Löbell's Annual Reports on the Changes and Progress in Military Matters During 1892

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FOREIGN SECTION.

v. LÖBELL'S ANNUAL REPORTS ON THE CHANGES AND PROGRESS IN MILITARY MATTERS DURING 1892.¹

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YEAR by year, during the 18 years that have passed since 1875, when v. Löbell's valuable work first appeared, its annual publication has been viewed with ever-increasing interest in military circles. In every military library the well-known green volumes continue to be invaluable as works of reference with regard to all the changes in organization, armament, and drill that have been so numerous during the last quarter of the present century. It is due partly, no doubt, to the intrinsic interest to military readers of the subjects treated of that the work has been so complete a success; but this success has only been rendered possible at all by the intelligence, energy, and discrimination of Colonel v. Löbell, the officer who originated, and has since carried out with such completeness, the publication of the work.

While regretting, therefore, very sincerely, that he has found it necessary, from increasing age, to place the publication in other hands, we are glad to see, from the title of this year's issue, that his name will continue to be associated with the work. From the contents of the present volume, published by Lieutenant-General v. Jarotzky, it is evident that this officer has entered on his task with the determination to maintain the high standard achieved by his predecessor.

The method of general arrangement has not been altered. The first part deals in detail with the armies of the several European States, and a welcome addition has been made in the form of a summary in each case of the composition and strength of the army dealt with.

The second part contains information respecting fortifications, armaments, railways, telegraphs, and other special services, and the tactics of the several arms.

In the third part will be found information regarding the civil war in Chili in 1891, the operations in the German sphere of territory in Africa in 1891-92, and the French operations in Dahomey in 1892.

The following is a *précis* of the matter which appears to be of

¹ v. Löbell's "Jahresberichte über die Veränderungen und Fortschritte im Militärwesen." 19th annual issue: 1892. By Lieutenant-General Th. v. Jarotzky. Berlin: Mittler, 1893. 1 vol. Pp. 584. Price 10 marks.

special interest; it is necessarily greatly condensed, and, consequently, very incomplete. Those who are able to read the work in the original will find no equivalent for it in this *précis*, and they have much to gain by reading the whole book.

GERMANY.

The peace strength, including Staff, is the following:—

Infantry	325,742 all ranks.
Cavalry	66,808 "
"	65,034 horses.
Field artillery	50,175 all ranks.
"	2,314 guns.
"	92 horsed ammunition wagons.
Foot artillery	17,173 all ranks.
Pioneers	10,537 "
Train	6,849 "
Railway and balloon troops	2,268 "

The following table represents the numbers available for war:—

Year of class.	Age.	Strength of class.	Percentage for casualties.	Strength available.	Category.	Totals, exclusive of 1 year volunteers.
1892	21	172,515	—	172,515	Active	517,206 } Standing Army.
1891	22	172,515	3	167,310		
1890	23	182,836	3	177,351		
1889	24	159,270	5	151,306	Reserve	611,075 }
1888	25	161,217	5	153,185		
1887	26	161,103	5	153,134		
1886	27	161,526	5	153,450	1st levy	638,153 }
1885	28	142,776	10	128,499		
1884	29	142,521	10	128,269		
1883	30	141,017	10	127,726	2nd levy	783,431 }
1882	31	141,965	10	127,769		
1881	32	140,986	10	125,690		
1880	33	140,541	15	124,460	Landwehr.	783,431 }
1879	34	131,588	15	111,850		
1878	35	133,808	15	113,737		
1877	36	133,366	15	113,361	2nd levy	783,431 }
1876	37	133,366	20	106,693		
1875	38	133,366	20	106,693		
1874	39	133,366	20	106,693		
						2,549,918

Organization.—The provisions of the Army Bill of 1892, which led to the dissolution of the Reichstag, and which has lately been passed by the newly-elected House, are as follows:—

1st. During the five-years' period from the 1st October, 1893, to the 31st March, 1899, the peace effective of the German army, exclusive of officers and non-commissioned officers, to be fixed at an average yearly strength of 492,068 men.

This average strength is based upon the men of the infantry, generally speaking, serving for two years with the colours.

The number of non-commissioned officers to be fixed yearly in the same manner as that of the officers, surgeons, and officials, in the Estimates. The one-year volunteers not to be included in the peace strength.

2nd. From the 1st October, 1893, the organization of the army to be as follows:—

Infantry	711 battalions.
Cavalry	477 squadrons.
Field artillery ...	494 batteries.
Foot artillery	37 battalions.
Pioneers	24 „
Railway troops ..	7 „
Train	21 „

Bavaria, Saxony, and Württemberg are to take their share in the new formations.

3rd. Compared with the existing condition of the army, the following new formations will be required:—

Infantry, 173 battalions of 2 companies.

Cavalry, 1 regiment of 3 squadrons and 9 reserve cadre squadrons (Bavarians).

Field artillery, 20 division staffs, 60 batteries, and 1 division staff and 3 batteries for the field artillery practice school.

Foot artillery, 2 staffs for inspection districts, 3 regimental staffs, 6 battalions and 1 company, 1 battalion staff and 1 company at the school of gunnery.

Pioneers, 3 pioneer commanders in place of 2 fortress inspectors, 3 battalions, 1 battalion staff, and 3 companies.

Railway troops, 1 regimental staff, 2 battalion staffs, and 9 companies.

Train, 1 company and 17 transport detachments for the foot artillery.

As regards the infantry, provision is made, also, for increased establishments, which is considered an indispensable condition of the shortened service, by means of which a sufficient number of trained soldiers will be present throughout the year to perform the necessary duties, and a sufficient parade strength available during the training period of the recruits.

Other organic developments have also been rendered necessary by the increase of the army and the shortening of the period of service with the colours, viz.:—

Extension of cadet corps, non-commissioned officers' schools, and preparatory schools.

Increase of re-engagement pay to non-commissioned officers, and the introduction of a bounty on their re-engagement.

Increase of prizes for skill at arms and for good shooting.

Increase of the allowance of ball ammunition for small arms.

Means for the adequate training of the unattached officers of the field and foot artillery.

Increased means for exercising the unembodied portion of the army as it increases in numbers.

Distribution of Recruits.

To each infantry battalion on the higher establishment.	244
" " " medium establishment.	228
" " " lower " 	209
" jäger battalion, higher establishment.	232
" " " medium " 	216
" " " lower " 	199
" cavalry regiment, higher establishment.	160
" " " medium and lower establishment..	150
" horse artillery battery, higher establishment, at least	35
" " " medium " 	32
" " " lower " 	25
" field " higher " 	33
" " " medium " 	35
" " " lower " 	30
" battalion of foot artillery, higher establishment.	210
" " " lower " 	168
To the guard pioneer battalion.	225
To each of the other pioneer battalions.	176
" battalion of the railway regiment.	135
To the balloon detachment.	15
To each train battalion for three years' service (two have 18)	15
" " " six months' service.	38

Training of the Reserves.—36,500 infantry were called up from the Army Reserve, and 61,100 from the Landwehr, making, together, 97,600 men; jägers, 2,700; field artillery, 10,000; foot artillery, 5,000; pioneers, 3,000; railway troops, 772; and train, 5,100; total, 124,172.

Of the "Ersatz" Reserve in these numbers, there were 9,160 infantry, 300 jägers, 1,150 foot artillery, 630 pioneers, 810 train.

The Reserve men of the infantry, jägers, cavalry, field artillery, and pioneers, were generally incorporated with the troops of the line; those of the foot artillery, the railway brigade, and the train, were dealt with specially.

The landwehr men were exercised, the infantry in companies, or, where the conditions of the station permitted, in battalions; the jägers incorporated with the jäger battalions, the field artillery in special batteries, the foot artillery in companies, or, at the practice grounds, in battalions; the pioneers with the pioneer battalions, the

railway troops and train men with the Reserve men of the same formations.

The landwehr men of the cavalry, part with the cavalry, part with the field artillery, and part with the train.

The Ersatz Reserve men were distributed throughout all the army corps, with the exception of the Guard Corps, where the different classes for training purposes were formed in separate companies; those only who were up for their third month's exercise were embodied with line companies.

BELGIUM.

The organization for war and the strength of each portion of the mobilized army are as follows:—

	Officers.	Other ranks.	Horses.
1st. The field army, consisting of 4 army divisions and 2 cavalry divisions	2,205	60,291	19,154
2nd. The fortress troops, composed of mobile troops for the defence of the large fortresses, garrison troops, Ersatz troops, and administrative services	1,605	59,018	3,462
3rd. The gendarmerie	47	2,082	1,266
Total	3,857	127,391	23,882

To complete these forces there should be available:—

Active army:—

Volunteers.....	12,468 men.
Eight yearly classes, Militia (1885 to 1893)..	93,156 „

Together.. 105,624 „

Reserve:—

9th and 10th classes.....	21,496 „
11th, 12th, and 13th classes.....	30,243 „

Together.. 51,739 „

If the last three and oldest classes be disregarded, the total available would be about 140,000 men.

The fortress troops are organized in the following manner:—

For Liège, 1 brigade of 4 battalions of the active army.

For Namur, 1 regiment of 2 battalions of the active army.

For Antwerp, 1 mobile division (5th), composed of 1 carbineer battalion, 5 reserve infantry regiments of 2 battalions, 1 cavalry regiment of 4 squadrons, 6 Reserve field batteries.

The garrison troops are separate, and consist of 14 Reserve in-

fantry regiments (28. battalions), 4 fortress artillery regiments, 12 engineer companies, and special services.

The Ersatz troops are united in separate formations, viz., 19 infantry, 8 cavalry, 4 field artillery, 4 fortress artillery, 1 train, and 1 engineer unit.

Recruiting.—The completion of the army is effected by means of volunteers and of the yearly levy. The obligation to serve extends over eight years, but, in case of war, there is power to call up as many of the yearly classes that have been dismissed as may be found necessary.

Substitutes are allowed on payment of 1,500 francs.

The periods of actual service with the colours are as follows :—

28 months, during the first 3 years of the obligatory period, if belonging to the infantry of the line, the rifles, or train.

36 months, during the first 4 years, for men of the grenadier or carbineer regiments.

3 years for the fortress artillery, engineers, &c.

4 years for the cavalry or field artillerymen.

Organization.—Since June, 1892, Belgium has been divided into four division districts. The first embraces East and West Flanders, with the town of Ghent as headquarters. The second is formed by the province and city of Antwerp. To the third are allotted the provinces of Liège, Limburg, and Luxemburg, with the town of Liège. The fourth includes the provinces of Brabant, Hainault, and Namur, with Brussels as headquarters.

Each province is divided into military districts, which are subdivided into military cantons.

The administrative services are provided for by a battalion of 4 companies, each composed of 6 sections. Of these, 3 are concerned with provisions, viz.:—The 1st section furnishes field ovens, the 2nd deals with slaughter cattle, and the 3rd with forage. The remaining three provide for the auxiliary services, viz.:—The 4th section with field hospital service, the 5th with the veterinary duties, and the 6th with chaplains.

The administrative districts have been made identical with the division districts, the number having been reduced for the purpose from eight to four. There are two intendants at the headquarters of each district, under whom the immediate superintendence of the supply and hospital establishments is exercised by 11 military sub-intendants.

To each division district there are allotted an artillery, a fortification, and a sanitary direction, as well as an administration company.

The 1st artillery and fortifications direction is formed at Termonde, the 2nd at Antwerp, the 3rd at Liège, and the 4th at Namur.

In each of the fortresses of Antwerp, Liège, and Namur there is a special staff under the orders of a General, who acts as president of a committee for the study of these positions. The directions of artillery and fortifications are members of these committees within the sphere of their districts.

Mobilization.—On the first day of mobilization, the companies and batteries mentioned below are subdivided in the manner described, so that each portion becomes a separate administrative unit.

1st. Each of the four Reserve batteries told off to horse the ammunition columns is divided into three subdivisions, which horse three artillery ammunition columns.

2nd. The artillery pontoon company forms three subdivisions; the 1st and 2nd form the bridging-train of the field army, the 3rd furnishes the pontoon detachment for the Scheld.

3rd. Each of the seven train companies forms three subdivisions, and they are disposed as follows :—

The 1st subdivision of the first five companies (allotted for services connected with the four army divisions and the mobile division (5th)) furnishes the 1st infantry ammunition column and a supply detachment. The 2nd subdivision provides for the 2nd infantry ammunition column, the engineer park, and the 2nd provision column (there is none with the 5th Division). The 3rd subdivision provides for the sanitary detachment of the division, the 1st provision column, and the horse dépôt.

The 6th company furnishes one subdivision (1st) to form the train of the 1st Cavalry Division; the 2nd subdivision goes to the 2nd Cavalry Division; the 3rd provides for the requirements of the Antwerp position.

The 7th company forms, with its 1st subdivision, the train for headquarters, including a sanitary detachment; the 2nd provides for the Liège position, and furnishes a train detachment for Diest; the 3rd for Namur, with detachments for Termonde.

4th. The engineer pontoon company is doubled, and forms a fortress pontoon company and a torpedo company.

5th. The field telegraph company is divided into three subdivisions, and these each into two sections. The first four sections provide for the telegraph service of the four army divisions; the 5th and 6th sections are employed respectively with the telegraph service at headquarters, and on the permanent lines.

6th. Each of the four administration companies is divided in the following manner:—The 1st company (East and West Flanders) provides for the services of the 1st Army Division, the 2nd Cavalry Division, and the fortress of Termonde. It is divided into seven subdivisions; the 1st furnishes a hospital in Termonde, the 2nd and 3rd provide the 1st and 2nd field hospitals for the 1st Army Division, the 4th subdivision the supply establishments at Ghent, the 5th those at Termonde, and the 6th and 7th the administrative detachments for the 1st Army Division and the 2nd Cavalry Division.

The 2nd company (province of Antwerp) provides the services for the 2nd army, the mobile (5th) division, and the Antwerp position. It is divided into 10 subdivisions: the 1st subdivision forms a hospital in Antwerp; the 2nd a hospital in Malines; the 3rd and 4th form the 1st and 2nd movable field hospitals for the 2nd Army Division; the 5th forms a movable field hospital for the mobile (5th) division; the 6th, military flour mills and bakery at Antwerp; 7th, military

abattoir, preserved provision factory and forage magazine, also at Antwerp; 8th, supply establishments at Malines; 9th and 10th subdivisions, the administration detachments for the 2nd Army Division and the mobile (5th) division respectively.

The 3rd company (provinces of Liège, Limburg, and Luxemburg) provides for the 3rd Army Division, the 1st Cavalry Division, and the Liège position. It is divided into seven subdivisions; the 1st forms the hospital in Liège; the 2nd at the camp of Beverloo; the 3rd and 4th form the 1st and 2nd mobile field hospitals of the 3rd Army Division; the 5th, the supply establishments in Liège; the 6th and 7th subdivisions, the administrative detachments for the 3rd Army Division and 1st Cavalry Division.

The 4th company (provinces of Brabant, Hainault, and Namur) provides for the 4th Army Division, the army headquarters, the Namur position, and the fortress of Diest. It is divided into 14 subdivisions: the 1st to the 5th form hospitals at Brussels, Villoarde, Loewen, Diest, and Namur respectively; the 6th and 7th, the 1st and 2nd mobile field hospitals of the 4th Army Division; the 8th, the supply establishments at Brussels; the 9th, military bakery at Villoarde; the 10th to the 12th, the supply establishments at Loewen, Diest, and Namur respectively; the 13th and 14th subdivisions, the administration detachments for the 4th Army Division and Army Headquarters.

The 2nd company also forms the Ersatz unit. In the event of mobilization, the newly called up contingent joins this company, and it acts as a reserve to the others.

DENMARK.

On the peace establishment, the army numbers 778 officers, 1,699 non-commissioned officers, 332 musicians, and 11,121 others. It is disposed in two general commands. In the first are comprised the body guard, 2 infantry brigades of 2 regiments of 3 battalions, each of 4 companies, 2 cavalry regiments of 3 squadrons, 1½ artillery regiments of 2 divisions of 3 batteries, the fortress artillery, consisting of 2 battalions, and the engineer regiment, composed of 5 ordinary and 3 reserve companies.

The 2nd general command comprises 3 infantry brigades, 3 cavalry regiments, and half an artillery regiment.

There belong also to the army the gendarmerie, consisting of 22 officers, 104 non-commissioned officers, and 413 men, and, further, the cadres for the following:—

- 1 body-guard battalion,
- 10 battalions (1 for each regiment),
- 2 battalions for Copenhagen,
- 4 batteries (1 for each division),
- 5 artillery companies,

besides the reinforcement for Bornholm.

On the war establishment the following is the strength of the several arms:—

	Officers.	Non-commissioned officers.	Musicians.	Others.
Superior staffs, &c.....	29	16	—	—
Infantry (31 battalions).....	799	2,015	213	31,532
1 body guard battalion, 5 brigades of 2 regiments, 11 depôts.				
Cavalry (15 squadrons).....	138	262	59	2,015
5 regiments of 3 squadrons, 1 orderly squadron, 5 depôts.				
Artillery (12 batteries), 6 companies).....	187	391	33	4,660
Field artillery (2 regiments of 2 divisions of 3 batteries).				
Fortress artillery (2 battalions, depôts, and train).				
Engineers (11 companies).....	61	152	6	1,514
1 regiment of 11 field companies, depôt company.				
Total ..	1,214	2,836	332	40,000 (about)

The cadre formations are also completed, and the strength of the 13 battalions thus raised to 245 officers, 560 non-commissioned officers, 17 musicians, and 13,143 men. But as, apparently, the battalions would be increased from 4 to 6 companies, the reinforcement available in these battalions should really amount to at least 20,000 men.

FRANCE.

The peace establishment for 1892 was, inclusive of the gendarmerie, 28,107 officers and officials of corresponding rank, and 542,496 men, from which about 56,915 must be deducted for non-effectives. For 1893 there is a small increase, the numbers being 28,352 officers, &c., and 543,908 men.

The strength, estimated on the basis of the total number of men who have received military training that would be available, is stated by the French publication, "L'Armée Militaire et Maritime pour 1892," to be 4,372,000. For the purposes of the Bill regarding the future peace strength of the German army, it was taken to be 35 yearly classes of 230,000, with 25 per cent. deduction for casualties, which would make the numbers about 4,053,000.

The number of units to be completed in the Active Army, the Reserve formations, and the Territorial Army, are the following:—

	Battalions.	Squadrons.	Field, horse, and mountain batteries.	Fortress and foot batteries.	Engineer battalions.	Train squadrons.
Active Army	584	433	450	100	22	20
Reserve troops.....	435	180	216	—	—	—
Territorial Army...	439	78	229		19	19

There are also the forest and customs formations, comprising 67 independent companies, 38 battalions, 56 independent sections and detachments.

There are, further, the marine troops in the interior of France:—

8 regiments of marine infantry with 116 companies.
22 batteries of marine artillerymen.

Alterations in the Organic Law.

By Article 1 of the Law of the 19th July, 1892, Articles 37, 49, and 64 of the Law of the 15th July, 1889, are altered to read as follows:—

Article 37.—Every Frenchman declared to be physically fitted for military service shall belong—

To the Active Army	for 3 years.
„ Reserve of the Active Army.....	„ 10 „
„ Territorial Army	„ 6 „
„ Reserve of the Territorial Army..	„ 6 „

(The Active Army Reserve obligation has been lengthened by three years, and the term in the reserve of the Territorial Army correspondingly diminished.)

Article 49.—The men of the Active Army Reserve are subject to two trainings while belonging to it, each of four weeks' duration.

The men belonging to the Territorial Army will be called up only for one training of two weeks' duration.

The breadwinners of families subject to these exercises may be exempted up to the number of 6 per cent. of those called up.

The men of the Territorial Army Reserve may be called up to report themselves during the period of their service in it, but it must not entail absence from their residence of more than one day.

Article 64.—The provision of paragraph 2, by which cavalrymen who had to serve four years in the Active Army only had to serve four years in the Reserve, and passed into the Territorial Army and its Reserve three years earlier than others of their class, has been cancelled.

Article 2.—The officers of the active category and of the Reserve are attached to the formations of the Active Army, and the territorial officers to those of the Territorial Army. Officers of the active category and of the Reserve may, if military exigencies require it, be

transferred to the territorial formations, at the discretion of the Minister of War; whereas territorial officers can only be attached to formations of the Active Army with their consent.

The officers retired on pension remain during the period fixed by law (five years from the date of their retirement) at the disposition of the Minister of War, who may employ them at his discretion.

Article 3.—The following addition is made to Article 56 of the Law of the 13th March, 1875:—

"The Minister of War is empowered to retain on the cadres those officers who, having passed the limit of age, are fitted and willing to be employed at the dépôts or in the military establishments (the age limit is 65 years for superior officers, and 60 for subordinate officers)."

According to the "*Progrès Mil.*," No. 1206, these changes have for their object to assimilate more the component portions of the previously existing mixed regiments, which consisted of one active battalion and two territorial battalions. Under former conditions, the training and utilization of the troops suffered, and combined with this was the drawback that, on the outbreak of war, those belonging to the Territorial Army had to take the field, whereas younger Reserve men remained behind in the formations of the second line. The same conditions prevailed with the cavalry and artillery. The 10 yearly classes which now constitute the Reserve are sufficient to complete the previously existing mixed regiments, which now have the title of Reserve regiments, and allow of formations being completed, from which men of the Territorial Army are excluded, and which are at once ready for service in the field.

Bill with regard to the Constitution of the Cadres and the Effectives of the Active and Territorial Armies.

The object of the new Law is described in the following terms in the preamble:—The new Law has for its object not an actual increase to the army, but only a different arrangement of the establishment within the limits of the budget. The increased expenditure resulting from it will be met by economies under other heads. In accordance with the Laws of the 24th July, 1873, and the 13th March, 1875, our armed forces are divided between the Active and the Territorial Armies; the former, exclusive of the garrisons in Algeria, consisted of 144 infantry regiments, 30 rifle battalions, 70 cavalry regiments, 400 batteries, and 4 engineer regiments, which were formed in 18 Army Corps; the latter, the Territorial Army, was composed of a similar number of infantry regiments, and about a fourth of the squadrons and batteries existing in the active army. But the increase of their armed forces by other States necessitated a similar increase in France which comprised the raising of the following new formations:—

- 16 fortress artillery battalions,
- 18 regional infantry regiments, each of 3, later to be of 4, battalions,
- 13 cavalry regiments,

24 rifle companies,
 12 mountain batteries,
 35 field batteries,
 1 railway regiment,
 1 infantry regiment (No. 163).

Further increases could not be effected without entailing on the country considerable sacrifices, both as regards money and men, and this led to the idea of limiting further action to the development of the Reserve formations destined to reinforce the field army, the maintenance of which, in peace, only entails small expense. By the Law of the 15th July, 1889, which established the principle of universal service without any exemption, and prolonged the period of service from 20 to 25 years, the strength of the annual Ersatz contingent was increased by a third of what it was, and, by this means, it became possible to form in each subdivision district, besides the previously existing territorial infantry regiment, two battalions from the youngest classes of the Territorial Army, and a fourth battalion, composed of Reserve men, to each active regiment. These three battalions were formed in each subdivision district into a "mixed" regiment, and a large number of these regiments took part in the Autumn Manœuvres from 1890 to 1892. Although these formations were shown to be adapted to service in the field, still their organization left much to be desired in many respects, for two battalions were composed of men from the Territorial Army, and one of Reserve men; the officers, equally, were of no common standard. The first defect was remedied by the Law of the 19th July, 1892, which increased the period of service in the Reserve by five years. The object now to be attained is to provide that the former regiments (*mixtes*) which have now been renamed Reserve regiments, and which are already commanded by the lieutenant-colonel of the corresponding active regiment, shall be provided, for all posts of and above the rank of captain, with active officers, who are already available in time of peace.

Organization.—On the 1st February two new infantry divisions, the 39th and 40th, were formed out of the St. Mihiel division, which was broken up, and the 147th, 148th, 150th, and 161st Infantry Regiments. On the 1st April, 4 rifle battalions and 2 infantry regiments were formed into the Vosges Division, destined to occupy and defend the passes of the Vosges district in time of war.

Three batteries each from the 24th and 35th Divisions, were incorporated in the 39th Division; 3 batteries, each from the 25th and 31st Divisions, were allotted to the 40th Division; and 3 batteries from the 9th Division, and one from the 6th Artillery Regiment, to the Vosges Division.

These three new infantry divisions are placed under the General commanding the 6th Army Corps; they are distributed as follows:—

39th Infantry Division, Commercy:—
 77th Infantry Brigade, Commercy.
 154th Regiment, Commercy.
 162nd Regiment, Lerouville.

78th Infantry Brigade, Toul.

156th Regiment, Toul.

160th " "

Artillery of the Division, St. Mihiel:—

7th, 8th, and 9th Batteries, 24th Artillery Regiment.

7th, 8th, and 9th Batteries, 35th Artillery Regiment.

40th Infantry Division, St. Mihiel:—

79th Infantry Brigade, Verdun.

147th Regiment, Verdun.

148th

80th Infantry Brigade, St. Mihiel.

25th Rifle Battalion, St. Mihiel.

26th

150th Regiment, Verdun.

161st Regiment, Châlons Camp.

Artillery of the Division, Verdun:—

7th, 8th, and 9th Batteries, 25th Artillery Regiment (provisionally at Châlons Camp).

7th, 8th, and 9th Batteries, 31st Artillery Regiment, Verdun.

Vosges Division, Remiremont:—

1st Brigade, Remiremont.

152nd Infantry Regiment (3 battalions), Épinal.

15th Rifle Battalion (6 companies), Remiremont.

19th Rifle Battalion, Troyes.

2nd Brigade, St. Dié.

149th Infantry Regiment (3 battalions), Épinal.

10th Rifle Battalion (6 companies), St. Dié.

17th " " Rambervillers.

Artillery of the Division, Remiremont:—

9th battery, 6th Artillery Regiment, Remiremont.

9th " 9th

7th and 8th batteries, 9th Artillery Regiment, Bruyères.

Native Troops.—On the 23rd April, instructions were issued for the formation of a regiment of Soudanese rifles, to consist of natives, and composed of 2 battalions, each of 4 companies; it will subsequently form part of the colonial army.

Each company is to consist of 3 European officers and 1 native officer, 10 European non-commissioned officers and 20 native ones, 132 native riflemen and 4 buglers.

The 5 existing companies of Senegal rifles and 1 company of Soudan rifles were incorporated in the new formation; only 2 new companies had to be raised. The European elements were taken from the marine infantry. The whole of the officers are mounted. The natives are recruited voluntarily from the territory comprised in the French Soudan and Senegal.

Interior Economy.—On the 20th October, new regulations were issued respecting the interior economy in the infantry.

Signallers.—In February the signallers, who were previously maintained with every body of troops, were done away with, excepting only in the Vosges Division and in the 14th and 15th Army Corps, in which, however, the number of signallers previously authorized was reduced by a half.

Cyclists.—Instructions, dated 2nd April, regulate finally the organization of the military cycle service and point out the advantages of cycles as a means of communication, the use of which should, however, be confined to roads, for conveying orders and communications of any kind, also, exceptionally, in connection with outpost duties. In peace they are used for orderlies. In war they are ridden by men taken from the reserve and the territorial army, who, previous to the completion of their active service, have proved themselves fit for the work. These men wear a special uniform, similar to that worn by the Alpine Rifles, and a distinguishing band on the arm. They are attached as supernumeraries to the staffs and troops at the rate of 4 per infantry regiment and 2 per cavalry regiment. The bicycle only is employed.

Field-firing.—From 1893, 80 infantry regiments and all the rifle battalions are to be exercised in field-firing under service conditions at special exercise grounds set apart for the purpose. It is to be continued for seven days, exclusive of the time occupied in marching to and fro.

Company Wagons.—Instructions were issued to the troops in January regarding the employment and distribution of the company wagons (one per company), which replace the previously existing battalion ammunition wagons, the mules for the transport of entrenching tools and the regimental store wagon. The load of a company wagon consists of 16,000 rounds of ball ammunition, disposed in two ammunition boxes, 34 pioneer tools and two fascine knives. In the wagon belonging to the 1st company there are, besides, pincers, hand-saws, and a box of finer tools. In the place of the ammunition, 54 packs can be carried on the wagon, which is arranged to admit of this. It is a principle that the ammunition carried by the wagons should be distributed before the commencement of an action. The four company wagons of each battalion should, as a rule, be formed into a group and form part of the fighting train, which in principle would always remain with the troops. After the ammunition has been issued, the wagons remain at the disposition of the commandant concerned: they are not sent back to replace the ammunition, for it is the duty of the ammunition section to bring, if necessary, ammunition wagons up to behind the fighting line, whence the cartridges are distributed to the fighting line, by means of bags, by men detailed for the purpose.

Cavalry.

Remounts.—The requirements, as regards horses of the cavalry on mobilization, are estimated, in an article in "La France Mil.,"

No. 2489, at 56,585 riding and about 6,000 draught horses. It is reckoned that the marching-out strength of a cavalry regiment, 660, requires with the cavalry divisions 667 horses, and the mounting of 38 reserve regiments and 18 new squadrons for the requirements of the independent cavalry divisions, the dépôt squadrons, &c., will necessitate the purchase of about 60,000 horses.

Native Troops.—At the commencement of 1892 a new squadron was raised in the Soudanese territory and called the Soudanese Spahis. It consists of 8 officers and 178 Spahis, and is attached to the 1st Spahis Regiment. The non-commissioned officers are drawn partly from Frenchmen and partly from natives; the men, by voluntary engagement or by transfer from the Senegal Spahis.

Territorial Army.

During the spring and summer, effect was given to the Law of the 27th July, 1892, by the creation of 13 rifle battalions in the 14th and 15th Army Corps districts.

The raising of more territorial[rifle battalions, to which only those men will belong who have served in active rifle battalions, is under consideration.

The decree of the 13th November, 1876, respecting the military organization of the forest officials in Algeria, has been completed by the following arrangements:—

In each department in Algeria the forest officials are to be formed into sections, the cadres of which will consist of 1 captain as commandant, 1 lieutenant or sub-lieutenant, 1 sergeant, and as many non-commissioned officers as the section contains detachments. Each forest district provides, as far as is practicable, the personnel for one section. The employés are to be mounted in war. The sections have for their duty to support any military operations within their respective districts, to participate in the defence of isolated places, and to watch the communications. From the commencement of mobilization these formations are under the orders of the General commanding the 19th Army Corps.

Means were provided for the exercising of 9,100 officers and about 138,000 men of the Territorial Army, mostly belonging to the 1878 and 1879 classes. The total number of trained men belonging to the Territorial Army was estimated by "L'Armée Militaire et Maritime" to have been about 1,237,000 at the beginning of 1893.

GREECE.

The peace establishment of the army for 1892 was 1,890 officers, 26,224 men, and 3,739 horses and mules. The effective, during 1892, fluctuated between 18,000 and 20,000, and at the end of the year it fell as low as 16,000.

The war strength at the conclusion of a period of mobilization of at least two months should be the following:—

38 existing infantry battalions.	
15 infantry battalions to be formed.	
1 Erzone battalion to be formed.	
—	
54 battalions, 1,000 strong.....	54,000 men.
12 existing cavalry squadrons.	
3 cavalry squadrons to be formed.	
—	
15 squadrons of 150 horses	2,250 „
20 existing batteries.	
10 batteries to be formed.	
—	
30 batteries of 6 guns and about 130 men	4,000 „
2 existing engineer battalions.	
1 battalion to be formed.	
—	
3 battalions, 1,000 strong.....	3,000 „
Auxiliary troops (train, &c.).....	3,000 „
Total .. 180 guns and	66,250 „

It appears, from official sources, that at the end of 1891 there were, in round numbers, 150,000 Reserve men available. This number, after deducting the natural waste, forms a sufficient reservoir in men for the formation of the field army. As regards the new formations proposed, nothing further can be said, for the required numbers of officers and non-commissioned officers are not available.

GREAT BRITAIN.

	Establishment.	Effective strength.	Available for the field army in Europe.	Available for India.	Available for home defence.
Standing army	216,799	211,590	103,891 ¹	71,620	103,891
Army Reserve, 1st Class	71,800	68,421	68,421	—	68,421
Militia.....	135,725	112,201	31,264	—	112,201
Yeomanry	14,086	10,710	—	—	10,700
Volunteers	261,224	222,046	—	68,848	222,046
Total.....	699,634 ²	624,963	203,576	160,468	517,259

¹ 29,586 men in the colonies. The numbers refer to the 1st January, 1892, with the exception of those relating to the Volunteers, which refer to the 1st November, 1891.

² The total in the original is given as 702,614.—Ed.

Taken by arms and branches of the Service the following table shows the numbers of units and the strength of each portion of the forces.

January 1, 1892.	Infantry.	Cavalry.	Horse, field, and mountain artillery.	Garrison artillery.	Royal Engineer.	Colonial troops.	Army Service Corps.	Ordnance Store Corps.	Medical Staff Corps.
Standing army	143 batts. 63 depôts	31 regts. 10 depôts	20 batts. 2 depôts 84 batts. 4 depôts 10 batts.	63 cos. 3 depôts	57 cos. —	36 cos. —	39 cos. —	4 cos. —	17 divs. —
Strength	133,773	19,393	19,378	16,304	7,431	3,265	3,467	4,603	2,374
Army Reserve	49,193	4,663	6,633	—	1,535	127	2,195	199	1,659
Militia and Yeomanry	89,733	10,710	—	11,152	1,942	—	—	—	—
Volunteers ...	166,162	293	—	41,077	13,161	—	—	—	1,517
Total ...	413,861	35,061	19,378 ¹	78,896 ¹	24,226 ¹	3,425 ¹	5,662	4,802	4,915 ¹

The disposition of the forces for home defence is given in detail. It is summarized below.

1st. The field army:—

4 cavalry brigades, 12 cavalry regiments, 8 companies mounted infantry, 4 horse artillery batteries, 16 machine-guns.

1st Army Corps—25 battalions, 1 cavalry regiment, 15 field artillery batteries, 14 machine-guns.

2nd Army Corps—25 battalions, 1 cavalry regiment, 14 field artillery batteries, 14 machine-guns.

3rd Army Corps—28 battalions, 1 cavalry regiment, 12 field artillery batteries, 14 machine-guns.

Total:—78 battalions, 15 cavalry regiments, 45 field artillery batteries, 58 machine-guns, and 8 companies mounted infantry.

ITALY.

Peace Strength.—The establishment for 1893-94 was fixed at the following numbers:—

	Establishment.	Effectives.
Officers.	14,199	14,074
Men	239,091	204,150
Officers' horses	11,343	11,760
Troop horses	38,986	36,965

The number of units of each arm and their strength are as follows:—

¹ These are the totals given in the original.—Ed.

Infantry. ¹		Cavalry.		Field artillery.	
Regiments	115	Regiments.....	24	Regiments	24
Battalions	346	Half-regiments..	48	Divisions	48
Companies	1,371	Squadrons.....	144	Batteries	192
Strength.....	156,754	Strength	26,832	Strength	23,988
		Horses	22,920	Horses.....	12,612
				Guns	768

	Horse artillery.	Mountain artillery.	Fortress artillery.	Engineers.
Regiments	1	1	5	4
Divisions	3	3	17	24
Batteries	6	9	68	64
			(companies)	(companies)
Strength	1,231	1,257	7,559	3,520
Horses.....	771	623	310	834
Guns.....	36	54		

There are besides, not included in the foregoing, 87 district commands with 98 permanent companies, with 757 officers, 87 medical officers, 460 pay officers, and 9,859 men.

Further, there are the Carabinieri Reali with 611 officers, 24,568 men, and 4,962 horses, and also 12 sanitary and 12 supply companies, the strength of which varies according to the requirements.

Each of the 12 army corps numbers 27 infantry battalions; the rest of the troops are not permanently and uniformly allotted to army corps during peace.

War Strength, larger Formations.

	Officers.	Men.	Civilians.	Horses.	Vehicles.	Guns. ²
Superior headquarters ..	85	614	83	524	58	—
Each army (3 army corps, 1 cavalry division) ...	3,536	114,484	1,612	25,841	5,056	300
Each army corps	980	34,617	24	5,777	1,098	96
An infantry division	375	13,935	5	1,099	220	24
A cavalry division	222	4,017	5	4,173	166	12

The actual combatants are:—

Army corps 27,262 rifles (infantry), 764 sabres, 96 guns.

Infantry division ..	12,143	—	24
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Cavalry division ..	—	3,062	„	12	..
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¹ Bersaglieri and Alpine troops included. The strength of these is 16,020 and 10,174 respectively.

² The guns are also included in the number of vehicles.

The available strength for war, including all classes of the forces, was, on the 1st January, the following :—

	Officers.	Men.
Standing army.....	20,143	819,226
Officers of the administration ...	2,334	—
Mobile Militia.....	4,183	504,396
Special Militia (Sardinia)	—	20,772
Territorial Militia	5,862	1,639,336
Officers unemployed	4,798	—
Total....	37,320	2,933,730

Reduction in the Peace Establishment of Officers.—In consequence of financial exigencies, reductions have been made by the Law of the 18th February, 1892, viz., 717 officers, including 12 generals, 12 general staff officers, 576 infantry (including 493 lieutenants and sub-lieutenants), 27 artillery, 6 medical, 16 commissariat, 15 pay officers, 13 veterinary surgeons, 49 officers not belonging to regiments, making in all 726 reductions. On the other hand, the establishment of the engineers was increased by 9 officers, making a net reduction of 717 officers.

After the terms of this Law shall have been completely carried out, the infantry will still have three officers per company, though the total number of lieutenants will be reduced by one-ninth.

Cavalry Formations.—A new cavalry brigade organization was introduced in October last :—

1st Brigade, regiments	Piemonte Reale, and Lodi.
2nd " "	Vittorio Emanuele, Saluzzo, and Caserta.
3rd " "	Nizza, Genova, Firenze, and Piacenza.
4th " "	Savoia and Vicenza.
5th " "	Lucca and Roma.
6th " "	Aosta, Alessandria, and Umberto 1st.
7th " "	Montebello, Foggia, and Catania.
8th " "	Novara, Monseratto, and Padua.
9th " "	Milan and Guide.

Territorial Militia.—A Royal Decree of the 11th July, 1892, which is to be converted into a Law, directs the formation of officers' cadres for the Territorial Militia. According to the instructions of the War Minister regarding it, lieutenant-colonels, majors, captains, lieutenants, and sub-lieutenants are to be nominated, principally from officers of all arms who have served in the army; but, as is also the case with the other Territorial Militia formations, suitable civilians may be appointed, provided they pass successfully the required examination; they may, however, be only employed as sub-lieutenants.

Organization for War.—The war strength of the infantry companies has been increased from 5 officers and 225 men to 5 officers and 250 men; consequently, the battalion strength has been raised from 24 officers and 918 men to 24 officers and 1,019 men.

The columns and trains are now provided for army corps of three divisions in place of two, as was the case formerly.

Mobilization.—A considerable advance has been made in the necessary arrangements. The infantry line regiments are not now called upon to give any officers to the Ersatz formations; they each give seven officers to the mobile Militia. Thus the peace arrangements as regards command are disturbed as little as possible. On mobilization it will only be necessary to fill from two to four officers' places with non-commissioned officers.

The Bersaglieri and Alpine formations, with the Ersatz officers who would be called up, have more than enough officers for their requirements.

The cavalry also have more than the number of Ersatz officers required; the total supernumeraries are to be utilized, in part as orderly officers, and partly with the train.

The line field artillery regiments give, on the average, from two to three officers to the mobile Militia, so only a few places have to be filled by non-commissioned officers.

The infantry of the mobile Militia has 223 (only 44 in the preceding year) out of the 576 companies with the regulation number of officers; the remaining 353 companies are each still one subaltern officer short. In about half of the regiments the regimental, battalion, and company commanders, and the adjutants, are all officers from the active list; in the other half the battalion and company commanders are so only in part. The other company officers are taken entirely from the non-active list.

The field batteries of the mobile Militia have, on the average, exclusive of the battery commanders, only two officers. The same applies to the fortress artillery companies of the mobile Militia, and to the artillery of the Territorial Militia.

The endeavour is patent to avoid, as far as practicable, disturbing on mobilization the officers who occupy the position of commanders with the active army in peace-time. Whether, in the infantry, this can be continued with equal success when the projected reductions in the peace establishment of officers of that arm have been carried out, seems dubious.

By an instruction of the 22nd March, 1892, a new method of completing the troops on mobilization has been introduced for the entire army.

The recruiting for the troops is conducted, with a few exceptions (as in the case of the Alpine formations, the mountain and field artillery, the train, and the Venetian lagoon pioneers), now, as previously, on the national system, that is for each formation from three different regions (Upper, Middle, and Lower Italy). For political reasons it is not intended to give up this practice. On the other hand, the War Minister has decided to give up the principle, adopted previously, of sending the Reserve men back again to their old regiments on mobilization. It is retained only for the cavalry and the engineers.

The other arms are now to receive the men to complete them to

war establishment territorially: that is from the districts in the vicinity of their headquarter stations.

The arrangement by which infantry regiments would proceed with their peace effective to the place of concentration, and there receive their reservists, collected and clothed in the several districts to which they belonged, has been preserved. Hitherto the regiments received back the men they had trained from Upper, Middle, and Lower Italy, and the district had consequently to send drafts to regiments of most diverse army corps. By the new dispositions for mobilization, the districts have only to form drafts for regiments belonging to their own army corps, and these go all together from the district to the army corps. The change, therefore, introduces a material simplification in the sending of drafts on mobilization. Whether this will, as claimed by the War Minister, effect a saving of from six to seven days in the mobilization period remains to be seen.

Preparations for Mountain Warfare.—Arrangements have been made for rendering those troops that are set apart for mountain warfare more efficient for the purpose. The creation on mobilization of mountain sanitary sections and mountain field hospitals to be allotted to them has been provided for.

Two batteries each of the 5th, 8th, and 11th Field Artillery regiments have been trained in the use of mountain guns; the material is ready to convert them at once into mountain batteries. Lately also the creation of siege parks has been planned.

The whole of the batteries are furnished with ammunition columns, to satisfy the first requirements. The ammunition to replace what is used is forwarded to the front by means of field railways, traction engines, movable columns, and, in the high lands of mountainous country, by special sledges.

To the engineer siege park belong telegraph, railway, and balloon material.

Modifications in Terms of Service.—By the Law of the 28th June, 1891, the duration of the obligatory term of service of the men of the first and second category was prolonged until the 31st December of the year in which the classes

1852 and 1853 complete 42 years of age.

1854 " 1855 " 41 "

1856 " 1857 " 40 "

By the same Law the Minister of War was empowered to delay the passing of men to the Territorial Militia on mobilization until the 31st December of the year in which they complete 15 years of their service obligation.

By this exceptional Law the completion of the army of the second line is guaranteed; but apparently Ersatz Reserve men will still have to be embodied from the first day of mobilization.

By the Organic Law of the 6th August, 1888, the obligation to service was as follows:—

9 years in the Standing Army	} Total, 19 years from the age of 21.
3 " Mobile Militia	
7 " Territorial Militia }	

Since the 1st of January, 1892, it has been

9 years in the Standing Army	} Total, 22 years from the age of 21.
6 " Mobile Militia	
7 " Territorial Militia }	

Training.—In place of the comparatively costly camps of exercise, lasting from four to six weeks for a portion of the troops only, manœuvres for a period of 10 days, from the 21st to the 31st August, were introduced for the first time for the whole of the army. Two corps, the 7th (Ancona), and the 9th (Rome) had "great manœuvres." Including these two, reinforced by a mobile Militia division, 8 army corps were assembled for corps manœuvres; in four corps districts divisional exercises were held. Besides these, a mobile Militia division was formed at Turin, and its performances were satisfactory. The mountain troops—Alpine formations and the mountain artillery of the three western frontier corps—were exercised as in the preceding year for six weeks.

Recruits were not called up during 1892; the 1892 class were only embodied in March, 1893. The Reserve men, those on furlough subject to recall, and the men of certain categories indicated by the War Minister (for reasons of economy), for example, the men of the 1871 class, born in 1869, who had served one year, were dismissed on the 20th September. It is a matter of importance that the War Minister has decided to change permanently the service year; the recruits to be incorporated at the beginning of March, and the Reserves sent down at the end of October. The period of recruit training has been reduced from four months to eight weeks.

In order not to disturb the instruction during the summer, it has been ordered that ordinary volunteers are not to be enlisted during the period between the 1st May and the 31st October. Their number also has been much reduced; by instructions of the 10th December, 1892, not more than 10 volunteers are to be taken per infantry, Bersaglieri, artillery, and engineer regiment; in the Alpine troops and the cavalry (for three years) their number is unrestricted.

During the winter period, the number of corporals to be reduced by one-third. The infantry suffers the most during the winter period of reduced effectives. Estimated by the numbers dismissed in the autumn of 1892, the average strength remaining per company is only, at most, 49 men. After deducting non-commissioned officers, musicians (2), and pioneers (2), there would only be about 35 men left. According to a statement in the "*Esercito Italiano*" (No. 3 of 1893), the company strength has really fallen as low as about 25 men.

The infantry received, in 1892, new regulations for drill, musketry, and field duties.

The several courses at the central school of musketry were attended

by 200 lieutenants and 400 sub-lieutenants of infantry, and 48 sub-altern officers of cavalry.

There were special exercises for cavalry in reconnoitring duties, viz.:—

From the 21st to 30th August, for two regiments north-west of Milan.

From the 21st to 30th August, for three regiments between Tagliamento and Piave.

From the 7th to 14th September, for six regiments in the Roman Campagna.

Promotion of Officers by Selection.—A voluntary examination has been introduced for captains of infantry and cavalry; by passing successfully they obtain a right to special promotion to the rank of major when they come within the senior sixth of the officers of their rank. Those only are exempted from this examination who have already been recorded as qualified for promotion by selection by the promotion committee of the arm to which they belong. The examination is held in Rome; it comprises the following subjects:—

1. A written essay, with subsequent *vivâ voce* discussion (to test general instruction).
2. Written solution of a tactical problem (as a rule not relating to a force larger than a division).
3. Command of a mixed detachment in the field.
4. Kriegsspiel, in the capacity of a subordinate commander.
5. Riding.

MONTENEGRO.

In peace, including all officers and men employed about the Court, the whole number does not exceed about 2,200. Every physically qualified Montenegrin¹ is liable to serve between 16 and 50 years of age. The 1st class of those liable is composed of men between 20 and 40 years of age, and numbers about 26,000. The 2nd class includes the youths between 16 and 20, and men between 40 and 50, numbering about 10,000. From the 1st class 31 battalions are formed, and 12 from the 2nd class; total, 43 battalions, generally of 6 companies each.

The country is divided up into eight brigade districts, each under a brigadier. The battalions are allotted to these districts as follows:—

1st Brigade (Katunska).....	7 battalions.
2nd " (Crmniča)	6 "
3rd " (Piperska and Bjelopavliča).	5 "
4th " (Pivska)	7 "
5th " (Zetska)	6 "
6th " (Vasojeviča)	4 "
7th " (Primorska)	3 "
8th " (Vasojeviča)	5 "

¹ The Mohammedan population are exempted on payment of a sum of money.

There is one battery of artillery to each brigade district, the matériel for which is allotted to the infantry brigades in peace-time. The battery consists of 2 field guns and 4 mountain guns.

There are no auxiliary services or field establishments.

There are sufficient arms and ammunition for the infantry and artillery formations contemplated.

The patriarchally organized forces are good, and sufficient for the traditional defence of the country, but they are unsuited to aggressive plans. But as allies to their Servian brethren, in the neighbouring roadless and resourceless Austrian and Turkish territories, which are as if created for guerilla warfare, they would constitute an important factor, and be a difficult enemy to suppress.

THE NETHERLANDS.

The peace organization is the following:—

Infantry:—

1 grenadier and rifle regiment, 5 battalions, 20 companies.

8 infantry regiments, 40 battalions, 160 companies.

1 instructional battalion, 4 companies.

Strength of all ranks, 44,080.

Cavalry:—

3 hussar regiments, 15 squadrons, 5 dépôts.

1 squadron of orderlies.

Strength, 4,100.

Artillery:—

3 field artillery regiments, 6 divisions, 18 batteries, 108 guns, 2 train companies.

1 horse artillery corps, 2 batteries, 12 guns, 1 instructional battery.

4 fortress artillery regiments, 40 companies.

1 armoured-fort artillery corps, 4 companies.

1 instructional company.

1 pontoon corps, 2 companies.

1 torpedo corps, 2 companies.

Strength, 14,513.

*Engineers:—*1 engineer corps, composed of—

3 field companies.

4 fortress companies.

1 railway and telegraph company.

1 school and dépôt company.

Strength, all ranks, 1,715.

There are, besides these, some special corps and local companies, called "Schuttereien," composed of those men between 25 and 35 years of age who do not belong to the army or the navy. In places of 2,500 inhabitants and over these companies are embodied for duty; of these there are 213, of a strength of 51,391 of all ranks. In places

having less than 2,500 inhabitants, the companies are not embodied in peace; there are 89 battalions to be formed from these, numbering 78,859 of all ranks.

In war, the field army consists of 3 divisions, each composed of 3 infantry regiments of 4 battalions, 1 hussar regiment, 1 field artillery regiment, 1 field company of engineers, with the necessary auxiliary services and transport. The horse artillery is attached to the 2nd Division.

On the special order of the War Minister, a portion of the cavalry can be formed into an independent brigade, and the horse artillery attached to it.

If considered necessary, a pontoon company would be attached to the field army.

The garrison troops would consist of the following:—

The 3rd battalion of the grenadier and rifle regiment.

The 4th battalion of the 8 infantry regiments.

The 4 fortress artillery regiments.

The armoured-fort artillery corps.

The torpedo corps.

The 4 fortress engineer companies.

Terms of Service.—The army is composed of volunteers, who serve eight years and less, and of Militiamen. The annual contingent of the latter amounts to 10,400 men; they are drawn by lot yearly from those who attain 20 years of age and are fit. Substitutes and change of numbers are permitted. The period of liability to serve lasts 7 years, that of service with the colours 1 year; but one-seventh of the Militiamen may be detained, usually for from 4 to 6 weeks, after their year's service has expired.

The obligation regarding service in the "Schuttereien" has been already noticed. There is further the Landsturm, to which all able-bodied men belong who are between the ages of 19 and 50, provided they do not already belong to the army, navy, or local companies.

The Landwehr is to be organized only when the necessity for its employment arises.

Organization.—The country is divided into 3 military districts, commanded by Major-Generals. Their headquarters are at Amsterdam, Utrecht, and Breda respectively. There are also 7 artillery and 4 engineer commands.

The headquarters of the 3 infantry divisions of the field army in time of peace are the Hague, Arnhem, and Breda; they are commanded by Major-Generals.

AUSTRIA-HUNGARY.

The armed forces available are the following:—

	Officers and officials.	Other ranks.
Standing Army.	32,420	1,015,792
Austrian Landwehr. . . .	3,250	196,409
Hungarian Landwehr. . .	3,492	235,120

To these numbers have to be added, in war, the Landsturm, viz., 430 battalions, each of 1,000 men, and 20 squadrons, each of 150 mounted men.

They are distributed as follows:—

Austria:—92 marching battalions, of which 72 are formed into 9 brigades, and 20 do duty as staff and Etappen troops; there are, besides those, 142 territorial battalions.

Hungary:—94 marching battalions, of which 64 are formed into 8 brigades; 102 battalions provide for the duties of the interior; lastly, there are 20 squadrons of hussars.

Organization.—New regulations have been issued regarding the duties of the Inspector-General of Cavalry; the following are the most important features of them. The Inspector-General of Cavalry is an adviser to the Imperial Minister of War, whose instructions and intentions he has to carry out, and to whom he is directly responsible. He has to superintend the individual instruction and training for war of the cavalry, up to and including that of the cavalry brigades, and to satisfy himself of the efficiency for the field of cavalry regiments, as well as the proper condition for war of the entire equipment.

He inspects the above-mentioned cavalry units, and arranges his tours of inspection in such a manner that the whole of the regiments are inspected once in three years, not only with regard to detail, but also as to their military, tactical, and field training and employment.

Formation: Infantry.—The infantry has received an increase of its establishment in two directions. In the first place, each infantry company has been increased by 1 corporal, 2 lance-corporals, and 6 men, thus making it equal in strength to the field jäger company. Thus the peace strength of the company is to be 3 officers, 1 officer substitute, 1 sergeant-major, 2 subdivision leaders, 6 corporals, 6 lance-corporals, 70 privates, 1 pay officer, 1 drummer, 1 bugler, 3 officers' servants: total, 3 officers and 92 men.

This establishment has temporarily only been given to 25 regiments. The remaining 77 regiments will be raised to it in the course of the next two years.

The whole of the infantry regiments have received a further actual increase of 1,150 men, who had heretofore been borne on the strength of companies, but who were students in the cadet schools. These schools are no longer classed as belonging to the troops, and the vacancies are not in future to be kept open.

The Bosnia-Herzegovina Troops.—The increase in the native formations, determined upon two years ago, was carried out during the years 1891–92. They now number 12 infantry battalions, the first 8 of which have each 4 companies. The last 4 have 3 companies; a fourth company was to be raised for them in the spring of 1893.

Train.—New instructions have been issued regarding the disposal of the train belonging to an army in the field.

The train belonging to the troops, that is the transport attached to them to supply their immediate requirements, is divided into the fighting train and the baggage train. The train of the headquarters

and of the staffs of commands, also the army train, are not divided into these groups.

During marches, provided there is no danger of collision with an enemy, the fighting train of an infantry division are assembled by brigades, and follow their own brigades with the train of the brigade staff. The train of the division staff moves with that of the leading brigade.

The baggage train of all the troops in the column is united, and follows the rearmost portion of the fighting train.

Should a collision with an enemy appear possible or likely, the fighting train following the leading brigade, and which occupies nearly 1,960 paces, must clear the road for the rearmost brigade, and the whole fighting train of the division will be collected in rear of the ammunition park.

The fighting and baggage train of an infantry division combined occupy about 3,612 paces. When, therefore, more than one division march by one road in the vicinity of an enemy, the train of the whole army corps is to be united in rear of the troops.

The only transport remaining with the troops would be the ammunition train, the sanitary train, and portions of the supply train, which have to be kept with the divisions to ensure punctual issues being made.

These latter are restricted to the following sections:—

1st. One with the leading division, which gives up its provisions at the end of the march.

2nd. Two with the 2nd division; of these, at the end of the march, one moves up to the leading division, and accompanies it during the next march; the other section hands over its provisions to its own division.

3rd. Three with the rearmost division, of which, at the end of the march, two move on to replace those that were previously with the 2nd division; the third supplies its own division.

In the case of the troops having to be more closely massed, as in concentrating before a battle, even the supply train must be sent back, and remain with the baggage train 10 to 16 kilometers in rear. In this eventuality, both man and horse are provided with three days' reserve rations, and a reserve section with three days' reserve supplies is attached to each supply column, so that, if necessary, after the reserve provisions with the men and horses have been consumed, only one section per division need be moved up for the purpose of replacing them.

Mounted Orderlies with the Infantry.—On the occasion of the field exercises of bodies of the strength of regiments and upwards, four cavalry men were attached to each infantry regiment as mounted orderlies. They were quartered and rationed with the regiments concerned, and accompanied them at all exercises. They were employed on orderly duty, and to carry reports and orders; they were also utilized in reconnoitring under the battalion adjutant.

ROUMANIA.

The peace strength is 2,960 officers, 46,000 men, and 10,000 horses, distributed into 4 army corps, having their headquarters at Crajova, Bucharest, Galatz, and Jassy.

In war, 4 field army corps are formed, composed as follows :—

2 infantry divisions of 2 brigades.

1 rifle battalion.

1 Kalarasch (territorial cavalry) brigade.

1 line cavalry regiment.

1 artillery brigade of 3 regiments (2 divisional and 1 corps artillery regiment).

1 engineer battalion.

1 train squadron and the necessary establishments.

There is a 5th Army Corps to be formed, which seems to be intended for garrison duties.

The strength of the mobilized army is 3,500 officers, 148,000 men, and from 15,000 to 17,000 horses. There are further available 50,000 trained men, the Militia and the Landsturm. No formations have as yet been created for the two last categories.

The amalgamation of the territorial cavalry with the cavalry of the line is in course of progress. During 1893, 4 of the territorial regiments are to be augmented to a strength of 4 complete squadrons and one cadre squadron.

The field artillery was increased in 1892 by 4 regiments of 6 batteries, so that it now consists of 12 regiments, each of 2 divisions of 3 batteries; total, 72 batteries. The 4 corps artillery regiments are composed each of 4 field and 2 horse batteries. Two new fortress artillery companies were raised during the same period.

In the event of mobilization, it is intended to create 33 battalions for Ersatz and garrison purposes, to be composed of the last two yearly classes of Reserve men.

A fourth cavalry regiment of the line is to be raised.

RUSSIA.

New Formations: Infantry.—A new army corps (the XVIIIth, with staff-quarters in Dorpat) has been formed, from the 23rd Division (formerly in Reval) and the 24th Division (formerly Finland), and added to the St. Petersburg military district. On the other hand, 4 reserve cadre battalions, hitherto located in the St. Petersburg district, have been formed into a rifle brigade for Finland of 4 regiments, each of 2 battalions, to be formed from Russian soldiers, and to have the establishment of the 5 Russian army rifle brigades.

Four more Reserve infantry brigades, Nos. 45, 46, 47, 48, have been formed (3 of them from existing Reserve cadre battalions), each of 4 regiments of 2 battalions, so that there are now 7 of these Reserve brigades (in war, divisions). They are all located in the frontier military districts of Vilna (2), Warsaw (3), Kief (2). The establishment of Reserve cadre battalions, on the other hand, in

European Russia, has been reduced to 16 by the conversion of 4 into the Finland rifle brigade and 3 into Reserve infantry brigades.

In the Transcaspian, two Reserve cadre battalions have been formed from the existing local troops.

The fortress infantry battalions have been increased by 3, 1 each at Dunamund, Graduo, and Libau, so that there are now 31 of these battalions (including 1 regiment of 2 battalions),

In the Kuban Cossack territory, 2 new foot Cossack battalions of the 1st category, Nos. 5 and 6, have been added to the previously existing 4 battalions.

In the Caucasus military district, 2 of the previously existing Reserve battalions have been converted into Reserve regiments, each of 3 battalions. There were already 6 of these regiments, of which 2 are composed of natives. The 8 regiments now available will form 2 mixed Reserve brigades (in war, divisions), partly Russian and partly Caucasian. There still remain available in the Caucasus 10 battalions towards the creation of further new formations.

Cavalry.—The 15th Cavalry Division, staff-quarters at Plozk, formed in 1891, has consisted since of 2 dragoon regiments, Nos. 47 and 48, and the 3rd Ural Cossack regiment. It has now been made up to the normal establishment of 3 dragoon regiments and 1 Cossack regiment by the transfer to it of the Perejaslav dragoon regiment, No. 46, which belonged formerly to the Caucasus Cavalry Division.

To replace this regiment with the Caucasus Division, which, by its withdrawal, was reduced to 3 dragoon regiments, the Ossetin Cossack Division (a half regiment of 2 sotnias, but which could be increased at once to 4 or to 6 sotnias) has been definitely attached to the Caucasus Division. The 11th Cavalry Division (Dubno) has been increased by a Cossack regiment, No. 12 (hitherto in the Don territory); it numbers, therefore, 3 dragoon regiments and 2 Cossack regiments.

The Finland dragoon regiment (the only one in the principality) has been brought up to the normal establishment of six squadrons.

The six cavalry divisions located immediately on the western frontier, viz., the 2nd, 3rd, 11th, 12th, 15th, and the 2nd combined Cossack regiment have been placed in a position to take the field promptly (at latest on the third day after the declaration of war) by having attached to them a greater number of draught horses.

Cossacks.—The 1st levy of the Don Cossacks has been increased by 3 more independent sotnias, Nos. 31, 32, and 33. As the older classes are passed on in due course to the 2nd and 3rd levies, the total increase in war would be 9 sotnias.

In the Transcaspian territory, the Turcoman mounted militia has been formed into a Turcoman mounted division of the strength of a half-regiment. This is to form the nucleus of further similar formations, and will provide for internal duties, as do the analogous Caucasian militia in the Caucasus. It is placed under the orders of the Transcaspian-Caucasus Cossack brigade, which has now been permanently transferred to the Transcaspian command.

A Finland artillery regiment, consisting of 4 batteries, has been

formed. 2 of the batteries were taken from the 24th Artillery Brigade, which had previously 8 batteries, whereas the other brigades had only 6 batteries; 2 were newly created.

A siege artillery battalion has been raised at Kief. Three companies have been added to the fortress artillery at Sebastopol.

10 light batteries have been raised, 2 for each of the 5 European rifle brigades (each of 8 battalions). These batteries have, in peace, 4 horsed guns, in war, 8.

The Caucasian Rifle Brigade has had allotted to it the 5th and 6th mountain batteries of the 19th Artillery Brigade, which have formed in their place two light batteries. No steps have, as yet, been taken to provide the Guards Rifle Brigade, or the Finland rifle battalions, with artillery.

Looking to the independent rôle to be adopted by the rifle brigades or divisions in war, the attachment to them of artillery which has been made is a very important matter.

A 6th Reserve Artillery Brigade, having a similar establishment to that of the five previously existing, has been raised at Saratof. To effect this, the 7th batteries of Nos. 2, 4, and 5 Reserve Artillery Brigades were utilized, and 4 more light Reserve batteries, with 2 guns, only horsed in peace, are to be raised during 1893, and added to the 6th Brigade to complete it. The active and the Ersatz batteries, to be formed on mobilization from it, are to be kept as active light and Ersatz foot batteries, and not included in the brigade organization.

The Reserve Artillery Brigades to be formed in war are to consist only of 4 batteries of 8 guns, whereas the field artillery brigades have 6 batteries of 8 guns. But, in Russia, the conviction grows stronger that the organization in a brigade of 6 batteries, with 48 guns, is too unwieldy, and cannot be united under a single commander. Seemingly, therefore, the brigades now commanded by Major-Generals will be divided into 2 parts or regiments, composed of 4 batteries, each of 6 guns, commanded by Colonels under the Major-General, who would continue to command the whole brigade.

Engineers.—Two river mining companies have been raised. These companies are to be formed as required for the strategic water-ways, and are to be included in the engineer troops. In peace-time they are to make themselves familiar with all the conditions of the rivers to which they are allotted. In war they place the necessary mines and other obstacles, provide for the service of security on the rivers, and make the preparations for crossing them.

A fortress (harbour) torpedo company, having the same establishment as the Cronstadt company, has been formed at Vladivostok. There are, therefore, now, nine of these companies.

The Field Army.—For a war in Europe there would be available, of actual field troops, the Guard Corps (3 divisions), the Grenadier Corps (3 divisions), and 18 army corps of 2 divisions. Two more of these latter could be formed, the 19th and 20th, from field formations available for the purpose. These army corps are completely

provided with artillery (each division has a brigade of 6 batteries or 48 guns).

Their cavalry is not, however, complete, if only the divisions available in peace are to be reckoned, for with the 20 (or 22) army corps that would take the field, there would only be 19 cavalry divisions available for the European theatre of war, viz., 2 Guard, 15 army, and 2 Cossack divisions. These divisions, all except two, which have only one battery, have their full complement of horse artillery.

Formations not Organized in Army Corps.—In European Russia there are, in addition to the 4 Guard and 8 independent Finland rifle battalions, 24 rifle regiments of 2 battalions, formed in 6 brigades, 1 of which belonging to Finland. In the Guard only are the rifles comprised in the army corps. It is doubtful whether the rifle troops would, in war, be attached by battalions or by regiments to army corps, or be formed into greater bodies kept separate from the armies formed from the army corps for employment independently.

That such independent action is contemplated for the rifle brigades (which would, it is said, in war, be expanded into complete divisions) on a large scale, appears to be justified by these brigades having lately been furnished with the two light batteries. In this formation, which is favourable to independent action, they would accompany and support the cavalry divisions or corps which are called on to invade the enemy's territory, immediately war is declared, for the purpose of disturbing the mobilization, of undertaking raids, and especially for forming a screen to the masses of troops in their rear. This view of the probable nature of their employment is further supported by the fact that the rifle brigades, whose selected men are distinguished by their special qualifications as regards marching and shooting, and their efficiency in the minor operations of war, are, as is also the case with the cavalry divisions, mostly located close to the western frontier and provided with special train, which increases their mobility.

The remainder of the infantry form, for much the same purposes, the specially trained *Ashotniki*, or volunteers. Already, in peace-time, they are frequently formed in regiments into separate independent companies, in the entire divisions into battalions, and in this formation employed in enterprises requiring courage and enterprise.

Reserve Troops.—Until the year 1889 these troops, which were formed after the war of 1877-78, consisted only of separate battalions, each of five companies, destined in war to form regiments of four battalions and a fifth battalion by the means of the Reserve men, to be formed into separate Reserve divisions or army corps. Taking into consideration the difficulties of mobilizing cadre troops of this nature, it has lately been decided to form, in peace-time, Reserve brigades out of a portion of the existing battalions. Each of these Reserve brigades consists of 4 regiments, provisionally of 2 battalions, which, on mobilization, are to be expanded into 4 battalions, so that complete divisions will replace the existing brigades; the staffs for

them are maintained in peace-time. Provisionally, the number of these brigades is 7, numbered consecutively after the previously existing 41 infantry divisions (exclusive of the 3 Guard and 4 Grenadier divisions), 42, 43, 44, 45, 46, 47; 48. There are still a large number of Reserve battalions—53 in Europe alone—available for the formation of further brigades, as means become available.

Originally the formation of 20 such brigades, or divisions, was contemplated, to be organized as separate army corps. It is now stated that in war, as already in peace, they are to be added as 3rd divisions to the existing army corps. The Reserve divisions are to be furnished with artillery from the existing Reserve artillery brigades (6, each of from 6 to 7 batteries), which are capable of great expansion. The divisional cavalry, also, for the actual field army is to be furnished from the 2nd and 3rd levies of the Cossack troops. This arrangement appears the more likely because the cavalry divisions—each of which has for its fourth regiment a Cossack regiment—would, at the commencement of hostilities, be formed into cavalry corps, which would have for their chief enterprise to overrun an enemy's territory.

The engineer troops in Russia, like the rifles and Reserve troops, are not included in the army corps organization in time of peace; they belong to the military districts, which are far larger than the army corps districts. Their allotment to corps in war is not definitely fixed in peace, and would depend on the object in view and the circumstances of the theatre of war.

Formation of Armies.—We arrive now at the grouping of the army corps and divisions in armies, with which the division of the Empire into military districts and the peace distribution of the troops have a certain relation. For a European war there are the military districts situated nearest to the western frontier, which comprise those of St. Petersburg, Vilna, Warsaw, Kief, and Odessa. Those of Moscow and Kasan are rather destined for the formation of Reserve armies, and that of the Caucasus forms, to a certain degree, a special theatre of war. The Asiatic territories may be left out of consideration.

Of the western districts, the three comprising Vilna, Warsaw, and Kief, which are situated in the centre, are of greater strategic importance. Consequently in these districts, and especially in the two last named, a sort of army organization, with the commanders and staffs detailed beforehand, is maintained in peace-time. Whereas in other districts the commanders have under their command all the troops located in them, it does not follow that in war they would have command in the armies formed from them. But in the military districts of Warsaw and Kief, and, in a more limited degree, in those of Vilna and Odessa, the superior commanders are designated as army commanders in war and have, with this object, at their disposal in peace-time the complete field staffs.

In the event of the army of operations being assembled and taking the field, a provisional superior commander is appointed to the military district, under whom are placed the Reserve, Ersatz and garrison troops that are left behind. These provisional commanders, in the cases of Warsaw and Kief at least, if not in the other districts, are

nominated in peace and act, as a rule, as assistants to the superior commanders. Generally the provisional staffs are included in peace in the district staffs.

In the General Government of Warsaw there are at present of field troops four complete army corps of two divisions with the normal proportion of artillery (48 guns per division of 16 battalions), each with one cavalry division. There are, further, two cavalry divisions not comprised in the army corps organization; also the 3rd Guard Infantry Division with a proportion of artillery and cavalry. Besides these there are two rifle brigades (in war, divisions) with artillery and, provisionally, three Reserve infantry brigades (in war, divisions).

As a Russian infantry division at war strength numbers about 15,000 men, there would be, providing the mobilization admitted of the rifle and reserve divisions being completed to war strength, 14 divisions, or a force of about 210,000 infantry. If, further, the 15 fortress infantry battalions located in the Warsaw district could be mobilized as designed, and expanded into a like number of regiments of war strength, the total number of infantry in the Warsaw district would amount to about 300,000 men.

To these have to be added the 6½ divisions of cavalry, or 156 (with the Kuban Cossacks 158) squadrons and sotnias which are maintained in peace at the war strength. These would be further increased, within eight days of the mobilization, by the 1st and 2nd levies of the Don Cossacks, and by the mounted frontier guards, the exact strength of which cannot be estimated.

For the artillery of this army there would, at a rough estimate, be 70 field batteries (560 guns, including the mortar regiment) and 12 horse batteries (72 guns).

It appears doubtful, however, whether the district could produce on mobilization the large number of men required to complete all the formations contemplated.

To meet this difficulty the troops are being gradually raised to a higher peace effective, so that fewer Reserve men may be required to complete them on mobilization.

Looking to these various possibilities, it would seem very rash to enunciate any definite conclusions with regard to the time necessary for completing the field army, or armies, or to their strength. In Russian military circles, however, it is thought that the armies of the frontier, and in particular the army of the Vistula, could commence operations, at the latest, within eight days of the order for mobilization being issued; but the cavalry could do so immediately.

The troops located in the districts of Vilna and Kief and destined to form the armies there have, with some immaterial exceptions, the same peace and war strengths as those in the Warsaw district. In the Vilna district there are 4 army corps (8 divisions), a division not included in the army organization, 1 rifle brigade, and 2 brigades (in war, divisions) of reserve troops; a third is about to be formed. On the whole, therefore, there are two infantry divisions, or 30,000 men, less than there are in the Warsaw district. It has also two cavalry divisions less, and less artillery in the same proportion.

In the Kief district there are 4 complete army corps with artillery, and 4 cavalry divisions, 1 rifle brigade, 2 Reserve brigades, and 4 Reserve battalions which can be formed into a division in war. The addition of 1 infantry division is further to be made to this district. There are, then, altogether somewhat more troops than there are in the Vilna district, and somewhat less, chiefly of cavalry, than in the Warsaw district.

The troops of the Odessa district, destined in part to co-operate with the Kief army and in part to serve as its Reserve, are only about half the strength of the troops in the other three districts. They consist of 2 army corps with 2 cavalry divisions, 1 rifle brigade, and 8 Reserve battalions that are available to form two Reserve divisions. But it would be necessary for them to provide for watching the Danube territories and Turkey; a portion of the troops, therefore, would not at first be available for offensive operations.

The most northern of the Russian military districts (Finland) has only a secondary importance, for the permanent national armed forces there are small, and destined more for defensive than for offensive purposes, whereas the Russian garrisons in the principality would have, in the event of war, to be strengthened rather than reduced.

The troops of the St. Petersburg military district are more capable of employment, and they would serve rather as reserves. They are the Guard Corps (2 divisions; for the third, see Warsaw), the 1st and 18th Army Corps, 1 rifle brigade, and 5 Reserve battalions. In cavalry the Guard Corps is especially strong (after deducting the permanent Warsaw brigade, and including 4 sotnias of the Imperial escort, from 57 to 60 squadrons and sotnias), so that it could detach cavalry to other army corps requiring it. This would be the more necessary because the 18th Corps in the same district has provisionally no cavalry division belonging to it, and the 1st Army Corps cavalry division is located in the Moscow district. Whether the troops disposable in the St. Petersburg district after provision has been made for the garrison of the capital, for the coast defence, &c., would reinforce the armies of operations (Vilna and Warsaw), or form the nucleus of a reserve army, would depend upon the plan of operations and the situation.

The same may be said with regard to the disposition of the troops in the Moscow and Kasan districts. In the Moscow district are the Grenadier corps (3 divisions), the 13th and the 17th Army Corps; but only one cavalry division (belonging really to the 1st Corps). These three army corps serve rather as a central reserve, to which the Reserve divisions to be formed from the 16 Reserve battalions would be added. The necessary cavalry for them would be drawn principally from the 2nd levy of the Cossacks. There are, further, located in the Moscow district nearly all the Ersatz cadres for the regular cavalry, and the marching squadrons for regiments in the field would be despatched to them from there.

In the district of Kasan, the one furthest removed from the European theatre, there are now only 16 Reserve battalions; the 40th Division, previously located there, has been moved further west, and for

cavalry it has only one regiment of Astrakan Cossacks. Quite lately the progress towards the west has been extended to the troops of the Moscow district.

The 13th Army Corps, which had its staff quarters previously at Moscow (one division at Moscow, the other at Orel), has been moved to Smolensk, with one division at that place, which is situated on the extreme western limit of the district; two grenadier regiments, previously at Tula and Kaluga, have been moved to Moscow in its place. By this pushing forward of the 13th Army Corps along the main Moscow-Warsaw railway, the distance of these troops from the western frontier has been reduced by one-half. In the same way the staff of the 17th Army Corps has been moved from Nishni Novgorod to Tula, with the 3rd Division at Kaluga, and the 35th Division at Rjāsan.

All these movements of troops, which are not yet concluded, indicate clearly the intention of only maintaining sufficient field troops in the easterly provinces of the Empire to meet the absolutely necessary requirements, while the bulk of them are brought nearer to the western frontier. In their place the Reserve troops are being more and more developed, and for defensive purposes there is, further, the Opoltschenie, which alone numbers over two millions, and is no longer a purely paper force.

Numbers Available for a European War.

For a war on the western frontier the following can be mobilized for employment in the first line:—

Infantry:—

44 infantry divisions (4 in the Caucasus not included), at 15,000 men per division	660,000 men.
6 rifle brigades (divisions including Finland, excluding Caucasus)	90,000 „
4 Guard rifle battalions	3,800 „
About 10 Reserve brigades (divisions)	150,000 „
	<hr/>
	903,800 „

This average number could be increased to over one million men by the mobilization of 10 more reserve brigades.

Cavalry:—

19 divisions (exclusive of the Caucasus, the escort and minor formations) with 467 squadrons and sotnias, comprising 67,000 sabres.

By calling in the 40 and more sotnias of the mounted frontier guard, besides the Cossacks of the 2nd and 3rd levies, at least 40 to 50 more regiments of 6 sotnias could be formed, by which the number of sabres could be increased to 100,000 and more.

Field Artillery:—

44 brigades (not including the Caucasus).....	264 batteries, 2,112 guns.
10 reserve brigades (at least)	40 " 320 "
14 rifle batteries (including Finland)	14 " 112 "
3 mortar regiments	12 " 72 "
6 mountain batteries (regiment)...	6 " 48 "
	<hr/>
	336 " 2,664 "

By forming 10 more reserve brigades, 40 batteries or thereabouts, or 320 "

could be obtained, besides 5 sortie batteries and batteries of the artillery practice school.

Total, about .. 3,000 "

Horse Artillery:—

6 Guard batteries (brigade) and 3½ army batteries (including Cossacks)	240 guns.
15 to 20 Cossack batteries of 6 guns	120 "
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Total ..	360 "

Engineer Troops.—4 railway, 15 sapper, and 8 pontoon battalions, 15 telegraph parks, &c.

Fortress Troops.—Infantry (only on the west frontier) about 22 battalions (in war, regiments), 100 battalions; artillery (west frontier), about 30 battalions; engineers, about 8 companies, balloon detachments, &c.

Training of Reserve.—In 1892, the Reserve men of the following classes located in European Russia and the Caucasus:—

1st. The 1887 yearly class who had served less than three years with the active troops.

2nd. The whole of the Reservists of the 1882 class.

The duration of the exercises for the Reserve men of both years who belonged to the field and fortress artillery, and for those infantrymen of the 1882 class who had served less than three years with the colours, was 21 days; for all other infantry Reserve men it was 14 days. The cavalry, horse artillery, and engineers are not called out.

Training of the Opoltschenie.—This was carried out under new instructions, which do not, however, differ materially from the regulations of 1890, previously in force. There are two periods of training, each lasting 21 working days; but there is an interval of two years between them.

At the conclusion of the first period the ratniki, as the men are called, should be proficient in company drill, and able to take their part in the shooting line with blank cartridge. Only six rounds of ball cartridge are fired at the end of the first period, three at 100 paces and three at 200.

SWITZERLAND.

The armed forces consist of three categories: the first of these, which forms the field army, is composed of about 128,500 men, forming 104 battalions, 24 squadrons, 10 companies of guides, 48 field batteries, 2 mountain batteries, 10 companies of artillery of position, 16 park columns, 8 engineer battalions, 8 field hospitals, and 8 administration companies.

After having been trained as recruits, these troops are only called up once in every two years (the cavalry every year) for from 10 to 18 days' exercise.

The 2nd category is the Landwehr, which numbers 81,000 men, and forms a similar number of units of infantry and cavalry to those of the 1st category, but the infantry battalions are of reduced strength. Of artillery, there are 8 field batteries, 2 mountain batteries, and 14 companies of artillery of position; there are also 8 park columns, 8 engineer battalions, 16 ambulances, 8 hospital sections, and 8 administrative companies. The Landwehr men, after having performed their military drills, are called up every four years for a period of five to six days.

The Landsturm numbers 265,000 of all ranks, but of these, 82,000 only are armed, and they have not hitherto been called up for any periodical exercise.

Organization.—The most important changes are those connected with the farther development of the army corps formation, and with the Landwehr. The army corps commanders, their Chief of the Staff, and the rest of the personnel of the army corps Staff, have been nominated, and on mobilization the existing 8 army divisions would form 4 army corps.

As regards the Landsturm, they were, during 1892, armed with the magazine rifle, and furnished with equipment and 30 rounds of ammunition. A proposal has also been put forward to legalize the men being called out from time to time for drill.

SERVIA.

The standing army varied in strength during 1892 between 9,000 and 18,000 men. The country is divided into 5 divisions, to each of which there is allotted 1 infantry regiment of 4 battalions (1 Guard), and 1 regiment of field artillery of 6 batteries. The 3rd or Danube Division has also 1 regiment of cavalry and 1 horse artillery battery. The 4th and 5th also have each a cavalry regiment.

These peace formations are on mobilization utilized for the completion in each district of 1 infantry division of 3 regiments comprising 52 companies, 2 squadrons of cavalry, and 1 regiment of field artillery of 8 batteries; each division has also 1 company of engineers and 1 company of sanitary troops.

Apart from, and in addition to, these divisions, there is a brigade of cavalry of 3 regiments, with 1 horse battery; a regiment of mountain artillery of 9 batteries, each of 4 guns; a battalion of fortress

artillery of 4 companies; a battalion of engineers of 7 companies; and a company of sanitary troops.

In addition to these troops, which form the field army, there are the national levies. Of these, the 1st levy is divided equally into 5 divisions of 3 regiments each of 4 battalions of 4 companies, 2 squadrons of cavalry, and 4 batteries of 6 guns.

The 2nd levy provides in each of the five divisional districts for 3 infantry regiments of 4 battalions of 4 companies, 1 squadron of cavalry, and 1 company of artillery. No provision is made for the amalgamation of the 2nd levy formations into larger bodies.

Strength—

	Officers.	Men.	Horses.	Oxen.	Guns.	Wagons.
Field army.....	2,474	202,233	26,486	15,052	282	9,281
1st levy.....	1,720	77,003	12,305	6,910	120	4,165
2nd levy.....	1,506	60,712	6,309	?	—	554
Total ..	5,700	239,950	45,100	?	402	14,000

TURKEY.

The army consists in peace of 7 corps and 3 independent divisions. Each corps is composed as follows:—

2 infantry divisions each of 1 rifle battalion, and 2 infantry brigades of 2 regiments, each of 4 battalions; 1 cavalry division of 3 brigades, each of 2 regiments of 5 squadrons; 3 artillery brigades of 2 regiments of 2 divisions of 3 batteries; and 1 horse artillery division, which is attached to one of the 6 regiments; 1 engineer battalion; 3 train squadrons.

The total peace strength is, in round numbers, 230,000 men, but of these there are scarcely 180,000 combatants.

In war, 4 army corps are to be completed from each of the 6 recruiting districts, viz.:—

1 field army corps.

2 Redif army corps (equivalent to Landwehr).

1 Mustahfiz army corps (equivalent to Landsturm).

The corps are all composed as in peace-time.

Strength.—The number of line battalions is 287, and of Redif battalions 354; together 641. If the strength of battalions be reckoned at 800 men, the total infantry would amount to about 512,800 men. By adding to this number the auxiliary services, the cavalry, Militia, the Ersatz battalions, the Landsturm battalions, the Volunteers and irregular troops, the total in round numbers might be 800,000 men. But no arrangements whatever have been made for forming the Landsturm into battalions, and no material is available for constituting the cadres.

In reality, therefore, the organization laid down could not be com-

pleted on mobilization, and it is probable that no more than 1 field and 2 Landwehr army corps could be formed in each of the first five districts; in the sixth, only 1 of each kind could be reckoned upon. At the most, therefore, only 17 army corps would be forthcoming, of which at least 3 would have to be employed on the frontiers of those States the neutrality of which could not be depended on. It is estimated that after 8 to 12 weeks from the first day of mobilization, at the most 13 to 14 army corps of about 400,000 men would be available to begin a campaign.

Territorial Distribution.—For the purposes of recruitment, the country is divided into six corps districts, viz.:—1st, Constantinople; 2nd, Adrianople; 3rd, Monastir; 4th, Erzeroum; 5th, Damascus; and 6th, Bagdad. The 7th corps in Yemen, and the independent divisions of Hedscha, Crete, and Tripoli have no separate territorial districts. Each corps district is subdivided into 8 Landwehr brigade districts, each containing 2 regimental districts, each of 4 battalion districts, which are again divided into 4 company districts.

INFANTRY TACTICS.

Normal Fighting Formations.—The literary combat regarding the admissibility or the necessity for exact rules for the attack still rages. The struggle has not hitherto led to any result, for one reason, because agreement is not possible between views that are different in principle, and also because the provision inseparable from a discussion the object of which is known was wanting, viz., that the conditions should be laid down under which alone there could be a question of the normal attack. The normal attack, or rather the normal procedure—for it applies both to the attack and the defence—is, in its application, not dependent on the ground, so that it might be said to be applicable to this or that ground, but is entirely dependent upon the tactical situation. There can only be a question of a normal procedure when this situation is governed by conditions of a similar nature, for this procedure is fixed beforehand for a definite situation, and is then to be employed. Fortress warfare, for example, produces conditions that can be reckoned with beforehand; consequently, in almost all European armies, a normal procedure has been adopted for it. In field operations the conditions of fighting of large bodies seeking a decision alone offer some similarity, and can to a certain degree be foreseen, even before the fight is entered upon. It thus becomes possible in such a case to adopt a normal procedure.

This normal procedure extends only to the rules for the forming up, the deployment, the distribution in breadth and depth, as well as to those for the co-operation of the infantry with the artillery, but can only contain an indication as to the probable course of the action. It must be evolved from a knowledge of the nature of a fight, as it will be with the latest means available for carrying on war, and must be so elastic that it can be easily adapted to any ground, and to the special measures adopted by the enemy.

The following information, extracted from a paper in No. 57 of

the "Militär-Wochenblatt," for 1892, contains a comparison between what may be regarded as a normal procedure as contained in the regulations of the four most powerful European States:—

The Attack.—All four regulations divide the attack into three parts. The first part is the advance towards the enemy's position up to the time fire is opened. All four regulations prescribe only weak advanced troops for the first deployment. The shooters advance, without stopping, as rapidly as possible towards the enemy's position. The Russian and Austrian regulations fix 2,000 paces for the commencement of the deployment, the German regulations do not fix a distance, and the French ones prescribe the first deployment of a firing line to be when this is necessitated by the enemy's fire. As regards the distance from the enemy at which it is hoped to arrive without stopping, the German regulations do not lay down any fixed distance, the French indicate 700 m., the Russian 800 paces, and the Austrian 1,000 paces.

The second part comprises the carrying out of the fire engagement, obtaining a superiority of fire and advancing up to the assault. The German regulations provide for swarms of shooters acting on the enemy in order to gain the superiority of fire; no fixed distance is laid down for pushing up the supports into the firing line. The Russian regulations prescribe an advance by rushes either of the entire firing line, or of portions of it up to within from 300 to 150 paces; it is assumed that at the commencement of the movement of attack, that is, at 800 paces, the supports will have already moved into the firing line. The Austrian regulations provide for the advance of entire companies by rushes up to 500 paces from the enemy; no distance is laid down for the supports to be moved up. The French regulations also prescribe an advance by rushes, by companies, or by successive portions up to 250 m. from the enemy; they contain a caution against the mixing up of units and assume that the supports will be completely incorporated in the firing line at 400 m. from the enemy. All four regulations direct that the enemy shall be completely crushed by fire before the assault is undertaken.

The third part is the actual assault. The German regulations do not give any distance at which it is to begin; they assume that the reserves will have approached near to the firing line. The assault itself is carried out either by order of the superior commander, or else on the initiative of the firing line. In essential points they are similar to the Austrian regulations, only that these fix 500 paces as the distance at which the assault should commence. The Russians fix it at from 300 to 150 paces, the French at from 250 to 200 m.

After the assault has been successfully carried out, all four regulations prescribe that the enemy should be followed with fire. The French regulations direct that in the event of failure the assault is to be repeated.

The Defence.—All four regulations lay down, as the main principle in the defence, the utilization of fire effect and the appropriate employment of the ground.

The German regulations are based on the directions contained in the musketry regulations. The Austrians only desire the fire action to be entered on generally at short or moderate ranges; at long ranges it is only to be resorted to when the target is large and there is plenty of ammunition available. The French would open fire as soon as the enemy can be hit; the Russians prefer to develop their fire gradually. Everywhere, except in Germany, volleys are recommended.

As regards the choice of a position and the preparations for improving its capability of defence, all four regulations are agreed as to the main points. These are the division of the position into sections, diminution of the intervals in depth, the holding in readiness of section reserves in covered situations, the sufficiently strong occupation of the position as soon as the direction of the attack is recognised, the separation of a general reserve, if possible behind a flank. The German regulations dwell on the advantage of moving this general reserve to a flank and forbid its being retained for the purpose of covering the retreat; it should rather be employed with a view to its producing some distinct result.

The German and the Austrian regulations favour the offensive only when a successful issue is contemplated, the French prescribe a counter-offensive in all circumstances, the Russians only when the enemy is too much shaken to be able to carry out the assault.

Influence of Smokeless Powder.—A more quiet and on this account a more harmonious apprehension of this subject now prevails. It is to the effect that the employment of smokeless powder will not have so great an effect in transforming the aspect of a fight as it had the appearance of doing at first.

The increased effect of infantry fire due to the absence of smoke will benefit equally the attack and the defence; it consequently will not lead to a material transformation of the fighting tactics of infantry. But the value of a careful training of the infantry in shooting, adapted to war, will assume still greater prominence than in the past.

Influence of Small-Calibre Rifles.—The characteristics of this arm are that by it the range, flatness of trajectory, accuracy, and penetration of the bullet are materially increased. All these properties are of more use to the defenders than to the attackers, for the latter in moving forward offer a more favourable object to the enemy than do the enemy to them.

The defender will strive to occupy or to make suitable cover, which he will generally be in a position to do; the attacker will be forced to begin the introductory fire sooner, that is, at longer ranges, than heretofore, and his nearest supports will have, where the ground does not afford cover, to be kept further back than usual.

It will further be necessary to push the infantry detailed for the protection of artillery further forward, to from 700 to 1,000 m. in front of the artillery position. The great power of penetration possessed by the small-bore bullet seems to justify the theoretical requirement that only formations of the shallowest depth (in one

rank) should be employed within effective distance. But against this is the consideration that such formations are very unhandy, they do not allow advantages of ground to be utilized, and are bad for fire discipline. But in any case the question is not yet ripe for decision, and none of the great military Powers have as yet declared themselves officially on the matter.

Infantry Tactics in the several Armies.

Germany.—The conviction gains ground more and more in Germany that more must be done than hitherto as regards the training of infantry to fight in masses, for the battle in fact.

It is high time; for there can scarcely be a doubt that the engagement of masses of troops with a view of obtaining a decisive result is the most important operation in war; it decides the fate of a campaign, and also has its specific phenomena with which acquaintance should be made in peace-time. It is not necessary for this purpose that large bodies of troops should be assembled for exercise. A single regiment, or, indeed, even a battalion and a company, can perform exercises as in battle, provided they maintain the necessary frontage, and that the officers who conduct the exercise take the action of the artillery into consideration with a proper appreciation of the tactics of that arm.

If exercises of this nature were to be frequently carried out, very soon a normal procedure would be evolved from them, and the time would have arrived for laying it down in the regulations.

France.—Here also interest in battle tactics is paramount. Colonel de Ponchalon has published an important book on the subject ("Nouvelle Tactique de Combat," Paris, 1892). He advocates the infantry of the advanced guard annoying the hostile artillery by volleys at long ranges; the more detailed reconnaissance of the enemy's position would be effected by cavalry and infantry patrols. He recommends thick firing lines, the men shoulder to shoulder; the mixing up of different companies is, as far as possible, to be avoided. The supports to advance in rank entire, the firing line to push forward as rapidly as practicable, and, if possible, without halting, to within 600 m. of the enemy. At this distance only should the fire attack of the shooting line commence and the actual attack be developed. The reinforcements then coming up should always carry forward with them the firing line; but this is regarded by the author as very difficult of execution, for if the firing line be made too thick unnecessary losses will result.

Firing at long distances has lost much of its prestige in the French army. It is no longer to be employed on the offensive, with this sole exception, in the form of volleys against hostile artillery. On the defensive, volleys are only allowed to be employed up to a distance of 1,200 m.; volley firing at greater distances is regarded as a waste of ammunition. More is expected from the fire of individual good shots.

CAVALRY TACTICS.

1870-71 produced on the German side the beginning of widely extended reconnaissance with cavalry masses in front of the army. The course then adopted has been since followed by all the Great Powers; war will show cavalry divisions combating in advance; the victors will endeavour to reconnoitre and damage the enemy in flank and rear. Only a small portion—divisional or corps cavalry—will co-operate in close combination with the other arms for the purpose of gaining intelligence; they will watch for favourable moments during the battle, and above all will be quickly at hand to undertake the pursuit.

So far all opinions seem to be in agreement; the objects of cavalry action are to a certain degree fixed, but over the means and ways of execution there is little unanimity. On the one hand are those who see salvation only in raising to the highest standard the training of man and horse, who are afraid of their equestrian performances being injuriously affected by attention to auxiliary duties, and who desire only a one-sided training. Drill discipline on the part of the troops, skill in drilling on the part of the leaders in many forms, handling the sword, the most thorough instruction in single combat mounted, exercises of every sort with the lance take the first place. On the other hand, shooting and dismounted action, patrol and field duties, pontoon and telegraph services are regarded by this school as of inferior importance.

The representatives of another view would make the men fit to do anything. By simplifying the instruction in riding, in every possible way, they would save time for other branches of instruction. The riding-master element would disappear from the instruction in equitation, the difficult formations from the drill regulations. The cavalry would endeavour to replace what it has lost in fighting power as compared with the other arms by mobility and many-sidedness.

In the 1890 and 1891 Reports, the first of these parties expressed themselves sufficiently. The writer of this present Report has therefore no hesitation in expressing an opinion in the contrary sense, and he believes he can foresee from the cavalry "signs of the times" that his views will prevail more and more, and must find confirmation in the next war. The simplification of instructional regulations and formations seems possible without the least injury being caused to equitation.

*Cavalry Tactics in the several Armies.**Germany.*

The German cavalry has endeavoured since 1870 to benefit by the experiences of the great war. The great advantage of keeping closed divisions secure in the hand of their leaders was recognised. Besides raising the internal value of the arm, the leading of large masses was consequently kept in view, and yearly a number of cavalry divisions were brought together for separate exercises;

divisions even were formed as a permanent peace organization on the east and west frontiers respectively of the Empire.

From this resulted a system of tactics peculiar to the extensive cavalry exercising grounds. A few gifted Generals mastered it, and to them, as admittedly the best instructors, these exercises were entrusted time after time, and they endeavoured to improve their art and its forms. Half-column, introduced in 1870, to allow of riding diagonally, and so to be able to deploy by a shorter way than was entailed by the two rectangular wheels previously necessary, was admirably adapted for the increase and embellishment of the evolutions; the distribution in lines offered the opportunity of most elegant exercises—to the few who commanded them.

The preference was naturally given to extensive level plains and, as the exercises were held within the limits of these areas, the action of masses in battle, normal attack formations against cavalry, infantry, and artillery were almost exclusively practised.

The dangers of this system of teaching having been recognised, the two frontier divisions have since been broken up, and attention has been directed to the question of how the cavalry can be freed from the fetters of form, which was effected for the infantry and the artillery by the 1888 regulations. It was settled that, next to rapidity, mobility is the most important characteristic of a good cavalry. This cannot be attained by practising a quantity of different evolutions, but only by an understanding between the leader and his command which shall be proof against fire and dust, and, further, by training all the subordinate leaders to freedom and independence in taking decisions.

From the combination of rapidity and mobility in movement results the attack by surprise, which offers the best means of success in the cavalry fight. The imparting of orders with the least possible noise is necessary to effect this more surely.

In riding to the attack it has been recognised as of great importance that up to immediately before impact the troops should continue to be in hand. In order to be able to change direction and make use of the ground, the moment for forming into line should be chosen as late as practicable. Breaking the front and flank movements in proximity to the enemy expose the troops to the danger of being themselves taken in flank. Before the enemy, therefore, wheels on a fixed pivot are to be avoided; they always require more signals or commands, and cramp the course of the movement. The change of direction by the leading unit suffices for all changes of direction and changes of formation that are not carried out at the halt and on a fixed alignment. Half columns and echelon formations can be altogether dispensed with before the enemy, and should be removed from the regulations.

For attack against infantry, fixed rules have been more and more dropped. The situation, position, formation, moral condition, and expenditure of ammunition on the part of the enemy will influence the form of attack as much as will the nature of the country, the ground, and the weather. Line, column, or swarm can each be

justified according to the circumstances. Formations which render it more difficult for the enemy to direct their fire, and which will scatter it, that is, the formation which will present many small targets in the greatest number of directions possible, will the most easily avoid great losses in approaching. But the choice of the proper moment for attack on infantry is of far greater importance than is the formation. The dissolution of all close connection, the mixing up of units in long thin lines, the difficulty of compact leading in the fight and in control of fire, the using up of the last reserves, the rapid expenditure of ammunition—all these characteristics of a modern infantry engagement mark the moment when an exhausted infantry may still exceptionally fall a prey to a skilful and determined cavalry attack. The attack of cavalry against infantry that is unshaken, or that is covered by difficult ground, offers no prospect of success, and in the most favourable instances is not worth the loss entailed. During a battle, the commander must always keep before him what important services will be demanded from the cavalry after the tactical decision during the further course of the campaign, and how difficult it will be to fill the gaps that might be caused in a few minutes in their ranks.

Dismounted Action.—The dismounted action of our cavalry, notwithstanding that it is armed with an excellent repeater, has still only reached a standard that is far from high. It is not the shooting, the results of which are on an average good; but there appears to be a general want of perception of the proper formations to be employed, as also of the place and time for their employment. The necessary appreciation of the value of this duty of the cavalry soldier is also frequently wanting. On the other hand, the view that this kind of fighting is of importance is constantly gaining ground from year to year, and at the same time the conviction that instructions for its conduct should not, as hitherto, be based upon infantry principles, but on those applicable to the cavalry arm.

Employment of Horse Artillery.—Its action on the cavalry exercise grounds in close combination with the attacking regiments has come to be recognised more and more as a parade manœuvre, not based in any way upon the experience of war. The new Regulations for the Field Artillery, of the 27th June, 1892, give expression to this, when they prescribe "a position secure from direct attack" for the attached horse artillery batteries in an engagement of cavalry with cavalry. As such positions are seldom to be found on the fields of action suited to cavalry masses, the horse artillery will generally have to limit its action to supporting the deployment of its own regiments, and to inflicting damage on the enemy from long distances; it must refrain from forward action with the attack.

During the reconnoitring of the cavalry divisions, the batteries will find their most important employment in strengthening their powers of resistance in occupied villages or defiles, and in breaking down those of the enemy in similar situations and forcing him to show his strength. In such cases they may look for especially good results when operating in combination with dismounted cavalry.

The horse artillery will also be in a position to exercise an effective action against large bodies of mixed arms, whether on the march or halted. An especially important rôle falls to it on the occasion of the cavalry retreating or pursuing.

In the first case, its strong fire power, combined with its mobility, allows of its holding out until the last. In pursuit, taking up a flank position, it forces the fleeing column to stop, clear the roads, and form front against an enemy who, while constantly annoying it, will avoid any counter-offensive movements.

Here, again, the cavalry may resort with advantage to dismounted action. Thus the leader of a cavalry division has, on a small scale, the opportunity of employing the three arms in combination.

Cavalry Manœuvres.—The year 1890 inaugurated, at the close of brief cavalry drills with the IVth, XIth, XVth, and XVIth Army Corps, the first extensive strategical reconnoitring exercises. The divisions, at a distance apart of 120 km., were launched against one another from points that had been kept, as far as possible, secret. Shelter was obtained according to the course of the manœuvre, and supply was conducted as much as possible under service conditions. In 1891, similar exercises were conducted in two groups. In 1892 they fell through, owing to the cholera.

Apart altogether from the instruction gained by the troops and their leaders in these manœuvres, their value may be seen in the fact that they turned the attention and thoughts of the entire German cavalry from the pictures of the exercise ground to the consideration of war conditions. The most important of all the principles of modern cavalry, by which their right of existence must stand or fall, was for the first time brought clearly to light. It is, that the successful attack, though generally a condition, is not the final object, of their action, and that the most important services remain to be performed on the far side of the battle-field.

The same manœuvres led to the conviction that the cavalry of to-day, in order to be able to move freely and independently, must have a more varied equipment and training than hitherto. The most frequent obstacle is to be found in water-courses. More emphasis was consequently laid upon the instruction of the cavalry in bridging and swimming, which formed already a branch of their duties.

Two linen boats, of English pattern, were furnished to each cavalry regiment. Each holds from six to eight men, fully equipped, and the horses swim with them. They are in three parts, and are carried, with all their appurtenances, on a four-horsed wagon which forms part of the small baggage of the regiment.

As regards bridging, which in cold weather is the preferable method of crossing, each regiment now carries a certain proportion of material for the construction of bridges. A bridge 3 m. wide, to carry cavalry dismounted by twos, with intervals of a horse's length, or field guns and wagons drawn by one pair of horses, can be rapidly placed from the material with 1 regiment to a length of 12 m., from that of 2 regiments 20 m., 3 regiments 28 m., 4 regiments 36 m., 5 regiments 44 m., 6 regiments in round numbers 50 m. These

lengths are about doubled if the breadth of the bridge be reduced to 1 m., when each boat furnishes two pontoons.

Alterations in the "Felddienstordnung."—One or two short but important changes have been made in the parts referring to cavalry. Under "Advanced Guard" (1, 72) the sentence ran originally: "So soon as close touch has been gained with the enemy, the tactical employment of the cavalry comes into prominence; even then, however, the reconnoitring must not be interrupted." In place of this, the following has now been substituted: "Even after close touch with the enemy has been gained, reconnoitring continues to be the principal duty of the divisional cavalry. Its tactical employment is not excluded if a favourable opportunity offers itself. The necessity for providing fighting infantry with cavalry for reconnoitring in sufficient strength must be taken into consideration in detailing independent cavalry." Further (1, 77), under "Rear Guard," the following has been newly added: "The distribution of the cavalry is to be so proportioned that they can effect the screening duties in the vicinity of the roads marched on, and that it may not be necessary to employ infantry patrols for the purpose."

France.

There has for long past been a sustained paper discussion between the advocates of the so-called "tactique de masses" and the "tactique de dissémination." The latter view has brought about the permanent organization in peace of corps cavalry brigades and cavalry divisions.

The "Revue de Cavalerie," which advocates the contrary view, regards this division as a great mistake, and wants uniformity in arms, equipment, and training, and the formation of all the regiments into cavalry divisions. Within these the services provided for hitherto by the corps cavalry brigade, that is, reconnoitring, security, orderlies, and reporting duties, would be diligently practised.

Russia.

Ssuchotin's mass firing from horseback, in which he recognised "a new and powerful arm for the cavalry of the future," has been almost universally rejected; but the firing of individuals or of small parties mounted, so as to avoid loss of time dismounting, is held by many to be applicable.

General Gourko, on the other hand, has forbidden in orders most strongly any firing from horseback. In place of the craze for shooting, there is now a reaction in the direction of the opposite extreme.

The Russian cavalry is taught to believe (Dragomirov) that it can ride down everything. Surprises by night of mounted cavalry upon cavalry in bivouacs are frequent, and are met not with the carbine, but by mounted attack. Even attacks of mounted cavalry are made on infantry bivouacs, and are declared to have succeeded. Certainly these refer only to camps of exercise at which the cavalry is

acquainted with every inch of ground. The successes achieved by the dearly loved night exercises in Russia are founded almost entirely on the experiences of these camps.

The same principle of inconsiderate wild charging against the other arms is carried out in the great manœuvres with mixed arms. Umpires and conferences at the close of the operations unite in encouraging this kind of offensive spirit in every possible way, and in according success where, from the German point of view, defeat, if not annihilation, would have resulted.

TACTICS OF THE FIELD ARTILLERY.

Smokeless Powder.—The discussions on the subject of its influence on field artillery tactics which have prevailed for some years have given place to certain recognised principles, the result of four years' experience on the exercise ground, and they have now been embodied in the several books of regulations and instructions.

Corps Artillery.—The question of breaking up the corps artillery and distributing it amongst the divisions has not advanced. But France, in the autumn manœuvres of 1892, formed the 11th and 12th Corps in three divisions instead of two, and it was shown that without doubt there were advantages in this distribution on the battlefield. With such a distribution, the last reason for retaining the corps artillery disappears.

The question of how the infantry attack upon intrenched positions can be effectively prepared by artillery fire has not yet arrived in all armies at a final solution.

Colonel Langlois, in a book he has published, solves it in the simplest manner by denying altogether the necessity for preparation by artillery. He says that the duties of artillery in the attack on intrenched positions are as follows: 1st, to drive the garrison from the parapet; 2nd, to prevent the reinforcement of the firing line; 3rd, to repulse counter-attacks. As all these ends may be attained by the use of shrapnel, he would have nothing to do with high-explosive shells or field howitzers.

That the French military authorities are not altogether of this opinion is evidenced by the fact that experiments have been made with a 12-cm. field howitzer.

In Germany, heavy batteries of foot artillery have taken part in manœuvres of mixed arms, and special teams of horses of a strong type are available for these batteries. The means at the disposal of field artillery undoubtedly suffice only for the effective bombardment of troops in slight intrenchments without enclosed cover. But they are not sufficient to break down even slight covered shelter such as can be constructed with small means and little expenditure of time.

Still less can the high-explosive shells of the field artillery make an impression on excavated cover of the slightest kind. Heavy projectiles with a highly curved trajectory are required for this purpose, and therefore mortars and howitzers. The attack on such

positions, the arrangements for which always require a certain time, cannot be determined in 24 hours; it will necessitate careful investigation and thorough preparation. Time will consequently be available in which to bring up the heavy batteries that will be following at a long distance in rear of the army.

Quick-firing Guns for Field Artillery.—The question is one rather affecting material than tactics. The widely-spread enthusiasm for small-bore quick-firing guns is essentially the consequence of the false saying that a gun is no more than an enlarged rifle. As such great advantages have been gained for this arm by diminishing the calibre and increasing the rapidity of fire, it is thought that the same must be the case with the gun. It is forgotten that with the rifle the diminishing of the calibre and the weight of the projectile not only allows of an increase in the rapidity of the fire, but at the same time improves the arm in every respect; the trajectory is flattened, the accuracy improved, and the penetration of the bullet increased. The decreased weight of the ammunition for the small-bore rifle has a higher value than a similar weight of ammunition of a rifle of larger calibre. With 1 kilo. of cartridges M/88 at least double the effect will be produced, the conditions being similar, as compared with 1 kilo. of cartridges M/71. Exactly the contrary is the case with the gun; with the decrease in the weight of the projectile the effect is less.

Germany.—The number of ammunition wagons has been increased by one per battery, and the high-explosive shells which were previously distributed equally between the wagons are in future to be carried in two separate ones. To meet this, one store wagon per battery has been dispensed with, and, on the other hand, a forage wagon has been added to each field battery; previously only horse batteries had them. The battery material therefore now consists of 6 guns, 9 ammunition wagons (including 2 for high-explosive shells), 2 store wagons, 1 field forge, 1 forage, and 1 provision wagon.

The distribution of the battery is so far changed that the 1st line of wagons consists of 4 ammunition wagons in place of 3 ammunition wagons and 1 store wagon, as formerly; the reserve horses are also new. The 2nd line comprises the remaining 5 ammunition wagons and the store wagon, which belonged formerly to the 1st line, and which contains the most necessary stores for maintaining the fighting efficiency of the guns; the 2nd store wagon and the field forge have been relegated from the 2nd line of wagons to the baggage. Notwithstanding, therefore, that the battery has one ammunition wagon more, the number of vehicles that appear on the field of battle is reduced by one. The 2nd line which followed formerly in rear of the divisions, and was thereby far removed from its batteries, is now to follow the artillery formations, being massed by brigade divisions. With advanced guards, flank detachments, &c., they are to follow the rearmost troops, as previously. By the addition of a 4th ammunition wagon to the fighting battery it is now in a position to sustain an action of at least two hours' duration, by which it is ensured that no want of ammunition will arise before the arrival of the 2nd line of wagons. This is made doubly certain by the

place for these wagons being laid down as not further than 600 m. (previously 800 m.) behind the firing position. As the first position, that of the advanced guard, will often be beyond the sphere of shrapnel (3,150 m.), the 1st line of wagons should include a high-explosive ammunition wagon, for at extreme ranges this projectile has more effect than shell.

As regards changes in the regulations, the placing of batteries in échelon, according to the direction of the wind, has been cut out, which is entirely due to the introduction of smokeless powder. The importance, also, of maintaining large intervals between batteries, to facilitate observation, is diminished; as there will not, in future, be any smoke cloud to impede the view, the commander of a battery is no longer obliged to observe from one of the flanks. Consequently the paragraph prescribing that, in case of necessity, the intervals between guns might be reduced to 10 paces, in order to keep greater intervals between batteries, has been struck out, and it is laid down that it is most disadvantageous to reduce these intervals to 10 paces without pressing reasons, especially during the artillery engagement.

The increased effect of artillery fire, and especially, also, of infantry fire, is reckoned with in different particulars. Thus, the necessity is specially dwelt on of covering the artillery from the enemy's rifle fire by means of infantry pushed forward for the purpose, a view that has been advocated by artillery tacticians ever since 1876 (Hoffbauer). In our opinion, the infantry must be advanced at least 400 to 600 m. beyond the artillery line, from which it follows that, for the artillery accompanying the infantry attack, 1,000 to 1,200 m. must be regarded as a rule as the shortest range, because the main firing position of the infantry, under the shelter of which the artillery must be posted, is estimated to be at 600 m.

On all occasions, even in the attack, when time is available, intrenchments should be thrown up for the shelter of the men. As these trenches run on both sides of the gun emplacement, the work can be interrupted at any time and resumed again during any spare moments.

The employment of smokeless powder has removed from the eyes of the artillery the bandage which has covered many a bold movement, and has greatly increased the difficulty of changing position. Such a movement, therefore, is to be avoided as far as possible, and, in a certain sense, the tactics of the first rifled gun must be reverted to. The regulations, therefore, prescribe that, with regard to the attack, the first fire position, in taking up which the advantage of surprise can be utilized, "should always be chosen as near as the circumstances permit."

TACTICS OF FORTRESS WARFARE.

The events of the past year with regard to fortress warfare have completely justified the opinion, expressed in last year's Reports, that the developments demanded by the advance of science would be carried out without extreme measures being adopted in any direction. Whether we look to the east or the west, everywhere States are to be

seen at work, strengthening the systems of land defence, either by means of the further construction in accordance with modern views of fortifications already commenced, or by making new ones at points which, by the altered conditions of the time, have become important. Even where, hitherto, these efforts had been disregarded, whether because sufficient importance was not attributed to fortress warfare, or because the expenditure of large sums on the field army was considered more necessary and profitable, it has been no longer possible to stand aloof from the general endeavour, as is shown, for example, by General Brialmont being called to Constantinople. In this circumstance, also, is to be found the proof that, taken altogether, the system of fortification proposed by this authority, and frequently put into practice, but which, in the course of time, has undergone many changes, and regarding which Welitschko, Gandier, Mongin, &c., have made proposals worthy of notice, still continues to be the appropriate one, and that, in the near future, it will still serve as the foundation in the new designs of fortresses. Hand and hand with these efforts in the several States are the measures taken to place the fortifications created in a condition to require, in case of war, the great sacrifices in money caused by their construction. To this subject belong the increase, better organization and training of the fortress troops, in which respect Russia has surpassed all other States, for we hear, there, year by year, of the formation of new infantry and artillery fortress battalions, of the increase and the improved organization of these troops, as well as of the engineer services. The same applies in that country to the training of these troops, which is carried out regularly every year, and includes exercises on a large scale. Other indications, such as the new organization of the technical troops in Austria-Hungary, the increase, long recognised as necessary, of the foot artillery in Germany, and which, at last, is to be effected in the new military establishments, &c., show that it has been universally acknowledged that fortress warfare will, in the future, play, perhaps, a more important rôle than it has ever done before. Nothing has as yet been effected in the shape of a new organization to embrace all the fortress troops; but there are signs that this is the final aim of the various efforts that are being made.

Lastly, in order to prepare in time of peace for the appropriate employment of the fortress troops in eventual internal defence, some States, as, for instance, Russia, England, &c., have exerted themselves to define certain territorial districts, placing them each under a single commander, who, on the necessity arising, is in a position to combine the personnel and matériel, or to distribute them as required.

The constant progress in the perfection of the material means of action has, in the course of time, also induced changes in the tactical views. Not so long ago, it was accepted that in the struggle between attacker and defender, the chief point was, which of them should be in position for the great decisive artillery contest at the right time, with superior strength and with the most effective kinds of ordnance and calibres, so as to break down the opposing resistance, and that,

as a rule, the fate of a fortified place depended on the result of this struggle, for the time if not for ever. Now the conviction is gaining ground that, by the side of this effort to obtain the superior power, surprise and stratagem will again come into prominence in connection with undertakings in fortress warfare.

The defender may be convinced that, even though he starts with the advantage over the attacker, has made his position as strong as possible, with all the modern technical means at his disposal, and prepared it for the contest, the moment will soon arrive when the hostile artillery, having taken up its position and got the ranges, will destroy his strongest shelter, and render his first position untenable. While endeavouring to postpone this moment as long as possible, the defender should, therefore, from the first, also strive to establish as many new positions as possible, in order to continue the fight from them or recommence it by means of guns sent back from untenable positions or drawn from the reserve. In acting thus, the prospects of success will be proportional to the secrecy with which the arrangements are made and the degree of surprise with which the newly-armed positions can open fire. But it is not alone the artillery that must act from this point of view; the infantry of the defenders will now, after their fire effect has been intensified to almost the highest possible point, better fulfil their task by independent enterprises against the attackers, and it is an old experience that in these only stratagem and surprise can generally achieve success. The infantry is now materially better suited for these undertakings, because not only its power for attack, even in small numbers, is so much increased by means of the rapid results gained through the enormous fire effect (especially in a surprise), but, also, because the earlier fear of failure and of being cut off is materially lessened by the increased fire power, and capability of resistance and independence.

For the attacker, the consideration will be intensified that the earth-works thrown up for the protection of his batteries cannot stand against the enemy's fire when once his guns have concentrated on them and got their range; they can then no longer afford shelter.

What he has to do, therefore, is to deceive the enemy as long as possible with regard to his position, to prepare cover and masks as quickly as possible, and to attack with unexpected and, if practicable, superior fire, so as to gain a success before the defender is ready with his counter-measures. If the attacker fails in this, he must have, in the meantime, prepared intermediate positions, from which a further attempt can be made.

The attacker, therefore, as well as the defender, will have, in future, to exercise the personnel in the construction of batteries, employing for the purpose appropriate instructions and material.

The defender will be forced, more and more, to resort to offensive enterprises in the defence; and, as well as the attacker, will have, owing to the improvements in the fire effect, to adopt a more movable attitude. Guns of moderate weight, and, principally, of high elevation, will come more and more into prominence; guns of the heaviest calibre will fall more and more into disuse.

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