers are adequately provided for, although they are not as favorably situated as the same class in the French army. In addition to the regular pay, which is regulated by the rank and the length of service, and which in the case of the *Feldwebel* amounts to two marks per day, an allowance is granted for board. All non-commissioned officers are clothed and provided with quarters by the Government.

#### C.—PRIVATE SOLDIERS

The complement of the army is kept up by the enlistment of recruits drawn every year, and of young men entering the service voluntarily. The drill begins immediately after the recruits have arrived at the regiment—as a rule, in the first days of November. After a few weeks the articles of war, a codification of the most important duties of the soldier and of the penalties for derelictions and transgressions, are read and explained to the men, whereupon they take the oath. This act is made as solemn as possible; the sacredness and importance of the oath are dwelt upon at length, and the recruits swear that they will faithfully serve their supreme commander

and obey the articles of war, and behave like honorable and faithful soldiers.

All soldiers are, as a rule, quartered in barracks; rarely, and only in very small garrisons, in rooms rented from private citizens. An exception is made during the time of the large autumn manoeuvres, or field exercises, when the troops are practically in the field. Everything that can be thought of is done to provide healthy and comfortable quarters and good substantial food. The food is prepared in the barrack kitchens, or *ménage*, under the supervision of an officer, and consists of coffee for breakfast, meat and vegetables for dinner, coffee in the afternoon, and frequently a warm supper. To cover the expense, the Government allows a certain amount, varying according to the price of provisions ruling in the different garrisons, between 12 and 18 pfennings per day for each soldier, and  $12\frac{1}{2}$  pfennings are deducted from the pay of the men. Their pay amounts to 30 pfennings daily, and is handed to them three times a month. In addition, the soldier is entitled to about  $1\frac{2}{3}$  pounds of bread per day.

In order to preserve the mental and physical vigor of the men, the duties are regulated in a way to afford constant variety and change of occupation. The training is not confined to the mere drill, and purely military proficiency is not the only object aimed at. On the contrary, the principal duty of the officer is to transform the raw and ignorant recruit into a perfect man; while the soldier must learn to see in his superior a man whom he can follow unhesitatingly, and with unlimited confidence, who will not ask more of him than is absolutely necessary, and who will care for his welfare to the fullest extent of his ability in every respect. It is strictly forbidden to submit soldiers to a treatment tending to degrade them or to hurt their feelings, and violations of this rule are



GRENADIERS OF THE GUARD





punished severely, without the slightest regard for the person of the offender.

Ambitious soldiers are given an opportunity to perfect their education in many ways. In evening schools instruction is given in the elementary sciences; in other schools, "capitulants," that is, men who have signified their intention to re-enlist, are instructed in a more advanced course, as well as in the theoretical and practical use and the construction of fire and small arms.

A great many of the men honorably discharged join veteran associations, or "Kriegervereine," whose aim is to preserve among their members military sentiments and good-fellowship, and to assist comrades in distress caused by sickness or misfortune. These associations are now existing in every part of Germany, and are united to district associations, as "protectors" of which, princes or other persons of exalted position officiate. The membership is growing constantly, and may at present be estimated at not less than 500,000 men.

In conclusion it may be mentioned that all persons in active service are prohibited from voting and participating in political agitation; the same rule applies to all reservists for the time during which they are attached to troops for the purpose of finishing their practice drills.

#### VIII.—THE ARMY ON A WAR FOOTING

The work of placing the army from the peace organization on a war footing is called mobilization. It must be performed and finished within a given number of days. The order to mobilize issues from the Emperor, and is made known forthwith to all military and civil authorities, as well as to the people, the former being notified by telegraph. A mobilization affects not only public life,

but the business and professional relations of every individual. From the moment the order is given, a spirited and well-directed activity is displayed by every troop to get ready in time, everybody knowing beforehand what is required of him in this emergency. The first step to be taken is to call in the reserves, in order to fill up the ranks of the standing army and to form new troops. This is done by written summonses issued from headquarters of the district commanders. These summonses are kept always ready, and every man liable to service in the army or navy is pledged to heed them without delay. At the same time the levy of horses is begun, of which there is a very considerable number required for the train, for mounting officers and military officials, and for the formation of new troops. All measures connected with a mobilization are mapped out in every detail during peacetime, the army being practically prepared for this change at any time.

The organization of a mobilized army corps is similar to that in peace. The additional formations are independent cavalry divisions, composed of a number of cavalry regiments withdrawn from the regular divisions; also reserve divisions and depot and Landwehr formations of every kind. The duty of the latter is to maintain the active army at full strength, and to garrison places at home as well as on or near the seat of war. The army corps is further replenished by its allotment of train columns and sanitary detachments. The artillery of the army corps is partly distributed among the divisions, partly used in the formation of a corps artillery, which is placed under the independent command of a general. The pioneer battalion is broken up, and the several companies are detached to the divisions. Additional formations are finally required for the mail, telegraph, balloon, and railway service.

At the head of the entire German army is the Emperor. From army corps and cavalry divisions armies are formed and placed under special command and administration. As soon as the army moves, the *etappen* are organized for the purpose of keeping up connection with the rear, if possible by railways.

#### IX.—THE ARMY EXPENSES

Since the close of the war of 1870–71 there have been several causes for increasing the army expenses, among them the increase of the peace strength of the army, the armament of the infantry with new rifles, the supply of ammunition and the new artillery material, erection of fortifications and army buildings, so that the army appropriation in the imperial budget of 1890–91 (the fiscal year begins on the 1st of April and ends on the 31st of March) amounts to 387 millions of marks for regular or continuous, and  $296\frac{1}{2}$  millions for contingent expenses. For the fiscal year of 1891–92 the Reichstag has been asked to increase the former item  $25\frac{1}{2}$  millions, while a reduction in the latter to the amount of  $225\frac{1}{3}$  millions is proposed.

Although these figures seem high, they are lower than the expense of the standing armies of France and Russia. The following table shows the sums appropriated by different countries for army purposes, not taking into account any extraordinary and annually varying contingent expenses, for the year 1890, resp. 1890–91 :

	Marks.
Germany . . . . .	387,000,000
Austro-Hungary . . . . .	238,000,000
France . . . . .	445,000,000
Russia . . . . .	533,000,000
Italy . . . . .	206,500,000
Great Britain . . . . .	347,200,000
United States of North America . . . . .	190,000,000

The expenses for the army have often been characterized as of the unproductive kind, but this can hardly be applied to a State which by its geographical position may be entangled into war almost at any time. Past history has proved that an unlucky war has caused far greater sacrifices than the maintenance of an army which is ready to contend with any opponent.

The army represents not only the people in arms, but it is also an educational institution, in which, in addition to mental and physical development, the male youth are taught the virtues of patriotism, obedience, and a sense of duty very beneficial to them in after-life. The army, therefore, possesses also from an ethic point of view an importance which cannot be overrated.

THE FRENCH ARMY





“H, my brunettes! Eh! You are doing no work there. That does not help on the mowing to stretch out your necks and strain your eyes to see if there are any husbands growing in the young wheat.”

Two fine girls, tiptoe on the points of the wooden shoes, clinging like goats to the branches of the green hedge, replied, gayly :

“We are not losing our time perhaps after all, Maître Durevoix; the regiment is coming back from the manœuvres; it will be passing here in a few minutes. Come and see.”

Maître Durevoix approached, followed by all the workmen. Each one, leaning on his rake, his fork, or his scythe, scanned the valley.

“I see nothing,” said one. “Where is the regiment?” asked his neighbor. “The brunettes are making fools of us,” cried a third. “What! Why, it is passing at the bottom of the hill along the new road; you can see it through the trees.” “There’s a patrol on the hill-top close by us.” “True.” “There’s another by the river, and another by the ruined house. When the troop is on the march it places scouts all around it, as if it were going to meet the enemy at any moment.” “Ah! now they are leaving the road, wheeling round the burnt field. They don’t have to

ask their way. The officers all have papers in their hands. They look at them, and then they know the way better than we do. Yes, sure. Ask Rémy, who has been a soldier.

“That’s true,” said the mower questioned. “In my time, before the fatal war, we knew nothing about those matters. We went through the regular drill, target practice, and marching, without ever thinking of war. Nowadays the army is always thinking of war, and learning how to make war in the best way. Formerly we soldiers did not know anything. Now the law obliges us to send our children to school, and when they have learned their book they will become finer soldiers than we were.”

“So much the better,” replied Maître Durevoix; “and now to work, and sharply.”

“Oh, one minute more, *patron!*” cried the girls. “They will pass close by here. We shall see them splendidly. Who knows? Perhaps we shall see our future husbands in the ranks.”

“Ah! then there are none but soldiers to make husbands?”

“Certainly, *patron*. One can’t marry a man who has not been a soldier. At any rate, I would not.” “Nor I.” “Nor I,” cried all the girls.

“Let us fetch our pitchers; we will give to drink to some of the men; it is so hot.”

“And they have to work so hard. This morning they started out before daybreak, and they will not get home until after sundown.”

“They must be tired.”

“No. They are accustomed to these long marches. Look how quickly they go. They don’t look as if they were tired.”

The regiment advanced smartly. It was not a simple march, but a manœuvre; step correct, easy bearing, rapid





CUIRASSIERS



pace, the different movements effected with precision, without noise, and without a word spoken. Neither bugles nor drums ; from time to time a whistle. Absolute silence in the ranks ; no talking, no singing, no joking.

Rémy, the mower, noticed this. "In my time," he said, "we used to leave behind a lot of weak and lame ; now there are no laggards ; all are hardened. We used to make a terrible noise ; you could hear us long before you could see us. The general commanding yonder men will have no nonsense. He has said no laggards, no chatterers, and there are none. Who would have thought that Gascons could be made to march like mountaineers ? Who would have believed that they could be prevented from talking ? Well, you see, they march and they don't talk, and nobody complains. Men and ideas have changed, I can tell you."

Indeed, since the war of 1870 things have been greatly modified in the army. The country people are not alone in remarking the progress made. More expert and less kindly disposed critics abroad have noticed it too.

## II

They are right. A new era has begun. Formerly men built temples to a Fortune whose eyes were blindfolded. They waited for Fortune to pass, trusting to boldness, luck, or hazard. Now it is different. Materially, it is necessary to have perfected instruments ; spiritually, it is necessary to have complete instruction. We are endeavoring in France to acquire both.

The second Saturday of the month used to be the day of the fortnightly lecture. All the officers of the 175th regiment of infantry assembled in the lecture-room of the

barracks of Fontenay, and the colonel called upon Commander Typaud to deliver his address. Typaud, a young major, or *chef de bataillon*, personifying the new army, a brilliant pupil of the *École supérieure de Guerre*, endowed with fine physical and moral qualities, had distinguished himself in the Tunisian expedition. Having knowledge and activity at the same time, he was a thorough officer, and of great promise. His lecture was impatiently looked forward to, the more so as the title was, "Reorganization after Defeat," a palpitating subject, and one worthy of the orator.

The major's discourse might be resumed as follows. After the battle of Cannæ the Roman Senate went out to meet the defeated consul, and thanked him for not having despaired of the safety of the republic. This is a fine lesson, a noble example to meditate upon. Recriminations in misfortune mean discouragement and the end of everything; whereas dignified resignation is the germ of resuscitation, for it is hope itself. Difficult to eradicate in a warlike nation that has known both victories and reverses, the hope of a better future is a vital and regenerating force, a lever of incomprehensible power. Confidence is another thing. Defeat leaves after it, like foul mud, a dissolvent impression, a sort of moral depression, an instinctive sentiment of diminution and of mistrust. Men doubt their strength. They hope, and at the same time seek serious motives and solid bases for their hope, but they do not find them at once. It is the work of labor, of energetic efforts, of time, and, above all, of acts. They have to make essays and try themselves before entering upon great struggles.

To reconstitute the *matériel*, to reform old institutions, to renew things, is merely a question of money; but to reconstitute the *moral* of a country is a more difficult task than to reorganize its army. Heroic deeds are indispensa-

ble. The words "victory," "success," must come to make the patriotic fibre vibrate and palpitate. Small triumphs are necessary to serve as a preface to the future, and from small things to great, men must be able to reason, to conclude to a probability, to half see a possibility, to feel something almost as good as a certainty. This was the way Prussia proceeded. Pulverized at Jena, invaded in a campaign of a few days, dismembered at Tilsit, almost wiped out of the map of Europe, she did not despair; she set to work and patiently reorganized herself.

For a long time Prussia collected herself in silence. She studied war, but she did not possess a single officer who had seen war. She was obliged to act in order to avoid atrophy. She re-entered the movement in 1848, forty-two years after Jena, and supported Holstein against Denmark. It was a paltry war, with varied alternatives, without great glory, but very useful so far as practical improvement was concerned. In 1859, at the news of the first successes of the French in Italy, the Prussians mobilized three army corps; then three others after Magenta; and, finally, all the federal contingents after Solferino. Although the peace rendered these preparations useless as warfare, they nevertheless constituted a veritable dress rehearsal or essay of mobilization. In 1861 the reign of William I. opens by the reorganization of the army and serious preparations for war.

Having thus completed her programme, comprising the military reorganization of the nation, essays in war, essays in mobilization, realization of notable improvements, Prussia found herself ready; and judging from the carelessness of other nations that she could dare a good deal, she began to unmask her projects. Nevertheless, carrying prudence to its last limits, she would not yet venture single-handed on a campaign. In 1864 she joined with Austria



A GENDARME

to crush Denmark, and in 1866 she demanded the aid of Italy in order to overthrow Austria. These successive trials gave her confidence, and being thoroughly prepared, she felt herself equal to fighting France, whom she surprised before the necessary measures could be taken by the latter.

All this was rational. After the invasions of 1814 and 1815, the logic of facts led France to proceed in the same manner. The year 1823 saw an army march to help the Spanish Government, enter Madrid

unresisted, and push on as far as Cadiz, where the brilliant affair of the Trocadero peninsula terminated the war. In 1827 France took up the defence of Greece against Turkish oppression. An expedition started for the Levant. The capture of the castle of the Morea and the naval battle of Navarino were successes big with consequences.

Such were the forerunners of the military renovation at that epoch, which soon asserted itself brilliantly in the battle of Staoueli and the capture of Algiers, July 4, 1830. What changes in less than fifteen years! Iberia restored to liberty, Hellas independent, Christian slavery in Africa destroyed, the Mediterranean freed from the Barbary

pirates and opened to the commerce of all nations—such was the glorious work that France had accomplished before the eyes of astonished Europe. Trocadero, Morea, Navarino, Staoueli, Algiers, were names that re-echoed everywhere. The army that had been annihilated at Waterloo by the effort of the allies won back by these triumphs its old renown, recovered the first military rank, and preserved it for forty years.

This fine period was followed by the reverses of 1870. France imposed upon herself the heaviest sacrifices in order to prolong the struggle. In this gigantic combat, sustained without warning against a well-prepared enemy, she astonished the world by her obstinate resistance, and so saved her honor. Hope rose above the trial. Disasters were not unknown to France; often she had been invaded, but, like Antæus, as she fell she recovered strength and rose again. What she had done in the past she could do in the future, and this conviction sustained her in the darkest days. Without hesitating, she set to work and rapidly reorganized her army. Excessive expense, incessant labor, universal effort—nothing was spared in this work of patriotic reconstruction.

In these circumstances some saw salvation only in extreme prudence. Doubting the vitality of the country, they advocated absolute abstention, concentration at home, a horizon restricted to the narrowest limits, the renunciation of all influence abroad. They forgot both history and logic. They did not see that the absorption of a country in one single thought is equivalent to effacement, isolation, decadence. Anæsthesia prevents suffering, but it is of no avail to regenerate. To await in inactivity and oblivion the propitious hour of revenge would mean the certainty of never seeing that hour; it would amount to bankruptcy in the future, to suicide by atrophy. After great reverses

great enterprises cannot be faced without prelude, without having made the army smell powder and try its strength in engagements of less importance. Such was the conduct of Prussia after 1806; such the conduct of France after 1815. The method is always the same; there is no other method but this one. Happily France counted not only meditative and hypnotized citizens; she still had many men of action who realized the worth of a few acts of warfare in restoring confidence. Circumstances aided these latter. The repression of the insurrection in Algeria in 1871 proved that the army had not lost its qualities. Work and reforms gave it new qualities, and when there arose in 1874 and 1875 eventualities of war, the French army, if not quite ready, was at any rate very well able to present itself respectably in line.

Africa was again the land of practical renovation. Various movements in 1876 and 1879 necessitated expeditions. The rising of the Oulad Sidi Scheikh under Bou Amema led to the war in the south Oranais. After a long and painful campaign the rebels were definitively crushed in the battle of Oued Fendi, south of Figuig.

Military affairs then resumed hold of opinion, the more so as at that moment the Tunisian events began to develop. In April, 1881, the borderers redoubled their aggressions, and the Tunisian Government was powerless to repress them. The French columns penetrated into the thick of the Koumirs, and the Bey having accepted the support of France, our troops accomplished the pacification of the whole of Tunisia. To the popular names of Mouzaia, Isly, and Taguin were added those of Bizerta, where Hamilcar fought, of Zama, rendered famous by Scipio, of Kerouan, the sacred city of the Khalifs. This brilliant and rapid campaign struck imaginations and revived memories of the glorious periods of the past.



The deception was therefore all the more acute in July, 1882, when the French Government did not think proper to intervene in Egypt in concert with the English. The following year the death of Commander Rivière led to the Tonkin expedition. Hanoi, Son Tay, the heroic defence of Tuyen Kuan, Foutcheou, saw our troops victorious in the far East. Indo-China was created. In Senegal a French expedition founded the fort of Bamakou, on the Niger. At the same time our navy took possession of the Bay of Majunga and of the port of Tametave, and assured our preponderance in Madagascar. Fine pages of military history; smiles of victory; three protectorates founded, thus increasing the national territory. Everywhere great difficulties were surmounted; volunteers in large numbers; zeal, devotion, endurance. Each of these expeditions showed the army to be excellent. It had plenty of men,



SPAHIS

fine arms, first-class *matériel*. It could make a good figure against any enemy whatever. Hence confidence has been restored. From the army, always in progress, it has extended to the nation. And this confidence is justifiable, because it is not a thing of chance, but has sprung from the efforts of all, and imposed itself little by little. The lost *matériel* has been replaced. The blood shed has been renewed. The father-land has recovered its serenity, and although still suffering from the amputation of its beloved province, it looks out calmly upon the future. Trusting in itself and in its army, it eyes proudly the Teuton who threw it by surprise.

France is still the Velléda cherished by her children; the immortal Gaulish prophetess adored by her warriors; often vanquished, but never killed, retiring to bind up her wounds in the depths of her great forests, and reappearing again radiant with fresh youth. After the disaster of Rosbach she contemplated Jena; after the woes of Sedan she will have, if it please God, the joy of another Jena. The duel is not yet ended, but at the next *reprise* the engagement will no longer be unequal. The sons of Velléda remember, and others will remember too.

### III

By contact with misfortune characters have been steeled. The instruction of the French army has been developed, and even its amusements have become more serious, and those which necessitate exercises useful in warfare, such as drag hunts, raids, and "rally-papier," or paper chases, are very popular. A brilliant example was recently seen in Brittany. In the middle of the trees the polygon of Rennes, with its hawthorn hedge in bloom, looked like an



Thompson

A ZOUAVE

immense Coliseum of verdure. The study batteries and the hill offered to the crowd every facility for viewing the marvellous panorama formed by the River Vilaine, winding through the meadows striped with lines of tall poplar-trees, the woods of the domain of La Prévalaye, the town of Rennes rising up the hill-side terracewise, and dominated by the incomparable promenade of Thabor. The plateau on the top of the hill was the best spot whence to watch the incidents of the paper chase, and so it was occupied by all the notabilities of the district. A crowd, too, was gathered round the huntsmen at the starting-point, fixed in a clearing of the woods of the old Château de la Freslonière, whence issued the sounds of the hunting-horns announcing *le lancier*. The expectation is in-

tense. At last the signal is given; all the horsemen go away at a gallop along the avenues and roads, following the track indicated by the scraps of paper. When they get out of the wood they see the "stag." He has made a wide double, and is already near the bridge over the Vilaine. All the troop dash into the meadows, putting to flight a herd of heifers astounded by this sudden invasion. The bridge crossed, the huntsmen enter the domain of La Prévalaye. The horns sound the *bien-aller*, and the echoes reach the polygon, where the crowd watches eagerly, with its race-glasses fixed in the direction of the old manor-house, whose pointed gables emerge from the midst of the trees. A fault cleverly prepared by the "stag" leads the huntsmen off the track towards a decayed old oak-tree, under which Henri IV. is said to have sat; they have to return in a direction almost diametrically opposite, and then turn to gain the polygon. Their zigzags in the broad avenues of the park, and the leaping over ditches and hedges that enclose the rich meadows, are all visible to the spectators, who can distinguish through the trees the dashing company of officers in varied uniforms, with here and there the red coat or the black jacket of a civilian. They get nearer, and finally they enter the polygon, bending forward over their foaming horses. When the huntsmen feel that the eyes of the ladies are upon them their animation redoubles; their horses bound forward responsive to the spur; the jumps arranged around the hill are cleared with ease and style; and the splendid finish is greeted with bravos and hurrahs as the horsemen pull up and salute the company.

The paper chase is over, but the day is not yet finished. The ladies know very well that the officers are not going to rest, and that they themselves have not come merely to look on, but also in the hope of having a dance after.

All the carriages laden with sight-seers are drawn up in line along one side of the polygon. The huntsmen, in ranks of six abreast, defile past the company and dismount at the extremity of the line, when all the carriages follow them. The officers then conduct the ladies into a little wood, where a delicate lunch has been prepared. A military band plays, and after a few overtures it strikes up dance music. A closely-mown lawn is ready hard by; the officers are not tired, the ladies are not tired either, and in a few seconds the ball is in full swing, and lasts until the dinner-hour and the approach of night warn the gay waltzers that they must go home, and that the charming fête must come to an end.

## IV

Pleasure, however, does not interfere with work. After a day's amusement each one feels all the more zealous in his service. The recruits have just joined the regiment.



The pessimists are in despair. The contingent seems to them to be very mediocre. It is the same story every year. Going back to the old days in Africa and the Crimea, they vaunt those vigorous generations which braved everything—danger, climate, privation. The young armies of the terrible war of 1870 were not bad either. Improvised, badly trained, badly armed, poorly officered, always in presence of an enemy superior in number, they nevertheless managed to make a good figure during that rigorous winter, when they were incessantly beaten and yet always resisted.

The troops of to-day will be just as good. The soldier has changed; that is incontestable; but he has preserved his essential qualities. His carelessness, his “chaff”—which foreigners sometimes mistake for indiscipline—console and sustain him in the hour of trial, and render him well fitted to endure privations. The retreat from Moscow, the siege of Sebastopol, the siege of Metz, the expeditions in Asia, Africa, and Mexico, have all borne witness to the same solidity, the same endurance, the same contempt of danger, and indifference to the hardness of campaign life, the same zeal and pluck ever ready to manifest themselves.

The French soldier possesses bravery, the legendary virtue of the Gauls; his spirit is warlike rather than military. Our endeavor has been to preserve the one while developing the other; to add method and prudence to innate fancy and spirit of adventure. Military education is the great preoccupation of the modern French army, and in this matter the subaltern officer is the most precious agent.

When young the subaltern is a little light, familiar, and too near the age of the soldiers under his orders. When he re-engages, after he has settled down and won his medal,



DRAGOONS ARMED WITH LANCES

he is excellent, and possesses a considerable situation vis-à-vis the recruit or the reservist. His brusqueness is of the right sort; he reprimands, scolds, and punishes, but he does not abuse the men; still less does he strike them. His whole being is a picture of action and movement. He joins example to precept; he demonstrates and he executes. Athletic in form, of bronzed complexion, cleanly shaven, with heavy mustaches, a long *mouche* under his

lower lip, his dress irreproachable, his physiognomy is kindly, his aspect serious, and he rarely laughs.

Such was the appearance of Sergeant Trévert when he was instructing the newly arrived conscripts. "All your duties," he used to say to them, "may be reduced to one, namely, obedience. Obedience includes all the others. Discipline is obedience. It is very simple, you see. To wear a uniform, handle a gun properly, put a bullet in the target—all that a militiaman can do as well as a soldier. But a soldier is a different thing from a militiaman; he is disciplined; that is to say, he obeys; whereas the militiaman criticises; there's the difference between them. When I tell you to obey, that means that you must execute an order at a word or a sign, and divine the thoughts of the commander, because that is always the right track. Obey, and never make reflections; that, young conscripts, is the occiput and great toe of discipline. If you do not understand my anatomical comparison, I will complete it for your limited intelligences by adding that it is the beginning and the end of the soldier's business. When I order you to do something, you need not understand. Trévert speaks. Trévert knows what he is talking about. Trévert thinks for you. All you have to do is to execute his orders, and sharply. Always keep your eye on me, whether in a manœuvre or on the battle-field. I march, you follow me. I run, you run. I fall down wounded . . . and what do you do?"

"We pick you up."

"Nonsense! On the battle-field we do not stop to pick up the wounded. You continue all the more sharply; you go on, marching over me. I shall be pleased to feel how vigorously you are going along, and if I am not killed outright I shall shout to you, 'Trample on me, crush me, *nom d'un bleu*, but charge!'"





INFANTRY



This was not perhaps academic eloquence, but it was nevertheless eloquence of a certain sort, warm and communicative, because it was sincere. All his young listeners, students, tradespeople, farmers, were stirred by this picturesque and often incorrect language, always frank, always to the point, and always exalting duty. A subaltern officer well educated and a good literary speaker would never have produced such an effect.

Sergeant Trévert thus terminated his discourse: "Here is the order for to-morrow. At nine o'clock review of the regiment; reception of the newly promoted; presentation of the recruits to the colors. You understand? Try and furbish yourselves up brand-new from head to foot."

The men who have just come to the regiment are dressed on the day of their arrival, and set to work the next day. They do not take part in the manœuvres of the regiment until they are in a condition to figure decently under arms. The moment when they are, so to speak, declared soldiers is that when they are presented to the colors—an old custom which is not followed everywhere, and which has an imposing and inspiring character. It strikes young imaginations, and at the same time it fills with emotion the hearts of the old soldiers.

In order that everything may be in order, the men sit up late and rise early, busy making up their knapsacks, brushing their clothes, polishing their accoutrements. Then comes the examination by the subalterns and the platoon officers. The men after that go down into the drill-yard, and are inspected by the captain. The battalions are then set in line. The colonel arrives. The band plays. The colonel reviews the men in detail. The recruits feel their hearts thumping when they see so many officers examining them minutely. The officers

and subaltern officers recently appointed are recognized according to the regulation formulas. Meanwhile a company has gone to fetch the flag, which advances with its escort, and stops in the middle of the court-yard of the barracks.

The drums roll. The colonel orders the presentation of arms, and salutes the flag with his sword. Drums, bugles, and music sound the order, "To the flag!" All the old soldiers of the regiment who have a decoration or a medal go and take their place around the colors. The newly promoted officers stand in front of them. Then the colonel orders, "Shoulder arms! vanguard in open order," and pronounces the formula of investiture before each officer, strikes him on the shoulder with his sword, hands him the insignia of his grade, and kisses him.

Then he orders the vanguard to close its ranks, and the guns to be stacked.

The recruits, without arms, then come and stand in a semicircle before the flag, which is still surrounded by the officers and the soldiers who have decorations or medals.

"Soldiers," says the colonel, "in your towns, in your villages, in the fields, the church-steeple was your rallying-point. Around it were your families, your homes, your interests. Here the colors take the place of the steeple. They are even more; the colors are the image of the father-land itself, the sign of honor, the symbol of devotion even unto death. Proud to serve them, feeling honored to defend them, you cannot abandon them without becoming cowardly deserters, traitors to your country and to your countrymen. You see how we love and venerate our national colors. Let this same spirit of affection and respect henceforward animate you, and in all circumstances rally always to the cry, *Au drapeau! au dra-*



ALPINE CHASSEUR



*peau!* You will be told the history of the colors and the history of the regiment which is now your military family. It contains already many fine pages; try by your valiant deeds to increase the number of those pages.”

Then each captain explains to his men the signification of the flag. Symbol of the father-land, it remains in the middle of the regiment. Its folds speak. What words? On one side “valor” and “discipline,” which embrace all the duties of a soldier; on the other, the names of the battles that recall all his souvenirs. The captains mention the brilliant actions in which the regiment has been distinguished, the losses it has sustained—in a word, its whole history; and when this record is ended, the men take up their arms and march past the colors, saluting them, to the sounds of the regimental march.

The presentation to the colors is followed by their exhibition in the *salle d'honneur*, where they remain all day, with a guard relieved every hour. The recruits, guided by their subaltern officers, come to visit them, and to see the room where are displayed all the souvenirs of the regiment—pictures, portraits, photographs, relics, busts, statues, etc. An attempt is made to explain to them all that concerns the regiment, and to give them a high idea of the military family to which they henceforward belong.

## V

It is not easy to find one's way without a guide in the Alpes Maritimes. A company of tourists more venture-some than prudent discovered that not long ago. They had started from the charming inn of La Girandola, perched on a rock on the banks of the Roya, and intended to climb the peak of Gonella, in order to get a view of

the high ridges. They missed their way, passed the point they were seeking, and continued up and down, almost all the time through woods, until at last fatigue caused them to stop. The ladies of the party were in despair, and began to talk of dying of hunger in those fearful solitudes, when the notes of a bugle were heard in the distance. The tourists recognized the French *clairon*, which is much shriller than the Italian cornet, and advancing in the direction of the sound, they were soon out of the wood and within view of a troop on the march—a battalion of *chasseurs de montagne*, with gray dolmans and trousers and leggings. As they advanced, the tourists distinguished clearly the column developing its spirals on the side of a steep spur, mounting from the depths of the valley of Luceran towards the peak of La Calmette. On a point to the left a group halted, forming the vanguard; the main body of the troop climbed slowly, followed by a long line of mules.

At that moment the firing of a cannon re-echoed from rock to rock, and announced the beginning of the attack. Little by little all the battalion got footing on the top of the spur, deployed on this difficult ground, and advanced towards the principal peak. The musketry rattled, backed up by the thundering of the artillery. Lines of agile foot-soldiers rose from the hollows of the rocks, from the midst of the bushes, from the irregularities of the ground, showed themselves for a moment, then disappeared, and kept on advancing. The frightened chamois, surprised by these sounds in their solitudes, bounded from rock to rock. Their wild flight will carry news to the inhabitants of the Italian slope, who have a proverb saying, “When the chamois come down in flight, the French are mounting on the heights.”

The attack continues. The noise redoubles. The chas-





INDUSTRIA

TURCOS



seurs are running up the steep slopes. At last they reach the summit. What lungs! what legs they have!

Now the troops halt, assemble together, make coffee, and take a rest. The tired tourists join them. The officer in command, having been informed of their misadventure, promises to help them.

"I cannot have you taken back to the plain to-day," he says to them. "You will have to stay with us until to-morrow, and follow us to our camp to-night."

"Oh," said one of the ladies, "that is impossible. We cannot walk another step."

"Do not be alarmed, ladies," replied the officer. "Our pannier mules will carry you. We will put you up comfortably in the bivouac; and to-morrow we will go down to La Bollène, where you will find carriages for Nice."

The proposition was promptly accepted. The bugle sounded the signal for departure, and the ladies were placed on the backs of the ambulance mules, accompanied by the men of their party, and intrusted to the care of the doctor of the battalion. For a time the road was fairly good. An hour's march brought them to the wood-cutters' camp, a group of huts inhabited by the men who work the forest. Here the mules' straps were tightened, their shoes examined, and their burdens carefully put in order, for the last part of the road is the hardest. The wood-cutters' camp is the last point where there is any water, and so, before starting, all the animals are given to drink, and all the pots, gourds, and other receptacles are filled.

The zigzag and very precipitous path, mounting up a steep incline formed of loose fragments of rock, is hampered by roots and branches of trees. The men march briskly. Their step shows that they are accustomed to

the mountain, its steep paths, and its rarefied air. Their lungs, like their muscles, are strengthened by these repeated exercises in the woods, on the heights, and across the glaciers all through the fine months of the year.

Farther on the ground gets bare; the path runs over the rock itself; the zigzags are so short that they have scarcely the length of a mule. The animals advance but very slowly, and by the time the ambulance reaches the plateau the soldiers have already been there some time, and the bivouac has been rapidly formed.

The officer in command comes forward to meet the tourists, and, to their great surprise, proposes to conduct them to their hotel. They follow him. The mules stop at the extremity of the plateau, where the woods begin. Under the trees a bivouac has been installed for the tourists. A *gourbi* of pine branches will protect them from the coolness of the night. The entrance is decorated with bouquets of mountain flowers.

“Here is your home for one day, mesdames,” says the officer. “We will send you the mule litters, and, with some fern and a rug, you will have a fairly comfortable bed.”

“We accept the lodging, but not the beds. We will not deprive your sick.”

“I have no sick,” replies the officer. “There is nobody in the ambulance. The ambulance is, so to speak, useless. We have been on the march during the past three months. We have just marched six long spells without a rest. We shall march again to-morrow, and then perhaps we shall take a day’s rest. My men are in perfect training. Now I will leave you, mesdames. In an hour I will come to take you to dinner.”

At the appointed time the officer came, and all the tourists followed him across the plateau, admiring the



HUSSARS



splendid panorama spread out before them. From the summit of the Aution (2060 metres) they saw at their feet, like a gigantic ditch, the valley of the Mimiera joining the Roya at the east near San Dalmazzo, and commanded by an Italian fort, the most advanced of the works that defend the Col de Tende. Beyond the depth of the Mimiera rose the last chain of the Alpes Maritimes, throwing up heavenward the ridge Del Diablo (2687 metres) and the peak of L'Abisso (2775 metres), an enormous mass, with its snowy covering tinted rose by the setting sun—a grand and striking spectacle, especially when seen from the midst of a bivouac, itself always so curious and so attractive. The sentinels watch as they pace to and fro. The mules browse the scant but tasty grass of the high plateaux. Seated on old tree-trunks, the officers finish their itineraries, complete their notes, draw up reports on the country they have traversed, make sketches of the distant mountain silhouettes. The soldiers sing as they clean their arms, shout, run, and amuse themselves with games. To see their movements and their activity you would never think that they had marched twenty-five miles and accomplished a manœuvre amid all the obstacles of mountainous ground. The Italians have reason to be proud of their Alpine companies. Our *chasseurs de montagne* are not one whit inferior to them in tenacity and endurance.

Night closes in. Dinner is served on a table formed of wattled branches covered with flowery turf. Old pine trunks, cut down in time of former wars, serve as seats. A big fire and torches formed of pine branches light the guests at this original and rustic feast. At such an altitude frugality is obligatory, nevertheless the fare is quite respectable. The chief dishes are red partridges and *civet de chamois*, pine mushrooms, an ice made with ewes' milk

and snow, while strawberries, arbutus berries, and wild forest fruits, served in nests of moss, formed the dessert. The tourists are delighted, and thank the officers by drinking their health, and soon all retire to rest, for the next morning they will have to be up betimes.

At daybreak the battalion resumes its march along the ridge, alternately through woods and across meagre pasturages. The solitude is absolute except for some *pastorcello* guarding his goats, who seem literally to cling to the mountain-side. The view is marvellous when the distance appears through a rent in the opaline morning mist.

The summit of the Tuor is reached without great difficulty, and after that the road follows the jagged edge of an extinct crater, at the bottom of which winds a silver ribbon, the Planchette, which at the end bathes the foundations of the Hôtel de la Bollène, whose dazzling white walls seem not far away, although it will take hours to reach it. The inclines become steeper and steeper, and the path narrower and narrower. The ladies seated in the panniers and swayed by the movements of the mules above the abyss are not without alarm. They are not accustomed to the sensations of these giddy heights and depths.

The road gets worse, and becomes absolutely execrable at the point where the grand descent begins, and where the track is scarcely marked out in the sinuosities of the rocks. At one point great blocks overhang; at another sharp projections have to be turned; almost all the way the road follows the edge of a precipice. One cannot imagine how the mules will pass with their burdens, or how they can even get footing in this dangerous pass. The battalion passes without winking, as if it were the simplest thing in the world, and the mountain battery follows in its turn. But not the tourists; they find the danger too





GENERAL AND STAFF

imminent and dismount, preferring to trust to their feet. Meanwhile they wait till the path is free, sitting on a granite promontory, and watching the whole battery de-file along this track, which seems impracticable even for the goats themselves. It is a work of strength and patience, and requires as much skill as it does coolness. The soldiers hold up the mules, and even their burdens, by means of ropes. Thus relieved, the animals glide along rather than walk, stiffening their fore-legs, and almost touching the ground with their hind quarters. A few accidents happen, but, thanks to the manifold precautions

and to the care of the drivers, they are rarely serious; the mules that fall are soon put on their feet again. At last this long and perilous pass is cleared; the battery and the ambulance rejoin the battalion, and after a short halt the march is resumed, and La Bollène is reached.

The tourists rushed into the hotel, delighted to find themselves once more in a civilized place, and to be able to rest for a few hours. The column, however, continued its march. Later on the tourists started for Nice in a carriage. Towards the end of the day they overtook the indefatigable *chasseurs*, who were still marching along, although more than twelve hours had passed since they had begun their day's work.

## VI

Towards the end of the month of August the station of Florac on the Midi railway presented an unaccustomed aspect. The employés were all on the *qui vive*. A picket of soldiers under arms was waiting at the door. An officer was superintending the arrangement of tall wooden indicators with the inscriptions, "Caserne haute," "Caserne Ducale," Caserne des Célestins." A number of subaltern officers were walking up and down the platform in the midst of a crowd of people who had come merely to see. The 4.30 train was expected, bringing most of the reservists who had been convoked to do their twenty-eight days of military service.

The train steams into the station with a bunch of heads straining through every car window, and with a din of cries, calls, and songs. From all the compartments issued young men, each carrying a valise or a bundle. Most of them wear civil costume; some are in military uniform.

The agitation is extreme. The officers at the top of their voices call out the names of the barracks, and group the reservists around the indicators. Gradually order is established ; the noise ceases ; a roll of the drums has sufficed. The reservists follow the subaltern officers out of the station, and proceed to march firmly along behind the regimental band which has come to meet them. The mass of men, so noisy and loquacious a minute ago, has become silent, taken place in the ranks in correct order, and marches along to the rhythm of the music in the most methodical manner, without murmur or protestation.

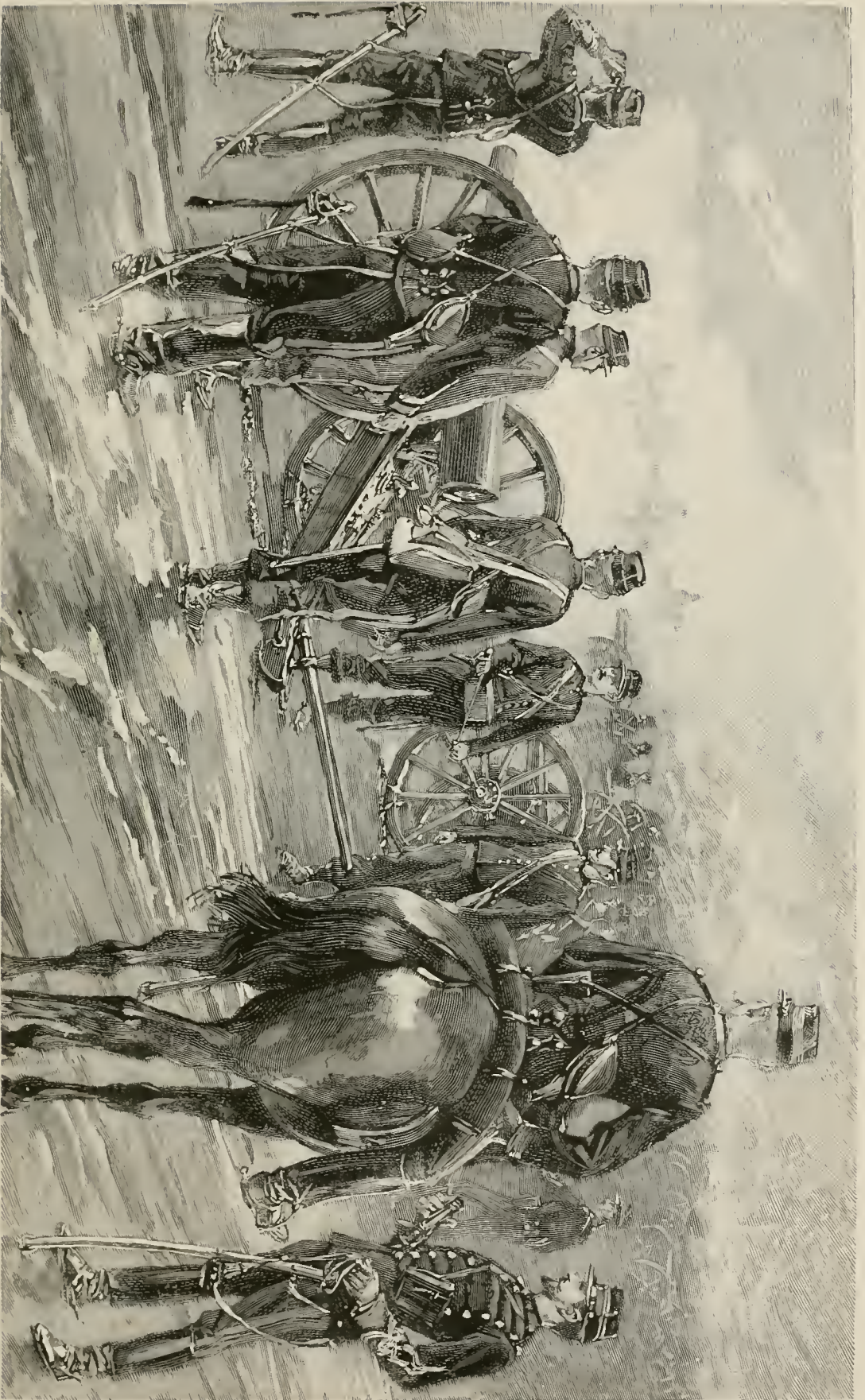
When they reach the barracks the detachments are handed over to their captains. The roll is called. There are few missing. The reservists take up their quarters in the rooms that have just been occupied by the men of the territorial army. In military life there is no dull season ; the various categories of men succeed each other ; recruits, *disponibles*, *non exercés*, *dispensés*, *territoriaux*, *réservistes*, come, one after the other, to receive or to renew their instruction.

The next morning, as if they had been touched by a magic wand, all these men were dressed, equipped, armed, and at work on the drill-ground. To see their bearing, their zeal, and their readiness in the exercises, inexperienced eyes might confound them with the regular soldiers of the regiment. This rapid transformation—one of the necessities of modern warfare—has become part of the manners and customs of the country. Three days afterwards the regiment left Florac to take part in the grand autumn manoeuvres, absolutely in the same conditions as if it had started on a real campaign.

## VII

During the autumn manœuvres the cantonment of the troops has a peculiar and picturesque character. It is neither a fête, nor a fair, nor a market, but all three put together. The streets are crowded with vehicles, horsemen, *estafettes*, troops, canteen women, sutlers, contractors, all hurrying about and very busy. Every house is changed into barracks. The stables, the sheds, barns, and store-houses are full of soldiers cleaning their accoutrements, furbishing their arms, cooking their food. The population has suspended its existence. Those who can find anything that the troops want, offer it for sale. Those who have nothing to sell stroll about to satisfy their curiosity. Cart-loads of bread and meat follow wagons laden with straw or wood, and no sooner have they arrived in the market-place than they are emptied into the regimental carts, which distribute their contents in the different quarters. Meanwhile the telegraphists unroll their cables and fix them along the houses; the ambulant station is installed in front of the town-hall, and messages begin to go and come. There is the staff—the motor, the brain, the apparatus, that transmits the will of the commander of the army corps. On horseback, surrounded by all his officers, the chief of the staff listens to reports, gives orders, signs papers; the officers write on the pommel of their saddles; messages are despatched in all directions, and conveyed rapidly by *estafettes* on horseback, orderlies on foot, velocipedists with light trousers, gaiters, and little caps.

A big cart with four horses arrives at a trot, with difficulty cleaving its way through the crowd. It contains long baskets that seem to hold poultry. The crowd salutes this apparition with a volley of jokes, but soon it becomes all attention when it sees that the baskets contain carrier-



FIELD ARTILLERY



pigeons. The birds are to be let go, and all crowd and crush to see the operation. An officer verifies the indications on the baskets, and has them opened one after the other. The pigeons come out slowly, rise, sweep round two or three times, and then start off in a straight line for their homes, not a little alarmed by the cries and the joy of the public deeply interested by the spectacle.

Next follow the aeronautical carts, with a big balloon swaying over the first one, while on the other carts are numbers of little pilot or reserve balloons, the oven for making the gas, and ropes and tackle of all sorts. The sight-seers are much impressed by this new war apparatus, which they now see for the first time, and which, in their enthusiasm and astonishment, they honor with an ovation.

Suddenly the market-place is cleared. The people hasten away as quickly as they came. A word has sufficed: "Les étrangers arrivent!" The foreigners are coming! And everybody hurries away to the railway station.

A regimental band plays when the train arrives bringing the foreign officers. The chief of the staff welcomes them in a room decorated with flowers and verdure, where the local authorities are assembled. After these compliments the foreign officers are conveyed in breaks to the principal hotel, where rooms have been engaged for them, and while the regimental wagons are bringing their baggage, a lunch is served in the dining-room. After lunch the foreign officers go for a walk through the town in little groups. The crowd gazes at them deferentially, trying to distinguish their nationality from their uniforms, and discreetly manifesting its sympathies.

But the streets are so crowded that it is not easy to walk about. It is the hour of the evening meal. The streets, the open spaces, the court-yards, are encumbered with tables. Hotels, inns, cafés, make every effort to satisfy

their swarms of customers. Soldiers and reservists are eating, drinking, laughing, and singing. During the march, the manœuvres, and the *corvées*, the men have remained serious, but now that they are no longer on duty, *gauloiserie* resumes its rights and overflows like the glasses. There are no sulkers, no sufferers from homesickness. Oblivion wipes out all cares. The soldier's life is hard at times, but there is no help for it, and the men are gay and joyous all the same—a precious quality in manœuvres, admirable in war, and an excellent resource against adversity.

Night comes on. Lamps, lanterns, and candles are lighted, and throw into relief the dark shadows of the garlands of foliage and the transparencies, with their inscriptions in honor of the army. In-doors and out-of-doors there are sounds of music and dancing. No scandalous scenes, no drunkenness. This frank gaiety, this vigor of our men, who, after marching all day, and with the prospect of hard work the next day, still run about and dance, always astonish foreigners, who are struck by their physical endurance and good-humor.

## VIII

A little after sunrise solitude reigned in the little town of Monvel, that had been so animated the previous night. The troops had all disappeared, and nearly all the inhabitants too, for they had gone to see the manœuvres. At a distance of about six miles from the town the columns of troops begin to appear and to close up. A long file of breaks brings the foreign officers up to a vast circular tent, where a well-provided buffet awaits them. The general-in-chief is announced, and all the officers place themselves according to nationality, and the official presentations take



place. Then the general retires to order operations to begin. The foreign officers find horses ready for them, and under the guidance of French officers placed at their service they disperse, in order to follow the incidents of the action.

The attacking troops advance slowly in long lines of sharp-shooters. The defence retreats, and concentrates its efforts on defending the passage of the valley, the hedges from which tall poplar-trees rise, the mill, whose dam, running parallel with the river, augments its power of resistance. Still the defence is obliged to yield, and accordingly falls back half-way up the hill, where a village forms its centre. This point becomes the object of all the efforts of the assailants. The defenders are once more forced to fall back to the summit of the hill; the position is excellent and difficult of access. The defence has taken its measures well. The attack, however, behaves equally well. The lines close up; the reserves approach. You feel that the *dénouement* is not far off.

To the right a long cloud of dust and a dull rumbling announce the approach of artillery, which dashes forward, and soon deploys on a hill-side. They are no longer small cannons of shining bronze, such as the Prussian pieces destroyed in 1870, without fear of being touched by their projectiles. In place of these old-fashioned guns we see a long row of stiff and black steel tubes without artistic character—artillery of long and precise range, with which the enemy will have one day to count.

The public hurries up on foot, on horseback, in carriages, eager to see the exciting spectacle of the image of war.



VELOCIPEDIST

On the side that forms the left of the attack is an elevation commanding the Canal du Midi. Some horse batteries trot up and take their position there. They clear walls and ditches, then deploy at a gallop, stop in line, and run out their guns. Two squadrons of chasseurs, on their little smoking horses, gallop after them, leap over all obstacles, dash through stones and bushes, and take up their position a little in the rear of the batteries, to protect them.

The crowd applauds the artillerymen and the chasseurs, whose rapid evolution has been executed with incomparable dash, boldness, and *maestria*. Absorbed by their enthusiasm, the spectators want to see everything without heeding the dangers that surround them. No sooner are the batteries in position than the firing begins. The repeated detonations frighten the horses in the throng of carriages. The ladies stop their ears. Screams and cries of lamentation are heard. One horse bolts away with a carriage full of people; the coachman has lost all control; the descent is steep; the road runs along the brow of the hill that dominates the canal; the turn is very short, the danger imminent, and no help appears possible. A lieutenant of the supporting squadrons sees the danger and the way to meet it, makes his horse leap over hedge and ditch, and places himself tranquilly across the road. The carriage comes tearing along; there is a terrible shock; officer and horse are overthrown, and the runaway horse and carriage come to a stand-still in a cloud of dust. The people in the carriage are unhurt, but the lieutenant, who has saved their lives, is picked up grievously wounded and unconscious. Thereupon the men of the Red Cross Society come up and take charge of him. The canal is near, and on it is a section of the floating ambulance, a recent creation of the Union des Femmes de France, whose litter-men carry the wounded officer on board, and convey him to

the village of Pontpetit, where at night the ambulance of the army corps is to be established.

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The riflemen thicken their ranks;  
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left the artillery quickens its  
infantry well sheltered form  
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a vigorous effort. On  
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uneasy. You feel



BALLOON CARTS

from their restrained step that the charge is about to take place.

The signal is given. From all sides the troops dash forward, the cavalry towards the enemy's flank, the infantry in the same direction. Bayonets are fixed. Drums and bugles beat and sound the charge. In spite of the steepness of the ascent the step is quickened to a run, to repeated cries of "En avant! en avant!" The enemy retreats, and the public too, terror-stricken by the torrent of mounting bayonets. The assault is finished; the crest of the hill is reached; the position is won.

## IX

A few days afterwards the army corps was assembled on the banks of the Gers, in the splendid Armagnac region near Auch. The grand autumn manoeuvres were at an end. The final review was about to take place. This event is the fête, the crowning of the efforts, the recompense of the labor of all.

From very distant points the spectators have gathered in such immense crowds that, although very numerous, the troops are almost lost amid the ocean of heads. The faubourg is decorated with flags, garlands, triumphal arches of greenery, banners, and *banderoles* bearing inscriptions in honor of the army. The Place de Strasbourg is thronged with people—on the roofs, on the trees, at the windows—every corner is occupied. The review is passed. The general-in-chief returns to the Place, followed by all the foreign officers in full-dress uniform, and the marching past begins amid the applause of the spectators, who comprehend the importance of the result manifested by the smart and regular step of the in-

fantry, still fresh and in fine form after twenty days of hard manœuvres.

In this part of France people are impressionable; they feel and appreciate vividly; their demonstrative nature delights in exterior manifestations; they feel a need of giving vent to their enthusiasm. To see their reservists, their children, their fellow-citizens, march smartly past and represent their province brilliantly in the eyes of all the foreign military missions excited their enthusiasm to the highest degree, and made them prodigal of their cheers. All the regiments, all the arms, all the colors, were greeted with roars of applause; the very length of the spectacle seemed to revive them; and their enthusiasm was justified.

When it was over, when the commander-in-chief saluted the foreigners and the authorities, and then returned into the town, followed by his brilliant cortege, cries of "Vive le général!" rose from all sides. The crowd seemed to have but one voice to say to him, "Merci!"—thank you. Among these ardent Southerners it was, as it were, a veritable explosion of national sentiment and local self-love. Doubtless there was in it a warm and grateful feeling towards the chief who had directed the manœuvres, but this unanimous homage was addressed principally to the army, to its activity and its good training, which are pledges of security and of hope. And in their enthusiasm you felt the vibration of the nation itself applauding the living expression of its resuscitation.

## X

Other manœuvres, more restricted but not less interesting, were then taking place in the Vosges district, where excellent troops found enthusiastic hearts to admire them. Under the less luminous sky of eastern France you no longer find the noisy expansiveness of the south. On the frontier the attitude is silent and melancholy, and cries are replaced by looks that are as eloquent as words.

The contrast is complete between the two sides of the mountains. On the west, calm, tranquillity, hope. On the east, agitation, persecution, alarm. A strange spectacle. The Germans live in a state of perpetual suspicion. The smoke that rises in the air, the wind that blows, the gunshot of a hunter, the digging of a ditch, the building of a wall—everything excites their suspicion. The movements of our troops in particular worry them intensely. Military reconnoissances, making rapid explorations on the slopes of the Hohneck or the Prayez, drive them wild, and all sorts of suppositions come into their heads as to the motives, the means, the object. The absence of all mystery makes them think that there must be some. They want absolutely to know what we are doing. They are astonished to see us moving about in our own country, so little do they themselves feel at home on the other side of the mountains.

The Germans are tortured with apprehension. Their ever-increasing armaments do not make them feel secure. The victor, the conqueror, the mighty man, declares that he fears nothing, and at the same time he fears everything, both what he sees, and still more what he does not see. The Germans are peculiarly concerned about the progress of the French army. They feel that they are already equalled, and that perhaps they will soon be surpassed.



CHASSEUR A CHEVAL

Hence that immoderate need of getting information under all pretexts, by all means, under all disguises. Tourists, workmen, peddlers, ambulant musicians, etc., are always wandering about the frontier zone. But, in spite of that, they are always in doubt. All the precautions they take, all the spies they send, all the money they spend, do not satisfy their curiosity. Why? Because the information obtained is not such as they could wish.

Refusing to believe in the so complete reorganization of the French army, a Pomeranian seigneur resolved to judge for himself, and requested his doctor to prescribe for him an air cure in the Vosges. Armed with an iron-

shod alpenstock, which he carried so that all could see it, and with a revolver hidden in his pocket, accompanied by some friends and preceded by a few spies, he climbed up the mountain, gained the edge of the woods, and came and sat close to the frontier, on the ruins of the feudal castle of Zweifelhof. From this point he could see a portion of the French slope of the Vosges, where a manoeuvre was announced to take place. He saw on the ridges some Alsacians showing themselves timidly, for they, too, wished to see our soldiers. The Pomeranian was well placed in order to appreciate the emotion of the former and the merit of the latter.

Soon the solitude became animated. Some scouts are seen at the bottom of the valley. Riflemen appear in the black woods. There are preparations for a fight, and the firing begins.

“Oh!” cries the foreign spectator; “by the devil, who is the accomplice of these Gauls? I hear shots, but I see no smoke. Another legend gone overboard.”

At this moment an infantry regiment, issuing from the forest, crossed the valley calmly, and advanced in battle array towards the opposite slope.

“Always imprudent—the French,” remarked the grand seigneur. “They are going to mount those long slopes, where they would be easily mown down by the fire of the enemy.”

“No, Excellency, that is a pretence only; you see they are bearing more to the right.”

“To the right there are rocks. They cannot get up that way, I imagine.”

“Still they seem to be doing so. Yes; they are climbing.”

“They must be mad to try to climb up a rock so steep that it is almost perpendicular. The ascent is impossible.”



“Still, they are getting up.”

“Well, if they did get up they would be cut to pieces at once by the enemy on the top.”

“But the enemy could not stay there. See the French batteries opposite, half-way up the hill, and covering by their fire the eminence that the infantry are scaling. Their bold manœuvre might be successful, after all.”

The Pomeranian seigneur made no reply. He seemed ill at ease, and after a moment he asked for his cloak and his flask, out of which he drank. “Where does this Branntwein come from?” he asked.

“From Aarau, Excellency; it bears the mark.”

“The bottle, yes; but not what is in it. It comes from France. There can be no mistake.” Then he murmured to himself: “Inexorable fatality! Germany cannot produce cognac! What a subject of observation for the physiologist and the moralist! So much weakness combined with so much strength!”

Mute, his eyes fixed on the battalions scaling the rocks, he shook his head as if to drive away some disagreeable thought. He suffered, and yet he continued to watch. He saw the summits carried with impetuosity, while the infantry reformed their ranks in an instant, and simulated a thick fire against the enemy supposed to be retreating.

At that moment some women wearing broad bows of black ribbons in their hair, and big white embroidered aprons, and holding their children by the hand, came out of the wood and advanced towards the troops at rest, where they were received with cheers.

“What are all those women doing?” asked the Pomeranian seigneur of one of his followers.

“The French soldiers are a great attraction for the Alsaciennes, Excellency. There will probably be a dance to-night at the farm of Le Tanet.”

“I thought our people were forbidden to cross the frontier and enter French territory.”

“Yes, but they cross it all the same.”

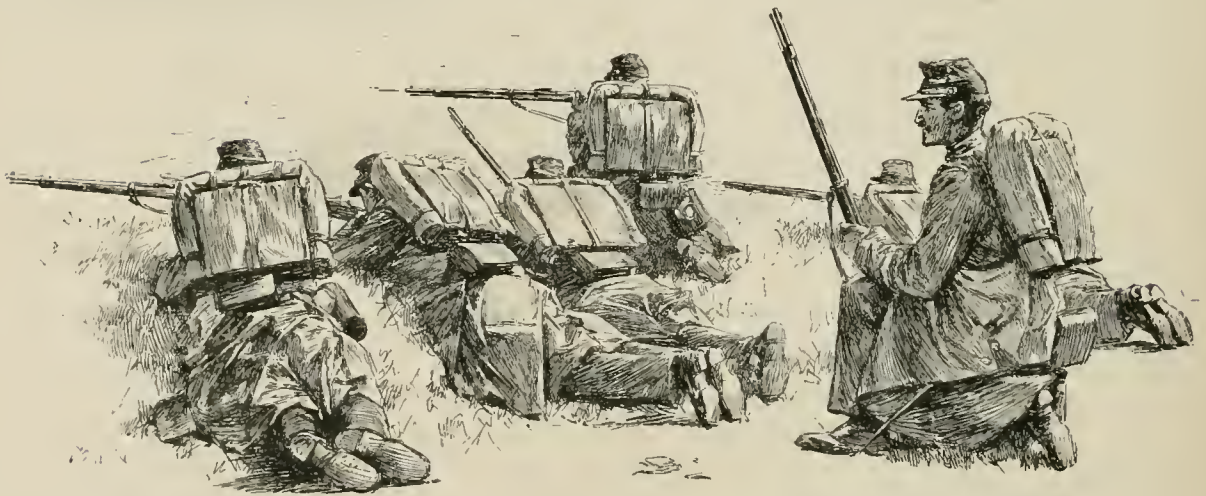
“Shall we have to wall in the frontier, then?”

“That would be a costly and doubtless a useless measure. Walls cannot stop hearts or ideas.”

“True,” murmured his Excellency. Implacable fatality! The Germans can do everything with the help of God, but still they cannot make the Alsacians love them.”

After a short rest, the troops marched back down the slopes and regained their bivouac. They had just accomplished, by way of exercise, one of those manœuvres which sometimes secure a victory. Their good-humor bore witness to their confidence and to their power of resisting fatigue.

The tourist had risen. He wished to go away, and yet he could not take his eyes off the French regiment engaged in disposing its advanced posts and patrols. Short-



CHASSEURS À PIED

ly afterwards a patrol coming up to the guard posted just below the Zweifelhof was met by the cry, "Qui vive?" And the patrol replied, "France."

The Teuton wiped his brow, threw a last glance at the encampment, and went away with the uneven step of an angry man, while the echo of the rocks and the voices of the Alsaciennes issuing from the depths of the woods sent back to his grieved ears the words, "Vive France!"



THE RUSSIAN ARMY





SINCERE and unaffected love for his monarch, profound religious piety intimately united with the idea of the Tsar and of the father-land, attachment to the father-land, unlimited confidence in his chiefs, very strong *esprit de corps*, and a faculty of enduring gayly and naturally the greatest privations—such are the most marked characteristics of the Russian soldier. To these traits must be added remarkable bravery and a rare contempt of death, combined with naïve kind-heartedness and a gentle and indulgent disposition. The Russian soldier is distinguished by a good-humor that never abandons him even in the most difficult moments, by his brotherly understanding with his comrades, and by his gay and contented way of facing all the decrees of fate. Obedience is so deeply rooted in the mind of the Russian soldier that during my thirty years' experience of the army I do not remember to have witnessed one single case of insubordination, either in times of peace or in times of war.

The Russian soldier dies at his post. I have seen him in winter on sentry duty on the heights of Shipka die standing, surrounded with snow, and transformed literally into a statue of ice; I have seen him die on the march, striding over the sandy desert, and yielding up his last breath with his last step; I have seen him die of his

wounds on the battle-field or in the hospital, at a distance of three thousand miles from his native village—and in these supreme moments I have always found the Russian soldier sublime.

Although a child of the plain, where his eye rarely descends the most modest hill, we see him boldly scale the topmost summits of the Caucasus, and climb the rocks and glaciers of the Thian-Shan, fighting all the time. He

feels at home everywhere, whether in the steppes of the father-land, in the tundras of Siberia, or the mountains and deserts of central Asia. He has an exceptional faculty of putting himself at his ease wherever he may be, even in places where others would die of hunger and thirst.

I have seen the Russian soldier at home in time of peace, or during truces in the enemy's country, rocking the peasant's child in the village where he was stationed; I have seen him bivouacking in the desert, with his tongue parched and burning, receive his ration of a quarter of a litre of salt-water; I have seen him in heat and in cold, in hunger and in thirst, in peace and in war—and I have always found in him the same desire to oblige, the same abnegation of self for the sake of the safety and the good of others. These special characteristics of the Russian sol-



OLD GRENADIER



dier—his self-denial, his simple and natural self-sacrifice—give him peculiar powers as a warrior.

The fifteen thousand miles of frontier of the empire offer infinite variety of topographical details, beginning with the wild heights of that long range of primitive mountains which, starting from the Pacific Ocean, separates the Russian Empire from the Celestial Empire, and ending with the moss and virgin forests of Lapland, and the fjalls of Norway, to say nothing of the whole coast of the Arctic Ocean. These frontiers traverse mountainous countries—parts of which have not yet been enlightened by human knowledge—burning deserts, green steppes, where thousands of Kirgheez and other nomad tribes pasture their innumerable herds; they cross fertile plains, and seas ploughed by the ships of all nations; and they touch the most civilized and the best cultivated countries of Europe. The different tribes and nations which people the adjacent territories of these enormous frontiers are so widely different and so numerous that their mere complete enumeration would take too much space. We can note only Coreans, Tunguses, Manchoos, Mongolians, Kalmucks, Chinese, Uzbecks, Afghans, Persians, Kurds, Armenians, Wallachians, Poles, Germans, Swedes, Laplanders, etc. We might therefore readily conceive the great Russian army to be composed of many parts of different nature, each specially trained to act in different spheres, in opposite climates, and against different and particular nationalities. We find, however, in reality, that the great Russian army, with the few exceptions only of the irregular troops, which are not numerous, forms one grand homogeneous mass, organized, armed, clad, and disciplined in the same manner. The battalions of the line and riflemen of eastern Siberia are not distinguished in any way from their comrades of the same arms in Turkistan or the Cau-

causus, or from the regiments in Poland and in the district of St. Petersburg. A few minor details of costume, necessitated purely by questions of climate, may alone be remarked here and there. The Russian army is therefore, in all its parts, ready and capable to act on every possible field of battle, otherwise it would be impossible to defend a territory so thinly populated in comparison with its extent.

Ethnographical circumstances play in the construction of the army a much less significant role than one might be tempted to expect in an empire which comprises fifteen great nationalities, not including the different component tribes. In Daghestan alone, which forms a part of the Caucasus chain 120 miles long by 90 broad, we find forty-eight different tribes, almost all speaking a dialect of their own. But in spite of this wealth of ethnographical elements, we find the greater part of the different nationalities of Russia in Europe, Siberia, and the Caucasus mingled in the regular army. I knew very well one regiment stationed on the banks of the Volga in central Russia which was chiefly composed of inhabitants of the governments of Kostroma and Wladimir, but in which there were also Lettes, Poles, and 138 Tatares from the environs of Kazan. The Penzates, the Bashkirs, the Finnish Tchermisse tribes, the Tehuwakes and the Mordwa, who dwell in the central district of the Volga, along its eastern affluents, and in the Ural Mountains, also serve in the ranks of the regular army. But at the end of a single year's service all these representatives of different races are merged into one and the same type, that of the Russian soldier.

In recruiting the troops we endeavor as much as possible to follow the principle of forming regiments of men taken from the nearest governments. But in a country



THULSTROP  
after Répine

THE DEPARTURE OF THE CONSCRIPT

where the population is so unequally distributed this is not always feasible. Thus, for instance, the Turkistan troops are ordinarily recruited from the environs of the Kama River, from Oufa, Orenburg, and western Siberia, while the Caucasian troops are recruited from the central and southern Volga, from the steppes of the Don and of the northern Caucasus. For the guards, the artillery, and

the special arms the tallest and most robust men are selected from all over the empire. The cavalry is chiefly recruited from Little Russia and Ukrania—that is to say, from the governments to the north of the Black Sea, whose inhabitants are considered to be peculiarly suited for this service. The fleet takes its contingent from the governments of the North, from the islands, and from the Baltic provinces. The sappers, miners, electricians, and balloon corps are chosen among those whose trades and anterior occupations render them most eligible.

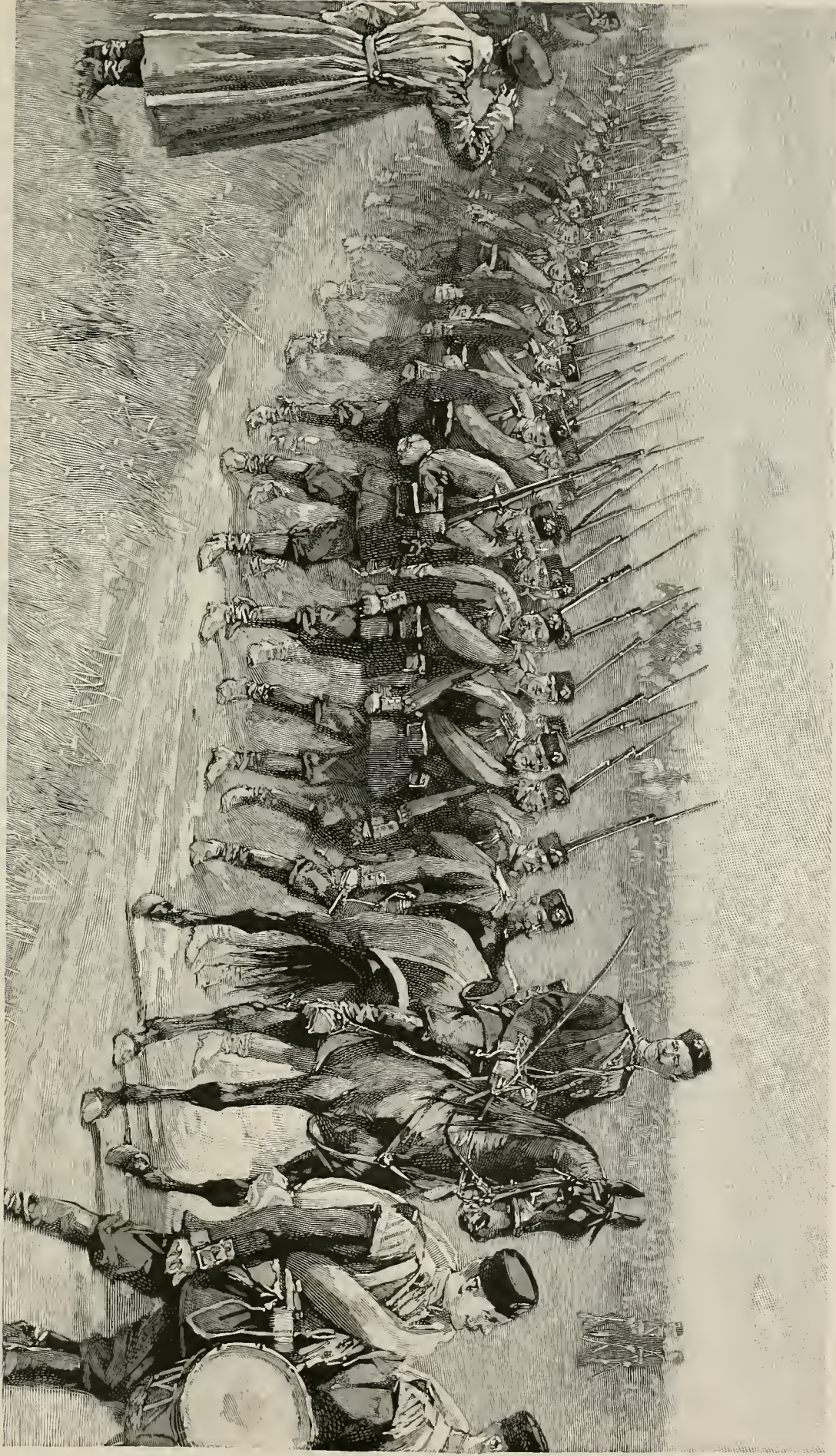
The Finnish nation has its own army, composed of battalions of riflemen and a regiment of cavalry, which, with the aid of Russian artillery, are charged with the defence of the country and the protection of the Russian frontier on that side.

Besides the regular army above mentioned, the Russian forces include the following troops, formed specially on ethnographical and historical bases: the Cossacks; the Circassian militia, or Tcherkesses, as they are generally called; the squadron of Tatares of the Crimea; and the Turkoman militia.

Most of the nomad tribes of the steppes of Asia, as well as the Laplanders and the Mongolian tribes, are still exempt from permanent military service. In time of war the former act as local militia, as need may require, serving principally to keep up the outposts, as train guards, foragers, scouts, and on other auxiliary services.

Russia is divided into fifteen military districts, which comprise also Finland, Siberia, the Caucasus, the Transcaspien region, and Turkistan. The Caucasian troops used to form an army by themselves, but they are now incorporated in the general organization, and bear merely the name of “troops of the military district of the Caucasus.”

At the head of each military district is a general, who



INFANTRY OF THE IMPERIAL GUARD



is often at the same time governor-general of the region. In other districts, as, for instance, in those of Moscow and Wilna, these two offices are shared by two generals. The chiefs of the military districts are directly subordinated to the Minister of War. The troops are divided into corps, composed of all the arms, together with the necessary auxiliary troops. The corps, which in time of peace and in time of war forms the largest administrative and strategic unity, can thus, if necessary, act quite independently. In time of peace the commanders of corps depend upon the commander of the military district. In war time these corps are formed into armies, to which are added, as need may be, irregular troops, siege artillery, and other auxiliaries.

The regular infantry comprises 48 divisions of 4 regiments each; of which 3 are of Guards, 4 of grenadiers, and 41 of the army; 55 battalions of riflemen; 109 reserve battalions, which are transformed in war time into the same number of regiments; 164 depot battalions; 32 battalions of the line; and 13 local battalions—representing in war time a total force, not including officers, of 1,371,926 foot-soldiers.

The Russian Guards, stationed at St. Petersburg and Warsaw, composed of the finest men of the whole Russian nation, accustomed to exercise and manœuvre constantly under the eyes of the Tsar, and being almost always commanded by some member of the imperial family, form a picked corps, which for exterior brilliancy, perfect drilling, and precision of movements is unequalled. In the ranks of the Guards the members of the imperial family serve as simple officers, while the staff is made up of the most distinguished military men of the empire. The chiefs, who until quite lately were chosen exclusively from the highest aristocracy of the country, are now selected from

among the most eminent and experienced generals and colonels of the army, irrespective of birth.

The Russian infantry is remarkable for its firmness and its stoicism, as the walls of Sebastopol and the intrenchments of Shipka bear eloquent witness. Never, up to now, has a Russian troop, large or small, yielded arms in hand. But how many examples are there where a handful of men, surrounded by a stronger and more numerous hostile force, have resisted and fought until the last man has fallen! The attack of the infantry is vigorous and rapid. When it rushes upon the enemy, its united "hurrah," drowning all other sounds, has carried many a rampart, and often put the foe to confusion without the aid of bayonets.

Of late the Russian infantry has achieved remarkable precision in shooting. During target practice in peace time it is considered nothing extraordinary if 60 or 70 per cent. of the bullets hit the mark. The firing discipline, too, even in the most critical moments, is very remarkable. Towards the end of the famous Khiva campaign a small troop of eight battalions, two batteries, and a thousand Cossacks was sent to establish order among the Turkoman tribes dwelling in the parts to the west of the oasis. These Turkomans refused to fulfil the conditions of peace accepted by the Khan of Khiva.

On the night of July 15th (27th) the little troop was encamped in a square in the neighborhood of the village of Tchandir, not far from the fortress of Illalle. On one side was a stretch of gardens following the line of the irrigation canal of Schah-Abat; on the other three sides was a plain intercepted by innumerable canals and dotted here and there with sand-hills. It was decided, without regard to the darkness, that we should break up the camp at one o'clock in the night, in order at daydawn to attack



the Turkomans, whom we believed to be gathered at a distance of about ten miles. The start, however, was delayed until two o'clock. The cavalry opened the march, which was a mistake. The infantry had already left its quarters, and was advancing irregularly towards the starting-point, where, mingled with the artillery, it stopped, waiting for the Cossacks to pass, so that it could take its place in the column. In a word, the troop was in a position where it was least prepared to meet an attack, and that, too, in the middle of the night, and in darkness such as no inhabitant of the North can conceive.

Hardly had the first squadrons, with Prince Eugène de Leuchtenberg at their head, started along the road, than suddenly the air trembled with clamor, howls, and savage war-cries from a crowd of several thousand men, and seven Turkoman tribes, men and women together, fell upon our troop. Our squadrons were flung back upon the rest of the cavalry by force of the shock upon the infantry. The confusion was terrible. We could not see the confusion, for it was too dark, but we felt it. No more could we distinguish friends from enemies. At this moment I was crowded in the midst of a group of Cossacks, and my horse was pushed gently and slowly, as if by waves, first one way, then the other. At first not a single shot was heard, but only the dull thud of sabres striking human bodies and the lamentable cries of the wounded. Suddenly there was



SENTRY—THE PAUL REGIMENT

a flash and a glare in front of us, and a violent explosion, then a second, and a third. The rocket battery, being among the first squadrons, had succeeded, thanks to the darkness, in placing its stands right in the middle of the enemy. Unfortunately the rockets burst without rising. Probably they had got wet, and the heat had split them. However, the explosions frightened the Turkomans, and had the result of forming for a moment a little opening in the mass of the combatants. Then I heard behind me an energetic voice, "Make way!" and two companies of the second battalion of Turkistan riflemen passed through the midst of the Cossacks, and dashed to the spot where the battery had taken its stand. I joined the right wing of the first company. "Fire!" re-echoed the word of command, and a discharge was heard so uniform that it sounded like a single shot. "Fire!" I heard immediately alongside, and another similar discharge followed. "Fire!" a little farther, and yet farther, and then farther still, to the right of where I was, one volley after another; and at last, in the distance near the gardens, we heard the rolling of the cannon. Eight successive rounds were fired by the companies near where I was, and in peace time, during reviews, I have often heard worse firing. Between the second and the third rounds a group of Turkomans dashed through the first company and killed four soldiers, but this did not prevent the regularity of the firing. The company was there, standing firmly as if it had not even remarked this little episode, waiting all attention for another command to fire. When the sun, with the rapidity usual in the East, rose on the horizon, our troop was found to be drawn up in a semicircle, one company by the side of the other, in an order as exact as if the manœuvre had been executed in broad daylight and by special word of command. It was the regular volley firing which had

shown the battalions their places. If the firing had been confused and irregular, the troops would not have been able to discover their whereabouts in the general chaos. In the camp lay pell-mell the dead and the wounded, Turkomans and Russians. The chief of the detachment,



AN OLD VETERAN

General Galowatscheff, and the chief of his staff, were both wounded with sabre cuts. In front of our companies was piled up in a compact mass of fallen enemies, and in the distance the horizon was literally covered by the tall caps of the fleeing Turkomans.

But the quality which above all things distinguishes the Russian infantry soldier is his capacity of enduring without exhaustion all the fatigues of campaign life, and of making the longest and most difficult marches without losing his strength and courage.

During General Gourko's expedition on the other side of the Balkans, the infantry sometimes marched without a halt thirty miles, and then began immediately to fight.

The Turkistan army during its campaign against Khiva in 1873, after a two months' march through steppes and the wildest deserts, arrived on May 11th on the banks of the Amu-Daria with only six men sick in the ambulance, although the troop had suffered during this expedition all imaginable privations.

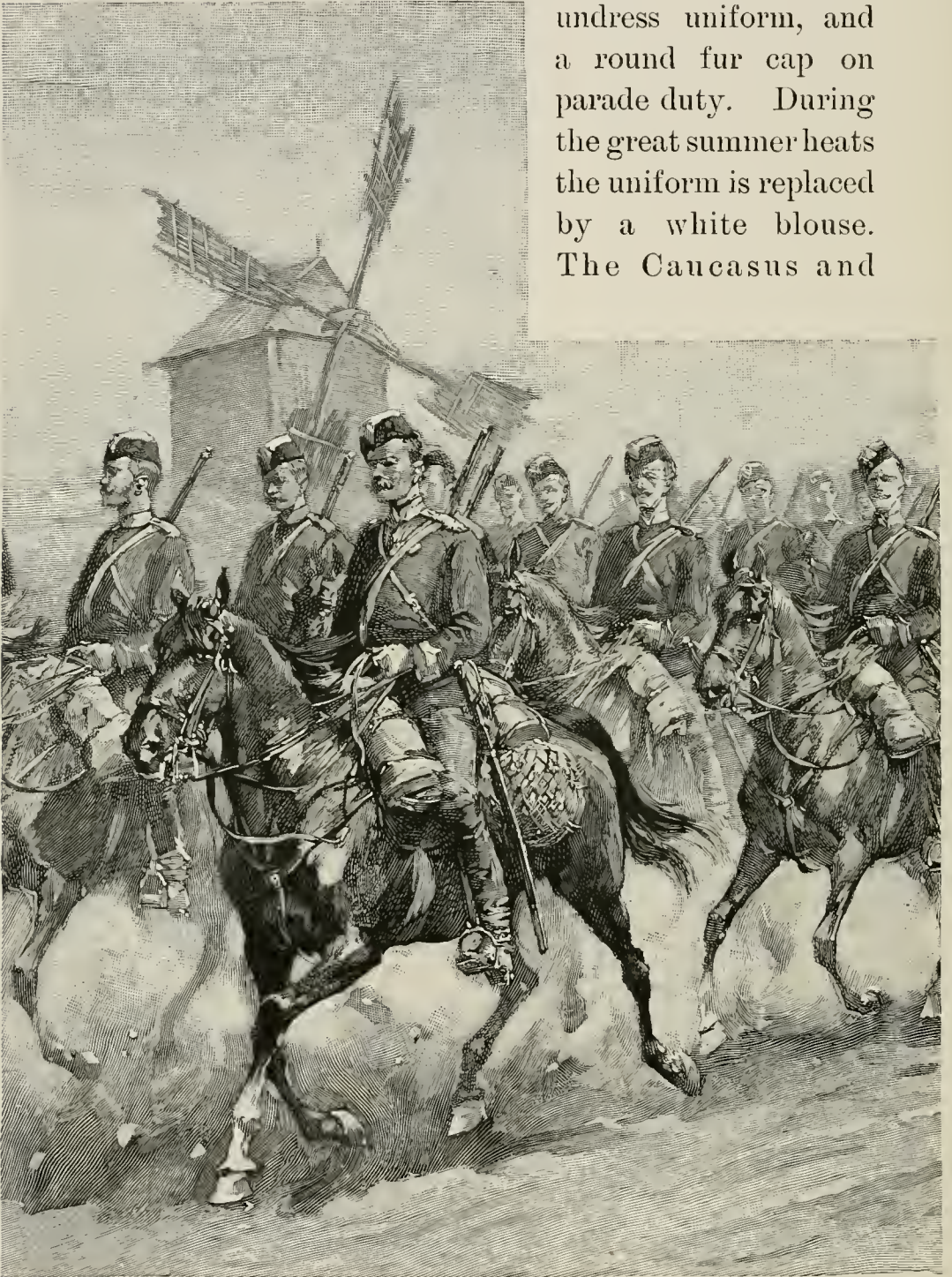
The very first day the troop was caught in the environs of the Dchisak Mountains by a blizzard, in which several of the natives following the army as militiamen and camel-drivers perished of cold. Among the Russian soldiers no fatal accident happened, thanks to the presence of mind of the officers, who organized games, told the men stories, and tried to occupy them in a variety of ways in order to prevent them falling asleep. One commander of a battalion punished a soldier who had lost his horse-brush simply for the purpose of showing the other men that the blizzard was not to be allowed to interfere with the service.

When the Sixteenth Battalion arrived on horseback at Shipka, it attacked, and after serious losses took by storm, a height which the Turks had had time to capture from our men. But scarcely had this height been captured by the brave battalion when the Russian signal of "retreat" was heard, and an aide-de-camp dashed forward to announce that the Russian forces at the other points were beginning to retire. Consequently the Sixteenth Battal-

ion abandoned the position that it had so dearly won. But the signal turned out to be false, and, as we afterwards learned, had been given by the Turks. Immediately the chiefs took measures to restore order. General Radetzky himself came up to the Sixteenth Battalion and gave the order to retake the height. The commander of the battalion demonstrated to the general the utter impossibility of this undertaking after the losses that the battalion had sustained. The soldiers were scattered among the bushes, and the Third Company had entirely disappeared. It was late, and for that reason the colonel asked permission to retake the position the next morning. "Try, perhaps you will succeed," replied Radetzky, with his usual cordial and smiling expression. The battalion "tried," but did not succeed, and overwhelmed by the enemy's fire, intrenched itself in the middle of the slope. The next day, early in the morning, it was decided to take the height in a compact mass. Those behind were to push on those in front. But scarcely had the battalion risen out of its trenches than a loud voice called out in pure Russian from the summit of the hill, "The devil take you, are you mad?" The signal of retreat had not reached the Third Company of the Sixteenth Battalion, which had remained innocently on the height, and, not knowing where the others were, the valiant company had repelled all night long the attacks of the Turks on the one side, and the attacks of its own battalion on the other.

The costume of the Russian infantry soldier is simple, and adapted for service in the most varied climates. It consists of a cloth coat with tails, and short trousers tucked into long boots. The overcoat is a long garment of coarse gray cloth. This latter vestment has given rise to the familiar and affectionate appellation common in Russia, "our dear gray soldiers," by which is also ex-

pressed their simple modesty and ready self-denial. On his head the infantry soldier wears a cloth cap without a peak as working and undress uniform, and a round fur cap on parade duty. During the great summer heats the uniform is replaced by a white blouse. The Caucasus and



DRAGOONS

Turkistan troops wear all the summer white caps, with a sort of tassel hanging over the nape of the neck. In Turkistan the soldiers wear trousers of red skin. As regards the accoutrement of the Russian infantry soldier, it may be remarked that he is a little too heavily loaded, for besides cartridges, provisions for four days, and a tent, he carries also all the *impedimenta* that he might need when campaigning. This fact, however, has the advantage of lightening the baggage train and facilitating rapid mobilization. When, furthermore, thanks to the strength and abnegation of the Russian soldier, the weight of provisions can be augmented to the extreme limit, you will often see, especially in Asia, infantry cross immense distances without any baggage train whatever, and without a single superfluous man in the ranks.

This circumstance constitutes in Asia an enormous superiority over the English, whose fabulous baggage train and mass of camp-followers, who are useless in combat, will sooner or later be fatal to the Indian army.

The Russian regular cavalry is composed of 57 regiments of 6 squadrons each, and 56 depot squadrons, representing on a war footing, exclusive of officers, 95,314 horsemen. The immense herds of horses (*taboun*) which graze on the vast prairies of southern Russia, and in the steppes of the Turkomans, the Kalmucks, and the Bashkirs, furnish the Russian cavalry with material of a richness unequalled in the other States of Europe. All these horses present an endless variety of race, from the tall Argamac down to the Bashkir, the latter a small horse, but very tenacious and enduring. It would, however, take too long to describe the different breeds in detail; it suffices here to say that all the native animals have been improved in a multitude of stud farms by crosses with Arab and English horses. Hitherto these stud farms

have been the principal purveyors of cavalry horses. No country can dispose of so many well-mounted horsemen as Russia. The regular cavalry has especially improved of late years, since the old riding-school principles have been modified and greater liberty left both to horse and horseman to develop their natural dispositions. Since all the Russian cavalry soldiers have been transformed into dragoons, the uniforms are not so ornate and brilliant as they are in other European States; but, thanks to the magnificent horses and to the superb bearing and easy grace of the men, the Russian cavalry is still very imposing in aspect. Its training is very complete, and it is drilled with a view to operating on all kinds of ground. In serried columns it jumps deep ditches, hedges, and ramparts; it is drilled to swim across rivers and lakes; as dragoons the men are also trained to fight on foot, and several of the regiments are not inferior to the infantry in target practice. The consequence is that the cavalry in large masses, and in common with its horse artillery, can act in an entirely independent manner without the assistance of infantry, and when well commanded it constitutes a redoubtable force.

The artillery is composed of 51 brigades (303 batteries) on foot, 30 horse batteries, 24 brigades of reserves (144 batteries), representing a total force of 3780 guns. In this number are included also the Cossack batteries. The fortress artillery is composed of 42 battalions.

The Russian artillery is armed with good cannons; both officers and gunners are thoroughly masters of their specialty; and the excellence of the horses enables the artillery to surmount difficulties of ground in an astonishing manner. The infantry have the highest consideration for cannon, and consider it a terrible disgrace to abandon a gun to the enemy. For the capture of a gun from the





CHEVALIER GUARD

enemy the statutes give the cross of St. George. The defence of a battery in position is entirely the business of the infantry that covers it. The artillerymen consequently carry no other fire-arms but their revolvers. This seems to us a mistake, for there may be occasions when the artillery may have to defend itself.

The other auxiliary troops, like the engineers, sappers and miners, signal-men, balloonists, and ambulance corps, are all organized in the manner which the modern science of warfare has found to be the best.

The Russian miners have long been famous, and, thanks

to the efforts and personal knowledge of General Todleben in subterranean war, have acquired altogether exceptional skill.

In the irregular Russian army our attention is first attracted to the Cossacks. This military force, unique in its kind, forms in its present state the connecting link between the regular and the irregular troops.

In war time the Cossacks can keep under arms 155 regiments of cavalry, 20 battalions of infantry, and 38 batteries of horse artillery. But in time of peace only about half these troops serve; the others stay at home and attend to their peaceful occupations. The Cossacks of the Don alone send to war 62 regiments of cavalry and 22 batteries, of which 22 regiments and 8 batteries serve also in times of peace. In each division of regular cavalry there is, in time of peace, one regiment of Cossacks.

The military education of the Cossack begins while he is still in the cradle, for the first sounds that his ear catches are the warlike words of the songs by which he is rocked to sleep. All the Cossack children's games are of a warlike nature, and almost before the boys have learned to walk they are placed on horseback. The Cossacks are fine tall men, with bronzed complexions and very energetic expressions; their women are renowned for their beauty. The Cossack and his strong little horse form one. His costume is simple and imposing, without any glittering and useless ornaments that would only help the enemy to discover him. He wears no spurs, and all his arms are so well contrived that they never make the slightest noise. Nolon says of them, "A hundred Cossacks make less noise than a single regular cavalry soldier."

On active service the Cossack is the soul and the eye of the army, or rather its pointer-dog. He seems to smell the enemy where no one even thinks of his existence. The

Cossack and his horse do not know what fatigue means, and no one has yet been able to discover when either of them takes rest. Even when slumbering they seem to be watching, and at any and every instant they are ready to



CIRCISSIAN COSSACKS OF THE EMPEROR'S ESCORT

act. The Cossack finds his way everywhere, and glides furtively across the ground occupied by the enemy. If a commander wants to send a communication to a distant column whose exact situation he does not himself know, he simply gives the letter to a Cossack, who is bound to find a way of delivering it. As guerillas the Cossacks have not their equals. They give the enemy not a moment's rest night or day, and always appear at the point where they are least expected. Next to the terrible winter, it was the Cossacks who contributed most to the extermination of the French in 1812. An enemy's train, however close it may be behind the troops, can never be sure of escaping the attack of the Cossacks. They appear all of a sudden, and attack with lightning rapidity, but in the force of their shock they are inferior to the regular cavalry. The consequence is, that if they happen to find themselves suddenly face to face with regular cavalry, they disperse like a cloud on the horizon, but soon come back from an opposite direction. The Cossack fights as well on foot as on horseback, and he is a very skilful shot. When a troop of Cossacks happens to be surprised by superior forces, and cannot retreat or take up a tenable position, the men make their docile horses lie down, to serve them as ramparts.

Among the privileges of the Cossacks must be mentioned one belonging peculiarly to those of the Ural. These Cossacks are ardent fishermen, and in the days of the Tsar Alexis Michailowitsch they obtained the right of barring with a weir the upper waters of the Ural, to prevent the fish ascending the river above their territory. In return for this privilege they send every year to the imperial court, according to old tradition, a present of splendid sturgeons and caviare. A refusal on the part of the court would be regarded by them as an immense affront.

Of all the Cossacks those of the Caucasus (of the Terek

FIELD ARTILLERY





and the Kuban) have more than the others preserved their primitive character of pure warriors, for it is scarcely a quarter of a century since each one of them, while defending the frontier against the enemy, was incessantly exposed to the aggressions and ravages of the wild mountaineers of the Caucasus. These Cossacks wear the Tcherkess or Circassian costume, and ride on Kabardin horses, which are remarkable for their endurance and their easy and rapid gait—so easy that even a bad rider can travel on them the longest distances without fatigue. The Kabardin horse will walk five miles an hour, and his rider will simply have the impression of sitting in a swing very gently moved. I have often ridden fifty miles a day on one of these horses without feeling the slightest fatigue.

The methods of fighting and the warlike habits of the Tcherkesses have been adopted by the Cossacks of the Caucasus. Their villages, situated along the rivers Kuban, Laba, and Terek, used to form what was called the military line, and that is why these Cossacks received the name of Cossacks of the Line. During nearly three centuries, and up to the second half of the present century, they were fighting day and night with their wild mountaineer neighbors. All along the frontier were always posted, on high lookout scaffolds, sentinels whose experienced eye watched the heights and the plains on the other side of the river. In every village there was a cannon that warned the neighboring towns of the approach of danger.

The Cossacks, with their women and children, are busy with the hay harvest. Before them, beyond the river, is a picturesque scene—fertile prairies, woods, clumps of trees—and beyond in the distance the long chain of the Caucasus, with its peaks capped with eternal snow. But the Cossacks are on the alert; for during several days in suc-

cession they have seen columns of smoke in the mountains. When they want to gather together, the mountaineers signal to each other by lighting fires. Suddenly a cannon-shot is heard in the distance. In the Cossack's ears this shot sounds like a plaintive and desperate cry of distress. Other nearer shots follow. The sickles and rakes are thrown down, and everybody hastens back to the village. The Cossack girds on his pistol and poniard, slings his sword over his shoulder, and loads his gun, while his wife and daughter saddle his horse. In a few minutes the troop is ready, and dashes along at full speed to help the neighbors in distress, followed by the prayers of the women, and their exhortations to be speedy and to be brave.

Sometimes the Cossacks arrive in time. Near the village besieged by the Tcherkesses the Cossacks from all the surrounding villages assemble, and a bloody fight begins. Little by little other Cossacks arrive from the more distant villages, and the Tcherkesses, vanquished this time, beat a retreat. But it also often happens that before aid can arrive the Tcherkesses have had time to finish their horrible task, and the troop of Cossacks hastening to succor the unfortunate villagers find nothing but burning houses and smoking ruins strewn with the mutilated corpses of men, women, and children. All the cattle and a part of the women have been carried off.

On the other hand, it may be that the Cossacks themselves have assembled from the different villages to make an excursion into the mountains against the Tcherkesses. On these occasions they display no less artfulness and knowledge of the country than the mountaineers themselves. In their turn they attack the villages unexpectedly, set fire to them, kill the men, and capture the cattle, but they never touch the old men, the women, or the children. When the Cossacks return to their villages, young





PAUL TRUP -

OFFICER OF THE CIRCASSIAN COSSACKS

and old turn out to meet them. How many loving hearts beat anxiously when the dear troop appears on the horizon! What cries of joy, and what bitter wailings, too, when the troop enters the village!

The principal Cossack hero in this century was General Steptsoff, who, after innumerable heroic exploits, was killed in the Caucasus Mountains. His daring attacks on the Tcherkesses won him legendary renown, and his name and exploits form the theme of the favorite songs of the Cossacks.

The Caucasian militia consists of the irregular cavalry regiments of Daghestan and of Kutais; of the mounted

militia of Daghestan, the Kuban, and the Terek; of the foot cohort of the Georgians; of the foot century of Gourie. These regiments and this militia are formed of those same Tcherkesses, Kabardins, Tchetcheres, Tatares, and other tribes of Caucasian mountaineers, who for two centuries and a half struggled so obstinately against the Russians, and of whom many have been pacified only within the past twenty years.

The Tcherkesses—the term now most used in Europe to designate the different Caucasian tribes—are a wild, bellicose, and rapacious nation. The Tcherkess is a warrior in his very soul, sly, cruel, and bloodthirsty. The sufferings of an enemy awaken in him only a sensual smile of enjoyment. He tortures his prisoner, kills him, and mutilates him terribly. How many loved comrades have I found with their arms twisted out of joint, and other parts of their bodies cut off and stuck in their mouths! The Tcherkess is not a fanatic, but he is a great fatalist; and now he is in the Russian service he attacks with the same ruthless ardor and bloodthirstiness the Mussulman with whom thirty years ago he used to fight side by side against the Russians. He always seeks to attack his enemy on the sly, but when he does not succeed in surprising him, he dashes upon him and displays prodigious courage. Tcherkess boys are trained from their tenderest years to ride and handle weapons. The Tcherkess horseman will rush at full gallop into a small court-yard, and not turn his horse until he strikes his nose against the wall. In the same way he will gallop towards a precipice, and turn his horse only when his fore-feet are over the abyss. All the Tcherkess games and dances are of a warlike nature. One of the most picturesque sights one can imagine is a Tcherkess fête, when these tall, dark-skinned men, handsome and muscular, with their swords and poniards drawn,

execute their favorite dance, the "Lesginka," around a fire, which, with its red glare, lights up their strong features and illumines the surrounding woods and rocks. A favorite game is to leap on horseback over the fire when the flame is at its highest. All the natives of the Caucasus carry arms up to the present day, and the Russian Government finds it prudent not to interfere with this usage. Still it must appear strange to one who travels for the first time in the Caucasus to find himself surrounded by people who are all armed to the teeth. Dless oubtthe Caucasus is pacified, but travelling there is



A COSSACK POST

not completely safe. The Tatares and Kurds in the southern Caucasus, and the Jangouches in the northern districts, often indulge in brigandage.

In European warfare the Tcherkesses are very useful on outpost duty and as skirmishers. Even in open battle they can make very successful charges. In the last Turkish campaign it happened once that a trench occupied by the Turks was attacked by a battalion of infantry, but the deadly fire preventing them from reaching the intrenchments, order was given to the Jangouche militia to mount to the attack, and they simply dashed upon the enemy like a hurricane, leaped over the defences, and massacred the Turks inside.

The war effective of the irregular troops of the Caucasus and of the Crimea amounts to 6330 men.

The Turkoman militia, numbering 2000 men, is composed of the newly subjugated Teke Turkomans of Merv and of Ahal-Teke. It is an entirely new force, whose acquaintance the Europeans will have the pleasure of making when the next campaign comes. Until the capture of Ahal-Teke, and four years later that of Merv, these Turkomans were chiefly engaged in brigandage. Like the Cossacks in olden times, they were absolutely free, and it was only in war-time or for long expeditions that they elected chiefs, whom they called Khans. The Turkomans were the real masters of the immense desert between the Amu-Daria and the frontiers of Persia and Afghanistan. They used to make long and prompt pillaging excursions. One of their best chiefs, Tyekma Sardar, who subsequently obtained as a reward for his services the rank of major in the Turkoman militia, told me that he had raided with his men as far as the shores of the Persian Gulf.

The Turkomans used to rob the caravans and the villages of neighboring countries, and returned home with



COSSACKS OF THE IMPERIAL GUARD



abundant herds of cattle, provisions, and all kinds of merchandise. But their best and most lucrative booty was man. The prisoners whom they took in Persia were sold advantageously as slaves in the bazars of Bokhara and Khiva. This traffic received a serious blow in 1867, when the Emir of Bokhara was forced by the Russians to prohibit the slave-trade within his dominions. Nevertheless it was continued in secret. In 1873, when the Russians took Khiva, they liberated more than 40,000 Persian slaves, who had all been sold by the Turkomans. Now the slave-trade has been entirely abolished.

As the irrigated land in the Turkoman country is not sufficient to give occupation to all these turbulent spirits, the Russian Government has formed military troops of them. The Turkomans have received this measure with enthusiasm. Unfortunately it would cost too dear to enroll all those who desire to enter the service, for almost all the Turkomans are on the list of candidates. If one of the men of the militia dies, a hundred offer themselves for the vacancy. They only dream that the Turkomans now have is to show the Russian Tsar what they can do. There is every reason to trust to their loyalty. Nowadays you may travel unarmed with perfect safety from one end of the Turkoman oasis to the other, as I myself have done.

The Turkomans are a fine race, with regular features and very dark skins. This is true, however, of the men only, for the women are generally very ugly. The Turkoman is excessively sympathetic, brave, hospitable, and honest in his way. He will rob a man whom he does not know if he finds anything lying about loose, but he never breaks open a lock or a door, and if you lend him a sum of money on his mere word, you may be sure that he will pay it back, even if he lives 300 leagues off, away in the desert.

His method of warfare is that of all the Asiatic peoples. The quality by which he is distinguished above all other irregular cavalry is the facility with which he traverses incredible distances in a short time. While the Russians were at war against the Turkomans, it often happened that the spies in the evening would announce that a Turkoman troop had been seen before dinner-time near a well ninety miles away, and before the spy had finished his story the same Turkomans would be upon us.

When the Turkomans are preparing for a campaign, they train their big, strong, and swift Argamac horses for ten days or a fortnight so that they can run immense distances without eating or drinking. For these occasions the horses are fed on a sort of bread made of flour and meat. The Turkoman himself is satisfied, when needful, with a loaf of wheaten bread and a few drops of water a day.

The entire Russian war effective, including officers, artillery, engineers, train, etc., consists of :

Regular army.....	1,766,278
Cossack troops.....	145,325
Irregular troops.....	6,331
Total.....	<u>1,917,934</u>

By adding to these figures the effective of the troops not levied in time of peace, say 100,000 men, we reach an effective of 2,000,000 men for the war footing. The Russian militia, which may be called out in times of war, amounts to 3,000,000 men.

The Russian officers are recruited chiefly from two different sources : the Military Schools, composed of young men who have passed through the preliminary course of the Cadets' Corps, and the Ensign Schools, or Junker



Schools, where young men from the ranks study with a view to obtaining advancement. The former are naturally superior to the latter. Besides these, there are also the young men who receive the rank of officers of the first grade as a reward for bravery, but do not advance higher before having passed the necessary examinations.

The Guards have a brilliant corps of officers, for the most part rich and well-educated young men; as has been mentioned above, several members of the imperial family and of the first families of Russia serve as officers in these regiments. But the case of the mass of the officers of the great

Russian army is very different. The army officer is not remarkable for any exterior eclat, but he possesses in the highest degree all the qualities that I have noticed above in speaking of the Russian soldier. Neither the instruction he has gained in the schools nor the reading of those books that excite young men's minds can efface in his nature those grand traits of the Russian character, which are based on love of the Tsar, of religion, and of the father-land. Russian discipline has its peculiar *cachet*, which is also the outcome of the national character; it is



OFFICER OF THE TURKOMAN MILITIA

unlike Prussian discipline ; but it is just as good, and in the hour of danger, when all is lost, I believe that it is even superior. The colonels often use the affectionate and familiar "thee" and "thou" in speaking to the young officers, and yet I have never seen an officer forget himself in the presence of his chief, even though he might be a little drunk.

How often have I seen General Abramoff in Asia and General Skobelev in Turkey, far from the enemy, in good company, where the wine had flowed copiously, after having received a despatch that necessitated prompt measures, send immediately one of his guests on an excursion from which he had a hundred chances of never returning, and which in Asia generally meant a journey of a hundred miles or more ! The officer selected would rise immediately, hastily button his coat, and compose his countenance to seriousness, and in a few minutes he was gone, after a hearty shaking hands with the general, and some jocose scolding from his comrades.

During an expedition in the valley of Schackrisial, in Turkistan, while our little troop was resting for a few hours, after having accomplished half the day's march, the officers had assembled around their chief, General Abramoff, and were breakfasting on carpets under the shade of a gigantic plane-tree. Suddenly a Kirgheez appeared, and related that the village where we were to pass the night was occupied by a group of the enemy. The general then addressed me in these words :

"G——, take ten Cossacks, drive the enemy away, and fix the resting-places for the troops."

I hastened forward, gathered my Cossacks together, and returned towards the general to report that I was ready, and to ask if he had any other orders to give me.

"No," he replied, "but you have time to eat a cutlet."

I confess that I did not find the outlet very good, for I realized perfectly the danger of my situation. As I was leaving, a few minutes later, one of the officers, commanding a battery, called to me, "Mind you choose a good place for the artillery, and not in a marsh, as we were yesterday."

We see the same scenes, whether it is the general or the captain of a company who gives the orders; and the same scenes occur in time of peace in matters of daily service.



GENERAL SKOBELEFF

The Russian army officer is hardly known in Europe, and it is quite possible that the first impression he produces is unfavorable, on account of his timidity and his ignorance of the usages of society. But the real time to see him is when he is campaigning. Then this obscure, modest, and insignificant officer is suddenly metamorphosed into a giant, before whose courage, strength, and energy one must bow. All his timidity has disappeared, and his whole outward appearance assumes a new aspect. He always advances at the head of his men, and forms the first target for the enemy's bullets. The enormous losses in officers which the Russians experienced during the last Turkish war are evident testimonies to their courage. Thus, for instance, the Orloff Regiment of infantry and the Fourth Brigade of riflemen lost during the war more than 100 per cent. of their officers. Here is a mathematical problem to solve! At the beginning of an engagement near Shipka I had in the ranks of my troop only twelve officers who had survived past combats, and among this number five had come out of hospital with wounds not yet healed.

The Russian officer never thinks of resting himself until he has made all the arrangements for his soldiers, for whom he feels a fatherly solicitude. For this care the soldier requites him with sincere affection.

In speaking of the Russian officers, I have still a few words to say about the staff. Formerly there was much to be criticised in this organization, but the rich field of instruction and exercise that it has found in central Asia, the great experience that it acquired in the last Turkish war, and the practical tendency which has been given to it of late, place it on a level with the renowned German staff.

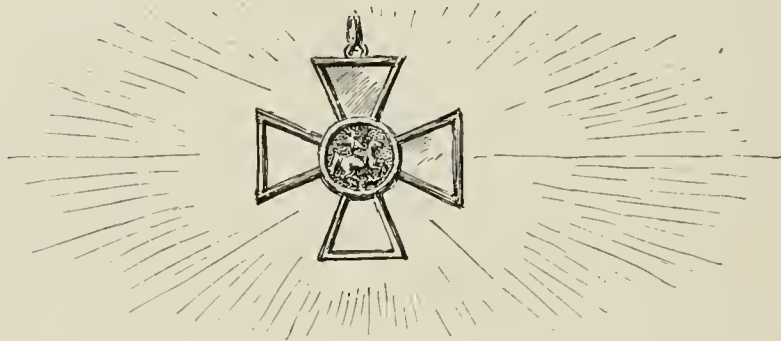
Formerly the staff was not popular among the troops,

but now that each staff-officer, in order to obtain advancement, is obliged to serve in the ranks of the army, and as many of the staff-officers have accomplished acts of heroism, this corps has gained the full confidence both of the ordinary officers and of the soldiers. As scouts the staff-officers have always distinguished themselves. One of the finest exploits of this kind is the reconnoissance of Lieutenant-colonel, afterwards General, Skobelev, in the desert between Khiva and the Caspian Sea, at the end of July, 1873. One of the Russian columns, while advancing from the Caspian towards Khiva through the desert, got lost in the sand, and was obliged to return to Krasnovodsk without having attained its end. After the capture of Khiva, Skobelev asked permission to reconnoitre in person the desert route between Khiva and the spot where the column had turned back. Disguised as a Turkoman, but unable himself to speak the language, the brave lieutenant-colonel went into the desert accompanied only by two faithful followers, an interpreter, and his Russian servant, also disguised as Turkomans. The war was then still going on, and the country that he was to traverse was peopled by the most savage inhabitants of the desert, burning with hatred of the Russians, who had just vanquished them a week ago. Near a well he encountered a hostile troop, and saved himself only by feigning sickness, for he knew that no Mussulman, unless he is a doctor, will come near or take any trouble about a sick man. His servant had to hide behind some bushes on a sand-hill. From this excursion Skobelev returned safely, after a journey there and back of nearly 400 miles, bringing with him valuable topographical details. This expedition won him his first St. George's cross.

As able military theorists the Russian staff-officers have always been known, and many of the best works on mod-

ern military science have been written by them. The topographical and geodesic corps are also perfect, and their innumerable achievements in cartography and topography are familiar to all the *savants* of the universe. The explorations and scientific observations of the staff-officer Pezévalsky in Mongolia and Thibet are at the present time being followed by all geographers with the liveliest interest.

In the troops forming the army of the Caucasus and of Turkistan the warlike spirit is more strongly kept up in time of peace than it is in the troops of the interior—the traditions of the past are fresher; duels between the of-



THE CROSS OF ST. GEORGE

ficers are more frequent. The infantry soldier, both of the Caucasus and of Turkistan, is an excellent horseman, often a better horseman than many a cavalry officer. Hunting tigers, wild-boars, antelopes, and roebucks is their favorite amusement. This occupation fosters vigor and presence of mind both in officers and men.

In general, the Russian troops in Asia are more practical than others when campaigning. As soon as the soldier learns that he will remain in a place for a day or two, he digs out an oven in the first hillock he finds, and in a few hours he has made some hot bread and cakes, of which

the first baked are offered to the commander of the troop. The veteran Turkistan soldier never drinks water while he is marching in the desert, but when there comes a quarter of an hour's halt he immediately puts his little teakettle on the fire. I wished to introduce this usage into a troop of the interior army during the campaign in Turkey, but the soldiers preferred to rest rather than to trouble about their tea before reaching the bivouac where they were to pass the night.





THE AUSTRO-HUNGARIAN ARMY





HALBERDIER (EMPEROR'S  
BODY-GUARD)

IN consequence of the events of the year 1866, the Austro-Hungarian monarchy effectuated a radical change in its military system. The principles upon which the Prussian military constitution had been established served in general as its basis.

His Majesty the Kaiser has supreme command over the entire armed force of the many parts of the empire, and as commander-in-chief he also has the power to declare war or peace. The political dualism, the division of the monarchy into two distinct states of the empire, each of which has its own constitution and a distinct system of representation, has not been without influence upon the formation of the military relations of the imperial state. Fortunately, indeed, the real strength of the army—the line—exists as a unified whole, and the existing army, as such, is under imperial regulation; but the right of recruitment and of legislation with reference to military service has been reserved to those rep-

resenting in Parliament (Reichsrath) those countries included under the general title of Cisleithania, on the one

side, and to the provinces of the Hungarian crown, Transleithania, on the other side.

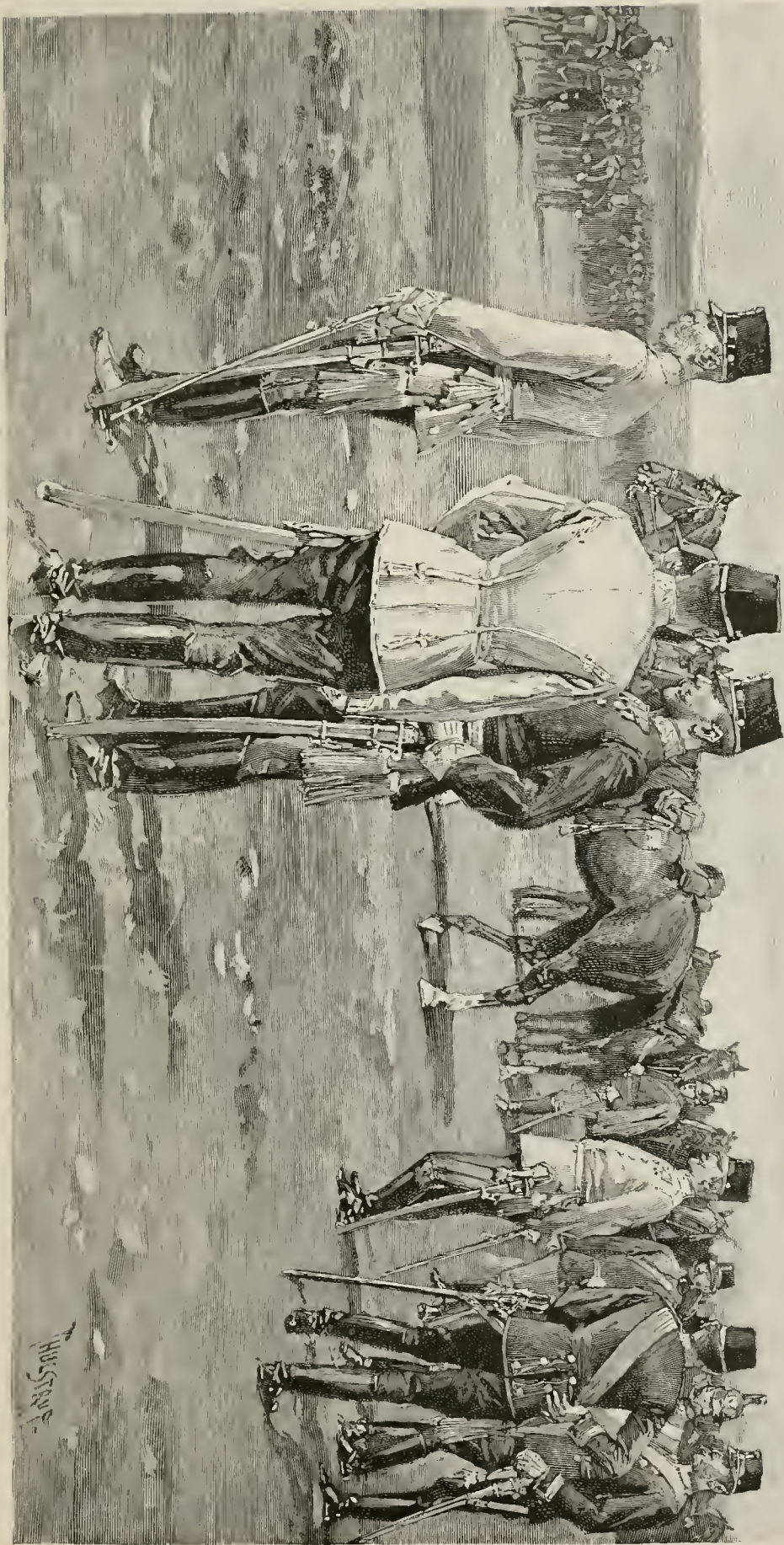
The Imperial Ministry of War forms the supreme nucleus of the whole military power of the monarchy. It is divided into four sections, comprising fifteen departments, in which are united the many branches of the *personnel* of the organization, disposition of troops, administration, the affairs of justice, health, debt, etc. The naval section, with its two departments for business, forms an independent part of the Imperial Ministry of War. There is also in each of the two parts of the empire a Ministry of National Defence, to which the affairs of the landwehr and landsturm are submitted. The landwehren of the single parts of the empire form bodies constitutionally separated from each other. Since the new defensive laws of 1889, the army of first class, as well as the imperial and royal landwehr, is unconditionally subject to the commands of the Kaiser, and relatively to those of the Imperial Minister of War.

But the restriction upon the employment of the royal Hungarian landwehr abroad or in other parts of the empire has been fixed by the decision of the representative bodies, though it may be employed without the leave of these bodies if there be danger in delay.

The language of the service is German, excepting in the Hungarian landwehr, where the Hungarian and Croatian dialects prevail.

The military system is based upon the required service of every man for twenty-four years after reaching his majority. The regular required service is as follows:

1. In the first class, ten years for the army and its Ersatz reserve (substitute reserve), that is, three years in line and seven in reserve; ten years in the Ersatz reserve for those directly appointed to the same; twelve years for



THE EMPEROR AND STAFF

H. S. G. P.



the armed force of Bosnia and Herzegovina, that is, three years in line and nine in reserve; twelve years for the marine, that is, four years in line, five in reserve, and three in marine defence.

2. In the second class (landwehr), two years after completion of required service in the standing army, or twelve for those directly appointed to the landwehr or its Ersatz reserve.

3. In the third class (landsturm), three years before entering upon the age for required service, nine years for all who had left the marine and the landwehr, twenty-one years for all who have been appointed directly to the landsturm.

Through the increase of the annual recruit contingent to the number of 103,000 men for the army of the first class, which was passed in 1889, an operative military force of 800,000 men was assured.

In the army of the second class the annual recruit contingent for the imperial-royal landwehr amounts to 10,000 men; for the royal Hungarian landwehr, 12,500 men.

The army of the third class, the landsturm, is intended, in case of necessity, to supply the first and second classes, to furnish the army with the laboring forces necessary for its requirements, and, finally, to directly oppose the enemy that has forced its way into the country. It thus represents the last resource of strength on the part of the defensive forces of the country. It is divided into two summons, and consists of nine years' drill in military service.

The military law of 1889, as opposed to that of 1868, makes necessary curtailments owing to the shortened term of required service. Absolute exemption is wholly excluded. A one-year (so called) volunteer service will satisfy the military obligation of an educated young man.

He is not allowed, however, during this volunteer year to continue his professional studies; and in case he fails to pass the examination of the reserve officer at the expiration of this period, he must continue his service a second year along with the troops. These regulations cause at present a greater number of the one-year volunteers to attain the rank of reserve officer.

In order to distribute the military burden more equally upon the shoulders of all the subjects, a war revenue, called the military tax, is levied in the Austro-Hungarian monarchy. Excepting those wholly destitute and unable to work, every subject liable to service, unless on account of unfitness he fails to obtain appointment and is rejected, or emigrates before the completion of his service, has to pay an annual tax proportionate to his fortune or business for each year of service. This sum varies between one and one hundred gulden, and in Hungary between three and one hundred. The moneys thus collected are employed for the support of soldiers' widows and orphans.

It is desirable that there should be an increase in the income from the military tax, in order that it may be adequate for the support of the soldiers' widows and orphans, as intended.

The following difficulties still continue in the regulations of the new military law for the army of the second class: the want of unified management, the inequality of the contingents as regards age and training, the need of one common official language; also the restriction upon the use of the royal Hungarian landwehr. For military purposes it is very desirable that these defects should be removed, yet it is impossible under present political circumstances.

Based upon the military laws thus cursorily described, the organization has been effected. The Inspector-gen-





HUNGARIAN INFANTRY



eral of the army, who oversees the instruction and training of the army, and also directs and supervises the more important evolutions of the troops, is wholly responsible to his Majesty.

The oldest son of the victor of Aspern, his Imperial Highness Field-marshal Archduke Albrecht, born 1817, has been intrusted for many years with the position of Imperial and Royal Inspector-general of the army.

At the head of the General's Staff is the so-called Chief of the General's Staff, personally first in order under the immediate command of his Majesty the Kaiser. Second in order, he is assistant to the Imperial Ministry of War, and generally directs his proposals to the latter, but he is also empowered to report directly to his Majesty the Kaiser upon important matters. The Austrian corps staff of generals forms an exclusive officers' corps, and promotion in it is made from the captain to the chief.

The supply to the corps of the General's Staff is as follows: (*a*) In rank of captain, from officers with a record of at least three years' successful service in commanding troops, and of at least satisfactory graduation from the military school, or completion of the final examination of this same school. The assignment to service on the General's Staff precedes, without any limit as to time, the reception into the corps of the General's Staff. (*b*) In rank of major, from chiefs (Rittmeister) of all arms, after passing the examination for staff-officer of the General's Staff, and after a proof of practical qualification.

The officers of the General's Staff under occasional special orders come in contact with the troops, but they are separated from the real life of the inner circle of the army. The Chief of the General's Staff has charge of the employment, equipment, and instruction of the corps of the General's Staff.

The duties of the officers of the General's Staff are service in its six bureaus, in the war archive, in the Imperial Ministry of War, and also in the higher staffs, as well as in special military occupations.

For the purpose of military organization the monarchy is subdivided into fifteen military territorial districts—that is, into fourteen corps districts and one military commandery or post.

The territory of occupation—Bosnia, Herzegovina, and the Landschak of Novi-Bazar—forms a separate (fifteenth) corps district. The leading posts of these districts—corps commands, sometimes called military commands—are as follows: first, the corps command in Cracow, includes West Galicia, Silesia, and the northern part of Moravia; second, in Vienna, includes Lower Austria, the middle and southern part of Moravia; third, in Grätz, includes Steiermark, Kärnten, Krain, Istria, Göriz, and Gradisca; the fourth in Buda-Pesth, fifth in Pressburg, sixth in Kaschau, and the seventh in Temesvar form the divisions in Hungary; the eighth in Prague, and ninth in Josephstadt, the divisions in Bohemia; tenth, in Przemysl, includes Middle Galicia; eleventh, in Lemberg, East Galicia and Bukowina; twelfth, in Hermannstadt, Siebenbürgen; thirteenth, in Agram, Croatia, and Slavonia; fourteenth, in Innsbruck, Tyrol, Vorarlberg, Salzburg, and Upper Austria; fifteenth, in Sarajevo, the occupation district; the military post in Zara, Dalmatia.

The mobilizable commands, posts, companies, and establishments of the armed force comprise, as a whole, in case of war, the army in the field. It is organized, according to the provisional military circumstances, into an army corps of higher rank—that is, in companies, in corps, and in armies. The companies are distinguished according to their combination in infantry or cavalry troops.



THOMAS STANTON

AUSTRIAN INFANTRY



The first organization of the army in the field into the so-called bodies of the army, the formation of this latter, as well as the arrangement of the commands and posts, companies and establishments in the same, are determined by his Imperial and Royal Apostolic Majesty, as commander-in-chief, by means of the military *ordre de bataille*.

The companies organized as the army in the field are equipped, on mobilization, with all kinds of necessary military supplies, so that they may be either joined in a corps or arranged in smaller armies, subject to the immediate order of the commander of the army, able in either case, however, to be employed independently for a greater or less length of time.

The infantry troops, formed principally from all kinds of arms, constitute the first tactical and administrative body of the army of higher order, and, at the same time, the basal unity for the combination of corps and army. The infantry division regularly consists of two infantry brigades, composed of fourteen or fifteen battalions of infantry and Jäger troops, three to four squadrons of cavalry, one division of battery (twenty-four cannons) as artillery of the division, finally technical troops and the necessary establishments. The cavalry section consists regularly of two cavalry brigades, including four regiments of cavalry, one mounted division of battery, as artillery of the division (twelve guns), and the necessary equipments. The corps consists regularly of two or three infantry divisions, two battery divisions, as corps artillery (forty-eight guns), the necessary technical troops, military pontoon-bridge conveyances, and finally the equipments. The commander of the army has the direction of the greater cavalry forces in each single corps; to the commander of the corps, in case of necessity—namely, on the march and in battle—is left the power to unite the cavalry which has been as-

signed to the divisions of infantry, and to dispose of the same. The separate corps on the march regularly form the army column, to which, in order to make them as independent as possible, are assigned two lines or parts of the same (field magazine of supplies, field hospital, etc.), both according to the need and the conditions of operation. If a corps or a company be detached for a greater or less length of time for the performance of any independent operations, or even at the very beginning of the campaign be detailed for special services, such parts of the army are correspondingly organized and equipped with supplies and reserve outfits requisite to their self-maintenance in proportion to the number of the fighting force and the task assigned.

The army bodies of higher order which, according to provisional military circumstances, are placed under one and the same command, form an army. This same is composed generally of the number of corps or troop divisions determined by the *ordre de bataille*, the required number of technical troops, military bridge conveyances, and the reserve outfits of second order. If several armies are ordered to operate on one and the same battle-ground, a commander-in-chief of the army is appointed by special direction of the highest authorities. A field-marshal is intrusted with this leadership. The corps are commanded by the ordnance-master, the divisions by field-marshal lieutenants.

The division and distribution of the imperial and royal army in peace contain thirty troop divisions of infantry, four of artillery (Lemberg, Jaroslaw, Cracow, and Vienna), sixty-three infantry brigades, six mountaineer, nineteen cavalry, and fourteen artillery. The system of supplying the army from the territories—that is, the formation of it from military territories—cannot be a uniformly perfect





FIELD CHASSEURS



and strict one, because of the necessary consideration of the political boundaries.

The conditions of housing are for the most part favorable. The most substantial stipulations for a continuous progress in this direction were procured through the laws on quartering. Infantry, artillery, and technical troops are almost altogether quartered in caserns, and only exceptionally, in Galicia and in the territory of occupation, in barracks. The cavalry is stationed, for the most part, in caserns and barracks, but in a few cases among the citizens.

The first class, according to the single weapons, next consists of 102 regiments of infantry, composed of four field battalions, each of which numbers four field companies and one Ersatz battalion of four Ersatz companies. In time of peace, only the cadres are present in these latter. In case of mobilization, one to two additional staffs are appointed to the Ersatz battalions. The field companies are numbered from 1 to 16, the Ersatz companies from 1 to 4. The regiments themselves are designated consecutively by number, but usually have in addition the name of the commander.

The peace establishment of a regiment of infantry, consisting of staff, 4 field battalions, and the staff of the Ersatz battalion, amounts to 73 officers, 1422 men, and 5 horses.

In peace, one-half of the captains in the infantry are mounted, and these are obliged to furnish their own horses. In case of mobilization, each captain providing a horse for himself receives a ration of forage.

The peace strength of the Austro-Hungarian infantry in line, estimated according to the normal establishment in peace, consists of 408 field battalions, together with 102 Ersatz battalion cadres, amounting to about 7300 officers, 145,000 men, and 500 horses.

In war, these numbers are considerably increased. The war establishment of a field or Ersatz company regularly amounts to 4 officers and 232 men; at times, 5 officers and 228 men. That of the regiment, 110 officers and 4871 men, of whom 98 officers and 4549 men are in fighting order. In war order, the whole infantry in line, with its 510 field and Ersatz battalions, together with the staff, presents a force of about 11,200 officers, 496,800 men, and 5800 horses.

The Jäger troop is composed of the Tyrolese regiment and 30 independent battalions of field Jäger. The regiment first mentioned consists of 12 field battalions and 3 Ersatz battalions, to each of which latter, in peace, 1 staff is appointed. Each of the field battalions is made up of 4 field companies, numbered from 1 to 48; each of the Ersatz battalions consists of 4 companies, numbered from 1 to 12.

The 42 Jäger battalions, along with their 42 Ersatz companies, enroll in their ranks, in peace, 812 officers, 20,504 men, and 85 horses. Over against these figures stands a military force of about 1150 officers, 55,400 men, and 1730 horses, representing the 42 field battalions and the 42 Ersatz companies.

Both infantry and Jäger are armed with repeating rifles of the Mannlicher system, a six-grooved 8-millimetre calibre breech-loader, with packet-loading, which may be counted among the most precise weapons. Its range has been increased to 2500 metres. The pouch ammunition consists of 100 cartridges. In the Austro-Hungarian monarchy there is only one manufactory of arms, which is in Steyr, and belongs to a stock company. It is remarkably well equipped for work, and by running full time, excluding night-work, can supply upwards of 9000 rifles per week.



UHLAN (ONE-YEAR VOLUNTEERS)



The number of regiments corresponds to the divisions of the monarchy—namely, 105 military supply districts and 3 naval. To each of the 102 regiments of infantry of the former, one district has been assigned regularly as Ersatz (supply), and to the regiment of Tyrolese Jäger three districts. For the Ersatz of the other arms and military establishments, special regulations have been made. There is in every district a command of the supply district for the transaction of the Ersatz affairs, the commander of which is simultaneously commander of the Ersatz battalion.

The Austro-Hungarian army has 42 regiments of cavalry, and of these the 15 dragoon regiments are recruited only from Germans and partly from Czechs, the 16 hussar regiments from Hungary, and the 11 uhlan regiments receive Polish and Croto-Sclavonian recruits. Each of these regiments consists of the staff, two divisions of three squadrons each, and of the Ersatz cadre, which is locally joined to the regiment in time of peace. In mobilization an Ersatz squadron is formed from the Ersatz cadre for the express purpose of supervising the training of the Ersatz troops and procuring substitutes of horses; further, one reserve squadron, which is to be used with the bodies of the army and for purposes of occupation, two bands of staff cavalry for service at the quarters of the chief and the staff, and finally one telegraph patrol.

A band of pioneers is assigned to each regiment of cavalry in order to enable the troops to make those remote excursions which are often necessary on account of the destruction of works; for example, of railways, etc.

The peace register of a field squadron is 5 officers, 166 men, and 156 horses; in war it numbers 5 horses more, but is otherwise the same.

The pioneer band has 1 officer, 27 men, and 28 horses.

The regiment of cavalry—staff, 6 squadrons, Ersatz staff—registers in peace 43 officers, 1037 men, and 965 horses; in war, with staff, 6 field squadrons, 1 Ersatz squadron, 1 reserve squadron, 2 bands staff cavalry, including the train, which numbers 62 officers, 1649 men, 1639 horses; of these, 1386 are mounted in fighting condition.

The force of the Austro-Hungarian horsemen in time of peace, therefore, amounts to 252 squadrons, 1806 officers, and 43,554 men; in war, 252 field and 42 reserve squadrons, for the Ersatz squadron and staff cavalry bands have about 2600 officers, 69,200 men, and 68,600 horses.

The lance (pike) having been taken from the uhlan regiments in 1884, the entire mounted force is furnished alike with horses and weapons, thus producing that unity of the cavalry for which so many had earnestly worked. The weapons consist of a sabre and Werndl carbine, which allows a shot to be aimed at a distance of 1600 metres. The under-officers carry a revolver.

The military ammunition pouch carries fifty rounds of cartridges for the breech-loading carbine, thirty for the revolver.

Up to the present time horses have been procured for the army by general purchasing of full-aged ones through the three commissions of remount-assent and their four *expositors*, or by retail trading of the individual members of the troops.

The breeding of horses is highly developed in many parts of the monarchy, and the horse market very good. In each of three colt farms there are kept 400 colts from three and one-half to four and one-half years of age. These are assigned to the regiments after they have become full-grown. On the other hand, measures have been taken to stop the trading and to purchase the horses as





JÄGER OFFICERS

directly as possible from the breeder. More than one-third are procured by direct purchase, and less than two-thirds by contract and free competition. It is calculated that regularly the annual demand requires twelve per cent. riding and ten per cent. draught horses, making about six thousand animals. In case of mobilization, owners of horses are bound by law to make up the necessary increase for the army for an indemnity.

The artillery is divided into the field and the fortress

artillery; and further, the field artillery consists of fourteen regiments of corps artillery, twenty-eight heavy battery divisions, and one mountain battery in Tyrol. The regiments of corps artillery have the numbers of the army corps to which they belong, besides the name of the commander. The heavy batteries are numbered from 1 to 28.

In each corps the regiment of corps artillery and the batteries apportioned to the two companies of infantry form one brigade of artillery, whose number agrees with that of the corps.

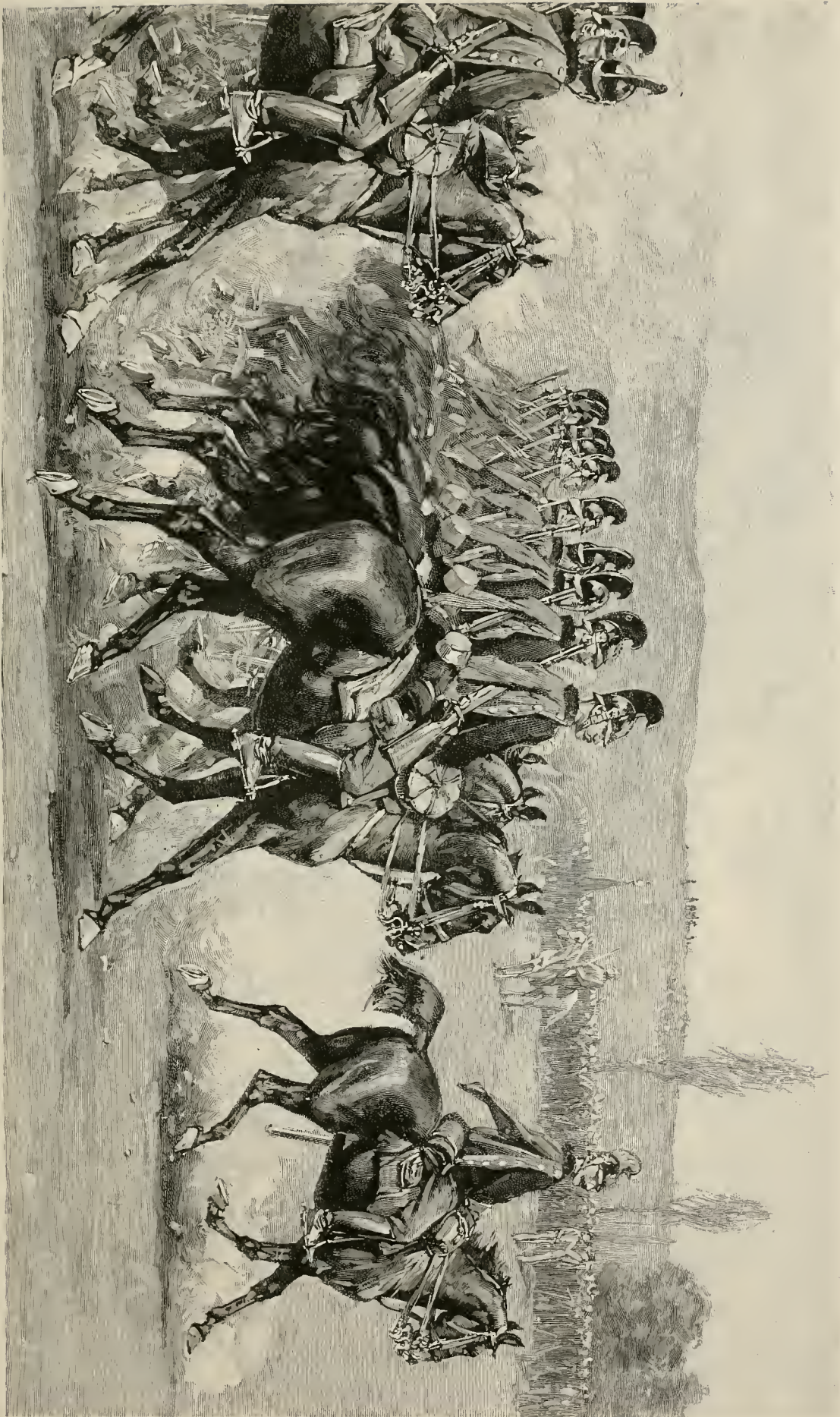
Each of the twenty-eight batteries is made up of the staff of the division, three heavy batteries, numbered 1 to 3, the munition park, and the Ersatz-depot cadre, from which, in time of mobilization, the munition-park division is made, consisting of one munition column of infantry, one of artillery, and the Ersatz depot.

The mountaineer battery division in Tyrol is made up of the staff of the division, three mountaineer batteries, with various mountaineer armament, numbered 1, 3, and 5 (doubled in time of mobilization, adding Nos. 2, 4, and 6), and the Ersatz-depot cadre.

When the army is in the field, the regiment of corps artillery, together with the 1st and 2d battery divisions and the corps of munition park, are divided like the artillery corps, the heavy batteries numbered 1 to 28, then the heavy batteries numbered 29 to 42, which are to be distinguished from the regiments of corps artillery, together with the divisions of munition park belonging to them.

In war and peace the mounted batteries have 6 guns, with horses. The other batteries have 4 in peace, 8 in war, excepting batteries 29 to 42, which, at the least peace register, present only 2 guns with horses.

The normal register of a battery in peace is 3 officers, 1



DRAGONS



cadet officer's representative, 99 men, and 42 horses; that of a mounted battery, 4 officers, 1 cadet officer's representative, 120 men, and 109 horses. In war the register is increased to 4 officers, 1 cadet officer's representative, 195 men, 148 horses; at times, 4 officers, 1 cadet officer's representative, 178 men, and 215 horses.

The mountaineer batteries have a peculiar arrangement, which they have employed with success in the occupation of Bosnia and Herzegovina. Ordnance which can be taken apart are transported on the backs of animals.

In peace a mountaineer battery of a regiment of corps artillery has 2 officers, 1 cadet officer's representative, 65 men, 24 mountain horses and beasts of burden; that of the mountaineer battery division in Tyrol, 4 officers, 90 men, and 13 horses; but in war there are 2 officers, 1 cadet officer's representative, 108 men, 67 mountain horses and beasts of burden; at times, 2 officers, 101 men, 52 mountain horses and beasts of burden.

The force of the field artillery in peace, consisting of 14 regiments of corps artillery, 28 divisions of heavy battery, and the mountain Tyrolese battery division, with the Ersatz cadre belonging to it, contains, in 168 regular batteries, 42 at the greatest reduction, 16 mounted and 15 mountaineer, 28 munition parks, 15 Ersatz-depot cadres, 28 munition parks and Ersatz-depot cadres, with 756 ordnance of nine centimetres bore, 96 of eight, and 60 of seven, about 1200 officers, 23,400 men, and 7900 horses and beasts of burden. The force in war, including reserve ordnance, with 1750 guns of nine centimetres, 96 of eight, and 72 of seven, numbers about 1900 officers, 76,400 men, 64,600 horses and beasts of burden.

The fortress artillery, intended for the offensive and defensive service of strongholds, consists of six regiments of fortress artillery and three battalions of the same.

The regiments are numbered from 1 to 6, having the names of their commanders. The battalions are numbered from 1 to 3.

In peace the companies of fortress artillery are scattered chiefly in the fortresses.

In peace the field company of the fortress artillery has 4 officers, 1 cadet officer's representative, 99 men; in war, 6 officers, 1 cadet officer's representative, and 239 men.

The peace register of the fortress artillery numbers, in 72 field and 18 Ersatz cadres, 408 officers, 7722 men, and 24 horses; the war register, in 90 companies, about 640 officers, 21,700 men, and 100 horses.

The arms of the artillery troops, determined by their special employment, consist of pioneer, infantry, or cavalry sabres. Of these same, the mounted artillery carry a lighter variety, also revolvers for the officers and the serving troops of the mounted artillery, finally Werndl infantry rifles, with 30 rounds of cartridges as military wallet ammunition for the fortress artillery.

The material for the guns is composed of steel-bronze, also called Uchatius's bronze, after the inventor, General Baron von Uchatius. This is more elastic and more capable of withstanding the destructive influence of gases than cast-steel. Everything necessary for army and navy is prepared at home. In this way Austria not only has made itself independent of foreign countries, but also gives considerable support to its native industries.

The engineer corps is composed of the staff and troop of engineers. The former consists of officers only, the total number being 159, who as engineering directors manage the affairs relating to fortifications and militia in definitely limited districts.

The engineer troop consists of 2 regiments, each of

which consists of 5 field battalions, 2 reserve companies, and 1 Ersatz battalion of 5 Ersatz companies. In peace, the latter of these consists only of the staff. The field battalion is divided into 4 companies. Furthermore, in juncture with the regiments are 15 columns of pioneers,



HUSSARS

provided with the necessary implements for the construction of greater or less works, and with the chief engineer park.

In peace, both engineer regiments number 276 officers, 5054 men, and 58 horses; in war, about 330 officers, 12,700 men, and 1370 horses (together with by-wagons, 1718 horses, and 558 wagons).

The pioneer regiment is divided into 5 field battalions, each composed of 4 field companies, into 1 reserve company, 1 Ersatz company, and 1 reserve of ordnance. In war it is broken up, and employed in independent battalions and companies.

To this pioneer regiment is leagued also the depot pioneer ordnance.

The pioneer company is organized chiefly for the building of pontoon-bridges, but its business is also to restore and destroy roads, to assist in the construction of temporary fortifications, and to construct the necessary water-works. The Austrian bridges were built from the plans of General Baron von Birago, who died in 1845.

When mobilized, the entire regiment, together with the pioneer ordnance depot, the ordnance reserve, No. 6, and 2 movable pioneer ordnance depots, extends from 134 officers, 2634 men, and 29 horses to a force of about 180 officers, 8100 men, and 920 horses, the regiment alone having 170 officers, 7760 men, and 920 horses. The train of the regiment numbers 412 drivers and 760 horses.

The duty of the railway and telegraph regiment is to destroy or restore railways and telegraph lines, or, in some cases, to construct new ones for military purposes. In times of peace, divisions of this regiment are ordered to serve in the civil railway companies, in order to be better trained for this work. The peace register of the regiment, numbering 45 officers, 844 men, and 14 horses,





FIELD ARTILLERY

W. H. Wood



is increased on the field to about 110 officers, 4800 men, and 350 horses.

The train troop consists of three regiments. In peace, each of these regiments is composed of a regiment's staff, five train divisions, and one Ersatz-depot cadre. In peace, each train division consists of the division's staff, a number of train squadrons, and one Ersatz-depot cadre (with the number of the train division).

The register of the three train regiments in peace amounts to only 327 officers, 2535 men, and 1527 horses; but the war register, on the other hand, has about 1100 officers, 45,300 men, 50,200 horses, and 5000 beasts of burden. The armament consists of cavalry sabre for officers, cadet officers' representatives, sergeants, under-officers of accounts of first class, and farriers of all the train bands, heads of bands, under-officers of accounts of second class, corporals, and trumpeters of all the train bands, excepting the mountaineer train squadrons and divisions of train park, as well as for the mounted train soldiers of the squadrons and commands accompanying the train.

In peace, the sanitary band consists of the command of the band and 26 sections. In times of mobilization, in addition to this, it consists of field and reserve sanitary sections, formed in requisite numbers from the former sections, next sanitary sections for the German Ordens-hospitals for the wounded. Single sanitary sections are assigned to the hospitals of the garrison, and have the same numbers as the latter.

The sanitary band is commanded by a special corps of officers, which is independently supplied. Its members, however, are not to be confused with the military medical corps of officers, the physicians proper.

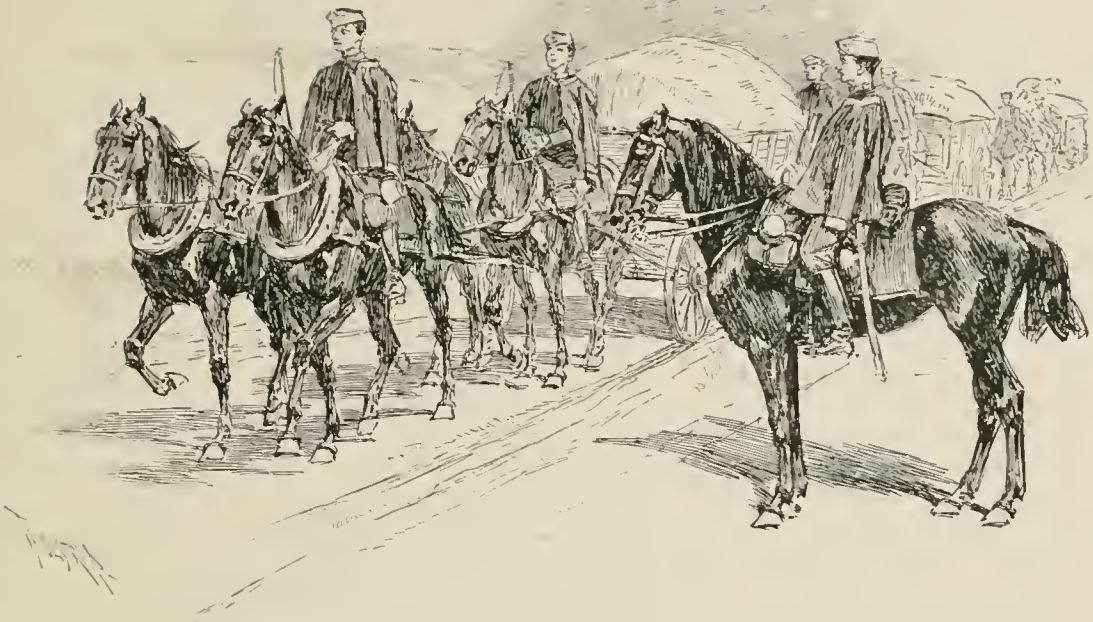
In peace the sanitary band has a register of 83 officers.

2834 men, and in war numbers about 400 officers and 21,200 men.

The landwehren stand next to the line. In peace they are kept wholly apart from the standing army, and, moreover, are separated from each other by the two divisions of the empire. They receive their orders from the Ministry of National Defence, and are supplied from those who have served ten years (three in the line and seven in the reserve), and have still, according to law, two years' service in the landwehr, as well as from particular recruits, enrolled from eight weeks up to three months, and also mustered later for military drill. The landwehr of those countries represented in the Reichsrath is again divided into the so-called imperial-royal landwehr and the national guards of Tyrol and Vorarlberg. The imperial-royal landwehr is under the control of the commander-in-chief of the Ministry of National Defence. The corps commands belonging to it form in their own district, as imperial-royal landwehr commands, intermediate bodies.

The imperial-royal landwehr infantry consists of 82 battalions of landwehr and 10 of national guards.

In war, each battalion has 1 staff, 4 field companies, 1 Ersatz company, also 1 reserve company, and, finally, 1 staff company. In war, as in peace, the battalions are to be combined into regiments. In case of need these regiments are divided into landwehr brigades and companies, whose classification with artillery comes through the artillery of the standing army. The register of a landwehr (national guard) battalion's staff amounts to 9 officers and 95 men. The war register of a landwehr field and reserve company has 4 officers and 232 men; of an Ersatz company, in normal condition, 5 officers and 228 men; of



TRAIN

a field and reserve company of national guards, 4 officers, 236 men; of an Ersatz company, in normal condition, 5 officers and 232 men. In mobilization the register of a landwehr battalion has 29 officers, 1417 men—when the Ersatz company reaches its maximum rate, 29 officers, 1557 men; of a battalion of national guards, 32 officers and 1488 men—when the Ersatz company reaches its maximum, 32 officers and 1628 men. Therefore the total sum of the landwehr infantry, according to the regular war register, is about 2890 officers and 131,000 men.

The armament, ammunition, regimentals, etc., are like those of the infantry of the standing army.

The mounted landwehr troops are composed of the landwehr cavalry, the mounted national guard in Tyrol and Vorarlberg, and the mounted guards in Dalmatia.

The landwehr cavalry consists of 3 regiments of dragoons and 3 of uhlans.

The mounted national guard in Tyrol and Vorarlberg and those in Dalmatia are intended chiefly for the ordnance, post, and signalling service. The former are enlisted from Tyrol and Vorarlberg, the latter from Dalmatia.

The mounted national guard of Tyrol and Vorarlberg is divided into a division's staff, 2 field squadrons, and 1 Ersatz section. The mounted guards in Dalmatia are divided into one field squadron and one Ersatz section.

The total number of the landwehr cavalry amounts to about 200 officers, 5260 men, and 5200 horses.

The Hungarian landwehr has a distinct position in the army, carries emblems and flags with the national colors of Hungary, and is subject during war to the command placed over it, but in peace to the royal Hungarian military authority. As such, the commander-in-chief of the landwehr acts in union with the Ministry of Home Defence. All the youth liable to service in the defence (*Wehr*) who have not been placed in the army are assigned to the landwehr, and are trained by a course in military drill. The 94 battalions forming in peace four field companies and one Ersatz company are combined into 28 regiments, whose staffs are continued even in peace.

Much is being done for the training of professional officers and for their higher education—namely, through the Honvéd (militia) Ludovika Academy at Buda-Pesth, with its three grades, the four-form school for cadets, the one-year course in the training of Honvéd officers for persons having the rank of furlough, and the higher officers' course.

There are seven district commands existing as intermediate authorities for the military and administrative official duties.



BOSNIANS





The royal Hungarian landwehr cavalry consists of 10 regiments of hussars. In peace, each of these regiments is composed of 6 squadrons; in war, it has, besides, a supplementary squadron appointed from the regiments' ranks, and a staff.

The peace register of a royal Hungarian landwehr regiment of cavalry is 25 officers, 310 men, 212 horses; at times, 218 horses. The war register, 37 officers, 874 men, and 795 horses. The officers' corps is educated in the Central Cavalry School.

The landsturm is the military organization of the third class in both parts of the empire, and is placed under national protection.

The first call upon the landsturm, consisting as it does of those capable men from 19 to 37 years of age who do not belong to the army or to the landwehr, or have served out their time, is to be made in case of need, when it is to be used as an Ersatz reserve for army and landwehr—that is, for the completion of the breaks in the army on the field.

The second call—the landsturm in its narrower sense—includes men capable of bearing arms from 38 to 42 years of age, the officers retired from service to 60 years of age. For many years in Tyrol and Vorarlberg, men from 18 to 45 years of age, who are capable of bearing arms but are not serving, have been liable to the *Sturm* service. These form, in peace, local bands of landsturm, 50 to 100 men strong, which, again, are united into companies of 2 to 6 bands, and into battalions of 3 to 6 companies, under elected officers. The regulations and armament are directed by the State.

A beginning was made, November, 1881, in Bosnia and Herzegovina to train the strong and skilful men of those

parts for military service, and since the 1st of October, 1885, eight Bosnio-Herzegovinian battalions of infantry have been sent to the four supply stations of the military frontier. The officers and under-officers are appointed from the Austrian companies; the arms and equipment are the same as those of the remaining infantry. The uniform has the same cut, but is light blue in color, and the red fez, with a blue woollen tassel, is worn on the head.

To complete the picture mention may here be made of the various body-guards, which are provided with very magnificent and peculiar uniforms. These are chiefly intended for the escort of the Kaiser on festive occasions and for the guard of the palaces and castles. They are appointed partly from the troops, partly from deserving officers and non-commissioned officers that have been wounded and are half disabled. They are entitled as follows: first archers body-guard, Hungarian body-guard, halberdier body-guard, mounted squadron of body-guard, and infantry company of body-guard.

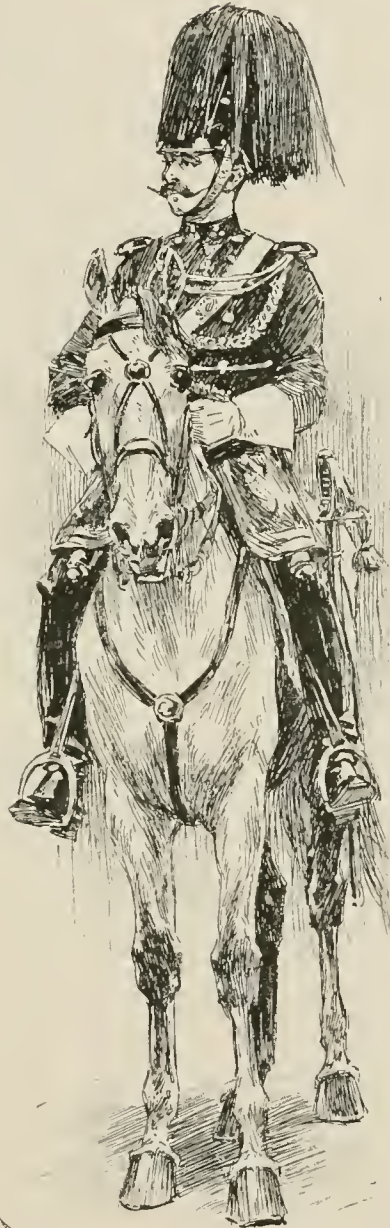
A recapitulation of the figures introduced above, including a count of the staffs and the many military establishments which could not be enumerated in this necessarily concise review, shows an approximate peace strength in the I. class of 265,000 men in army, 6900 in navy, 2900 in Bosnio-Herzegovinian troops, making a grand total of 275,000 men; in the II. class of 10,000 men in the imperial and royal landwehr, 17,000 in royal Hungarian landwehr. Therefore the grand total peace strength is 302,000 men.

In war, these figures are increased as follows: In the I. class, 808,000 men; in the II. class, 440,000 men. Including the members of the III. class (landsturm) that have had military training, the monarchy has disposition

of about 2,390,000 men—six per cent. of the entire population.

The unity of the army is secured by the German-speaking and German-educated corps of officers. Full recognition is given to the thoroughly scientific training of the same. Numerous schools for cadets, also special ones for special weapons, are preparing young men for their future profession, and a great number of training establishments, among which are the military academy in Wiener-Neustadt, the technical military academy in Vienna, and the Ludovika academy in Pesth, are intended for this purpose, as well as for higher instruction. Moreover, great care is bestowed on the continuous education of the corps of officers.

The disposable material for the training of the corps of non-commissioned officers varies in the separate provinces of Austria and Hungary, but it is for the most part good. The greater number of the non-commissioned officers acquire their instruction in their troops, where



EMPEROR'S BODY-GUARD—AUSTRIAN

those elements capable of training are united in sections, and are trained for a half-year, chiefly in practical service.

Austria and Hungary possess a well-trained, but, on the whole, somewhat too young, corps of non-commissioned officers.

The improvement of the troops is sought with devoted earnestness, and the army itself seeks to profit by the experience of past campaigns.

In general, the training of the Austro-Hungarian army is of a high grade. It is influenced by the heterogeneous character of its soldiers, further by unfavorable climatic conditions, and by the distant connections of many troops. However, in consequence of the uniform orders and the intense activity of the corps of professional officers, as a whole, a homogeneousness of the different sorts of soldiery is not to be mistaken. In the first class the infantry is good; it shoots and marches very well. The cavalry rides very well, and is well trained in field service. The training of the artillery and technical troops is of a high grade.

In the second class, both the royal Hungarian and the imperial and royal infantry are well trained. The imperial and royal cavalry, as well as the royal Hungarian, is almost equal to that of the standing army.

Of the more extensive fixed camps of evolution, that at Bruck-on-the-Leytha deserves particular mention. From May until September in monthly succession it is visited annually by each of the divisions of the garrison at Vienna. At this place is established the shooting-school of the army, which forms the nucleus for practice in shooting.

The territorial division of the empire, which has existed for a considerable length of time, will doubtlessly have its accelerating effect on the future mobilization of the



EMPEROR'S BODY-GUARD—HUNGARIAN

army. For the defence of the country the fortifications are put in the closest communication with the army. Though few in number, they are sufficient, on the whole, for modern requirements, both as regards necessary protection against the far-ranging guns, and as fortified camps which can furnish the room necessary for the shelter of more or less large bodies of troops. Opposite the neighbor on the east is the important fortified camp of Cracow, with the ancient castle on Mount Wavel as citadel, with outlying forts on both banks of the Vistula. In middle Galicia, Przemysl, which was assailed during

the Oriental war, has been built as a fortified camp. And the armament in both fortifications has been renewed.

The old *Sperr* forts in most of the passes of the Transylvanian Alps serve as a first line of protection against the Roumanian frontier; as a second line, similar fortifications in Siebenbürgen, among which Karlsburg is noticeable as being a fortified depot.

Peterwardein, on the former military frontier, commands the long pontoon-bridge over the Danube.

Moreover, on the frontier of Servia and Bosnia there are fortified points, as Brod, Croatian Gradisca, and Little Karlstadt, on the Save and Kulpa.

On the Dalmatian coast the fortified military port of Cattaro has been strengthened, and the points of Cattaro and Sebenico have been also fortified against Montenegro.

In Herzegovina the fortified towns of Trebinje, Bilek, Mostar, and Nevesinje are surrounded with forts and block-houses commandingly located, so as to mutually protect and support each other. The capital of Bosnia, Sarajevo, is also fortified.

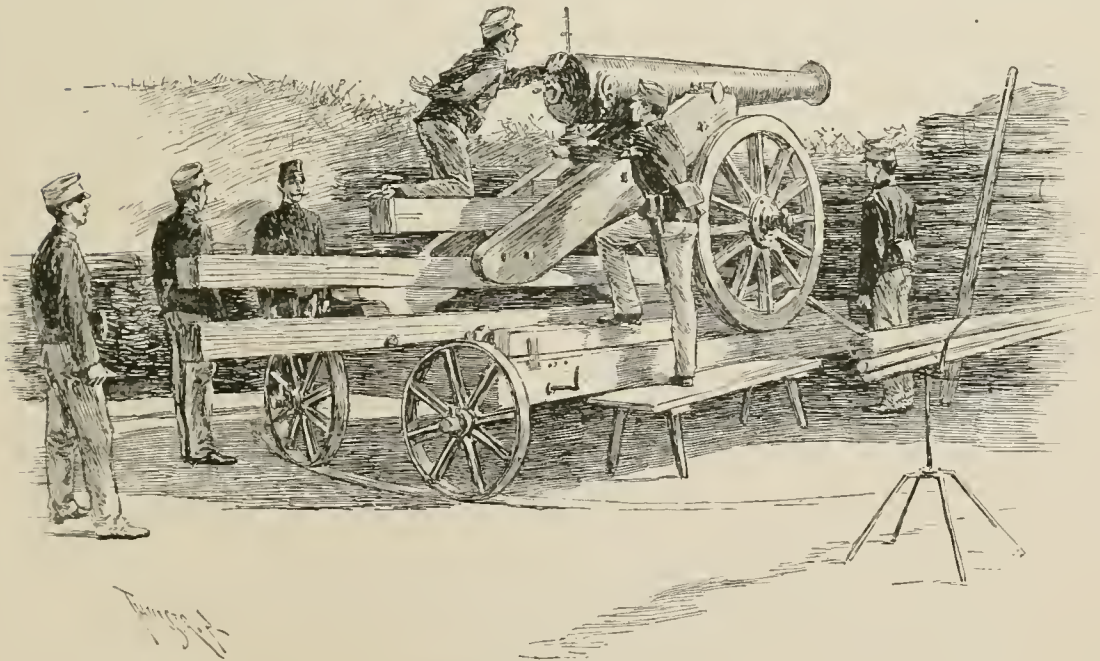
The chief military port of the monarchy is Pola, which is surrounded with strong fortifications both on its sea front and on its land side, and is also provided with a *Noyan*. The possession of Pola is of the greatest importance to the monarchy. Its favorable location offers a safe anchorage to the biggest ships, and marks the place as a haven of the first class.

Because of the great dock-yards, where all the ship-building and other works pertaining to the navy are done, and because of the storage of all kinds of naval supplies in the enormous arsenals, this port has been elevated by Austria to occupy the central position of all affairs relating to the navy, and its loss would be almost

equivalent to the crippling of the fleet. Facing Italy, Austria also possesses a series of fortifications suited to the character of the land. The most important passes leading from Venetia to Carinthia and Tyrol, as well as the south-south-western frontier of Tyrol, are secured by *Sperr* forts, and by the establishment of a uniform plan, they are laid out according to a connected system.

Trient forms the central point for the defence of southern Tyrol.

Of the frontier fortresses opposite to the German Empire may be mentioned Olmutz, Theresienstadt, Königgrätz, Josephstadt, in Moravia and Bohemia; yet these fortifications no longer answer to modern demands, and for this reason are abandoned. Besides the unimportant fortified depots of Arad on the Maros, Temesvar, the capital of Banat, and Esseg on the Drave, the monarchy also possesses in Komorn a strong and important fortress. Komorn, built 1472 by Matthias Corvinus, on the great



FORTRESS ARTILLERY

island at the confluence of the Waag and the Danube, was strengthened by Kaiser Leopold, 1672, and rebuilt 1805. The stronghold can be defended by a comparatively small force, and serves doubly as a *tête de pont* and a fortified depot.

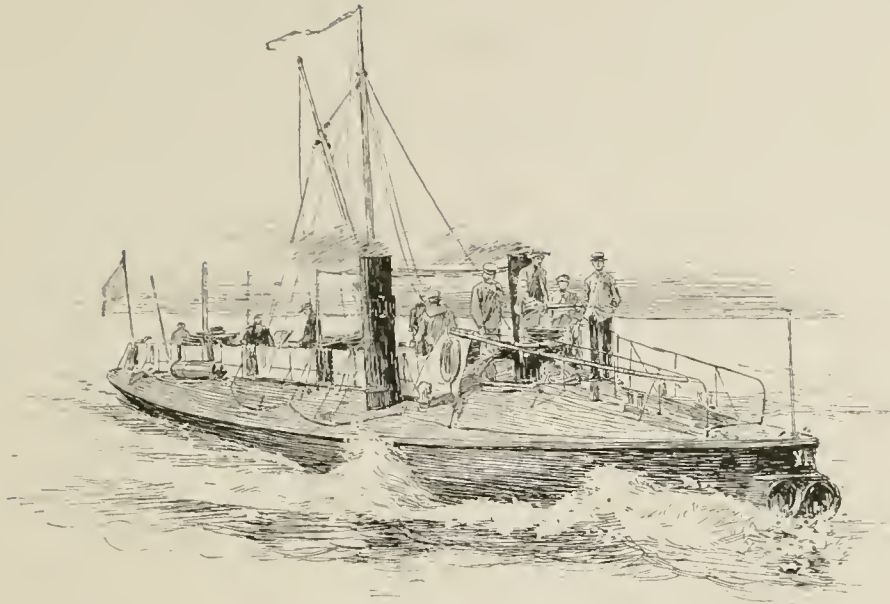
In order to assemble great army masses, as modern warfare demands, at fixed spaces, and with sufficient speed both for the attack and defence, it is absolutely necessary that all the avenues of communication should be well developed. At present Austria and Hungary possess a net of natural waterways in their many navigable rivers and canals, the total length of which amounts to nearly 7254 kilometres. Among these, the Danube is of special importance, not only because it is navigable for 1452 kilometres, but also because, having this length, it flows through the whole extent of the monarchy itself.

Among the means for transportation in case of war, and especially for the march out, the railway plays the chief rôle. In October, 1890, the average length of railways in active use amounted to 26,223 kilometres.

The naval fleet forms the final defensive power of Austria and Hungary. For a long time, and principally, indeed, for financial reasons, it has had scarcely that care and attention which it deserves. And this was to be regretted the more since Austria and Hungary, in their extensive sea-coast districts, possess excellent material for the manning of their ships. And the 116 different Austro-Hungarian ports of the Adriatic Sea, moreover, form settled markets for pretty valuable trade. Under the auspices of Archduke Maximilian, the navy recently received fresh impulse. Admiral Tegethoff has followed in the footsteps of the imperial Prince, and understands how to lead the fleet to a brilliant victory.

The central management of the navy is in the hands of





TORPEDO-BOAT

the section of the Imperial Ministry of War which it concerns, and the head of the same is also commander-in-chief. The port admiralty of the principal military port, Pola, the importance and excellence of which have been already noted, and the command of the sea district in Triest, are placed directly under his charge.

At the present time the floating material of the navy, including all the school-ships, tenders, hulks, and *remorqueurs*, consists of 125 ships and boats, which may be classified as follows :

I. Chief class: ships of the navy, to which belong the ships of the operative fleet and those for special purposes. The operative fleet contains (1) battle ships (iron-clad), and, indeed, 2 turret ships, 8 casemated ships, and 1 armed frigate; (2) the cruisers—that is, 7 torpedo-ships, 5 torpedo-boats; (3) the torpedo-boats—namely, 23 first class, Nos. IX.—XXXIV. second class, Nos. I.—VIII. third class; (4) advice-boats, wheel steamers, 3; (5) train-ships, 1 torpedo-depot ship, 1 workshop ship, 1 material-transport ship, and 1 ship arranged for the transport of the sick; (6) 2 small monitors on the Danube.

Ships for special purposes include (1) station and mission ships—namely, 2 frigates, 8 corvettes, 6 cannon-boats, 3 screw steamers; (2) 6 vessels for harbor and coast service.

II. Chief class : school-ships and their second ships, 1 artillery school-ship, 1 consort, 1 torpedo and sea-mining school-ship, sailing brigs, school-ship for sailors—namely, 1 sailing corvette and 1 sailing schooner, and, finally, 1 second ship of the occasional casern ship (sailing schooner).

The III. chief class contains 4 hulks.

The armament of the navy consists of Uchatius and Krupp guns, the former of which were made at home.

The contingent of the navy is furnished mostly by the three supply districts of the sea-coast countries. The period of service is twelve years—four in active service, five in the reserve, and three in the sea defence (*Seewehr*). The crews are combined into a sailor corps, which is again resolved into two depots of six companies each. The peace establishment amounts to 6890 men, which is increased in war to 13,752. The corps of sea officers, including the midshipmen, numbers 533 officers and cadets in peace, 757 in war.

The training of the crews—and these are, on the average, schooled seamen—for service on the war ships takes place in the depots, which the sailors afterwards leave for the ships appointed to service. For volunteer youths there is an apprentice school-ship and a mechanical school. Only the artillery and torpedo crews are trained on the various school-ships. The midshipmen are also prepared here for their duties, while the naval academy for higher scientific instruction is at the service of the officers.

The Austro-Hungarian navy does not have foreign stations, yet regular training voyages are made outside of the Mediterranean Sea.

THE ITALIAN ARMY



**I**TALY, lying partly in the Mediterranean Sea, and with on one side France, a sister but rival nation, and on the other the Austro-Hungarian Empire, where so many interests of its Slavic, German, and Latin races mingle, seems by its very geographical position to be destined to participate more or less directly in any conflict in which other European powers may become involved.

The history of the Italian army connects itself not only with that of the Italian revolution, but also, and more especially, with the history of the army of the former kingdom of Sardinia.

It was, in fact, the kingdom of Sardinia that took the lead of the Italian movement for independence, and gave it the support of its arms in 1848 and 1849, and then again in 1859, carrying it to happy consummation through its diplomacy and the campaigns of 1859, '60, '61, '66, '70. It was during those campaigns that the Sardinian army, steadily increased by new accessions from all parts of Italy, became transformed into the Italian army.

In the time previous to the French invasion of 1796-97, and in that which followed from 1814 to 1859, all the principal States into which Italy was politically divided maintained, it is true, standing armies, but these were only partially recruited among the citizens, hired foreigners forming in most cases the principal bodies or the main nucleuses.

One State only—namely, the one governed by the house

of Savoy—was an exception to this rule. That State always kept up a standing army, small but well trained and disciplined, in which the native element had the predominance. Ever since the time of Emmanuel Philibert, all the Dukes of Savoy, who became later on Kings of Sardinia, wisely made the army an object of their special attention and constant care. It was their solicitude for the army that, during the seventeenth and eighteenth centuries, prevented Italy from becoming entirely a prey to Austria, Spain, or France. Victor Amadeus II., and more especially his son, Charles Emmanuel III., whose reign extended over forty-two years, saved Italy from such a fate. His successor, though for forty-four years—1748–92—undisturbed by war, did by no means neglect the army. So that when, in the time of the French revolution, the soldiers of the republic tried to pass the Alps, they met with the most stubborn resistance on the part of the small but valiant army, and after five years only succeeded in evading it through the strategy of the greatest general of modern times. Then, at the first blast of the Napoleonic tempest, the armies of all the States of Italy, including that of the republic of Venice, were scattered. However, some of the Sardinian regiments were allowed to keep up their traditions, even after their aggregation to the French army, in which they distinguished themselves on more than one battle-field. After 1814, Austria, then mistress of the provinces of Lombardy and Venetia, forced the inhabitants of those provinces to do military service in the interior territory of her empire, mingling them with the troops of her Slavic and German subjects. The minor Italian States had but poorly organized military establishments. Of the two more important States—viz., the kingdom of the Two Sicilies and that of Sardinia—the former maintained an army not indeed deficient in technical skill,

but lacking military spirit, and its masters, the Bourbons, inflicted upon it, as well as upon the people, the shame of surrounding themselves with foreign troops as a kind of body-guard. The kingdom of Sardinia, on the contrary, following up, after 1814, the military traditions which had been interrupted by French invasion, reconstituted its army with elements entirely national, and organized and disciplined it so well that in the campaign of 1848-49 it fought with honor and valor worthy of better success.

It was natural and just, then, that in the history of the Italian revolution the honor of raising the flag of independence and unity in 1859, and of constituting the nucleus of the army of resurrected Italy, should have been reserved to the army of Savoy, which had generously shed its blood, first to save Italy from French invasion (1792-96), and then again in 1848-49 to free her from the yoke of Austria.

By the organization of 1862 the military establishment of the kingdom of Italy was constituted thus: 80 regiments of infantry of 4 battalions each; 40 battalions of bersaglieri; 19 regiments of cavalry, each of 6 squadrons; and artillery and engineers in due proportion. This army, comprising in time of war about 250,000 men formed in 20 divisions, served in the campaign of 1866, the result of which was the accession to the kingdom of the Venetian provinces evacuated by the Austrians. Four years later it was partly mobilized for the military action which, directed by General Cadorna, ended in the capture of Rome and the overthrow of the temporal power of the Popes.

The time had now come for improvements in the organization and the system of mobilization of the army.

The experience of 1866 and 1870 had made it apparent to all that the principle theretofore followed of making the army division the normal organic unit for the three

main arms, and then allowing army corps to be formed of almost any number of divisions, did not work satisfactorily. That unit was not in correspondence with the mode of division of the territory; on the other hand, some of the army corps were not army corps in the modern sense of the word, but veritable armies. Now, War Minister Ricotti, following in this the system adopted by Germany, constituted the army normally on the basis of army corps, each of two or three divisions. It is true that the division of the territory did not yet exactly correspond with that of the forces, as the territory was divided into only 7 general commands, and 16 territorial commands of division, while the forces could be established in 10 army corps and 20 divisions; nevertheless, the great military units in time of peace were permanently formed nearly in the same way as they ought to be in time of war. In the event of mobilization it was provided that to every 2 divisions there should be added as supplementary troops at the disposal of the respective commands 1 regiment of 4 battalions of bersaglieri, and one or two regiments of cavalry, besides some field batteries. An aggregate of army corps was to constitute an army. The different armies might consist of two, three, four, or more army corps, according to the different tasks assigned to them severally.

The mobilization of the army had not proved satisfactory in either the campaign of 1866 or that of 1870; General Ricotti, therefore, to make it so, created the districts. The territory was first divided into 45 districts, and afterwards into 62, and at the head of each of them was placed a superior infantry officer, to be assisted by a smaller or greater number of subaltern officers, and disposing of one or two infantry companies to do the service of the district. To the district was assigned the whole business of enlisting and receiving the recruits, of mobilizing the men re-





KING HUMBERT AS GENERAL OF THE ARMY



called from furlough, and of giving the instruction. By the creation of a new corps, that of the Alpine infantry, a very important addition was given to the infantry. Originally (1872) the Alpine comprised no more than 15 companies, but in 1873 they were increased to 24. They were distributed along the frontier mountains that separate the Italian kingdom from France, Switzerland, and Austro-Hungary. Their contingents were and are recruited in the regions of the Alps, and the instruction so specialized as to fit them as well as possible for the defence of the Alpine passes.

Not less attention was given by Ricotti to the other arms. He increased the cavalry by creating a 20th regiment; reorganized the artillery into 10 field regiments of 10 batteries each, with 8 pieces to each battery; and the garrison artillery into 4 regiments of 15 companies each. The pontoniers and the sappers, who were included in the artillery, were instead attached to the engineer corps. The services of the artillery and of the engineers were, together with the service of forts, placed under the supervision of the general command of some artillery and of a few engineer corps. Finally, special corps were created for both the sanitary and the supply departments.

Ricotti's reorganization marked, undoubtedly, a great improvement over the preceding one. It increased to a notable degree the efficiency of the army in general for all war purposes; it better systematized all the special technical field services, secured a strong defence of the Alpine passes by the creation and organization of the Alpine troops, and lastly improved all the arrangements and services necessary to the quick and orderly mobilization of the army. Italy could now count on 300,000 combatants of the first line.

We have said combatants of the *first line*, for under

Ricotti's administration there came into existence also a *second-line* army by the institution of the active militia ("Milizia Mobile"). In fact, provision was made, for the first time in Italy, to the effect that the military districts should have in readiness all the means and materials necessary for the formation of 108 battalions of infantry, 15 of bersaglieri, and of 24 companies of Alpine troops. So likewise each of the 10 field artillery, and each of the 4 garrison artillery regiments, as well as the engineer regiments, was furnished with all the elements required for the formation respectively of 3 field batteries, 3 garrison artillery companies, 1 pontonier and 8 engineer companies.

Of the local militia ("Milizia Territoriale") General Ricotti laid the foundation under the law June 7, 1875, which he obtained from the National Parliament. By that law compulsory military service was extended to all able-bodied citizens, unless expressly excluded, up to the age of forty years. Under the same law General Ricotti instituted also a special militia for the defence of the island of Sardinia, forming it with those soldiers, native of the island, who, after three years' service in the regular army, were sent home on unlimited furlough.

Generals Lamarmora and Fanti were the founders and Ricotti the reorganizer of the Italian national army. Let us now see how this army, which was already considered one of the foremost in Europe, has been further improved since 1875.

The so-called *progressive* party having in 1876 obtained the ascendant in the Italian Parliament, General Luigi Mezzacapo, a man of deep and broad mind, was called to succeed Ricotti as War Minister. He accepted, in the main, the military organization adopted by his predecessor, and set about developing and perfecting it.

He increased the territorial army corps commands to



BERSAGLIERI



10, and the divisional commands to 20, corresponding to the 10 army corps to be formed in the event of war. The districts were established on a more solid basis, and their number raised to 88, whereby mobilization was rendered more rapid.

Through the modifications introduced by General Mezzacapo, the military establishment of Italy was put in better harmony with the fundamental principle of the systems of the principal modern armies, requiring that the troops of the first line, at least, be so organized in peace-time as to correspond exactly to the war foot establishment. Besides this, better facilities for mobilization were provided, the first defence of the frontiers was strengthened, and the organization on war foot of the second line secured.

But the political relations between France and Germany on one side, and between Austria and Russia on the other, the new colonial policy of the principal European powers, especially after the conditions prescribed by the Treaty of Berlin, and the changes of a protective character in the commercial policy, particularly of France, placed Italy in a position that appeared full of danger. Furthermore, the state of the land boundaries, the enormous extension of the sea-coasts, the constant improvements in the means of attack, which rendered the defences of both the Alps and the coast precarious, the geographical configuration of the country, and the limited means of communication, which rendered the mobilization and concentration of troops slow—all these things together made it plain that the ten permanent first-line army corps were inadequate to the defence of the country. The necessity of increasing the first-line forces, then, became imperative, all the more as it was not certain that the second-line corps could be formed promptly enough to be ready to

take the field at the needed time. These were the reasons for the new modifications of the military system in 1882 by the Minister of War, General Ferrero.

Under this system the field army was increased by 2 active army corps; the Alpine and the cavalry arms were also both increased, and furnished, the former with mountain artillery, the latter with horse batteries. The first-line army on war foot comprised 400,000 combatants, perfectly armed and equipped. The active militia was also considerably augmented.

As to the local militia, efficient measures were taken which secured the formation in case of war of 320 battalions of infantry, 30 of Alpine troops, 100 companies of garrison artillery, 30 of engineers, 13 of sanitary and 13 of supply troops.

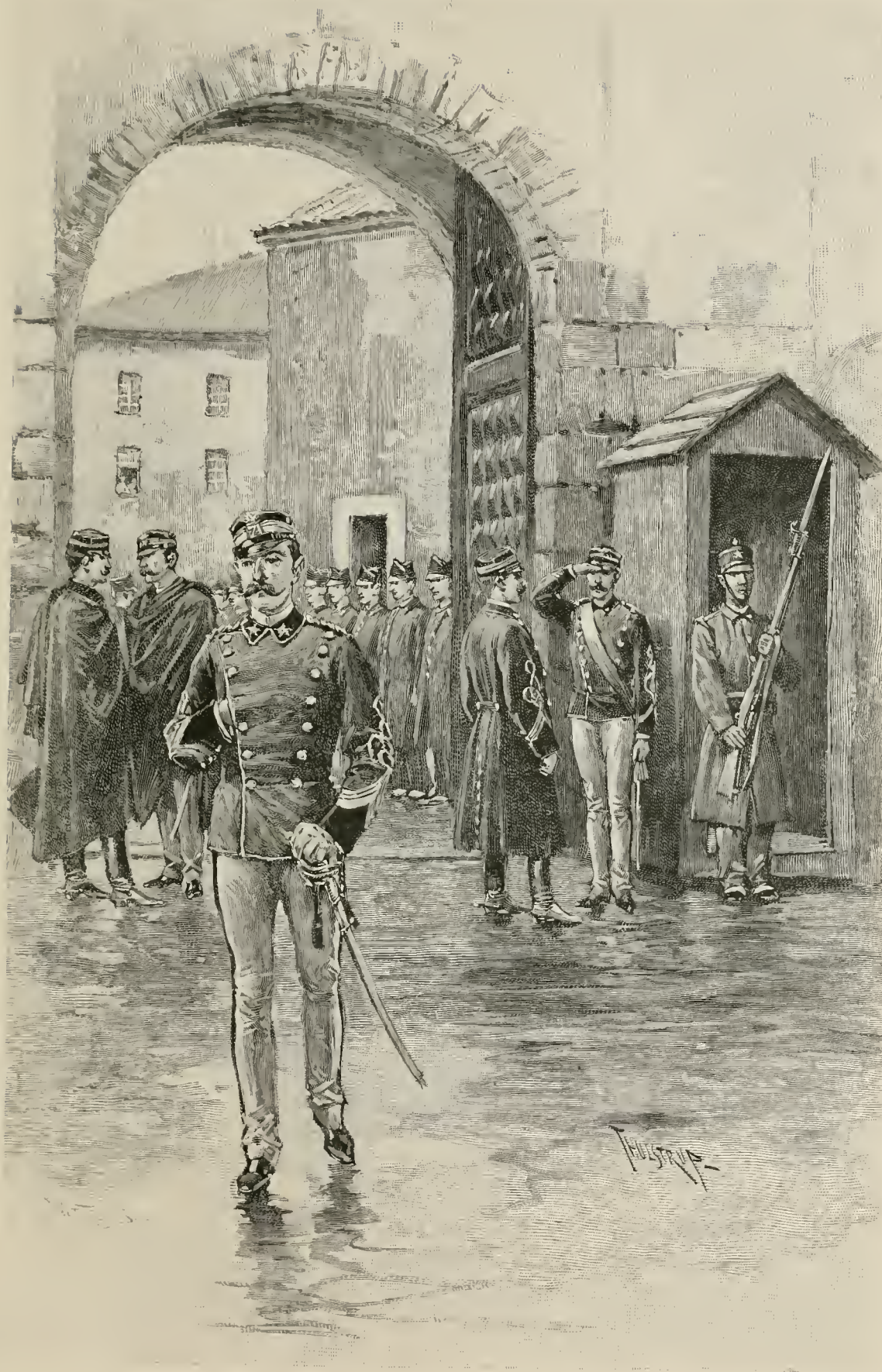
The division of the territory of 1887 was modified in accordance with the number of the active army corps of the first line which could be formed; consequently there were instituted 12 territorial army corps and 24 territorial divisional commands, besides a military command in the island of Sardinia.

But the system of 1882-86 had one great fault—viz., the army corps were quite deficient in field batteries, and the regiments of the arm had a very slow and difficult task to perform, being charged with the mobilization of 10 permanent batteries of 8 pieces each, and of 3 active militia batteries, these also of 8 pieces. Indeed, if the field artillery, following the example of the other European armies, had been increased in each army corps, their task would have become altogether too slow and too difficult.

This was the principal reason which caused the constitution of the national army to be modified anew in 1887, making it what it has been ever since.

The royal Italian army, as at present organized, consists





INFANTRY OF THE LINE



of the active or first-line army, the active militia ("Militia Mobile"), and the local militia ("Milizia Territoriale"). The first-line army is composed of corps which are kept permanently in active service. The active militia is under arms in peace time only during the period of instruction, and occasionally as the maintenance of public order and peace may require. In war-time it may be called out to co-operate with the permanent army in any military operations.

The local militia is likewise kept under arms in time of peace only temporarily, for the same purposes and under the same circumstances as the active militia. In time of war it has the special destination of defending the cities and fortified places of the kingdom; but in case of urgent need or foreign invasion it also may be called upon to aid in any field operation.

The organization of these three great sections of the military establishment is as follows:

Permanent army: I. A general staff of 163 general officers in peace-time, taking charge of the different permanent commands. II. A staff consisting of a commanding general, who is the chief of the army staff, of 2 assistant generals, of 68 colonels, lieutenant-colonels, and majors, and of 84 captains. To these are to be added 120 infantry captains, 6 clerks, and several other assistants. III. The royal carabinieri. IV. The infantry. V. The cavalry. VI. The artillery. VII. The engineers; and lastly, the sanitary corps, the commissariat, the accountant, and the veterinary corps.

The staffs of all the various arms and corps of the permanent army are in peace time composed of officers in permanent service, whose number in each arm or corps and whose rank are determined by special law. However, the distribution of the officers among the different services of

one and the same arm, or any one corps, may be changed every year through the Budget law.

A hasty sketch of the constitution of the several arms and corps on both the peace and the war footing will suffice to show the degree of efficiency of the permanent army.

The carabinieri were instituted in January, 1861, by bringing together into one body all the military corps which had charge of the public peace and order in the different provinces of the kingdom. This body was organized on the same plan as the one formerly existing in Piedmont, from which it received the largest contingent, the uniform, regulations, discipline, and the corps pride. It is formed of men chosen with the utmost care, and is greatly esteemed for its noble traditions. In time of peace it looks to the public order and peace, and during war it furnishes to the commands of the several armies, army corps, or mobilized divisions some sections of both its foot and horse men for police and guide services. A large portion of the carabineer corps, being replaced in the local service by carabinieri recalled from furlough, is formed into battalions of picked infantry, and is mobilized for field operations. The carabineer corps comprises 1 general command, 11 local legions for police service, 1 school legion ("allievi carabinieri"), furnishing the instruction to the recruits of the arm. The entire force consists of 3 general officers, 58 superior officers, 532 inferior officers, 40 medical and accountant officers—total number of officers, 633; 21,000 foot carabinieri, 3888 horse carabinieri—total number of troops, 24,888. The troop horses number 3758, of which 3518 are the carabinieri's own property. All the officers are mounted. The foot carabinieri mobilized in battalions constitute a somewhat heavy but select and very solid infantry.

The infantry is organized in 96 regiments, forming 48 brigades. The entire strength is: Officers for 48 brigade commands—generals, 48; adjutant field captains, 48. Officers for 96 regiments—superior officers, 480; inferior officers, 5376. Total number of officers, 5952; total number of troops, 124,704.

Each regiment comprises a staff, 3 battalions of 3 companies each, and a depot. Of the 96 regiments, 2 are recruited from the tallest men in the country, and form the brigade of grenadiers.

The infantry is excellently armed. The Wetterly repeating rifle, improved by the Vitali system, constitutes—more especially now, after the adoption of smokeless powder, which increases both the initial velocity and the exactness of the aim—a most effective fire-arm. At present, however, a new repeating gun of small calibre is being experimented. The private of infantry is well clothed and equipped. He carries a total weight of about 25.7 kilograms, including uniform, knapsack, gun, and 88



FOOT CARABINEER

rounds of ammunition. He is supplied with poles and canvas for the erection of triangular tents capable of receiving three or six men. The Italian infantry stands long marches, moves briskly and with ease at parade, is agile and adroit in manœuvring. Whenever ably commanded, it has shown coolness under fire and resolution in attacking. It very properly forms a constant object of the special care of our war ministers, but, owing to its large numbers, its equipment still lacks some of the latest improvements. The staffs of the infantry are mostly men rather young in years. The superior officers and the captains are mounted, and the other regiment or company officers are of an average age which enables them to bear the fatigues of marches and manœuvres. Of the 48 brigades, that of the grenadiers and the first nine of infantry have a brilliant military history, dating from the sixteenth century. All the other brigades, with the exception of the last eight, which have never been in any war, took part in the campaigns of 1860–61 and of 1866.

The bersaglieri consist of 12 regiments, each having a staff, of 3 battalions, counting together 12 companies, and a depot. As there are 67 officers and 1270 men in each regiment, the entire strength of the 12 regiments is 804 officers and 15,240 men. The arms and equipment of the bersaglieri do not differ from those of the infantry. The bersaglieri are chosen from among the strongest and best-proportioned men in the country, and this, together with their uniform, their bearing, and special way of manœuvring, renders them the most picturesque and striking infantry of Europe.

In order to secure uniformity in their instruction, the bersaglieri are placed under the supervision of a general, who is assisted by a captain and a subaltern officer, and whose supervisory office ceases in time of war.

The mountain or Alpine infantry consists of 75 companies, formed into 22 battalions, and these into 7 regiments. Each regiment has a depot. The aggregate strength is represented by 487 officers and 9575 privates.

This corps, recruited solely from the population of the Alps, has special abilities for mountain service. It is armed like the infantry, but its uniform and equipment are suited to the mode of living and manœuvring in elevated and mountainous regions. Each company in time of peace is provided with mountain artillery carried by 8 pack-mules. The Alpine soldiers have not yet received the baptism of fire, but their bold manœuvres in the highest mountains, their hazardous and successful crossing of the most perilous passes, in spite of snow and storms, their daring ascents in the coldest winters, warrant the perfect trust that is placed in them.

The Alpine corps is also under the inspectorship of a general officer, who is assisted by a captain and a subaltern officer. It need hardly be said that these interesting troops, having in custody the gates of Italy, are naturally the most exposed to the attack of invaders, and the first to carry war outside the boundaries of their country.

The administration of the 87 military districts is assigned to the infantry. It is the business of the district in time of peace to prepare and carry out the annual recruitment, and forward to their respective regiments all the men recalled from furlough, who are to raise the infantry and the bersaglieri from peace to war footing. The districts in peace time have an adequate number of officers and privates for the keeping of matriculation books and the custody of the military storehouses containing the arms, accoutrements, etc., required for the mobilization of the infantry.

Eleven of the 87 districts have two permanent compa-

nies, the other 76 only one, and all together 98. These 98 companies in war time serve for the formation of as many presidary companies.

The total force of the districts consists of 1286 officers and 8611 men. Twelve superior district commands, comprising 12 generals and 12 captains of infantry, exercise a strict supervision over the districts, and in war time, after the departure of the mobilized commands, take the place of the territorial army corps commanders. The commands of the districts have, furthermore, the charge of forming the cadres for the second and the third line—that is, the active and the local militia.

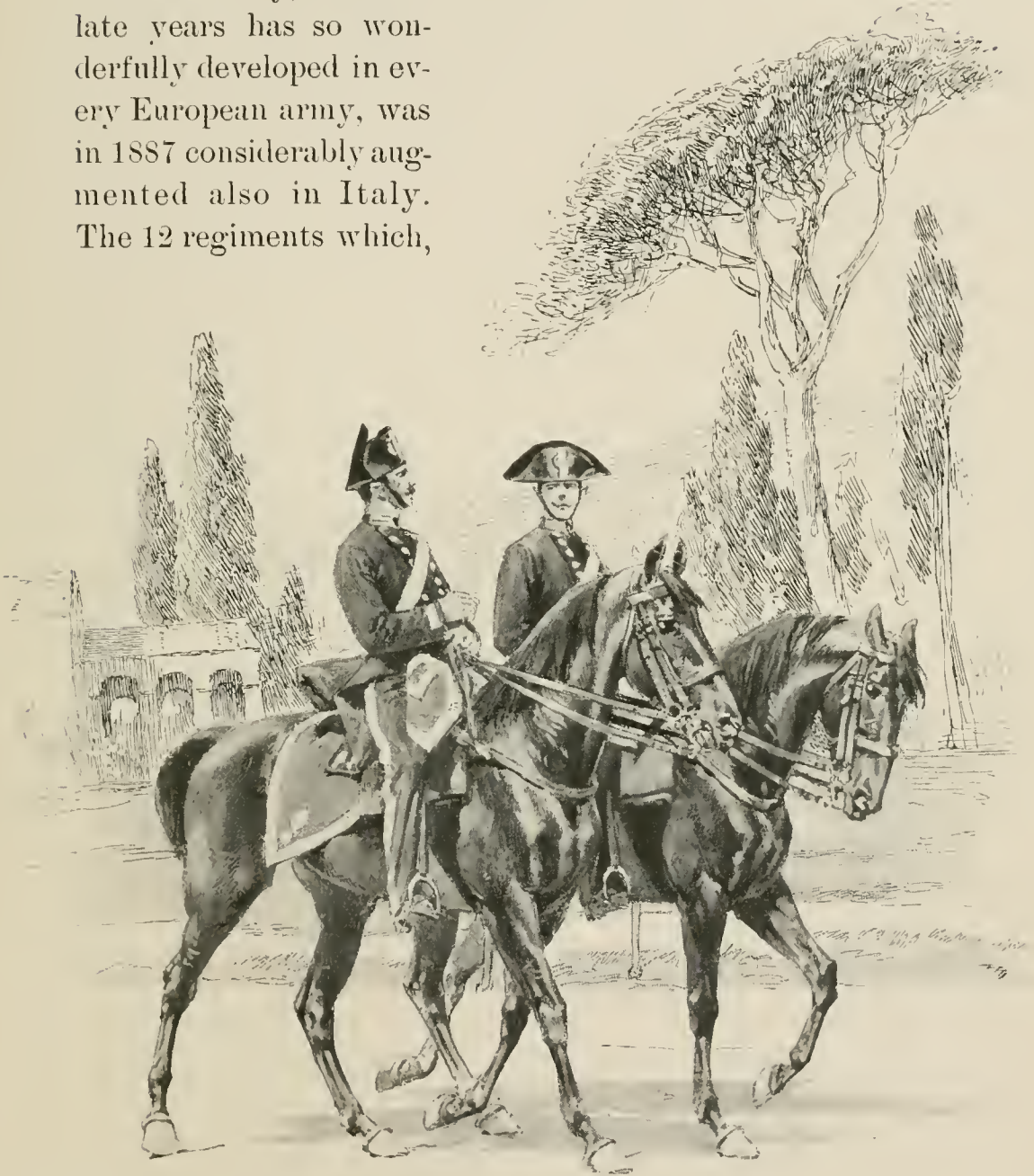
It will thus be seen that the districts impart to the military establishment a considerable strength; for, after furnishing the annual contingents of recruits and the cadres for the active and the local militia, they are still able, in case of protracted war, to organize other forces, until all the resources of the country are exhausted. In short, the districts constitute the sources which feed the army, and, if need be, they can even create the field organizations for the infantry.

The Italian army, as has been seen, is rich in infantry, but it cannot be said to be rich in cavalry. The increase brought to this arm by the reorganization of 1887 was limited to only 2 regiments, so that it numbers at present not more than 24 regiments of 6 squadrons each, and a depot. Of the 24 regiments, 10 are of lancers and 14 of light cavalry. The total aggregate is 1080 officers, 25,752 men, and 20,880 horses. The officers in this arm, like nearly every mounted officer in the other departments, have horses of their own. They are generally well mounted, and make bold and elegant riders. Every year the love for equestrian sport increases. The cavalry regiments form 9 brigades of 2 or 3 regiments each, and are



subject to the supervision of an inspector-general of cavalry. The superior commands comprise 10 general officers, 1 superior officer, and 11 captains.

The artillery, which of late years has so wonderfully developed in every European army, was in 1887 considerably augmented also in Italy. The 12 regiments which,



Amstrong

HORSE CARABINEERS

under Ferrero's administration, were to furnish the batteries, one regiment to each army corps in case of mobilization, had, as we have said, too difficult a task, especially as they were obliged to provide not only to the mobilization of the regular batteries, but also to the constitution of the batteries of the second and of the third line. Consequently, to increase the artillery in the army corps, it was necessary to lighten the burden of the regiments by increasing their number. This was done by the reorganization of 1887, so that at present the artillery consists of 24 field regiments, 12 of which are divisional, and are to furnish batteries of 9-centimetre calibre to the divisions, to the number of 4 for each division. These 12 divisional regiments comprise 564 officers and 10,848 men, with 5136 troop-horses. The organization consists of a staff, 8 batteries forming 2 brigades, 1 train company, and a depot. The other 12 regiments have likewise 8 batteries, 4 of which are of 9-centimetre calibre, 4 of 7-centimetre calibre, a depot, and 2 train companies instead of 1. Total strength, 636 officers, 11,964 men, 5496 horses. These regiments are called army corps regiments, as they have charge of the mobilization of the artillery of the army corps.

The organization of 1887 also increased the strength of the cavalry divisions by adding 2 new horse batteries to the 4 already in existence, and bringing all the 6 into one regiment, to which belong also 4 train companies and a depot. The total amounts to 64 officers, 1170 men, and 651 troop-horses. The horse batteries, all of 7-centimetre calibre, are perfectly mounted and really splendid.

An addition of 1 battery was made to the previous 8 mountain batteries, and a regiment was thus formed for mountain service with 9 batteries and a depot. These

batteries have a 7-centimetre calibre. The regiment consists of 59 officers, 1198 soldiers, and 521 mules and horses.

The garrison artillery comprises 5 regiments, each of from 12 to 16 companies, making together 68 companies, and a depot. The officers of the corps are 293, and the privates 7266. To these must be added 5 artificer companies, aggregating 500 men and 15 officers.

The high direction of the instruction of the arm is entrusted to an inspectorate general, consisting of 6 generals, assisted by 12 captains. These oversee the various special departments of the arm and the manufacture of the materials for the artillery. There are, besides, 4 commands for the field artillery and 2 for the garrison artillery, directed by general officers.

The engineer corps is constituted as follows: 4 regiments with 43 companies of sappers, 6 of telegraphists, 10 of pontoniers, 4 of railroad men, 1 for balloon and photo-electric service, and 8 train companies. The 4 regiments number together 245 officers, 8018 privates, and 562 troop-horses.

The sanitary department is under the charge of a military medical inspector, and consists of 12 territorial sanitary directorates, 12 sanitary companies, and of military hospitals. The entire department comprises 205 medical officers, 91 pharmacists, 94 clerks, and 2295 men.

For the supply service there are 12 supply companies with 169 officers and 2238 privates, and a commissariat consisting of 12 territorial commissariat directorates, 3 central military storehouses, a factory of military accoutrements, and a "revision office" for the examination and verification of military accounts, with a total force of 366 officers.

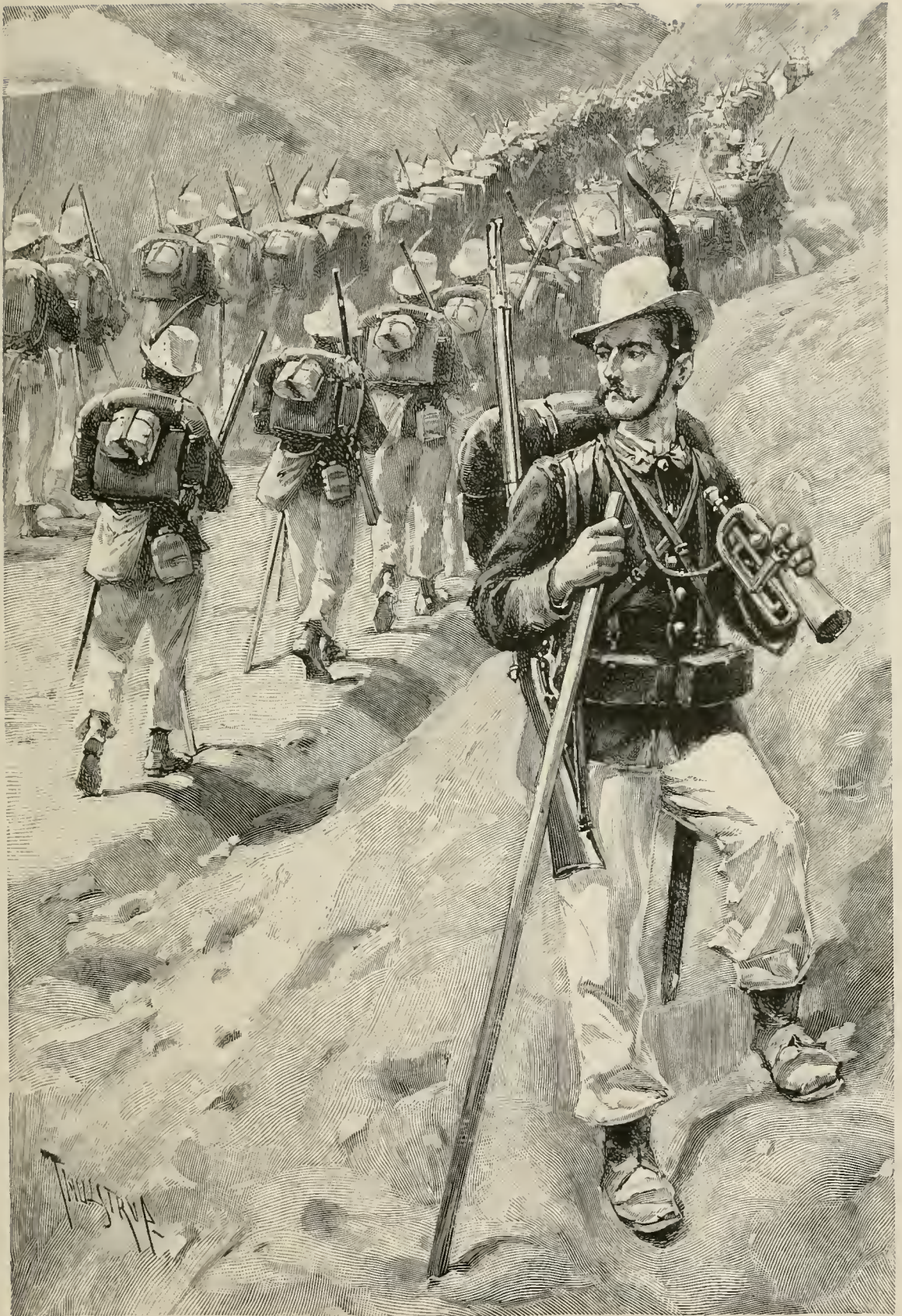
The cartographic service is intrusted to the Geographical Military Institute. This is divided in two sections, the one having administrative and supervisory functions, the other executive. The former has 21 army officers under the high guidance of the chief of the general staff of the army, and the latter has 11 geographical engineers and 110 topographers. The Geographical Military Institute has done very important work in the geodetical field, has produced excellent topographical maps, among them the great one of Italy on a scale of  $\frac{1}{50000}$  and of  $\frac{1}{100000}$ , besides many special works of military or scientific interest.

The present sketch of the Italian military organization would be incomplete without a mention of those institutions which are designed for the recruitment and instruction of officers.

For sublieutenants there are some school platoons detailed by certain regiments of the several arms of infantry, bersaglieri, cavalry, and artillery, besides a school company for garrison artillery. A special academy at Caserta furnishes instruction to those sublieutenants who seek promotion to a lieutenancy in the field army or in its administration.

So likewise there are school platoons in some specified regiments of the several arms for the recruitment and instruction of officers. Then five military academies, at Milan, Florence, Rome, Naples, and Messina, give college education to young men whose families wish them to be prepared to follow the military profession. The Military School of Modena prepares young men for sublieutenancies in the infantry, cavalry, or the commissariat, while the Military Academy of Turin does the same as to the arms of artillery and the engineers.

There are also staff colleges, among which the "Scu-



ALPINE INFANTRY



ola di Guerra" of Turin is prominent. This school receives officers of any arm who pass successfully a competitive examination. The course lasts two years, after which a vigorous examination, both theoretical and practical, determines what men are fit to become staff-officers.

The graduates of the Military Academy of Turin cannot obtain admission to any artillery or engineer regiment before perfecting their education in the "Scuola d' Applicazione delle Armi speciali," also established in Turin.

The staffs for the sanitary department and the cavalry are recruited from the graduates of the Medical Military School of Florence and the Cavalry School of Pinerolo respectively. Two central schools, the one at Nettuno for the artillery, the other at Parma for the infantry, perfect the special education of officers in all matters pertaining to arms and the use of them.

All the above-mentioned schools have given to the army numerous officers, whose thorough knowledge, both theoretical and practical, is a sure guarantee that the army and military science in Italy will be kept in constant progress in every department.

Until the year 1885, Italy had no colonies, and consequently no colonial troops. For the military expedition to Massowah, which took place in the winter of 1884-85, the war administration organized a small army, mostly with furlough men drawn from the standing army. But in 1887 a special corps for the permanent occupation of Massowah and its dependencies was created under the special law of July 18, 1887.

This corps, which was to be considered as part of the national standing army, consisted originally of a colonial military command, a staff with all dependent services, 2

regiments of infantry, each of 3 battalions of 3 companies each, 1 squadron of horse chasseurs, 4 artillery companies, 1 supply and 1 train company.

These troops were recruited from among the men in active service who made special application, and also, in given proportions, from among furlough men of the first category. Their engagement was for a term of 4 years; rescindable, however, after 2 years, upon their demand. At the end of every two-years' term each soldier was entitled to a premium of 1000 francs. The officers were drawn from those of the standing army, either in actual service or on furlough.

The strength of the corps was 238 officers, 4762 men, 134 horses for the officers, and 322 horses and mules for the troops.

In June, 1889, a military corps of African natives was also instituted, which varied in size from time to time, as circumstances required, and which, under the command of Italian officers, has done excellent service.

The adaptability to the adverse climate shown thus far by the Italian troops encourages the hope that Italy may succeed in opening up to civilization that part of the Dark Continent which has come under her influence. At any rate, no such task would have been undertaken by Italy but for the existence of her army; and her army was also the starting-point of that triple alliance which has thus far secured to Europe the blessings of peace.

The condition of the Italian garrisons in Africa having become safer, especially in consequence of a treaty concluded by Italy with Abyssinia after the death of Negus John, the colonial army, already reduced by decree of June 20, 1889, was further diminished by decree of August 28, 1890, so that it at present consists of 2 battalions of chasseurs and 1 of bersaglieri, 1 mountain battery, 1 com-





OFFICER OF CUIRASSIERS

pany of cannoneers, 1 of artillery artificers, 2 of engineers, 1 of the sanitary, 1 of the supply, and 1 of the train corps. The entire strength is 105 officers, 3208 men, 72 horses for officers, and 357 for troops. The mode of enlistment has not been changed.

On June 30, 1889, the military corps of natives was

thus organized: 4 battalions of infantry of 4 companies each, 1 squadron of scouts, 1 mountain battery, 2 "bo-lucks," 1 "orta" of several companies for service in the interior. Total strength, about 4000.

But by the reorganization decree of September 3, 1890, the same corps was formed into 6 battalions of infantry of 4 companies each, 2 squadrons of cavalry, and 1 field battery, making together 104 Italian and 48 native officers, 108 men from the Italian army, 5287 natives, 174 horses for officers, and 669 for the troops.

This colonial corps has been found to answer perfectly the ends of the occupation, and its troops being naturally used to the torrid climate, it is not unlikely that, if necessary, it may be sooner or later increased, thus allowing a further reduction in the Italian corps.

Having thus far described the military establishment of Italy in its constitution and elements, let us now locate it; or, in other words, let us see how it is distributed among the different provinces of the kingdom in time of peace.

The mode of distribution is determined partly by the exigencies of the home policy of the State and the existing facilities for the convenient quartering of troops; but, above all, by the needs of the defence of the country against foreign enemies. In this latter respect the geographical position of the kingdom in relation to its neighboring States, and the peculiar configuration of the territory, so narrow, and at the same time so excessively long, are circumstances of controlling importance. The land communications of Italy with the neighboring States all terminate in the valley of the Po. The area of that valley hardly exceeds one-third of that of the territory of the whole State, while the remaining two-thirds are surrounded by the sea. Hence the land-forces are assigned in the inverse ratio—that is, nearly two-thirds to northern



CAVALRY—"ROYAL PIEDMONT REGIMENT"



Italy, and little more than one-third to the peninsula proper and the islands. So, likewise, of the 12 territorial army corps commands, not less than 6 are in the north—viz., at Turin, Alessandria, Milan, Piacenza, Verona, Bologna; 5 are scattered all over the rest of the country—viz., at Florence, Ancona, Rome, Naples, Bari, and the 12th is at Palermo.

Nature has clearly defined the principal zone of military stations in the event of war with any of the neighboring States, but it has at the same time, by the length and the mountainous structure of the peninsula, created many hinderances to the rapid transportation of troops from the south towards the north. Therefore the organizers of the Italian army acted wisely in stationing permanently in the northern part of Italy a military strength far superior to that which would have belonged to it in proportion to its territory alone.

The active militia is organized as follows: Infantry, 48 regiments of 3 battalions of 4 companies each; bersaglieri, 18 battalions, each of 4 companies; Alpine troops, 22 companies. The centres of formation for the infantry and the bersaglieri are the districts; for the Alpine troops, the respective battalions.

The artillery of the active militia consists of 52 field batteries of 6 pieces each; 9 mountain batteries, also of 6 pieces each; 36 garrison artillery companies; 14 train companies. The centres of formation for the various units of this artillery are the artillery regiments of the permanent army.

The active militia engineer corps is formed into 21 companies of sappers, 2 companies of railroad men, 3 companies of telegraphists, 5 companies of pontoniers, 4 companies of train. The centres of formation are those of the active army engineer regiments.



LIGHT CAVALRY

To the above corps must be added 12 sanitary service and 12 supply service companies.

The divisions that can be formed with the above elements, and that can be mobilized to reinforce the 12 army corps of the first line, are 12. They are composed of all the various arms and furnished with all the required services, and, if necessary, all or some of them can be united into army corps.

The island of Sardinia has a special active militia of its own, which is thus constituted: 3 regiments of infantry, each of 3 battalions of 4 companies each, 1 battalion of bersaglieri, 1 squadron of cavalry, 2 batteries of field artillery, and 1 train company, 4 batteries of garrison ar-

tillery, 1 company of engineers, 1 company of sanitary service troops, 1 company of supply service troops. The centres of formation for the Sardinian active militia are the two districts of Cagliari and Sassari.

The organization of the local militia was not changed in any notable degree, but the completion of its cadres was attended with great care, and thereby the conditions of its formation were improved.

The cadres for the local militia are, as a rule, constituted of officers of the same militia, chosen from among the citizens of all classes who are best fitted for the positions to which they are called, but occasionally, also, of furlough officers of the permanent army. The districts are the centres of formation for the active militia battalions, or companies of infantry, artillery, and engineers, while the Alpine battalions of the permanent army are the centres for the 22 Alpine battalions of the local militia.

The various combatant units of the three arms which the Italian army is able to form in each of its three great sections may be summed up as follows:

	Battalions.	Squadrons.	Field Batteries.	Horse Batteries.	Mountain Batteries.	Garrison Artillery Companies.	Engineer Companies.	Supply Companies.
Permanent Army..	370	144	194	6	9	69	64	40
Active Militia.....	177	25	54	..	9	36	31	18
Local Militia.....	342	...	...	..	..	100	30	..
	889	169	248	6	18	205	125	58
			× 6	× 6	× 6			

Total.....1488+36+108 = 1632 pieces.

A glance at this table will suffice to show that the national army of Italy is far from having the proportions

of cavalry and horse batteries that the armies of Germany, France, and Austro-Hungary give to the same arms. This comparative deficiency, however, is accounted for and justified by the nature of the frontiers, as well as by the international position of the Italian kingdom in respect to the neighboring States, excluding on its part any aggressive intention. The relative scarcity of cavalry in particular would in any case be justified by the actual scarcity of horses fit for military purposes (220,000 in all, fully one-half of which number would be required for the needs of a general mobilization), as well as by the state of the national finances, which hardly allows the maintenance of such an expensive arm on a large scale. Nevertheless, Italy is unquestionably able to check with her army any offensive movement from either the west or the east. The above table shows that no less than 12 active army corps, each 30,000 strong, can be formed, preceded by 36,000 Alpine infantry, and followed up by 12 divisions, each 120,000 strong, of active militia, giving a grand total of 540,000 men, all ready to take the field, the local militia amply sufficing for all garrison purposes.

The law of conscription makes every able-bodied Italian liable to military service from the age of 20 to 39. There are, consequently, 19 classes to feed the army. The men on the conscription lists found fit for service are enrolled, and divided by lot into three distinct categories—first, second, third. The first category contingent is determined annually by law. The men in excess of the first category contingent are assigned to the second category; those who find themselves in such family circumstances as are stated by the law of conscription are passed into the third. In determining these circumstances the legislator has conciliated the needs of the mil-



itary defence of the State with the other interests of civil society and the principles of humanity. In this respect, of the laws of conscription of all the great States of Europe, the Italian is the most liberal. The former, in fact, extend the period of liability to military service to 25 years, and restrict the cases of exemption within the narrowest limits.

Another feature of the Italian law is this: it allows all



CAVALRY OFFICERS

conscripts wishing to finish their studies to postpone military service till the age of 25, and grants clergymen the right to serve in the sanitary department.

The period of active service in the army is of 3 years for the first category men, if they are in the infantry, artillery, or engineer corps, and of 4 if they are in the cavalry. Sublieutenants must serve 5 years.

After 3 years spent with the colors, the great mass of the first category are sent home on unlimited furlough, remaining, however, liable to service for 6 years, at the expiration of which they pass for a term of 4 years to the active militia, and then for 6 years to the local militia.

The second category are, in peace time, liable to service in one of the several arms during a period of 9 years in the permanent army, another of 4 years in the active militia, and a third one of 6 years in the local militia; but they are considered as on furlough, and only subjected to some months' military training.

The furlough classes of the first category being sufficient to put the permanent army on the war footing, and the four classes of the active militia being sufficient to complete the cadres of the same militia, the second categories are really complementary troops serving to replace casualties in the field army.

The men of the third category are not in peace time called to service, except for a few weeks' training. All the third category classes concur with the six older classes of the first and the second categories to form the local militia. This is very numerous, and although its technical worth is of very little importance, except in that portion of it which is formed of first category men, it can, nevertheless, in case of protracted war, be used for garrison service and the maintenance of public peace, thereby affording means of resistance to the last extremity.



MOUNTAIN ARTILLERY



An institution peculiar to Italy is that of the town militia (“*Milizia Comunale*”), which the town authorities can by permission of the national government constitute with furlough men of any category, whether they belong to the permanent army, the active or the local militia. The town militia assist in case of need in the maintenance of the public peace and order.

The strength of the whole of the Italian military establishment is concisely given in the following table :

PERMANENT ARMY.

OFFICERS.—Officers, partly under arms, partly on furlough...	19,453
Horses in active service.....	9,554
TROOP.—Men, partly under arms, partly on furlough.....	804,801
Horses in active service.....	38,949
ACTIVE MILITIA.—Officers on furlough.....	6,096
Troops on furlough.....	369,998
LOCAL MILITIA.—Officers on furlough.....	9,925
Troops on furlough.....	1,543,533
TOTAL.—Officers.....	35,474
Troops.....	2,718,332

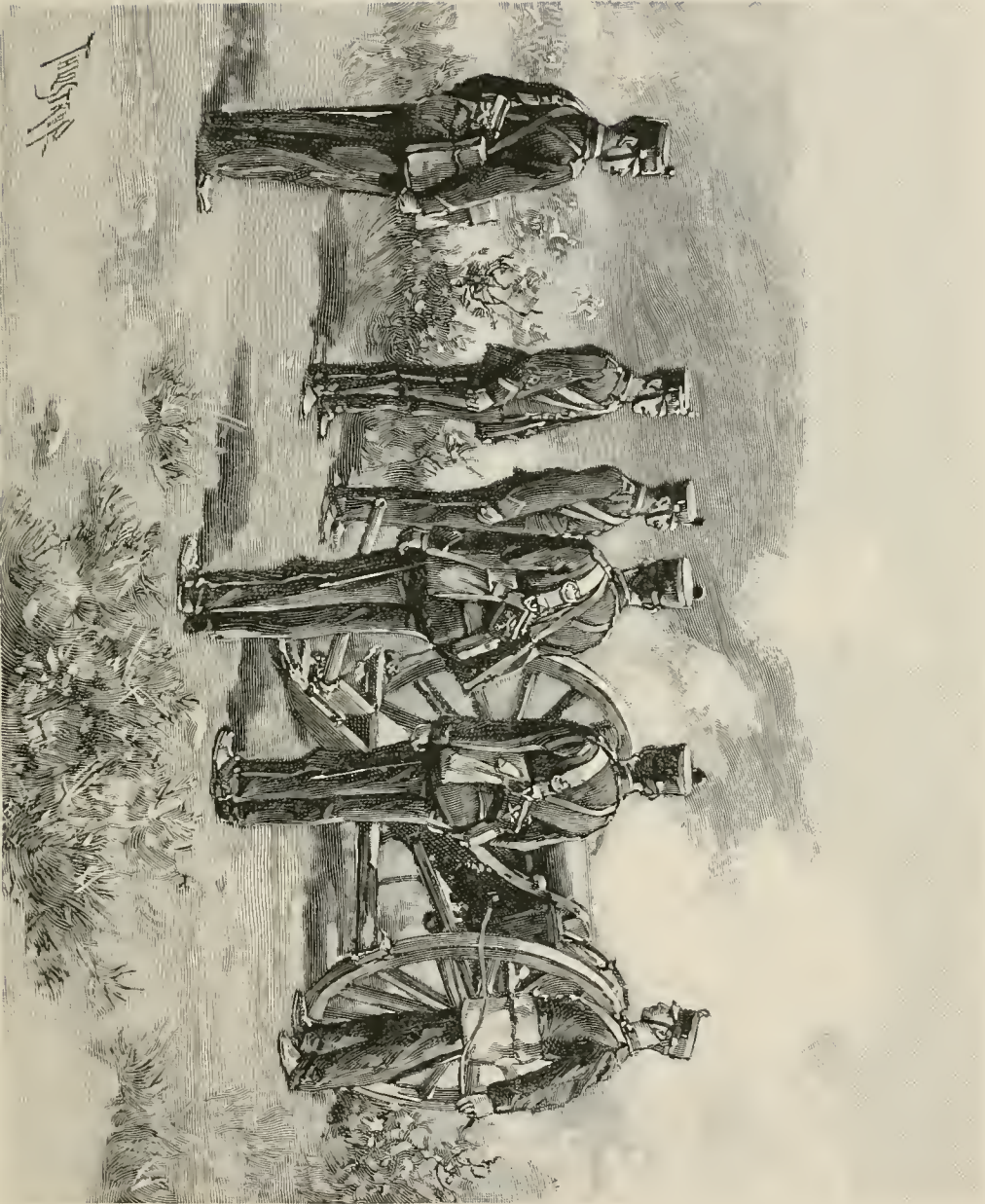
To estimate correctly the real worth of this enormous number of men it is necessary to give some facts showing the amount and kind of instruction received by them. Of the permanent army about 250,000 are kept under arms 3 years, and their instruction and military training extend over the whole of that period. About 384,000 are on furlough, but have also received 3 years' instruction. The remaining 170,000 belong to the second category—that is, they have received 2 months' instruction and constitute the complementary troops. Therefore the army of the first line consists of only 634,000 men. These, however, can be constantly kept to their full total, even during a protracted war.

Of the 370,000 men of the active militia, about 200,000 have received 3 years' instruction, and these, formed into cadres commanded by officers mostly from the active army, constitute a very solid body, available for any war operation, the other 170,000 men from the complementary troops being soldiers of the second category, with only a few weeks' instruction. Lastly, about 300,000 of the local militia are of the first category, with the regular 3 years' training, and have about 170,000 second category men as complement. Italy, therefore, is able to oppose against her enemies fully 1,444,000 men, perfectly trained, armed, and equipped. This number can be maintained by 500,000 complementary troops.

The districts provide for the receiving, equipping, and forwarding of these complementary troops to their respective corps.

We will not consider the third category, because, although it is formed of the imposing number of over 1,000,000 men, it only represents the broadness with which the Italian law of conscription has interpreted the interests of society.

A close observer will easily detect in the national unity of Italy an *ensemble* of many diversities, and a typical variety of interesting particulars which not even the uniformity of military life and discipline can cancel. Nothing is more interesting than the sight of the grave and exact Piedmontese, the serious and good-natured Lombard, the sceptical and alert Ligurian. Next to them one might see the witty and talkative Venetian or Tuscan, and the jovial Emilian or Romagnese, and contrast them with the proud and ardent Sicilian, or the melancholy and pensive Sardinian. Then he might be struck with the intellectual acuteness of the lazy native of Campania Felice or of sunny Puglia standing by the side of a stalwart



FIELD ARTILLERY

1862





comrade from Calabria, the Abruzzi, or Lucania. But he would probably notice, above all others, the sons of Rome, of the Sabina, of the Marches, and of Umbria, in whom are still reflected the manly beauty of the Italic type, and the genuine Italic spirit, which still shines in the artistic cities of those provinces.

If the recruitment were made on the principle of localization, this diversity of types and characters would become apparent only through a comparison of entire regiments from the several regions; but being on a national basis, men from all parts of the kingdom are brought together, and their special characteristics are observable in each and every regiment.

The existence of such diversities may at first appear as tending to hinder or weaken that harmony and cohesion of all elements which is essential to the efficiency of an army. But thirty years' experience has proved that there exists unity in the army, and that through it the union of all the provinces has been cemented. One and the same flag gathers under its folds willing and concordant men, whose hearts beat in unison in the intense love of their country, forever freed from foreign masters and the oppression of despotic rulers.

The national system of recruitment, discarding as it does the principle of localization, is altogether too expensive, complicated, and cumbersome, both in respect to the requirements of the peace and of the war establishment. On the other hand, it has had the inestimable advantage of doing away with one of the saddest legacies of ancient municipal rivalries, and more recent suspicious policies of petty rulers — namely, provincial diffidences, prejudices, and jealousies.

However, the remembrance of these and their evil effects on the political and military events of 1848-49 is still

so vivid in the minds of many persons who witnessed those unfortunate events, and some of whom are now holding influential positions in the higher military spheres, that it actually prevents a radical change in the existing system. Those persons believe that the recruitment on a national basis must be continued for the advantage of a more intimate social and political fusion of all the elements of the nation. On the other hand, a reform is advocated with equal zeal and vigor by men not less competent, honorable, or anxious for the public good. These maintain that the time for the adoption of the simpler, more natural, and less expensive system of localization has come; that the experience of thirty years, as well as the straits of the financial and economical situation of the country, unmistakably calls for it.

That victory will finally be with the latter can admit of no doubt; it is only a question of time. But when that time will come no one can say. In the mean time the Italian army remains what it has always been, the most vivid expression of reconstructed Italy, and the most elevating and effective school of national unification.

THE MEXICAN ARMY





ARTILLERY SERGEANT

**M**ILITARY traditions are strong in Mexico. The race that inhabited the Plateau at the time of the Spanish conquest was a fighting race. Each of the several powerful tribes into which it was divided was stirred by a lively desire to fight one or more of the others, and at short intervals this desire was abundantly gratified. The fighting instinct was manifested to a better purpose in the gallant war made against Spain between the years 1810 and 1821, that resulted in Mexican independence; and it was further manifested, together with something akin to the ancient division of the people into rival tribes, in the civil wars which went on almost without cessation for more than half a century after independence was achieved.

But while the tribe fighting of the sixteenth century and the partisan fighting of the nineteenth century gave the strongest proof of the personal bravery of the Mexican people, they gave proof also of the lack of that national instinct of cohesiveness without which a people cannot become great. Cortés effected his extraordinary conquest by turning to his own advantage the rivalry of the Mexican tribes; the American army of invasion was able to accomplish its series of victories (that no right-minded

American can contemplate without pain and confusion, so greatly did they do violence to all sense of political morality) because partisan dissension prevented the Mexican people from presenting to the invaders a solid front; and partisan feeling went so far in the case of the French intervention, by which the Archduke Maximilian was made Emperor, that a considerable contingent of Mexican troops fought with the French against their own countrymen.

This condition of internal dissension now happily has passed away, but so recently that many people still believe Mexico to be the prey to factional wars. It is unfair, however, to blame the Mexicans because they have worked out their salvation slowly. For three centuries they suffered the cruel oppression of Spain, and for the last of these three centuries they were most grievously priest-ridden. Threescore years of political fermentation was not an unduly long time in which to clear away three hundred years' accumulation of political impurities. Our own period of severe oppression under English rule lasted for less than a century, but thirteen very turbulent years elapsed between the Declaration of Independence in 1776 and the establishment of constitutional government in 1789. What might have come to the United States under a ruler less unselfish than Washington is shown not only in the histories of every one of the Spanish-American republics, but also in the history of France. The crime of long-continued misgovernment is not easily atoned for, and no matter how thoroughly it may be expiated, it leaves a long-lasting stain.

The three men who have most decidedly and most beneficially moulded the affairs of Mexico have been: Hidalgo, who led the revolt against Spain; Juarez, who led the movement that culminated in the establishment of a liberal constitutional republic; and Diaz, who has made this



FREDERIC REMINGTON  
MEXICO

A REGIMENTAL SCOUT





constitutional republic a practical working success. Any student of history will understand that in this scheme of work Diaz has performed the most difficult part. Hidalgo and Juarez had to operate with, and at the same time were sustained by, an excited popular sentiment that needed only direction in order to accomplish the work in hand, for each was a leader in a profoundly popular cause. In the case of Diaz precisely the reverse of this encouraging condition of affairs has obtained. His work has been the more difficult one of soothing a people excited by more than half a century of civil warfare, of establishing wholesome but irksome restraints by enforcing obedience to laws which to a considerable portion of the younger men of Mexico practically were unknown, and at the same time he has been forced to solve a problem in political finance that a man bred a statesman and financier, still more a man bred simply a soldier, very well might have regarded as hopelessly insoluble. A great part of this most difficult task, with the assistance of the able men whom he has drawn around him as counsellors, he already has accomplished, and what remains to be done almost will come of itself from the sheer momentum of the reforms which he has set in motion, and from the long-continued period during which he has secured to the country the blessing of profound peace. For the first time since the revolt of 1810 the men of Mexico now between thirty and forty years of age—the class that, being fullest of mental and physical energy, is the actual motive power in all countries—have had no opportunity to vent their energies in other than peaceful ways, and so have acquired substantial interests, the desire to protect which is the best possible guarantee against further civil war. This wholesome diversion of the energies of the country into channels of productive industry—at once leading to and stimulated

by the construction of an extended system of railway that has developed abundant resources of wealth heretofore latent, and that at the same time has consolidated many scattered communities—has resulted in giving to the republic a moral and financial stability and a national strength such as it never until now has enjoyed.

I have no desire to make of this paper a political essay, but so much of the political history of Mexico as is outlined above is necessary to a correct understanding of the conditions under which the Mexican army has been organized. It is obvious from the facts stated that at no point of time between the achievement of independence and a period not twenty years past could an article treating of *the* Mexican army have been written, for the reason that while each of the many governments always has had an army, there always has existed at the same time at least one other army in Mexico composed wholly or in part of Mexicans. That now, as for several years past, *the* Mexican army can be spoken of confidently is perhaps the best evidence of the reality of the peace that President Diaz has secured to this long war-vexed land; and not the least creditable part of what he has accomplished for the good of the country at large is that out of very unpromising materials he has created an orderly, well-disciplined, trustworthy military force, that has been used solely to maintain the power of the constitutional government by enforcing obedience to constitutional laws.

The Mexican army consists of three grand divisions, known as the Permanent Army, the Reserve of the Permanent Army, and the General Reserve, together constituting nominally a force of about 130,000 infantry, 26,000 cavalry, and 4000 artillery—in all about 160,000 men. The Permanent Army, the effective force actually in service



UNDRESS ENGINEER



and ready for immediate use, is made up of about 40,000 men of all arms, and is distributed through the eleven departments into which, for military purposes, the republic is divided. Of these, 26,000 are infantry, 8000 are cavalry, and the remainder are attached to the engineers, artillery, general and medical staffs, the military schools, and the manufactories of material of war.

The armament of this force, excepting in the matter of field artillery, of which the supply is short, is excellent. The field batteries in service consist of about forty small cannon (80 mms. cal.) of the Bauye type, and in addition to these a number of old brass guns, also of small size, is available for the artillery reserve. The shortness of the supply in this arm of the service is being repaired as rapidly as possible by the manufacture of additional guns at the national foundery. For drawing the field batteries mules are used in preference to horses, because they are believed to be, under the climatic conditions of Mexico, better adapted to draught purposes; but it is probable that this advantage is more than counterbalanced by the known unmanageableness of mules under fire. The artillerymen are armed with Remington carbines (cal. 50), and the same arm, in addition to the sabre, is carried by the cavalrymen. The cavalry horses, excepting the handsome mounts of the officers, are small animals of native breed, as tough and as wiry as the men who ride them, and as capable of enduring enormous marches on a scant supply of water and food. The infantry is armed with Remington rifles (cal. 43). In all arms of the service the officers and non-commissioned officers carry Colt's seven-shot revolvers.

The disposition of the present administration in military matters is eminently progressive, and measures already have been taken to replace the Remington rifles

and carbines with an automatic breech-loader invented by an officer of the engineers. The new arm will be manufactured by the Government in its well-appointed national armory (Fábrica de Armas) in the City of Mexico. At the national foundery, near Chapultepec, the Government manufactures, as stated above, the guns used by the artillery corps; and in the national powder-mill the ammunition for the use of the army is prepared. All of these establishments are organized upon a military basis, and the workmen employed in them are carried on the army rolls.

By the Constitution of 1857 the general-in-chief of the army is the President of the republic; but the actual service usually is carried on by a general of division holding the cabinet position of Minister of War, and to his person is attached the general staff. The sub-commands of departments and military posts are held by five generals of division and twenty-two generals of brigade, and five generals of division and sixteen generals of brigade are carried on the army lists of the reserves.

At present about 30 per cent. of the officers of the army are graduates of the national Military College at Chapultepec, where about three hundred cadets constantly are in training, and whence about sixty officers are graduated annually. The course pursued here is similar to that at West Point; and the gradual retirement of the older officers, combined with this constant addition of young officers who have been thoroughly trained in accordance with the best of modern military theories, is having a very marked effect in raising the moral tone of the army and in increasing its practical efficiency. The cadets, as a rule, are drawn from the upper classes of Mexican society, but among them—and this is a very promising element in the new army—are a number of young fellows whose brown or brownish skins show their



FULL-DRESS ENGINEER





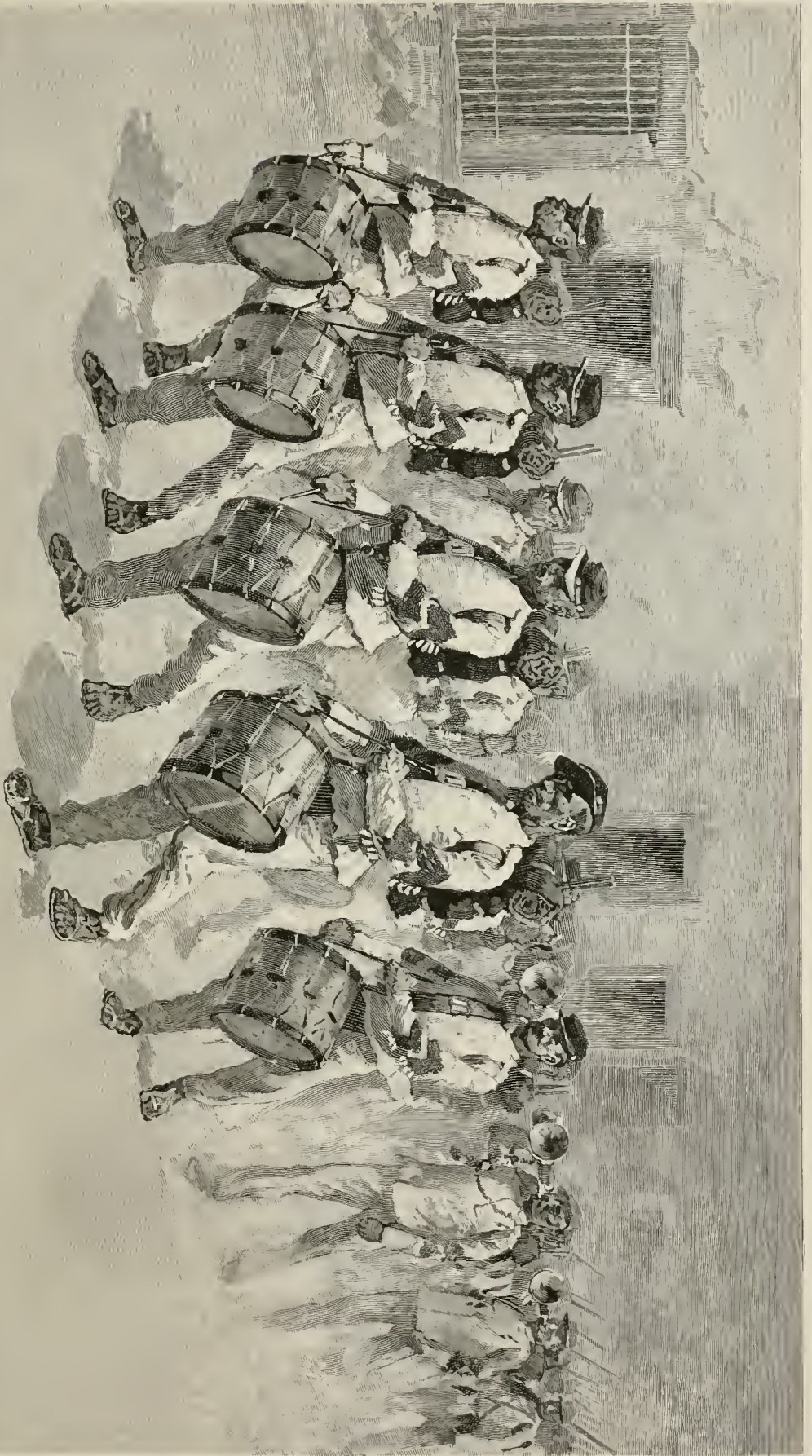
native Indian blood. It is a notable and hopeful fact that the native Indians more and more are coming to the front in the government of their own country. Juarez, who, all things considered, was the greatest statesman that Mexico as yet has produced, was an Indian of the pure blood, and President Diaz owes in part to his dash of this fine strain in his patient resolution and his steady courage in contending with great difficulties. The presence of these brown-faced lads among the cadets, and of brown-faced men in the national Congress and in the various departments of the Government, is a sign of healthy national growth, of which the importance scarcely can be overestimated. As a whole, the cadet battalion presents a fine soldierly appearance; and the individual cadet, as seen on the streets of the City of Mexico on Sundays and feast-days, when off from Chapultepec on all-day leave, is as well set-up, soldierly a young fellow as is to be found anywhere. And even the "cockyness" of these spruce lads in their handsome uniforms, while likely to make an old soldier smile a little in a kindly way, is a sign of proper pride in an honorable profession that an old soldier best appreciates and is least disposed seriously to condemn. Pride in the uniform means pride in the service, and is a sign that when the time comes for fighting, neither the uniform nor the service will be disgraced. The Chapultepec boys have gallant traditions to sustain them, for in the time of the American invasion they bore a brave part in defending the hill on which their college stands against the assault of Scott's army. At the base of the hill a monument fittingly commemorates the heroism of these young soldiers, and eloquently exhibits how well they fought by the long list of names graven upon it of those who that day died. Altogether, the Military College is an institution of which the Mexi-



TYPE OF OFFICER—"AWFULLY FRENCH"

cans, in the army and out of it, are justly proud; for both in its processes and in its results it is highly creditable to the nation at large. An important adjunct to the college, recently established, is the artillery school, in which officers of that arm take a post-graduate course, and to which officers in the service are detailed for instruction.

The rank and file of the army for the most part is drawn from the lowest classes. For many years past the highly objectionable custom has prevailed of drafting into the service various sorts of criminals, and the strong effort that President Diaz is making to put an end to a custom so demoralizing is one of the most commendable of his many army reforms. The practical effect of making the army more or less a penal establishment is to keep good men out of it, while the convict soldiers are prompt to desert whenever occasion offers, and by their example to make desertions frequent. Sometimes a rather humorous ingenuity is shown in slipping out of the military bondage. In Monterey, one rainy night in March, 1883, more than a score of men belonging to a regiment drawn up at the railway station, in waiting for the arrival of the President, succeeded in getting away by the device of placing their caps on the butts of their muskets, and sticking the muskets, bayonets down, in the ground in their places in



DRUM CORPS



the ranks. By the uncertain torchlight the platoons seemed unbroken, and it was only when the order to march was given, and the regiment moved away and left the cap-bearing muskets standing scattered over the ground, that the officers perceived the trick which had been played upon them.

Recapturing a deserter is anything but an easy matter, for the common people invariably assist him to escape, giving him refuge in hiding and most generously lying about his whereabouts, and his own comrades are not especially zealous in their efforts to recapture him. The burden of the chase usually rests upon the officer in command of the detail, and he frequently has experiences of a sort much more excit-



LIEUTENANT, ENGINEER BATTALION

ing than pleasing. I knew a young lieutenant, but recently graduated from Chapultepec, and all unused to military ways—a very natty little officer, whose handsome uniform was a source of great pride and a matter of great care to him—who was so mauled and tumbled by the big wife of the deserter for whom he was searching that but for the laughing interference in his behalf of his own men he very well might have been shaken to death by her. He came back to barracks with a badly scratched face, some rather serious bruises, and his beloved uniform in a very shocking condition; and what was still worse, he came back without the deserter.

On another occasion I had a more closely personal experience of this phase of army life in Mexico. I had hired a lad of twenty or thereabouts as man-of-all-work—to help with the cooking, and wash dishes, and do the chamber-work, and run errands, and otherwise to make himself useful as occasion required; for in such multifarious ways are men-servants in Mexico employed. I was much pleased with my capture, for Telésforo was a pleasant, good-natured boy, and willing to a degree. But we soon found an exception to his willingness in his strong objection to being sent out of the house. To our surprise, each time that we wanted to send him into the streets he developed suddenly a pain in his inside, from which he recovered with astonishing rapidity when one of the other servants had been sent in his place. And he had an anxious manner, and a habit of instantly absenting himself when anybody knocked at the outer door, that also struck us as queer. Our surprise did not last a great while, for on the morning of the second day that Telésforo was in our employ I was summoned to an interview with a polite young lieutenant, who courteously apologized for being compelled to disarrange our domestic affairs by taking our servant back to



LOOKING FOR DESERTERS





the barrack where he belonged. And away Telésforo went, a pitiably forlorn object, guarded by four grinning soldiers with bared bayonets, and with the polite lieutenant—very much pleased with himself for having effected the capture—jauntily bringing up the rear.

In order to lessen the incentive to desertion, it has been customary to send the men, whether enlisted or sentenced to army service, to parts of the country distant from their own homes. And since this class of men constitutes a part of the military organization, the custom that obtains of garrisoning mainly with convict soldiers the unhealthy posts in the hot lands is one to be commended. To a native of the Plateau the summer climate of the coast is almost sure to bring dangerous sickness, and very often death. It is sound economy, therefore, that prompts the formation of these garrisons—which necessarily must be maintained—of material that the country is the better for losing.

But while the army is, and probably for some time longer will continue to be, tinctured with this unwholesome element (for the pending reform cannot be effected quickly), the mass of the rank and file constitutes a creditable body of troops. By far the greater number of enlisted men are of the primitive Mexican stock, whose good-natured brown faces show their freedom from mixture with the race of their Spanish conquerors. They are of the same stock as the men who fought under Cortés, who helped Nuño de Guzman to conquer Pánuco, Jalisco, and Michoacan, who served with Alvarado in his campaign in Guatemala, and who followed this same captain in his unlucky expedition to Nochistlan, where he met his death. And they have the same soldierly qualities of obedience and bravery now that their ancestors had then. They are capital fighters, especially in short sharp work that can be

carried through with a rush and a hurrah. Moreover, in their many strenuous battles with the trained French troops they gained a steadiness, a coolness under fire, and a resoluteness in defeat as well as in victory which, having now become by tradition and training characteristic of the army as a whole, has added vastly to the effectiveness of the Mexican troops as a warlike force. As to their capacity for forced marches, and their wiry strength on short supplies of food and water, they are not surpassed by any troops in the world, and in endurance of this sort they are very far superior to the soldiers of North America and Europe.

In the case of the rank and file comparatively little attention is paid to set-up or to minor points of discipline. Even in front of the National Palace the sentries on duty march up and down their beats in a slipshod fashion, while the relief loll about on the stone benches smoking cigarettes and otherwise making themselves comfortable. Doubtless the practical impossibility of keeping up any show of smartness in brown linen blouse and trousers—which, with leather sandals (the best foot-gear ever devised for marching), constitutes the undress uniform—has much to do with the general carelessness that apparently is suffered to go unrebuked.

But on dress parade these same easy-going soldiers present a very creditable appearance. Indeed, I never saw anywhere a more soldierly body of men than the force that marched in review past the President on the 5th of May, 1885. At this time differences with Guatemala, growing out of the interminable boundary dispute, threatened war, and rumors also were flying about that a certain prominent general contemplated trying his hand at getting up a revolution. Whatever may have been its purpose, the Government at this time assembled in and



BUGLER OF CAVALRY



around the City of Mexico an army of 20,000 men of all arms, and on the Fifth of May—one of the two great national holidays—this force, splendidly armed and equipped, was paraded through the streets of the capital. The linen uniforms were replaced by handsome suits of blue cloth, and the sandals by leather shoes, in which the men walked gingerly; the accoutrements and arms were in fine form; and the men, massed in broad columns, bore themselves in as soldierly a fashion as the most rigid disciplinarian could desire. There was, moreover, a prompt, business-like air about the demonstration that produced an effect very unlike that of an ordinary parade or review. The marching pace of the infantry was almost a double-quick; the cavalry frequently moved at a trot; and some of the batteries—a break in the procession giving them the opportunity—dashed by at a gallop. So rapid was the movement that the entire force swept past the reviewing stand in but a little more than two hours—suggesting possibilities of quick evolution in the field and of rapid concentration at any given point that must have been decidedly disheartening to any intending revolutionists (supposing that a revolution was contemplated) who were on hand to witness this instructive object-lesson. And it is certain that, after so salutary a display of a national army abundantly strong enough to crush instantly any attempt to overthrow the constitutional government, the flying rumors in regard to a mutinous outbreak very suddenly died away.

A serious difficulty under which the army labors is the lack of an adequate baggage train. This is a matter of less importance than it would be to an army composed of North American or European soldiers; for the Mexican soldiers belong to a race that is famous for its burden-bearing capacity, and their camp equipment is exceedingly light, for the lower classes practically know nothing of



BERNSTROM

*Frederic Remondet  
City of Mex  
89*

A GENDARME

personal comfort, and the common soldiers, drawn from these classes, carry very scant kits. In barracks the men sleep curled up in their blankets on the floor; on the march they think that they are doing very well if they can get two rations a day of boiled beans, and they can sleep at night on anything. As the officers also go in light marching order, the actual amount of baggage to be

carried relatively is small, yet it is sufficient to pack men and horses so heavily as greatly to retard the movement of troops. In the case of war this lack of adequate means of transportation undoubtedly would be severely felt; but in the routine of the service, in the mere changing of garrisons, it is a matter of no especial consequence, and is of less consequence now than it was before the days of railroads, for every important city in Mexico, excepting



A RURAL

Oajaca, Durango, and the ports of the west coast, now is connected with the capital by rail.

Even the women who follow the army—more in proportion than the rules of our service allow—are no great sufferers by the lack of baggage-wagons, for a Mexican woman usually can walk with the stride and the strength of a man. The presence of the women and a sprinkling of children about the camps and barracks adds a picturesque feature to the army life, and the sight of comfortable little groups deeply interested in cooking processes frequently gives an exotic air of homeliness to most unhome-like surroundings. Like the men, the women take the discomforts of the service with the philosophical cheerfulness that is characteristic of the race whence they are sprung, and indeed they encounter little more of hardship in following the army than they do in remaining in their homes, and they are sure—as they are not sure in their own homes—of a sufficient supply of food.

Since he must carry his belongings on his own back or on the back of his horse, and since both of these already are sufficiently burdened, the temptation to the common soldier to increase his kit is not strong; and even should he be disposed to provide himself with additional comforts, the limits of his pay would be reached before he had greatly enlarged his outfit. The nominal pay of enlisted men in the infantry is four *reales* (a *real* equalling about nine cents of our money) a day, but they actually receive only two and a half *reales*, the remainder being reserved in the battalion fund until the termination of the period of enlistment. Enlisted men in the cavalry and artillery nominally receive five *reales* a day, and actually receive three and a half. As all payments are made in silver, the paymaster's cart, drawn by a string of mules, usually is as heavy as an ammunition-wagon.





INFANTRY OF THE LINE



A very important subdivision of the army is the gendarmeria, a force charged with certain classes of police duties, of which the most responsible is that of keeping the highways clear of robbers. The section especially employed as a road guard is known as the Rurales, and is by all odds the most picturesque, and in some respects is the most meritorious, body of troops in the Mexican service. The beginning of this famous corps was in the time of Santa Anna, when General Lagarde organized a troop of ranchmen that was known popularly—because of the *ranchero* dress of leather that its members wore—as the Cuerados. On the fall of Santa Anna the Cuerados took to the road, and were such successful highwaymen that they presently were given, because of the lavish ornamentation of silver upon their leather garments, the new nickname of the Plateados. The headquarters of the organization were in the mountain of the Malinche, near Puebla, and its members very diligently worked the highway between the capital and Vera Cruz. Nor must these highwaymen be classed with ordinary vulgar robbers. The conditions of the country at this period were such that hundreds of men had no choice between starving and stealing, and the Plateados conducted their irregular business in a chivalrous fashion, and frequently manifested a generosity in their treatment of the travellers who fell into their hands quite worthy of the gallant traditions of Sherwood Forest and of the courteous customs of Robin Hood.

In Comonfort's time the good thought was acted upon of turning the Plateados from road robbers into road guards, and the rather startling proposal was found to work out admirably in practice. The corps was organized, and still is maintained—being now about 4000 strong—upon a footing unlike that of any other section of the

army. Each man provides his own horse and equipment (excepting his arms), and is paid ten *reales* a day, out of which he provides rations for himself and forage for his horse. The men are armed with sabre, carbine, and revolver, and have a service uniform of brown linen blouse and trousers, though this is worn less often than the regular *ranchero* dress of jacket and trousers of soft-dressed brown leather. The dress uniform is the *ranchero* costume glorified—the leather jacket and trousers loaded down with silver buttons and silver embroidery, and the wide felt-hat richly trimmed with silver or even with gold. The mountings of the saddles and bridles are of silver, and frequently silver stirrups match the rider's heavy silver spurs. On dress parade the horses wear housings of tooled and embroidered leather, and each man carries at the pommel of his saddle a light horse-hair lariat, and strapped fast to the cantle a crimson blanket. The horses are by far the finest, excepting officers' mounts, in the service, and are so greatly beloved and so affectionately cared for that they seldom get out of condition, while on review they positively shine. The men are magnificent fellows, fully looking the dare-devils that they actually are.

The other important subdivisions of the army are the *contraresguardo*, or custom-house guard, mainly employed to police the northern and north-eastern frontier; the scientific corps, having charge of the National Observatory and the topographical survey; and the medical corps, that includes regimental surgeons, and that has charge of the several military hospitals.

As is the case with our own army, the normal condition of the Mexican army is that of a national police force. It is also, like our own, a skeleton organization that can be rapidly increased to a much greater size should the need



FREDERIC REMINGTON - '89  
5th MEXICAN CAVALRY.

Remington & Co.

CAVALRY OF THE LINE





STABLE CALL AT AN ARTILLERY BARRACK

be developed for a larger fighting force. Now that the republic is supplied with a complete system of telegraph and is well provided with railroads, the existing force is ample to subdue all mutinous demonstrations, and so to nip revolution in the bud. One fertile cause of the many revolutions in former times was the ease with which they could be started, and the absolute impunity with which they could be developed to very considerable dimensions. Without telegraph lines, the national Government could know nothing of a rebellion in one of the distant northern States until it had gained very dangerous headway, which could still further increase during the slow progress of the Government troops to the scene of the outbreak. For instance, news from Tamaulipas (a State adjacent to Texas, that was a veritable hot-bed of revolution in former times) could not reach the capital under a week, and an army could not march from the capital to the central part of Tamaulipas in less than three weeks more. Nor could de-

pendence be placed upon the garrisons in this region to check the revolt. In point of fact, the nucleus of the revolutionary army was very apt to be the local military force, and the leader of the movement was very apt to be the local general. Yet the last attempt at a rising in these parts, three or four years ago, scarcely arrived at the dignity of a riot. Thanks to the telegraph, to the railways, and, above all, to an army that no longer is the tool of individuals, but is the loyal servant of the nation, the revolt was crushed almost before it could be said to have had an organized beginning. In like manner, in April last, a riot at Silao—that, having its root in an anti-clerical demonstration, in former times very well might have developed into a revolution—was put down in a single day.

As it is to-day—no longer a confused mass made up of scattered commands faithful only to their respective generals, but an organization loyal to the nation and to the idea of national unity—the Mexican army is an honor to the Government that has created it, and affords the surest guarantee that in Mexico the days of revolutions are ended, and that the existing constitutional government will endure.





THE MILITARY SITUATION IN EUROPE



THE ORGANIZATION, CONSTITUTION, STRENGTH, AND ARMAMENT OF THE ARMIES OF THE GREAT POWERS, SPRING OF 1891

HISTORY of all ages has shown that important political questions, by which nations are divided and moved, can for the greater part be decided only by the sword. "It is the sword alone that now keeps the sword in the scabbard," said Field-marshal Count von Moltke in the German Parliament, and no power aspiring to authority and independence in the council of nations can, in view of warlike eventualities, evade the necessity of bringing up its armed forces to the highest possible standard of efficiency. But, as in the life and development of nations, so in the military realm, there is no stop that would not be identical with regress. Although not everywhere in pursuance of the maxim *Si vis pacem, para bellum*, still with common eagerness and regardless of pecuniary cost Germany, the French Republic, the Hapsburg Monarchy, the vast empire of the Czar, Italy, Great Britain, and the States of secondary rank, rival in the effort of rendering the most perfect organization, the best armament, and the greatest possible strength to their military forces. The ways leading to this end differ according to public institutions, popular habits, geographical formation, and the financial condition of a country; but one principle is being maintained by all alike, Great Britain alone excepted, namely, that of compulsory and personal liability to service, whereby "every able-bodied person is bound to serve in the army and defend the country while in his full physical strength and health."

The lively interest taken at present by the public generally in the development and formation of armed forces will be gratified by the publication of a series of articles comprising reports in detail of the present organization, armament, and strength of the several armies, preceded by a comparative description of the condition of the armies in the several States, and of the military situation in Europe in the spring of 1891.

It should be mentioned that in this essay the armed force of Great Britain is touched merely incidentally because her main strength does not lie in her land, but in her naval forces.

#### A.—LIABILITY TO SERVICE AND MILITARY CONSTITUTIONS

The principle of compulsory service has been adopted by all European States, with the only exception of Great Britain, which still holds on to the system of voluntary enlistment. Every able-bodied man is liable to service in the army. Prussia was first among the Great Powers to enforce this rule, when during the memorable campaign of 1813 to 1815 it resolved to fight and overthrow the Corsican conqueror. The fundamental law of the military constitution, proposed and drafted by the highly meritorious General von Boyen, was enacted September 3, 1814. The general liability to service which had been temporarily introduced in August, 1813, was declared a permanent institution, and the army the school for educating the nation for war. Not until half a century afterwards the general liability to service was initiated and adopted by the other German States, and the remaining Great Powers were compelled to follow suit consequent to the experiences of the war of 1871-72. Everywhere the tried and approved precepts of Prussia have served as example.

Different provisions prevail as to the duration of the service liability, the methods of absolving the same, and the enlistment of professional and educational classes of the population; yet among all the Great Powers, barring only Great Britain, the principle is at present enforced that all men are liable to service during the term of their most vigorous age. The armies represent, therefore, in the best acceptation of the word, *the people in arms*.

Most stringent of all in the enforcement of the general liability to service are the military laws of France and Russia. Only those unfit for military employment are exempt from service in war and in peace; in Russia also the clergymen of any Christian denomination and the psalm-readers of the Orthodox (Graeco-Catholic) Church while being educated at clerical academies.

The French military law of July 15, 1889, recognizes no exemptions from service whatsoever; limited furloughs in time of peace are granted instead to those who are officially certified as being supporters of families, and teachers and students at especially designated educational institutions. As it would be impossible, however, for financial reasons alone, to keep under arms for three years the

entire annual contingent of recruits, the law provides for the discharge of thoroughly trained men at the end of their first or second year of active service in such proportions as to bring down the peace strength of the army to the number annually determined by the General Assembly. Preferences in this connection are decided by lot, and for this purpose every recruit at his enrolment draws a number, and only those having the highest are entitled to consideration.

In Russia the general liability to service was introduced by the act of January 13, 1874. Subject to the same is the entire male population, regardless of social standing, save that the inhabitants of certain Asiatic districts and the Mohammedans are exempt in consideration of the payment of a money tax. While exemptions from, or temporary postponement of, active service are granted only exceptionally in cases where it would entail hardships owing to family, professional, or civic relations, the educated classes of the population enjoy the legal privilege of an abridgment of their time of service from 1 to 4 years. The latter is regulated by the standard of learning acquired at one of the four designated species of educational institutions, and it is larger in cases of voluntary enlistment, smaller in cases of regular levy.

In Germany, Austria-Hungary, and Italy, the requirements of civic life are receiving far more consideration than in France and Russia. There are allowed, owing to domestic relations, either total exemption from service, or transfer into the Ersatz reserve, Landsturm, Landwehr or Territorial Militia without any, or after a short active service; also postponement of service on the part of such as are holding positions under the civil service and unable to leave their places, and rendition of the active service as one-year volunteers. The latter have to fulfil certain requirements as to science and learning, they must clothe, equip, and support themselves at their own expense, or, as in Italy, pay into the State Treasury a sum of 1000 to 1200 lire according to entering foot or horse troops.

The institution of the one-year volunteers differs essentially in that the German volunteers have to do active service for but a single year, while in Austria those failing to pass the examination for qualification as officers of the reserve or Landwehr have to remain with their troop another year.

In Germany the liability to service, according to the law of February 11, 1888, commences at the age of 17 and ends with the 45th year. Every German capable of bearing arms belongs for 7

years to the standing army—serving 3 years in the ranks and 4 in the reserve—for the 5 years following to the first levy of the Landwehr; then up to the 31st day of March of that year in which he attains the age of 39 to the second levy of the Landwehr. The Ersatz reserve, which is called out in case of mobilization for the completion of the standing army and for the formation of depot troops, is made up of such as have not been enrolled, either because of being above the required number of men, or because of minor bodily infirmities or domestic relations. The term of service in the Ersatz reserve is 12 years, during which time the men may be called out to participate in three exercises, lasting altogether 20 weeks. After that the men enter either the second levy of the Landwehr or the first levy of the Landsturm, according to their training.

The Landsturm is destined, in case of war, for the defense of the country, also in cases of extraordinary emergencies for the completion of the army or navy. It comprises all those liable to service from the 17th to the 45th year who are not enrolled either in the army or the Landwehr. It is divided into two levies, the one comprising all men up to the age of 39, the second up to the age of 45 years.

The new Austrian military law, which went into effect April 11, 1889, binds to 10 years' service in the army, 7 of which are to be absolved in the reserve. Those entered directly into the Ersatz reserve—under the same conditions as in Germany—have also to serve 10 years; in time of peace they receive military training for a period of 8 weeks, after which they are called out for exercises every second or third year. Having completed his term of service in the army, the Austrian soldier enters for 2 years the Landwehr or the Ersatz reserve, into which organizations, however, some men are entered directly at their enlistment. The same conditions prevail in the Hungarian Landwehr and Ersatz reserve, which are known by the name of "Honvéd Army." By the Landsturm Act of 1886 the Landsturm is described as a contingent part of the military force to be called into service only when the country is threatened with war. Those liable to service in the Landsturm are divided into two levies, the first comprising all ages from 19 to 37, the second from 38 to 42. The Landsturm of the first levy may be applied for filling up the army and Landwehr, so that the term of service in the army, which was formerly 12 years, is actually extended to 17 years.

Italy also has yielded to the necessity of reforming her military

system in accordance with modern views. The liability to service commences with the 19th and ends with the 39th year, but the term of service in the ranks varies according to arms and military employment; hence it is not uniformly regulated. The annual contingent of recruits is divided into three classes or categories, of which the men of the first class do active service either for 4 years in the cavalry or for 3 years in the other arms; for the next 5 years they are kept on an "indefinite army furlough," whereupon they join for 4 years the Mobile Militia, and for 7 years the Territorial Militia. The men assigned to the second category are liable to 12 years' service, of which they remain for not more than 8 years on "indefinite army furlough," and 4 years in the Mobile Militia, while for the remaining 7 years they belong to the Territorial Militia. For a portion of the contingent of the first category the term of active service may, probably from financial reasons, be limited to 2 years. The men assigned to the third category are in time of peace exempt from service, and are enrolled in the Territorial Militia.

In France, by the provisions of the Act of July 15, 1889, the liability to service continues for 25 years. As the recruits are not enlisted until they reach the age of 21, the French are subject to service liability up to their 46th year. They have to serve 10 years in the active army, generally 3 years in the ranks, and 7 in the reserve, 6 in the territorial army, and 9 in the reserve of the latter.

The whole number of annual classes at disposal in case of war amounts, however, to 26, as the law permits a prior enlistment of the class to be levied that year. It may be mentioned, also, that the War and Marine Ministers are authorized by law, "whenever circumstances require it," to keep the third year's class of the active army under arms beyond the completion of 3 years' service. Notice of such a step has to be given to the National Legislature at once.

Reservists have to participate in two exercises of 4 weeks' duration each, the men of the territorial army in one of 14 days' duration. The aforesaid law was amended in 1890 so as to authorize the calling out of the territorial army's reserve, heretofore exempt from those exercises for the purpose of training in guard duty on property of common carriers (railroads, telegraph, and telephone lines, and canals). Such drills were had for the first time in the fall of 1890, within the Third Army Corps district. As the men of the reserve of the territorial army are subject to military control, and

already in time of peace distributed among the troops and put to drilling, this territorial reserve cannot be compared with the German Landsturm, as is frequently done, because there exists no legal provision for the calling out of the latter in time of peace.

Russians are subject to military service from their 21st until the termination of their 43d year. The term of service in the active army is 18 years, 5 in the ranks and 13 in the reserve. Next they enter into the Imperial Militia comprising two levies. The first levy, from which the standing army is completed, is formed by men discharged from the latter and by such men as were enlisted, although entirely able-bodied, above the requisite number. They are under military control, and bound to participate in two exercises of 6 weeks' duration each. The second levy, destined for the formation of Imperial Militia troops, consists of such men as are exempt from service because of being sole supporters of families, and of all not entirely able-bodied men.

In the Cossack armies the liability to service commences with the 18th year, and lasts for 20 years, of which 4 are served in the active army. To the Cossack Militia belong all Cossacks capable of serving, regardless of age. The latter is called out by imperial order only in extraordinary emergencies of war.

The requirements as to physical qualification and size on entering the army are approximately similar in the several countries. In France the minimum size is fixed at 1.54 centimetres, in the other States at from 1.55 to 1.57 centimetres. In France alone young men who do not come up to the physical standard of service capability are liable to army service; they are employed in the *services auxiliaires* under military control as clerks, mechanics, or administrative officers.

The percentage of recruits who have little or no schooling while being infinitely small in Germany, amounted in France in 1888 to 9.8, and in Russia in 1889 to 70 per cent.

The war strength of an army is defined by the number of men annually enlisted, and by the number of annual classes at the disposal of the Government. Leaving out of consideration the Ersatz reserve and Landsturm in Germany and the corresponding formations in other States, the time of service in the standing army is as follows: Germany, 7 years; France, 10 years; Russia, 18 years; Austria-Hungary, 10 years; Italy, 12 years. The entire extent of liability to service (including Landsturm, etc.) is: in Germany, 25 years; Austria-Hungary, 22 years; Italy, 19 years; France, 25 years; Russia, 23 years.



As to the number of annually enlisted recruits, Russia takes the front rank with 255,000 men; France follows with at least 220,000 men, whom she annually levies for her land army, not counting the naval contingent. The quota of recruits in Germany, Austria-Hungary, and Italy may be set down as being in average 170,000, 103,000 and 82,000 respectively.

The French Republic is the only Great Power which levies a tax from such of her citizens as either do not enlist in the standing army or who enlist, for some reasons, for a shorter term than three years. Exempt from such tax are only those who have their impecuniousness attested to officially. This tax, known as militia tax, is composed of a tax on real estate to the amount of 6 francs, and of an additional tax to be fixed by the authorities in proportion to the earnings or income of the individual or his relatives, payable annually as long as the liability to active service in the army lasts. As this militia tax has been in effect only a short time the revenue derived from it cannot be exactly stated, but it may be estimated at 30,000,000 francs at the lowest.

## B.—COMPOSITION OF THE ARMIES

### I.—INFANTRY

The most numerous part of the army in all States is the infantry. It is also, and always will be, the most important arm on the field of action, although being excelled as to range and effect of firing by the artillery, as to speed and *élan* by the cavalry. Uniformity in the armament, training, and employment of the infantry has been achieved everywhere; the distinction existing between infantry, grenadier, fusileer, jäger, zouave, tirailleur, and schützen regiments is limited to the name, equipment, and manner of recruiting. Elite troops, as in the time of Napoleon I. the gardes, no longer exist; the Prussian and Russian guard corps, although filled by a picked complement of recruits, are not to be considered as such, for their organization, training, and employment is the same as that of the remaining parts of the army.

For mountain campaigns, France has especially trained and equipped 12 jäger battalions; Austria-Hungary the Tyrol jäger regiment, numbering now 12 battalions; and Italy 7 regiments of alpine infantry (*Alpini*).

The infantry regiment consists in war as in peace of 4 battalions in Austria-Hungary and Russia; of 3 in the remaining States.

With few exceptions the battalions have 4 companies; in France, however, all of the 30 jäger battalions will be gradually formed with 6 companies, a change which has been effected already in 17 battalions.

The French subdivisionary infantry regiments have so-called *cadres complémentaires*, numbering 9 officers and 72 non-commissioned officers, and intended in case of mobilization for the formation and transfer to the *regiments mixtes* of the fourth battalions of the regiments. The only country that maintains reserve and fort infantry troops in time of peace is Russia.

The number of infantry formations on the first day of April, 1891, was, in the army of the German Empire, 173 infantry regiments and 19 jäger (schützen) battalions, aggregating 538 battalions; France, 162 infantry regiments, 30 jäger battalions (of which 17 had 6, the remainder 4 companies), 4 regiments of zouaves, 4 Algerian tirailleur regiments, 2 foreign regiments, 5 battalions of Algerian light infantry—total 561 battalions (the National Legislature had at that time granted the formation of 26 additional jäger companies, and the establishment of an infantry regiment bearing the number 163 was intended for October 1, 1891; the French infantry will be further increased by the formation of a colonial army under orders of the War Minister, the infantry of which shall be composed of 8 regiments having each 3 battalions in the home country, besides the troops maintained in the colonies); Russia, 162 infantry (guard, grenadier, and army infantry) regiments of 768 battalions—72½ schützen battalions formed in 12 brigades and 8½ independent battalions, 20 Turkestan, 5 East Siberian, and 8 West Siberian line battalions, 2 regiments and 80 battalions reserve infantry (each battalion to form in case of war a regiment), 7 reserve battalions in Asiatic Russia, 6 regiments and 12 battalions reserve infantry in the Caucasus, 6 Cossack battalions—total, 1029½ battalions.

It is intended to increase the fort infantry by the addition of 3 battalions and the transformation of the 40th Reserve Infantry Regiment (2 battalions) into Army Infantry Regiment No. 165 with 4 battalions, which change may by this time have already taken place.

France and Russia have, therefore, a peace organization of 1590½ (or, with the proposed increases, of 1598½) battalions of infantry as against 1340 battalions in Germany, Austria-Hungary, and Italy.

In case of war, however, France and Russia would be compelled to leave in their extra-European possessions at least 100 battalions,

so that their superiority in the number of battalions as compared with that of the States of the Triple Alliance would be reduced to 150.

## II.—CAVALRY

The system of uniformity in training and equipment prevailing in the infantry has of late been also adopted for the cavalry. The retention of different kinds of arms—cuirassiers, heavy horse, dragoons *chevaux-légers*, uhlans, and hussars in Germany; dragoons, *chasseurs-à-cheval*, cuirassiers, and hussars in France; uhlans, hussars, and dragoons in Austria; *lancieri* and *cavalligieri* in Italy—may be considered justifiable as an historical tradition. Distinction between heavy and light cavalry will always be inevitable, owing to the heavier or lighter material of men and horses. The ideal of a unity as to designation and equipment is nearest approached in the Russian cavalry, where, aside from the 10 regiments of guards, only dragoon and Cossack regiments exist.

Whether by the new tactics and armament of the infantry the decisive part the cavalry has played in battle will be in a great measure reduced, and its action chiefly limited to the duty of reconnoitring and pursuit, is a question which can be finally decided only by the experiences of a campaign. Undoubtedly there is also in the future reserved for the cavalry a decisive part by prompt and courageous entering into battle, but for such action the occasions may become more scarce.

The latest change in the armament of the cavalry, which has in part already gone into effect, is its equipment with repeating rifles of small calibre. This shows a tendency of employing on a larger scale the cavalry in foot combat. There is no doubt that Russia has advanced in this direction further than any other power. Her horsemen are equipped with bayonet rifles, they are required to carry a large amount of ammunition, and particular attention is paid in the new regulations to their training for foot combat in closed ranks.

In the recent increase of army strength the cavalry has participated either in no degree or in a relatively small one.

As to numerical strength the cavalry of Russia takes the lead among the Great Powers owing to her almost inexhaustible Cossack formations. The German and French cavalry will be of about equal strength when the formation of the already approved 6 new French regiments shall have been effected. Conspicuously weak in numbers is the cavalry of Italy.

Cavalry horses in Russia, Germany, and Austria-Hungary are of greatly superior quality to those of France and Italy.

The total cavalry strength in the spring of 1891 was, in Germany, 10 regiments of cuirassiers, 4 of heavy horse (2 each in Saxony and Bavaria), 25 of uhlans, 20 of hussars, 28 of dragoons, and 6 of chevaux-légers in Bavaria, identical with dragoons—total, 93 regiments of 5 squadrons each; total number of squadrons, 465; the cuirass no longer belongs to the field equipment, but is merely worn for parade. In Austria-Hungary, 15 regiments of dragoons, 16 of hussars, and 11 of uhlans—total, 42 regiments of 6 squadrons and 1 depot cadre each; whole number of squadrons, 252. In Italy, 10 regiments of lancieri (uhlans) and 14 of cavallegieri (dragoons), with consecutive numbers from 1 to 24, each regiment having six squadrons; whole number of squadrons, 144. In France, 12 regiments of cuirassiers, 30 of dragoons (the 30th being formed April 1, 1891), 21 of chasseurs-à-cheval, 12 of hussars, 6 of chasseurs d'Afrique, 4 of spahis; each regiment has 5 squadrons, 3 of the spahi regiments 6 each—total number of squadrons, 428. In Russia, 4 regiments of cuirassiers, 2 of uhlans, 2 of dragoons (guards), 2 of hussars, 46 of army dragoons, and  $49\frac{1}{2}$  of Cossacks—in war the number of the latter amounts to 145 regiments.

The army dragoons, 6 guard and 40 Cossack regiments are formed in 6 squadrons (or Sotmies, as they are called by the Cossacks), the 4 cuirassiers of the guards in 4 squadrons—total number of squadrons in peace, 687.

The cavalry is that arm among all others which cannot be improvised, and the mobilization of which must be effected within the shortest time. It requires, therefore, also in peace an organization which permits its employment against the enemy at a moment's notice. For this reason the German and French regiments take the field with but 4 squadrons each; one squadron is left at home for depot purposes, which is designated in Germany by annual turn, while in France it is without exception No. 5, to which are turned over in peace all disabled men and horses.

In Austria-Hungary and Italy each regiment has a supplementary (Ersatz) cadre, which is enlarged at mobilization to a depot squadron. The regiments therefore mobilize with 6 squadrons.

Russia has 18 cadres of supplementary cavalry, each divided into 3 or 4 sections, and forming 8 brigades. The sections correspond with the regular regiments of the cavalry divisions, and represent their depot squadrons. In peace the depot sections also

are training the young horses for the active regiments. The Cossack regiments have no Ersatz cadres.

### III.—ARTILLERY

The third of the chief arms, the artillery, has of late gained considerably in importance, a fact generally recognized by increasing the number of batteries and by essential changes made in the organization.

Yet there is a wide difference of opinion entertained in the several armies as to the leading regulations and the provisions for the strength of the artillery, calibre and number of the guns of the batteries, their assignment to larger bodies of troops, etc., in war as well as in peace. Only in one principle a uniformity rule is acknowledged, namely, that the field artillery enters the fight as early as possible, and *en masse*, under one command. The requirements as to manœuvring facilities and firing speed of the batteries have been considerably increased.

In Germany alone complete uniformity in the guns of the field artillery has been attained since the introduction of the 8.8 centimetre field-gun in the horse-artillery; all other powers still retain two calibres. An average of 3 or 4 field-guns to every 1,000 men of the several arms is generally considered sufficient. The number of mounted guns of the mobile battery is 6 in Germany, Italy, and France, 8 in Austria and Russia. Horse-batteries are chiefly assigned to cavalry divisions—in Germany and France also to the corps artillery.

In Russia alone the entire artillery of an army corps is at mobilization assigned to the divisions, no corps artillery being reserved and put at the disposal of the general commanding, as in other countries. According to present organization, the number of field-guns assigned to an infantry division is 48 in Russia, 36 in Germany and France, 24 in Austria and Italy, while the strength of corps artilleries varies between 6 and 8 batteries. For operations in mountain regions every nation except Germany maintains separate Alpine artilleries, Austria having for this purpose so-called narrow-gauge field batteries.

In view of the perfection of the system of fortifications and the necessity of carrying heavy guns also in the field, the strength of the garrison or foot artillery and the number and quality of garrison and siege guns has likewise been considerably increased. In the German foot artillery alone the number of tactical unities

has not been increased for some time, while Russia has formed 3 field-mortar regiments to serve as light siege artillery, and Austria-Hungary has reorganized her formerly independent battalions in regimental formation, at the same time forming 12 new companies.

On the first day of April, 1891, the artillery strength of the Great Powers was as follows:

	Field artillery				Garrison (foot) artillery
Germany.....	434 batteries (including 46 horse-batteries)				124 companies
France.....	480	“	“	57 “	100 “
Austria-Hungary	260	“	“	16 “	72 “
Russia.....	405	“	“	49 “	209 “
Italy.....	208	“	“	6 “	68 “

#### IV.—TECHNICAL TROOPS

The technical troops consist of the pioneer, pontonier, engineer, telegraph, and railway troops, to which have been added recently the organizations formed for the signal and observation service. Infantry and cavalry, however, must also be able to perform in a measure the work of technical troops, such as fortifying positions in an open country and interrupting railway and telegraphic lines. Spade and pickaxe are at present considered of great importance, which fact is generally recognized; and reckoning with it, the infantry is being equipped with portable apparatus for throwing up breastworks, and the cavalry with appropriate material—tools and dynamite cartridges—for the destruction of communication lines of every kind. The artillery is likewise required to throw up their own works for protecting the guns.

The performance of the work mentioned above, as also the construction of passages across smaller watercourses, is the duty of the field pioneers, while the solution of larger technical problems, especially in a siege campaign, devolves upon the technical troops, whose functions also extend to the aerial navigation, carrier-pigeons, and telegraph service.

It may be mentioned that, in conformity with an old tradition, the French pontoniers belong to the artillery; that in France and Russia separate train divisions for mounting wagons form part of the engineer troops—certainly an advantageous institution; and that in Russia, Austria, and Italy the organization of telegraph troops is being attended to in time of peace, while in Germany and France such troops are formed only in case of mobilization from State telegraph officials who are liable to service.

While Germany has a separate aeronautic division, in France one company of every engineer regiment is trained in aeronautic exercises. Carrier-pigeon stations are being maintained by every country at the more important points on the frontier for the purpose of keeping up outside communications in case of an enclosement.

In Germany alone pioneers and pontoniers are joined in battalion formation, while the other powers keep up separate organizations. Russia has added to her technical troops torpedo companies for the defence of the ports of the Black and Baltic seas.

Railway troops require, besides their military and technical drill, special instruction in the operation and building of railway lines. In all countries, therefore, certain railroad lines are set aside, which are conducted and operated either entirely or in part by railway troops. The most perfect system of this kind exists in Germany.

The strength of the technical troops in peace time is :

Germany : 20 pioneer battalions, 1 railway brigade of 2 regiments of 2 battalions each, 1 Bavarian railway battalion of 2 companies, and 1 aeronautic division.

Austria-Hungary : 2 engineer regiments (10 field battalions), 1 pioneer regiment (for bridge-building), 1 railway and telegraph regiment of 3 battalions, and several reserve and depot formations for the regiments named.

Russia :  $17\frac{1}{2}$  battalions of sappers, 6 railway and 8 pontonier battalions, 4 torpedo companies, and 17 telegraph parks. The railway battalions numbered 2 to 4 form a brigade ; 2 serve on the Trans-Caspian lines, while the 1st does duty on the Petersburg-Gatschin road.

France : 4 engineer regiments of 19 battalions, 1 railway regiment of 3 battalions, and 2 pontonier regiments of 28 companies. Each engineer regiment has permanently assigned to it a train company.

Italy : 4 engineer regiments with 43 sapper, 8 pontonier, 6 telegraph, 2 lagune (lake), and 4 railway companies. In the 3d regiment is included 1 company of experts in the signal, aeronautic, and carrier-pigeon service. Ten train companies are assigned to these regiments.

## V.—HIGHER TACTICAL FORMATIONS

The composition of higher tactical formations, made up of the different kinds of arms, varies in many ways in the several armies; yet throughout the division is considered as the fighting unity, and the army corps, owing to its permanent composition, as best qualified for independent operation.

In time of peace the divisions generally consist of troops of but one species of arms, except in Germany, where 1 cavalry brigade is attached to the divisions, besides the 4 infantry regiments, which are formed in 2 brigades. The question of assigning them also field artillery is at present under consideration, but not yet finally decided. The Prussian Guard Corps is organized differently, in so far as its 8 cavalry regiments form an independent division. In the armies of the other countries the infantry divisions are likewise divided into 2 brigades with 4 regiments. The cavalry regiments are joined in brigades, which are either assigned to army corps or formed as separate divisions. Russia has to each army corps stationed in Europe 1 cavalry division, while France has 6 so-called independent cavalry divisions, with horse-batteries attached to them also in time of peace. The field artillery is at present everywhere joined to the army corps, while with the technical troops this is the case only in a territorial respect.

The regular formation of the German army corps is: 2 divisions and 1 artillery brigade (the guard corps consisting of 2 divisions and 1 cavalry division, the 11th, 12th, and 2d Bavarian corps of 3 divisions each).

The French army corps: 2 infantry divisions, 1 corps cavalry brigade, 1 artillery brigade.

The Austria-Hungarian: 2 infantry troop divisions (the 2d army corps in Vienna having 3), 1 cavalry brigade or cavalry troop division, 1 artillery brigade with the corps artillery regiment, and 2 battery divisions.

The Italian: 2 infantry divisions and, as a rule, 1 cavalry and 1 artillery brigade.

The Russian: 2 infantry divisions, 1 cavalry division, and 2 artillery brigades numbered after the former.

It is an important point that organization and formation of army corps should require the least possible changes when being transformed from peace to war footing. These changes extend to permanent assignment of artillery to the divisions (which is not



necessary in Russia); to formation of a corps artillery; to organization of military trains and columns for the purpose of supplying ammunition and provisions, as well as for the sanitary service; in Germany and Italy, also, to the formation of cavalry divisions.

According to press reports a very remarkable change seems to be proposed in France, whereby in case of mobilization each infantry brigade shall be enlarged by a third infantry regiment, known as *régiment mixte*, and formed by the officers of the *cadres complémentaires*, the officers of the reserve, and the youngest annual classes of the territorial army.

The regular composition of the division on war footing is shown in the following table, in which, however, the jäger battalions are not taken into consideration, as their insertion in the *ordre de bataille* is regulated everywhere by particular provisions:

	INFANTRY			CAVALRY	ARTILLERY		PIONEER
	Brigades	Regiments	Battalions		Squadrons	Batteries	
Germany.....	2	4	12	4	6	36	1 or 2
Austria.....	2	4	12-15	4	3	24	1
Italy.....	2	4	12	indefinite	4	24	1
France.....	2	6	18	"	6	36	1
Russia.....	2	4	16	"	6	18	—

The French and Italian infantry divisions have only a temporary assignment of cavalry according to demands. The French army corps has at its disposal 1 cavalry brigade; the Italian, 1 regiment. In Russia each army corps has a cavalry division in time of peace, but the intention seems to be to keep them permanently together, and to assign to the divisions Cossack formations to serve as division cavalry.

Two divisions of the above described composition (battalions on war footing numbering 1000 men, squadrons 150 horse—perhaps less in France and Italy) form an army corps, the fighting forces of which are still further increased by the corps artillery, the strength of which is, in Germany, undefined; in France, 8 batteries with 48 guns; Austria, 6 batteries with 48 guns; Italy, 8 batteries with 48 guns.

As mentioned already, no corps artillery is formed in Russia, the entire artillery being distributed among the divisions.

The peace organization consists, in Germany, of 20 army corps; Austria-Hungary, 15; Italy, 12; Russia, 20; France, 19.

France intends to put up a 20th corps, to be known as the "Colonial army," and formed of the present colonial and marine

troops, subject directly to the orders of the War Minister. Its 24 battalions and from 10 to 12 mounted batteries, which are permanently garrisoned in the interior, will presumably be merged in the mobile army.

Germany's 20 army corps are divided into 5 army inspections; the army inspectors do not have the prerogatives of commanding officers; they merely exercise the right of inspecting the troops. Larger authority is conceded in France to the members of the Supreme Council of War, who act as inspectors of army corps—during the fall manœuvres they assume command of the corps and the cavalry divisions united to an army, and may order a mobilization of troops and the armament of fortifications for inspecting and testing purposes. In Russia the commanding authorities placed at the head of the 13 military districts represent local war ministries, and in the frontier districts they exercise at the same time the authority of chief army commanders over all the troops, military institutions, and administrative bodies within the district. The commanders-in-chief of the military districts of Warsaw, Finland, the Caucasus, and the five Asiatic districts of Russia are at the same time governors-general, uniting therefore in their person the highest military and civic authority of the district.

Aside from the parts of the standing army put on war footing, there will be organized in every country in case of war reserve, garrison and depot formations, destined either to support the army or to serve garrison or depot purposes. Russia is the only country which maintains organized reserve and garrison troops in time of peace; cadres for such are found in France in the territorial army, frequently called "the army of the 2d line," and in Austria-Hungary.

There are formed, according to the army lists, in France, 145 territorial infantry regiments, having 5 to 6 battalions each, of which the first two are transferred to the *régiment mixte*, 144 squadrons of territorial cavalry, 18 regiments of territorial artillery, with the necessary engineer and train divisions; in Austria-Hungary, 22 Landwehr infantry regiments, 4 Dalmation Landwehr battalions, 10 battalions Tyrolean militia schützen, 28 Honvéd infantry regiments, 6 Landwehr cavalry regiments, 10 Honvéd hussar regiments.

Austria-Hungary differs from other countries in that her Landwehr regiments have recruits assigned them directly, who receive their training during an abridged term of service.

A component part of the armed forces of Russia is the frontier

guard, and in France the organization formed from custom and forest officials. The strength of the former amounts to 26,000, of the latter to 30,000 men. The frontier guard is divided into 28 brigades, each being assigned to a certain border section for the supervision of traffic and the prevention of smuggling. The French custom and forest officials are organized in peace as battalions, companies, and sections, officered by superior officials. The War Ministry furnishes arms and ammunition, and takes command of these organizations on the first day of a mobilization, while their clothing and equipment are provided by the Department of Finance. Most likely the above described formations, which are composed of old soldiers, will at the outbreak of a war be employed jointly with troops of the field army for guarding the frontier; they will also be able to perform efficient service during the operations of a campaign.

#### C.—ARMAMENT.

The lead taken by the French army in introducing a small-calibre rifle and smokeless powder had necessarily to be followed by the remaining powers. Apart from improving the firing quality of the troops, reasons of moral considerations require their being fitted out with the best of arms.

Five years of untiring efforts and assiduous study, commencing with experiments in the direction of realizing the advantages of a small-calibre rifle and of the use of a powder producing but slight smoke, which had heretofore only been treated theoretically, have achieved the desired results, so that we now find the infantries of the Great Powers, Russia alone excepted, equipped with small calibre rifles with multiplied loading capacity, which may differ in construction, but are all considered thoroughly reliable for a campaign. One fact may be stated right here. Arms with tubular magazine (either in the butt end or in the foreshaft of the rifle) appear already obsolete, and are superseded by rifles with box magazine for cartridge pack-filling, which, besides other advantages, render unnecessary the tedious filling of the single magazines, especially disadvantageous in a fight, owing to the loss of time. The cartridges are placed from four to six pieces in a frame packed above one another. In order to fill the magazine, such a frame is taken from the cartridge-pouch and placed in the magazine-box, whereupon the frame is pulled out or automatically removed from the box.

In Germany the rifle question was settled by the introduction of "rifle 88" (7.9 mm. calibre), with box magazine for cartridge pack-filling, the range of which at increased firing and hitting efficiency is stated to be 3800 m.

The French infantry rifle, model of 1886 (Lebel rifle), belongs to the tubular magazine species, and is, even in France, no longer considered up to the requirements of the times, while in Italy the rifles of model 1871 (Vetterli system) are being changed at present into cylinder magazine rifles as proposed by Captain Vitali. It is said that 350,000 rifles of this kind have already been manufactured. In Austria-Hungary, also, rapid advance is made in the new armament with "rifle 88" (Mauser system, box magazine). England has chosen in place of the Martini-Heury rifle, model 1871, of 11.43 mm. calibre, a rapid-firing arm of smallest calibre—7.65 mm. with box magazine, Lee model.

In Russia the question of newly arming the infantry has been only very recently decided. A small-calibre (7.63 mm.) repeating rifle has been adopted, and is now being manufactured in masses. But even with the greatest practicable haste, the new armament of the Russian infantry will not be completed before two or three years.

In order to realize the full advantage of the new arm, an explosive is required which will give the projectile a starting speed (that is the distance covered by the bullet within one second after leaving the muzzle of the rifle) of about 600 m.; it must furthermore generate as little smoke as possible, and prove its usefulness for a campaign by durability in climatic changes, and by being easily transported. Thorough experimental efforts have succeeded at last in producing a so-called smokeless powder, or more correctly speaking, a powder emitting little smoke, which develops more gases, and consequently more vigor and less smoke than the powder heretofore in use.

Owing to these qualities the new powder will unquestionably have a decided influence on the tactics of the battle-field, which, although carefully considered and estimated, cannot be determined upon until after the practical experience of a campaign. The conduct of the fight, the observation of the enemy's position, the calculation of distances, and the notice of the firing effect will undoubtedly be made more difficult, and the martial training of the troops will in future be of still higher importance than heretofore.

A certain uniformity in the armament of the infantry has been attained, or is, at least, being attempted, by all the Great Powers of

Europe. There still remain differences as to its construction and manipulation, but the firing efficiency of the new rifles is essentially the same in all the systems described above.

Thorough-going experiments made in the several countries to test the effect of the lately introduced small-calibre projectiles have proved the noticeable fact that by the reduction of the calibre, and particularly by the general adoption of covered projectiles, humane tendencies are promoted, as in future wars shot wounds will be cleaner and smoother, their healing process more favorable, and cripples less numerous than heretofore; the new infantry gun will, therefore, prove not only the best, but the most humane arm.

A uniform armament of the cavalry of the Great Powers does not exist. The German cavalry alone is equipped throughout with lances; in France so far only the first *échelon* of the dragoon regiments use this weapon, which, however, according to latest reports, is not to be taken along in the field; in Russia only the guards and some Cossack regiments are provided with the lance. In Austria-Hungary it is entirely abolished, while in Italy it is still carried by a portion of the cavalry.

The question whether a uniformly equipped cavalry shall be provided with both sword and lance, has in Germany alone been decided in favor of the lance. The advantages of a lance for an attack, especially against infantry, are no more questioned than the necessity of equipping the cavalry with a suitable fire-arm. The latter is done everywhere. In Russia the rifle appears to have even superseded the sword in the equipment of the cavalry, to whose training for foot combat and individual firing readiness more importance is conceded than should seem wise. Indeed, the bulk of the cavalry has been transformed into mounted infantry, the efficiency of which remains yet to be tested.

The artilleries of the Great Powers may be considered as of equal standard of quality and efficient material. For the guns, also, the smokeless powder has already been, or is being, adopted.

Every country strives restlessly to attain the highest possible degree of perfection in armament, and though this contention seems to be going on continually, there are, for the nearest future, at least, no thorough-going changes to be expected which require time and money, save that France may introduce in place of the Lebel gun a rifle model after the system of cartridge pack-filling.

D.—SOME OTHER FACTORS OF JUDGING THE MILITARY EFFICIENCY OF A COUNTRY

Besides the fundamental provisions for liability to service, organization, and armament of armies, there are other factors to be considered which influence the military efficiency of a country. Among these are the extent and form of the railroad system; the fortification of the country; the conditions and movements of the population; the public finances; the number of men kept under arms in peace; the distribution and war strength of the armies.

It is a generally recognized fact that an extensive and widely-branched railroad system facilitates in a great measure the mobilization and the transport of the troops into their positions on the frontier, and is consequently of paramount importance for the defence of, or display of power by, a country. The military administrations and army commands of all Great Powers are, therefore, allowed in peace to exercise great influence on the formation of the railroad system and its equipment with rolling stock for the transportation of troops, and from the moment of mobilizing the entire railroad management passes under military control. All preparations for the transport of troops and material must be made in peace, and nowhere the error committed by France before the outbreak of the war of 1870-71 will be repeated to-day, namely, to indulge in the illusion that the concentration of armies on the frontier could be effected with order and precision without thorough and extensive preparations in peace.

We find, therefore, in all armies special central bodies which, under the direction of the General Staff, have to attend to these preparations. They are known as line commissions in Germany and France, representing not only the military, but also permanently the mechanical element; station or line commands in Italy and Austria-Hungary; troop transportation authorities in Russia.

In all countries, but particularly in France and Russia, military considerations have been paramount in laying out new railroad lines, and in the first named country pains have been taken in completing and multiplying the railway net. Instead of three, as at the commencement of the campaign of 1870, there are now ten lines leading from the interior to the eastern frontier, almost all double track, operated independently of each other and connected by numerous cross lines; within 17 years the number of miles of rails has been doubled, and it requires but the fifth part

of the entire rolling stock to transport at once the whole army to the frontier. Russia, also, has paid due attention to the extension of her railroad system; yet it does not command over more than five railroad lines leading from the heart of the country to the west and south-west frontier, while Germany possesses ten (after the completion of her eastern railway system, even thirteen) lines, which come into consideration in case of displaying the army in the East. Hence the strategic railroad system of Germany is admirably developed against her eastern neighbor.

Remarkable changes have also been made within the last two decades in the manner of fortifying the country. In this connection there had to be considered first, the adoption and realization of new fundamental principles of the fortification system; secondly, the strengthening of already existing fortifications in order to render them capable of resistance against the effects of modern artillery. But while in Germany and Austria a limited number of fortified places of the first rank are deemed sufficient, France has extended her fortification system almost beyond the limit of absolute necessity. Her experiences during the late war—twenty-seven fortified places were taken by the Germans after a short siege, eleven of which had to be ceded at the close of the war—and the conviction that she must strengthen her eastern frontier by new forts, has led to a complete reorganization of the fortification system, the leading feature of which is the establishment of two great lines of defence along the eastern frontier and of a central position.

A new element in the defence of a country has been added by the erection of blockade forts—independent works, the armament and garrison of which do not exceed 100 guns and 1000 men—for the purpose of defending and blockading the most important railway lines and highways, and of establishing connections between the large forts.

The front line of defence against Germany is formed by the great armed places of Verdun, Toul, Epinal, and Belfort; the second by Reims, Laon, La Fère, Besançon, and Dijon—all fortresses with far advanced detached forts. Of the numerous places along the Sambre and Meuse rivers, only Maubeuge can lay claim to some importance. Against Italy, likewise, a new frontier defence has been established by the erection of blockade forts at all Alpine passes, and by the fortified camps of Grenoble and Briançon, also by rebuilding and enlarging the fortifications of Lyons.

In the third line in the rear of the eastern forts is Paris—rightly called a fortified province—surrounded by a double belt of forts, the outer works of which cover an area of about twenty-nine geographical square miles, encircling a population of more than 3,000,000, and comprising the three large fortified camps of the north, the east, and south-east. In order to prevent a repetition of the siege and bombardment of Paris in 1870–71, the fortification lines have been extended in a measure defying any comparison. It is at present intended to tear down the city walls, which impede the development of the interior city, and have lost their military importance.

Next to France, Russia has recently made great efforts in the direction of fortifying herself. In the military districts of Warsaw and Wilna, being nearest to the German frontier, the forts of Kowno, Warsaw, Nowogeorgiewo, and Beest-Litowsk have been made armed places of the first rank, and a line of blockade forts connecting with Kowno in the north, and stretching down south to Onita on the Niemen River, is in the course of erection. All fortifications in the districts mentioned are up to the standard of modern times.

About the merit of fortifications and their indispensability for the defence of a country as well as for a campaign, opinions of the best authorities differ; but the one fact is uncontrovertible that the initial operations of any future campaign will be directed against the great armed places, and only after their surrender the field campaign will commence.

The military efficiency of a country is influenced furthermore by the strength of her population, especially the number of young men liable to service. Census statistics show that the population of Germany has, during the five years beginning December 1, 1885, increased 5.7 per cent., which is not surpassed by any other country. The increase in Italy is 4 per cent.; in Austria-Hungary 2.5 per cent.; in France but 1.6 per cent. The proportion of young men liable to service is, however, larger in France than in other countries, a fact which is noticeable not merely from a military point of view, but also in regard to its economical relations.

The amount of money appropriated by the European Great Powers for the maintenance and improvement of their military forces, including the navy, is without exception increasing from year to year, and may be estimated approximately at an aggregate of four milliards of marks. The army appropriations of France and Russia are highest, the former amounting in 1890 to 710,-



000,000 francs, the latter to 226,000,000 rubles. For the maintenance of the German army for the year beginning April 1, 1891, 405,250,000 marks have been set out in the imperial budget. Austria-Hungary expended in 1890 for the same purpose 156,000,000 florins; Italy 278,500,000 liras; the British army requires 300,000,000 marks annually, including the land troops in all colonies save India, and not including pensions, which in England are provided for in the army budget.

Yielding to parliamentary demand, the new Italian Ministry of Rudini has declared its readiness to making deductions in the army budget to the amount of 10,500,000 liras, but it is questionable whether such a reduction is feasible without seriously injuring the militant interests of the country.

In the figures quoted above are included both the permanent and annual expenses known in France as "service ordinaire" and "service extraordinaire."

Comparative statistics of interest are found in a tax report of 1886, which, although dating back some years, may still be considered approximately correct in view of the general and equal increase of both public revenues and army appropriations. According to this report there were expended of the annual revenues for army purposes in Germany, 19.2 per cent.; Austria-Hungary, 15.5; Russia, 35; France, 31; while of the Government expenses, after deducting the amounts paid for interest on the public debt, the share allotted to the army was, 1885-86, 26.04 per cent. in Prussia (the Prussian contingent of the imperial army as compared with the expenses of the State of Prussia); France, 1886, 40.46; Russia, 1886, 40.00.

An exact enumeration of the war strength of the armies of the Great Powers cannot be given in this place; depending upon the number of officers, non-commissioned officers, and men serving in the standing army, and upon the strength of the annual contingents, it is as steadily and constantly increasing as the peace strength. It may be stated, however, that taking as a basis the number of combatants, the States mentioned above rank as follows: France, Russia, Germany, Austria-Hungary, and Italy. In this respect Great Britain takes the last place among the Great Powers.

## A.—THE ARMIES OF THE BALKAN STATES

## I.—TURKEY

Turkey can put in the field a numerous military force, and her armies have fought at all times with great bravery, although often provided in the worst possible manner with provisions, equipment, and armament. Owing to the almost perpetual financial troubles of this country, the dues of officers and men are paid very irregularly. This is demonstrated by the issuance, in 1888, of an order which is still in force, to the effect that arrearages due soldiers at the time of their discharge for which no money is in the treasury shall instead be paid in scrip, which may be applied to the payment of State and municipal taxes.

Enlisted in the army, with the sole exception of one single cavalry regiment, are only orthodox Mohammedans or Mussulmans; the Christian population is excluded from army service in consideration of the payment of a military tax. Religion, indeed, is still the one main element of strength of the Turkish army.

The latter has been reorganized after every war, and there remain at present German officers in Constantinople to introduce once more some thorough-going reforms. It must be admitted, however, that the exuberant expectations set by many on the work of these officers have not been realized, although their efforts have achieved some success. All sorts of intrigues and an exceedingly cumbrous routine have paralyzed the efforts of the authorities conducting the reorganization of the army; even changes sanctioned by the Sultan himself are not put into effect.

The Moslem part of the population of Turkey is liable to service from the 20th to the 40th year. The term of service in the active army, which, however, is always being greatly abridged, is 6, the Landwehr liability 6, and the Landsturm liability 8 years. Those discharged from active service remain in the reserve until they enter the Landwehr; the reserve may be called out at any time. The inhabitants of Constantinople are exempt from military duty, which privilege ceases with their change of residence; neither does it extend to those Moslems liable to service who settle in the capital with the intention to reside there permanently.

The Turkish empire is divided into 6 military districts called "ordu;" in each district 8 infantry brigades (with 2 regiments and 4 battalions each) should have been formed, but the entire infantry

in the beginning of 1891 actually numbered but 63 regiments, 15 jäger battalions, 2 zouave regiments, and 1 battalion mounted infantry. The cavalry consisted of 39 regiments of 5 escadrons each; the field artillery of 13 regiments with 144 foot, 18 horse, and 36 mountain batteries. There were, besides, 6 fort artillery, 6 engineer, and 5 train battalions.

In 1889, 43,000 recruits were enlisted; the peace strength amounts to 185,000 combatants, to whom are to be added 65,000 non-combatants (mechanics, administrative troops, officials, etc.), so that 250,000 men have to be provided for.

Much has been done of late in the way of selecting and educating officers, but the learning and zeal of the majority of the officers is said to leave much to be desired. Promotions are not regulated by law, nor are there any rules governing them; promotion depends upon the degree of favor the individual officer enjoys.

After the arrival of the German officers who, on entering the Turkish service had to quit the German army, it was proposed to establish for each arm a model regiment for the training of troops by proper instruction. This measure, however, has been put into effect by the artillery only, which arm is particularly cultivated in the Turkish army, the Prussian drill regulations having been introduced in the field artillery since 1838; they are now supplanted by the new German regulations.

The infantry is at present being newly armed with the rifle model of 1887, calibre 9.5 mm., which is in the main identical with the German rifle model of 1884. The rifles are furnished by a German factory which turns out 320 rifles daily. The total number of rifles of the new construction was stated in the spring of 1890 to be 125,000; at present the new armament should be nearly completed.

The training of the infantry and cavalry is said to be inefficient, yet the continual fights against robber-bands and the guard service on the frontiers offer opportunities for acquiring a certain routine as to the operations of a guerilla war.

The perfection of the army organization and the training of the troops according to modern principles will remain an impossibility as long as the fundamental conditions of the same—a well-regulated commonwealth—do not exist. The proposed reorganization of the army has to contend forever with religious and national peculiarities, and the time is not discernible when it shall be accomplished. There is also a want of the necessary financial means.

The army expenses for the Turkish fiscal year 1889–90 (*i. e.*

from March 13, 1889, to the same date of 1890) amounted to about 650,000 Turkish pounds.

A number of Turkish officers have spent some time in Germany in order to acquire a proper knowledge of the service, and they are said to have proved quite efficient after their return home, and to have done credit to their "Prussian schooling."

Owing to the splendid physical qualities of her people, Turkey is possessed of very able and useful elements for a good army; and it cannot be denied that, compared with the past, and considering the many adverse circumstances, the Turkish army is in a state of advancement, and the German Emperor on his visit to Constantinople warmly praised the Turkish army in this regard.

Turkey does not appear to be prepared for an offensive war, but for the defence of her present possessions her army is sufficiently strong and well armed, and its defeat in the campaign of 1877-78 was brought about only after long fighting and great sacrifices on the part of the Russian army.

## II.—BULGARIA

The perpetual financial difficulties of united Bulgaria and Eastern Roumelia cannot remain without influence on the strength, armament, and equipment of her army. It must be admitted, nevertheless, that since Prince Ferdinand's ascendancy to the throne the country has undoubtedly made progress, which has extended also to her military affairs.

While the peace strength of the army at the close of 1889 was in round numbers 34,000 men and 1580 officers, the war strength amounts to 165,000 men, including the militia which, however, owing to defective training and armament, is hardly fit for immediate employment in a campaign.

The term of service commences with the 20th, and ends with the 45th year, and only actual physical inability exempts from service. The term of service in the active army is 2 years in the infantry; in the other arms 3 years; in the reserve 8, respectively 5; in the first levy of the Landwehr 7, in the second levy 8 years. There are annually enlisted from 16,000 to 18,000 recruits.

It is proposed to arm the infantry with the Austrian Manlicher repeating rifle of 8 mm. calibre, and orders for 60,000 rifles of this model have already been placed in Austrian factories. At present the infantry is still armed with rifles of different systems; the supply of ammunition is also said to be insufficient.

Great difficulty and expense is experienced in supplying serviceable horses, since no efforts whatever are made for the improvement of domestic horse-breeding. In case of war the supply of the necessary demand for horses must cause insurmountable difficulties.

In regard to the *esprit de corps* and the loyalty of the Bulgarian officers towards their war lord a conclusive judgment can scarcely be rendered at present, although in the campaign against Servia, under the brave lead of their former Prince Alexander, officers as well as men have shown themselves capable and efficient. Deploable excesses, however, committed by individual officers up to the latest time, seem to demonstrate the presence in the Bulgarian officers' corps of elements which do not keep the faith due their prince and war lord.

The army in peace is formed of 6 infantry brigades with 2 regiments each at 2 battalions; 4 cavalry regiments at 4 escadrons each and 1 body-guard escadron; 3 artillery brigades of 2 regiments each with 4 batteries; 4 batteries of mountain artillery, with only 2 guns each; 1 pioneer regiment, and 1 siege battery.

In war the infantry regiments are to be formed of 4 battalions each, which are to be completed by militia troops; at the same time the number of batteries is to be increased, and 4 reserve escadrons are to be formed.

### III.—SERVIA

The abdication of King Milan in favor of his fourteen-year old son, March 6, 1889, could not pass without visible effect on the development and spirit of the army, neither could the latter be benefited by the reduction of the standing army and the return to the militia system, which was begun by a radical government. These measures created lively dissatisfaction among the Servian corps of officers, which was given expression by manifold demonstrations against the State administration.

The ruined finances of the country, which, however, have improved in the course of the latest years, and the continual revolutions in the political life, could not but be an impediment of a prosperous development of the military affairs, so much the more as the standing army is about to be transformed into a national militia, the martial efficiency of which is even doubted in leading Servian circles. The preparations for the abolishment of the standing army and for a "general armament of the people" have

already been made and appropriate action ordered. It is true that by this change the defensive power in case of war will be considerably increased in numbers, but at the same time its military qualities will deteriorate in a great measure.

The foundation of the army organization is the *cadre* system in conjunction with the institution of a national militia. Every citizen is liable to personal service from his 20th to his 50th year; nominally he belongs for 10 years to the regular army and for 20 years to the militia. Yet the army consists of but weak peace formations, in which those liable to service receive their military training within a few months. The cavalymen, who have to provide and maintain their own horses, are taken exclusively from the better situated classes of the population.

The country is divided into 5 division, 15 regimental, and 60 battalion circuits; the permanent peace cadre consists of 5 infantry, 3 cavalry, and 5 field artillery regiments of 6 battalions each, 1 battalion garrison artillery, 1 pioneer, and 1 engineer battalion.

In case of war each division circuit puts up three divisions, one each of the first, second, and third levy; so that, inclusive of those troops which do not belong to the division formation, the army will reach, according to official statements, a total strength of 185 battalions, 39 escadrons, and 402 field-guns. The army on war footing numbers 5000 officers and 150,000 men.

#### IV.—ROUMANIA

The Roumanian army has kept up the reputation for military efficiency acquired in the campaign of 1877-78, also during peace time by its restless strife towards perfection in all military branches. Her financial affairs being in satisfactory condition, Roumania is able to meet the increased demands made by the military force on the financial resources of the State. The army appropriation in 1889 amounted to 34,500,000 francs, and it is continually increasing.

The Organization Act of 1882 divides the military forces into the standing army and the territorial army. The latter is adapted in its organization to the conditions of the country, and is composed in peace time of a number of trunk companies and trunk escadrons, the cadres of which attend to the training of recruits. There is a trunk company to each of the 66 battalions which form the 33 regiments of infantry (*dorobanzen*); the cavalry of the territorial army numbers 12 regiments, called *kalaraschi*, each of

which has one or two trunk escadrons. All troops of the territorial army are distributed in peace among 4 army corps; a 5th army corps is about being organized.

The standing army is composed of 8 infantry regiments, 4 jäger battalions—total, 20 battalions; 3 cavalry regiments; 8 artillery regiments with 49 foot and 8 horse batteries; 4 companies garrison artillery; 6 battalions technical troops, and 4 train escadrons.

The service liability commences with the 21st and ends with the 46th year. The term of active service is, for the permanent troops, 3; dorobanzen, 5; kalaraschi, 4 years; the latter are recruited for the greater part from among owners of horses who are fit for cavalry service. The first-named are granted leave of absence after doing service satisfactorily for two years. Those enrolled in the dorobanzen regiments receive a preliminary training of two months' duration, after which they may be called out during the three years following once a month for drilling exercises of one week's duration each. Every Roumanian stays in active service and in the reserve for 8 years, in the militia 8 years, and 9 more in the Landsturm.

In case of war in each of the four army corps districts one army corps is to be formed jointly from troops of the standing and territorial army. An army corps consists of 2 infantry divisions with 1 line regiment and 4 dorobanzen regiments, 1 kalaraschi brigade, 1 artillery brigade, and 1 engineer battalion each. Apart from this it is proposed to form an independent cavalry division from the active cavalry regiments.

The war strength of the Roumanian army is in round numbers 200,000 men.

The corps of officers is said to give satisfaction as to spirit and conduct; the training, similar to that in the German army, is based on rational principles.

At present the infantry is still armed with the Henry-Martini rifle, which has not been surpassed by any other single-loader, but it is proposed to improve the same by attaching a repeating apparatus, which change may have been effected by this time. The material of the artillery issued from the Krupp factories.

Roumania strives to promote and secure an independence and power not only by the reorganization of the army, but also by building fortifications. The centre of the country's defence shall be created by fortifying Bucharest in grand style, so that this capital will be transformed into a large fortified camp, suitable as a basis of operations for an army of 200,000 men. It is expected

that the erection of the 18 detached forts with iron-clad pivot-turrets armed with small-calibre rapid-firing guns will be finished within three years. There is planned, moreover, the establishment of a fortification line from the Black Sea up and along the Danube for the purpose of repelling the advance of an enemy from Moldavia in a southerly direction. The total expenses of the erection of these fortifications are estimated at 100,000,000 francs, and distributed over a period of three years. This sum was appropriated without opposition by the Legislature in truly patriotic spirit, and in acknowledgment of the fact that the question of national independence was at stake.

All these measures indicate that the military affairs of Roumania are in a progressive state of development, and that her army will be able to take a decisive part in martial events into which Roumania may be easily intricately owing to her geographical situation, and in spite of repeatedly renewed assurances of observing a strict neutrality in all cases.

If, as may be presumed, such neutrality cannot be maintained, there is no doubt which side in case of war the Roumanian military forces will embrace. Roumania has not yet forgotten the fact that her alliance with Russia during the campaign against Turkey has cost her a most valuable province.

#### V.—GREECE

The Hellenic empire has likewise, by the Act of 1887, introduced the general liability to service, but it does not appear that the martial spirit of its people has thereby been influenced in a favorable way. The service liability begins with the 21st year, and continues for 29 years. The term of service is 2 years (mostly a still shorter period) in the standing army, 8 in the reserve, 18 in the Landwehr and its reserves. Those not enrolled in the active army, because of being above the requisite number, enter the Ersatz reserve. They receive their military training during a period of only 3 months, are at the disposal of the War Minister, and have to pay a military tax varying in proportion to their individual income, between 100 and 1000 drachmas. No provision is made for the formation of the Landwehr and its reserve, which are called out in case of war only.

The peace footing of the army is 28,000 men, and consists of 10 infantry regiments and 8 jäger battalions, one of the three battalions of each regiment being, however, merely formed *en cadre*.



The same is the case with 2 of the jäger battalions. The cavalry numbers 3 regiments with 12 escadrons, the artillery 3 regiments with 14 battalions. Besides, there is 1 engineer regiment and 1 train company. The total fighting force which Greece is able to put up in case of war may reach the number of 200,000 men, of whom the greater part, however, have received only very defective military training. Conduct, training—which latter is moulded after the French regulations—and quality of troops are said to deserve now a more favorable criticism than in former years.

## B.—THE ARMIES OF THE PYRENEAN PENINSULA

### I.—SPAIN

The military affairs of Spain were, up to the time of King Alfonso's ascendancy, by whose premature death the country and the army suffered an irredeemable loss, in a bad condition. The army was not the safest support of the throne and country, and the war lord could not absolutely rely upon his generals and troops, who frequently enacted military revolts called "Pronunciamientos."

Not until 1878 was a regular army constitution introduced by King Alfonso, which, however, has been subject to many changes during the last years, and the reorganization of military affairs has not been perfected to this day.

Although the general liability to service has been introduced, exemption from service can be secured under certain conditions on payment of a sum of 1200 francs, and in time of peace dispensations are granted to a great extent, also from domestic considerations. The term of active service is nominally 6 years, but the soldiers are kept in the ranks for only 2 years, and often for a still shorter period. Six years more the men belong to the second reserve, while all those not enrolled are classed as "disposable recruits," who, after a very short military training, can be used for strengthening the army in case of war.

The kingdom is divided into 14 military districts with 68 military zones. In each of the latter there are organic bodies for recruiting, administration of depots, and reserves. Each district is under the command of a general, called "captain-general."

The Spanish land force is divided into the peninsular army and the colonial troops. The completion and administration of the latter is specially provided for.

The peninsular army was formed in the spring of 1891 of 61 line regiments and 2 battalions, 22 jäger battalions, 28 cavalry regiments with a total of 112 escadrons, 74 horse, 12 foot and mountain batteries, 9 garrison artillery battalions with 42 companies, 1 siege artillery regiment, and 11 battalions technical troops (engineer, pontonier, railway, and telegraph formations).

The colonial army consisted of the troops for the islands of Cuba, Porto Rico, and the Philippine Islands, altogether numbering 35,000 men.

The annually changing quota of recruits averages 48,000 men, and the peace strength of the peninsular army, which has been steadily decreasing of late years, may be put at 70,000 men; the number of officers, the majority of whom are either on half-pay or *à la suite* without pay, by far exceeds the demand.

The unfavorable condition of the country's finances has been an obstacle to the repeatedly proposed systematic reorganization of the army—general and personal liability to service without exception, organization of higher tactical formations, which are now missing altogether, and an increase of the peace strength of the troops. Nevertheless it must be acknowledged that under the reign of Queen Christina, apart from the progressing development in some heretofore badly neglected branches of training, the military spirit and the loyalty to the flag have improved.

The question of the new armament of the infantry has not yet passed the experimental stage; the infantry so far still carries the 11 mm. Remington single-loader.

## II.—PORTUGAL

The general and personal liability to service was introduced in Portugal by the Act of September 12, 1887, with the modification, however, that substitution is permitted not only between brothers, but also between members of the same community and of the same annual levy. Exempt from service in time of peace are also those officially certified as supporters of families, members of clerical orders, and students of higher educational institutions. Those belonging to the latter category are entered at once into the "second reserve." The one-year volunteers' institution, although having been adopted by law, is applied merely to such as enlisted voluntarily before reaching the age of service liability. All those having been drawn, but not enrolled, have to pay a military tax of 12 marks for every year during the term of their liability.

The latter, beginning with the 20th year, continues for 12 years: 3 years in the ranks (which term is frequently abridged for economical reasons), 5 years in the "first" and 4 years in the "second" reserve. The number of men of the latter class who receive no military training amounts to from 10,000 to 11,000 annually.

The territory comprising the kingdom proper, the Azores and Madeira Islands, is divided into 36 recruiting districts corresponding with the infantry and jäger regiments, and among which also the remaining arms are distributed. The extra-European possessions are garrisoned by the colonial army, formed beside a colonial regiment of numerous native troops, which, however, do not come into consideration in case of a war in Europe.

The army has a peace strength of 1950 officers and 24,700 men, and consists of 24 line and 12 jäger regiments, 3 regiments of field, 2 of garrison artillery, and 1 engineer regiment. The annual enlistment is 13,000 men, the war strength in round numbers 125,000 men and 264 guns.

The new armament of the infantry with the 8 mm. Cropatschek repeating rifle, which was ordered in 1886, has apparently not yet been effected. The artillery is armed with guns of Krupp's construction. The training of the troops is based on rational principles, and is stated to be satisfactory.

The great and strongly armed fortifications near Lisbon are being continually improved, the establishment of new fortification lines is also contemplated, so that as far as fortification is concerned, the country's defensive institutions are in good condition.

### C.—SWITZERLAND

The army organization of Switzerland differs essentially from the system prevailing in other countries. This is owing to the security of her territorial possessions guaranteed by treaties of the Great Powers, yet this neutrality can only be maintained if Switzerland is able to prevent by force of arms any invasion of foreign troops that may be attempted for the purpose of passing through her territory. This country is therefore in a position to adopt a system of defence which, while offering the advantage of great cheapness and requiring but a very small peace army for the training by cadres of all citizens liable to service in the militant art, at the same time permits the formation of a strong army in case of war. The highest military authority is exercised by the military

department of the Swiss Federation, to which are subject the military authorities of the several cantons.

All able-bodied men liable to service receive military training. This is rendered in the first place in the recruit-schools for a period varying according to the different arms from 45 to 80 days, by instructors who have also to supervise the repetition courses. For the latter the men are called out every third or fourth year for 11 to 15 days, the officers more frequently and for a longer period.

Of the total of 30 years' liability, 13 years' service is to be rendered in the division (*Auszug*), 12 in the Landwehr, 5 in the Landsturm. To the latter belong all able-bodied Swiss citizens from the age of 17 to 50 years who have not been enrolled in or discharged from one of the other categories. The officers are liable to service in the Landsturm up to the age of 55 years.

Those exempt from service have to pay a military tax, the amount of which is especially determined in every individual case.

Officers receive their first training in the officers' preparatory schools, after which they pass through special educational courses; for the training of non-commissioned officers appropriate schools have recently been established in every division circuit. The military efficiency of the people is practically promoted by the military training of the male youth in cadet schools and other educational institutions, by volunteer sharpshooters' associations, and by officers' meetings devoted to scientific discussions. The number of professional soldiers is very small. Apart from the corps of instruction, which has again been enlarged in 1892, there are kept permanently in service officers of the several staffs, chiefs-of-arms for the several arms, and officials for clerical and administrative work.

The country is divided into 8 division circuits. Each circuit shall form one army division (*Auszug*) composed of 12 battalions infantry, 1 schützen battalion, 1 regiment dragoons of 3 escadrons, 1 artillery brigade with 6 batteries, 1 engineer battalion, and the requisite number of trains and columns. The Landwehr troops are to be formed in similar manner in 8 divisions, so that 16 divisions can be put up altogether, the war strength of which may be estimated at not less than 200,000 men.

A new small-calibre repeating rifle was introduced in 1889, about the construction of which no particular data are given. The equipment of the infantry with the new rifle will require some time; 12,500,000 francs were for this purpose inserted in the budget for

1892. The unity gun of the field artillery is an 8.4 centimetres cast-steel ring gun of the Krupp system; the garrison artillery, which is composed of 25 companies, and not included in the division formation, has also been fitted out with new guns. The new fortification works, intended in the first place to secure the St. Gothard position, have, in the course of the last years, made rapid strides towards completion.

It is difficult to render a correct judgment of the martial efficiency of the Swiss army, but the military qualifications of her people, the devotion of each individual to his country, the fine armament and practical formation of the troops, justify the opinion that the army of Switzerland, its short time of training and exercising notwithstanding, is able to successfully repel from her borders an enemy who does not respect her neutrality. In such cases the army would derive great benefit from the peculiarities of the territory, the geographical formation of the country, and the new fortifications.

#### D.—THE EMPIRES OF THE NORTH

##### I.—SWEDEN

Time has matured in Sweden a military constitution radically differing from that of other European States, but adapted to the peculiar conditions of a thinly settled country.

The army is divided into the hired troops of the "distributed army;" the *Indelta* army; the *Bevarung*, a sort of reserve intended for completing the two first-named categories; and the Landsturm. The troops hired in consideration of a bounty form the stock of the army, and are distributed in peace among 2 infantry, 2 cavalry, and 3 artillery regiments, with a total number of 9000 men. The term of active service is from 2 to 6 years, but may be lengthened. The *Indelta* army is formed of drafted recruits who are called in for training for a period of 120 days in the first year of their service, and of 50 days in the second, while the men of the *Bevarung* receive but little military schooling.

For the purpose of completing the army, the country is divided into recruiting districts, the size of which depends upon the number of inhabitants and the apportionment of civil and military authorities. Each district is divided again into battalion and company districts, and corresponds with an infantry regiment or an independent battalion.

The troops are distributed among 6 military districts, in each of which there are 4 infantry regiments and 1 independent battalion, also 5 (in the 1st and 2d district only 2) escadrons; besides, there are 2 regiments of 10 escadrons each in Schoonen, which may be employed as independent cavalry. The artillery is formed in 3 regiments, the engineer troops in 2 battalions. The peace *état* of all the above-named organizations is very small, except during the period of recruit drilling and of larger field exercises.

The long ventilated question of a new armament for the infantry has been brought nearer its solution by the order issued in 1889 for the reconstruction of the old rifles by furnishing them with new 8 mm. calibre barrels, and changing the old-lock mechanism into repeating rifles.

Material, clothing, and equipment of the artillery is considered to be good, but the time for training too short; a want is felt, also, of professional officers and suitable non-commissioned officers. The Swedish army is, therefore, hardly fit for greater deeds than the protection of the country against a hostile invasion.

## II.—NORWAY

Although united since 1814 with her larger neighbor, Sweden, by the so-called personal union, Norway's military affairs have recently taken a very peculiar turn which, even in the minds of Norwegians, does not permit of favorable conclusions as to the efficiency of the army. By the new military law of June 16, 1885, the number of annual classes of the line has been reduced from 7 to 5, and the period allowed for training, too short before, has been at the same time still more abridged. The term of service in the Landwehr and Landsturm is 4 years. The enlisted men are discharged after a short service in the ranks, after which they are repeatedly called out for services of short duration.

Since the new organization, the army is formed of three levies—the line, the Landwehr, and the Landsturm. The three levies are in all arms uniformly equipped, clothed, and armed, probably, however, on paper only.

The infantry consists of 5 brigades of equal strength, each comprising 4 corps, and each of the latter being composed of 1 line, 1 Landwehr, and 1 Landsturm battalion. In the Christiania brigade, a section of guards is included, numbering 168 men, and assigned to garrison duty at the capital. Each corps is commanded by the chief of its line battalion. The cavalry is divided into 3

corps of three levies of 2 to 3 escadrons each, but considering the scarcity of riding-horses in Norway, it is questionable whether all escadrons can be formed. The artillery is composed of 3 corps having 1 line, 1 Landwehr, and 1 Landsturm battery each, and 1 fort and mountain artillery corps with 2 batteries of each levy. A similar formation is given the engineer corps, which is unproportionally strong.

Officers are educated in two-year courses at the military school, with one division each for the officers permanently engaged, and for those liable to service for a term only.

The cadres are numerically very weak; the short time allowed for exercises insufficient for the training of useful non-commissioned officers; the formation of the several corps of line, Landwehr, and Landsturm troops cannot be considered practical, so that even domestic critics agree that the Norwegian army has of late been weakened rather than strengthened in numbers as well as in efficiency.

The fortifications for the defence of the inner part of the Christiania Sound and of the capital will be strengthened and armed. The erection of new works to make secure against attacks from the interior is also proposed.

Noticeable and significant for the military affairs of Norway is the fact that in Christiania a society has been started with many branches in other parts of the country for the purpose of awakening the interest for the country's defence, and of creating a proper understanding of its necessity. By private collections and gifts a fund has been raised and put at the disposal of the department for the country's defence.

### III.—DENMARK

The foremost thought in organizing the country's defence and military affairs has been and still is to secure and maintain the neutrality of the State in case of warlike complications. For this reason Copenhagen has recently been surrounded at her land and sea side with fortifications which are continually being strengthened.

The general liability to service was introduced in 1880. Every Dane capable of bearing arms is obliged to comply with this duty, and belongs for 4 years to the line, 4 to the reserve, and 8 to the depots (*Verstärkung*). The term of service in the ranks differs, and is for some parts of the contingent of recruits enlisted on every 1st of November, 11 months, for other parts only 5 months;

in the cavalry, however, 20 months. With the exception of a small number of men, especially such as are to be trained for officers and non-commissioned officers, all men enlisted in the course of a year are sent home on the 1st of October. Consequent to the difference of the term of service in the ranks there is an inequality of the individual training, a disadvantage which cannot be removed even by repeated calling out for exercises during the later years of service.

The army consists of 1 guard battalion, 5 infantry brigades of 2 regiments, each of the latter having 3 line and 1 depot (*Verstärkung*) battalion, which is formed only in case of war by the men of the *Verstärkung*, 5 cavalry regiments of 3 escadrons each, 2 field artillery regiments with 12 line and *Verstärkung* batteries, 2 fort artillery battalions, and 1 engineer regiment. The total war strength may be stated as 1500 officers and 49,000 men. The peace strength, however, is small and subject to continual changes.

The number of horses kept permanently in the cavalry service is but small. The greater part is "on furlough" during peace time, and is fed and employed at the farms.

The infantry is at present being armed with 8 mm. repeating rifles.

There are numerous sharpshooter societies organized on a concurrent principle, the membership of which is estimated at 30,000. Although not belonging to the military corps, they are unquestionably of a certain value for the country's defence, as they tend, "apart from instructing in the manipulation of fire-arms and in athletic exercises, to develop the vigor of the people, to rouse its energies for the defence of the country, and to prepare the youth for entering the army."

#### E.—BELGIUM AND THE NETHERLANDS

The Netherlands and Belgium, both States bordering on the German empire, and the last-named also on France, have been, like Switzerland, declared neutral by international treaties. They maintain, therefore, their armies for defensive purposes only.

The geographical formation of Belgium renders it impossible for this State to remain inactive in case of warlike complications between France and Germany, and she will be compelled to employ her military forces for the maintenance of neutrality. In order to meet these requirements, the Belgium army has during



the last decade undergone decided changes; but the work of reorganization has not yet been perfected.

The army is recruited from volunteers and by levy. Substitution is permitted by paying a sum of 1600 francs, the State providing the substitutes. The volunteers on entering the army must pledge themselves for eight years' service; but may be granted leave of absence after 4 years whenever their total number exceeds the fixed lists or *états*. The levied men, of whom only a part is enrolled, remain but a short time in the ranks; they belong to the active army as *miliciens* during 8 years, but if in war times the territory is threatened, they may be called out for 5 years more, the respective annual classes being known as "first and second reserve."

The enlistments during the last years amounted in average to 750 volunteers and 13,000 recruits. According to the lists the peace army, including officers, numbers 50,000 men, and consists of 4 infantry divisions with 9 brigades and 18 regiments (the regiments having 3 active and from 2 to 3 reserve battalions, the latter being formed only *en cadre*); 2 cavalry divisions with 8 regiments of 5 escadrons and a depot each; 4 field artillery regiments with 34 active and 14 reserve and depot batteries; 4 fort artillery regiments with 48 active batteries; and 1 engineer regiment of 5 battalions.

There is at present being introduced in the infantry a 7.65 mm. repeating rifle; the artillery is equipped with guns of Krupp construction.

Complement and training of officers are considered satisfactory, but their number, especially in regard to reserve officers, is said to be insufficient.

The main strength of the defence of the country does not rest so much in the army as in the fortification works which, of excellent construction, surround the important commercial centre of Antwerp and extend in great numbers also along the line of the Meuse. In case of war the garrisoning of these places will claim the largest part of the army. A siege and capture of Antwerp would presumably offer unsurmountable difficulties, and without the possession of Antwerp nobody can claim the mastership over the country.

The army of the Netherlands is at present likewise undergoing a thorough reorganization, as the military force in its present condition does not meet the requirement of "an energetic defence of the territory in case of a war." It is proposed to give the army,

by introducing the general and personal liability to service, a strength of 160,000 men, including 50,000 men of the Landwehr (*Schuttlerei*), to raise the term of service liability to 22 years, and to regulate the military education of the youth.

Whether the Government shall succeed in practically perfecting those plans must remain an open question as long as the institution of general liability to service does not command the sympathy either of the Legislature or of the country at large. At present the land force is composed of volunteers and militia, the latter remaining but a very limited time in active service. This does not include the colonial army, in which foreigners serve in great numbers, allured by the high bounties offered.

The army is formed of 3 divisions with 3 infantry regiments each; 1 cavalry (hussar) regiment; 1 field artillery regiment, and 1 engineer company. Distributed among 4 artillery and 4 engineer commands are 4 fort artillery regiments and a number of engineer companies. Military commands exercise authority in time of peace over the 3 military districts, the Holland water-line and the position of Amsterdam.

The war strength of the army is at present stated to be 70,000 men. The infantry has been equipped recently with a repeating rifle after the Italian Vitali system, the efficiency of which is generally recognized; the artillery is in possession of a quite large number of Krupp guns.

Apart from numerous coast batteries and fortifications within the inundation district, which have been for the greater part completed, it is proposed to make Amsterdam an armed place of the first order. At present the capital is surrounded only by provisional works which it is intended to change gradually into permanent positions.

A general review of the military affairs of the States of the second rank shows that with a few exceptions their armies are in a state of progressive development; that the expenses for defensive purposes are steadily increasing; that the principle of general and personal liability to service has already been or is being enforced, and that the armament of the infantry and the material of the artillery meets modern requirements. Noticeable efforts are also being made in Roumania, Belgium, Norway, the Netherlands, Switzerland, and Portugal to increase the security and resisting powers of the States' territory by strengthening the fortifications.



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