Infantry, the foot soldiers of an army. Except among nomadic tribes, the great mass, if not the entire strength of all armies, has always consisted of foot soldiers. Thus even with the first Asiatic armies, with the Assyrians, Babylonians, and Persians, infantry made up, numerically at least, the main body. With the Greeks at first the whole army was composed of infantry. What little we know of the composition, organization, and tactics of ancient Asiatic infantry, has already been stated in the article Army, to which we refer for many details which it would be useless to repeat here. In this article, we shall restrict ourselves to the most important tactical features only in the history of the arm; we therefore at once begin with the Greeks.

I. GRECIAN INFANTRY

The creators of Grecian tactics were the Dorians; among them, the Spartans brought to perfection the ancient Doric order of battle. Originally, the whole of the classes which composed a Dorian community were subjected to military service; not only the full citizens who formed the aristocracy, but also the subject periaeci, and even the slaves. They were all formed into the same phalanx, but each in a different position. The full citizens had to appear heavily armed, with defensive armor, with helmet, cuirass, and cuissarts of brass, with a large wooden shield covered with leather, high enough to protect the whole person, and with a lance and sword. They formed, according to their numbers, the first or

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a See this volume, pp. 85-89.—Ed.
first and second ranks of the phalanx. Behind them stood the subjects and slaves, so that every Spartan squire had his retainers in his rear; these were without the costly defensive armor, relying on the protection afforded to them by the front ranks and their shields; their offensive weapons were slings, javelins, knives, daggers, and clubs. Thus the Doric phalanx formed a deep line, the hoplites or heavy infantry in front, the gymnetae or light infantry in the rear ranks. The hoplites had to bear down the enemy by the charge of their spears; once in the midst of the hostile body, they drew their short swords, and worked their way forward at close quarters, while the gymnetae, who first prepared the charge by throwing stones and javelins over the heads of the front ranks, now assisted the onward pressure of the hoplites by disposing of the wounded and straggling enemies. The tactics of such a body were thus very simple; tactical manoeuvring there was scarcely any; the courage, tenacity, bodily strength, and individual agility and skill of the men, especially the hoplites, decided every thing.

This patriarchal union of all classes of the nation in the same phalanx disappeared soon after the Persian wars, principally from political causes; the consequence was that the phalanx was now formed exclusively of hoplites, and that the light infantry, where it continued to exist, or where a new light infantry was formed, fought separately as skirmishers. In Sparta, the Spartan citizens along with the periaeci formed the heavy armed phalanx; the helots now followed with the baggage, or as shield-bearers (hypsaspistae). For a while this phalanx was made to suffice for all the exigencies of battle; but soon the skirmishers of the Athenians, in the Peloponnesian war, compelled the Spartans to provide themselves with troops of a similar kind. They did not, however, form gymnetae of their own, but sent out the younger portion of their men on skirmishing duty. When, toward the end of that war, the number of citizens and even of periaeci had become greatly reduced, they were compelled to form phalanxes of heavily armed slaves, commanded by citizens. The Athenians, after banishing from the phalanx the gymnetae, formed of the poorer citizens, of retainers and slaves, created special corps of light infantry, consisting of gymnetae or psiles, destined for skirmishing, and armed exclusively for distant fighting, slingers (sphendonetae), archers (toxotae), and javelin-throwers (akontistae), the latter also called peltastae from the small shield (pelta) which they alone carried. This new class of light infantry, originally recruited from the poorer citizens of Athens, very soon came to be formed almost
exclusively of mercenaries and the contingents of the allies of Athens. From the moment these skirmishers were introduced, the clumsy Doric phalanx was no longer fit to act alone in battle. Its materials, too, had been constantly deteriorating; in Sparta, by the gradual extinction of the warlike aristocracy; in the other towns, by the influence of commerce and wealth, which gradually undermined the ancient contempt of death. Thus, the phalanx, formed of a not very heroic militia, lost most of its old importance. It formed the background, the reserve of the line of battle, in front of which the skirmishers fought, or behind which they retired when pressed, but which scarcely ever was expected to come itself to close quarters with the enemy. Where the phalanx was formed of mercenaries, its character was not much better. Its clumsiness made it unfit for manoeuvring, especially in ground but lightly broken, and its whole use was passive resistance. This led to two attempts at reform made by Iphicrates, a general of mercenaries. This Grecian condottiere exchanged the old, short spears of the hoplites (from 8 to 10 feet long) for considerably longer ones, so that, with closed ranks, the lances of 3 or 4 ranks projected in front and could act against the enemy; thus, the defensive element of the phalanx was considerably strengthened. On the other hand, to create a force fit for deciding battles by close yet rapid attack, he armed his peltastae with light defensive armor and a good sword, and drilled them in the evolutions of the phalanx. When ordered to charge, they advanced at a pace unattainable by the phalanx of hoplites, gave a volley of javelins at 10 or 20 yards, and broke into the enemy with the sword. The simplicity of the ancient Doric phalanx had thus made way for a far more complicated order of battle; the action of the general had become an important element of victory; tactical manoeuvres had become possible. Epaminondas was the first to discover the great tactical principle which up to the present day decides almost all pitched battles: the unequal distribution of the troops on the line of front, in order to concentrate the main attack on one decisive point. Hitherto the battles of the Greeks had been delivered in parallel order; the strength of the front line was the same on all points; if one army was superior in numbers to the one opposed to it, either it formed a deeper order of battle, or it overlapped the other army on both wings. Epaminondas, on the contrary, destined one of his wings for attack and the other for defence; the attacking wing was composed of his best troops, and of the mass of his hoplites, formed in a deep column and followed by light infantry and by the cavalry. The other wing was of course
considerably weaker, and was kept back, while the attacking one broke through the enemy, and the column, either deploying or wheeling into line, rolled them up with the assistance of the light troops and horsemen.

The progress established by Iphicrates and Epaminondas was still further developed when Macedonia had taken the lead of the Hellenic race and led them against Persia. The long lances of the hoplites appear still further lengthened in the Macedonian sarissa. The peltastae of Iphicrates appear again in an improved form in Alexander's hypaspistae. Finally, the economy of forces, as applied to the order of battle by Epaminondas, was extended by Alexander to a combination of the various arms such as Greece with her insignificant cavalry could never have produced. Alexander's infantry was composed of the phalanx of hoplites, which formed the defensive strength of the order of battle; of the light skirmishing infantry, which engaged the enemy all along the front, and also contributed to the following up of the victory; and of the hypaspistae, to which belonged his own body guard, which, though lightly equipped, were still capable of regular phalangitic manoeuvring, and formed that kind of average infantry which is more or less adapted to both close and extended order. Still, neither Greece nor Macedonia had produced a movable infantry which could be relied upon when opposed to a solid phalanx. Here, Alexander brought in his cavalry. The attacking wing was formed by the mass of his heavy cavalry, chosen from the Macedonian nobility, and with them acted the hypaspistae; they followed the charge of the horsemen, and rushed into the gap they had made, securing the success obtained by them, and establishing themselves in the midst of the enemy's position. After the conquest of the centre of the Persian empire, Alexander used his hoplites chiefly for garrisoning the conquered towns. They soon disappeared from the army which subdued by its bold and rapid marches the tribes of Asia to the Indus and Jaxartes. That army was formed chiefly of cavalry, hypaspistae, and light infantry; the phalanx, which could not have followed on such marches, became at the same time superfluous from the nature of the enemy to be conquered. Under the successors of Alexander, his infantry, as well as his cavalry and tactics, were completely and rapidly deteriorated. The two wings of the order of battle were formed exclusively of cavalry, and the centre of infantry; but the latter was so little relied on, that it was covered by elephants. In Asia, the prevailing Asiatic element soon got the upper hand, and rendered the armies of the Seleucidae all but worthless; in
Europe, the Macedonian and Greek infantry regained some solidity, but with it came a return to the former exclusive phalangitic tactics. Light troops and cavalry never recovered, while much trouble and ingenuity were wasted in vain attempts to give to the phalanx that mobility which from its very nature it could never attain; until finally the Roman legion put an end to the whole system.

The tactical organization and manoeuvres of the phalanx were simple enough. Being generally 16 deep (under Alexander), a line of 16 files formed a complete square, and this, the syntagma, formed the unit of evolutions; 16 syntagmas, or 256 files, formed a phalangarchy of 4,096 men, 4 of which again were to form the complete phalanx. The phalangarchy, in order of battle, formed in line 16 deep; it passed into the order of march by facing right or left, or by wheeling into syntagmas, in each case forming a close column 16 in front. When in line, the depth could be increased and front decreased by double files, the even files placing themselves behind the odd ones; and the opposite movement was performed by double ranks, reducing the depth from 16 to 8 men per file. Countermarching by files was employed when the enemy suddenly appeared in the rear of the phalanx; the inversion caused by this (every file being in a wrong place in its own section or syntagma) was sometimes set right by a countermarch by ranks in each section. Add to this the handling of the lance, and we have enumerated the various items of the drill of the ancient hoplites. It is a matter of course that the lighter troops, though not exactly destined to fight in close order, still were exercised in the phalangitic movements.

II. ROMAN INFANTRY

The Latin word legio was originally used to express the totality of the men selected for field service, and thus was synonymous with army. Subsequently, when the extent of the Roman territory and the power of the enemies of the republic required larger armies, they were divided into several legions, each of which had a strength similar to that of the original Roman army. Up to the time of Marius, every legion was composed of both infantry and cavalry, the latter about $\frac{1}{10}$ of the former in strength. Originally the infantry of the Roman legion appears to have been organized similarly to the ancient Doric phalanx, fighting in a deep line, the patricians and richer citizens in heavy armor forming the front ranks, the poorer and lighter armed plebeians behind them. But
about the time of the Samnite wars the legion began to undergo a change of organization, which soon placed it in perfect contrast to the Grecian phalanx, and of which, after it had attained its full development in the Punic wars, Polybius gives us a full account. The legion, of which 4 were generally levied for each campaign, was now composed of 4 classes of infantry, velites, hastati, principes, and triarii; the first, formed from recruits, were light infantry; the triarii, from veterans, were the reserve of the army; the other two classes, forming the main fighting body or infantry of the line, composed the remainder of the army, and differed in this, that the principes were selected from those men who, after the triarii, had seen most service. The velites wore leather caps, light round shields for defensive armor, and carried swords and a number of light javelins; the remaining 3 classes had brass helmets, leather body armor covered with brass plates, and brass cuissarts. The hastati and principes, beside a short sword, carried two pilæ or javelins, a light one and a very heavy one; this latter formed the specific arm of attack of the Roman infantry. It was of thick, heavy wood, with a long iron point, weighing in all at least 10 pounds, and with the point nearly 7 feet long. It could be thrown at very short distances only, say 8 or 12 yards, but from its weight its effect was formidable to the light defensive armor of those times. The triarii, beside the sword, carried lances instead of pilæ. Every legion contained 1,200 hastati, divided into 10 manipuli or companies of 120 men each; the same number of principes, similarly divided; 600 triarii, in 10 manipuli of 60 each; and 1,200 velites, 40 of whom were attached to each of the 30 manipuli, and formed the rear ranks unless otherwise employed. The hastati formed the first line, each manipulus being deployed in line, probably 6 deep, with an interval from the next manipulus equal to its front, which, as the room allotted for every man in a rank was 6 feet, extended about 120 feet, the whole line extending 2,400 feet. Behind them, in second line, were placed the 10 manipuli of the principes, covering the intervals of the manipuli of the first line, and behind the principes the triarii, each line at an appropriate distance from the one in front of it. The velites skirmished before the front and flanks. By doubling files, the order of battle could be reduced to one half its original extent of front, or 1,200 feet. The whole of this order of battle was calculated for attack.

Capable, by the smallness of the tactical units and by the great

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a Polybius, Histories, Book 6.—Ed.
liberty thereby secured to all its movements, of fighting in almost any kind of ground, it was immensely superior to the Grecian phalanx, which required a level plain, and had been very soon reduced by its own clumsiness to a mere formation for defense. The legion advanced; at 8 or 12 yards the hastati, probably doubling their ranks for the occasion, threw their heavy pilum into the phalanx, whose lances could not yet reach the Romans, and, having thereby broken the closed order of the phalangites, rushed upon them sword in hand. If a single manipulus got into disorder, the effect was not transmitted to the neighboring companies; if the combat continued without immediate decision, the principes marched up into the intervals, threw their pilum, and broke in upon the enemy with the sword, thus giving the hastati an opportunity of disentangling themselves and reforming behind the triarii. In an extreme case, these latter advanced, either to finally decide the victory or to secure an orderly retreat. The velites, in company with the cavalry, did outpost duty, engaged the enemy in the beginning of the battle by skirmishing, and followed up the pursuit. The light pilum of the hastati and principes appears to have been principally used in defensive positions, to create disorder in the ranks of an advancing enemy before he was close enough for the heavy pilum. Marches to the front were begun from either wing, the first manipulus of hastati in front, followed by the first respectively of principes and triarii, then the 3 second manipuli in the same order, and so forth; marches to a flank were made in 3 columns, each of the 3 classes of infantry forming a column; the baggage was on the side furthest from the enemy. If the latter appeared from the side where the triarii marched, the army halted, and faced toward the enemy, the principes and hastati passing through the intervals of the manipuli of the triarii and taking up their proper positions.

When, after the second Punic war, the continued wars and extended conquests of the Romans, combined with important social changes in Rome and Italy generally, rendered the universal liability to military service almost impracticable, the Roman armies began gradually to be composed of voluntary recruits from the poorer classes, thus forming soldiers by profession instead of the old militia in which all the citizens were included. The army hereby entirely changed its character; and, the elements from which it was composed becoming deteriorated, a new organization became more and more a necessity. Marius carried out this new organization. The Roman horse ceased to exist. What little cavalry remained was composed of barbarian mercenaries or allied
contingents. The distinction of the 4 classes of infantry was done away with. The velites were replaced by allied contingents or barbarians, and the remainder of the legion formed of one and the same class of infantry of the line, armed like the hastati or principes, but without the light pilum. The manipulus was replaced, as a tactical unit, by the cohort, a body averaging 360 men, and formed originally by the fusion of 3 manipuli into one; so that the legion was now divided into 10 cohorts, which were generally disposed in 3 lines (4, 3, and 3 cohorts respectively). The cohort was formed 10 deep, with 3 to 4 feet front for each file, so that the total extent of front of the legion was very much reduced (about 1,000 feet). Thus, not only were the tactical movements much simplified, but the influence of the commander of the legion was made much more immediate and powerful. The armament and equipment of every soldier was lightened, but on the other hand he was made to carry the greater part of his baggage on wooden forks invented for the purpose by Marius (muli Mariani); the impedimenta of the army were thus considerably reduced. On the other hand, the concentration of 3 manipuli into one cohort could not but reduce the facility of manoeuvring in broken ground; the absence of the light pilum reduced the capability for defence; and the abolition of the velites, not always fully replaced by foreign auxiliaries or mercenaries, or by the antesignani (men selected from the legion for light infantry service by Caesar, but left without arms for distant fighting), diminished the chances of maintaining an engagement and still evading a decision. Rapid, resolute attack became the only form of combat fitted for these legions. Still the Roman infantry continued to consist of Romans, or at least Italians; and in spite of the decline of the empire under the Caesars, it maintained its ancient renown so long as the national character was left intact. But when Roman citizenship was no longer a necessary condition for admission into a legion, the army soon lost its standing. As early as the times of Trajan, barbarians, partly from the Roman provinces, partly from unconquered countries, formed the main force of the legions, and from that moment the character of the Roman infantry was lost. The heavy armor was thrown away; the pilum was replaced by the lance; the legion, organized into cohorts, was again fused into an unwieldy phalanx; and as a general unwillingness to come to close quarters was a characteristic of the infantry of this period, the bow and javelin were now used, not for skirmishing only, but also for the closed order of infantry of the line.
III. THE INFANTRY OF THE MIDDLE AGES

The decline of the Roman infantry found a continuation in that of the Byzantine foot soldiers. A kind of forced levy was still maintained, but with no other result than to form the very dregs of the army. Barbarian auxiliaries and mercenaries composed its better portions, but even these were of no great value. The hierarchic and administrative organization of the troops was perfected to an almost ideal state of bureaucracy, but with the same result that we now see in Russia: a perfect organization of embezzlement and fraud at the expense of the state, with armies costing enormous sums and existing in part only on paper. The contact with the irregular horse of the East reduced both the importance and quality of the infantry more and more. Mounted archers became the favorite arm; the greater part if not all of the infantry were also equipped with the bow beside the lance and sword. Thus, fighting at a distance became the fashion, hand-to-hand encounters being regarded as out of date. The infantry was considered such rubbish that it was intentionally kept away from the field of battle, and used for garrison duty principally; most of the battles of Belisarius were fought by the cavalry exclusively, and when the infantry partook in them, it was sure to run away. His tactics were entirely based upon the principle of avoiding a combat at close quarters, and of tiring out the enemy. If he succeeded in this against the Goths, who had no distance arms at all, by choosing broken ground in which their phalanx could not act, he was beaten by the Franks, whose infantry had something of the old Roman mode of fighting about them, and by the Persians, whose cavalry was certainly superior to his.

The German invaders of the Roman empire originally consisted for the greater part of infantry, and fought in a kind of Doric phalanx, the chiefs and wealthier men in the front ranks, the others behind them. Their arms were the sword and lance. The Franks, however, carried short, double-edged battle axes, which they threw, like the Roman pilum, into the hostile mass the moment before they charged sword in hand. They and the Saxons retained for some time a good and respected infantry: but gradually the Teutonic conquerors everywhere took to cavalry service, and left the duty of the foot soldiers to the conquered Roman provincials; thus the infantry service became despised as an attribute of slaves and serfs, and the character of the foot soldier necessarily sunk in proportion. By the end of the 10th century cavalry was the only arm which really decided battles all
over Europe; infantry, though far more numerous in every army than cavalry, was nothing better than an ill-armed rabble with hardly any attempt at organization. A foot soldier was not even considered a soldier; the word miles became synonymous with horseman. The only chance for maintaining a respectable infantry lay with the towns, especially in Italy and Flanders. They had a militia of their own which was necessarily formed of infantry; and as its service for the protection of the towns, in the midst of the never-ending feuds among the surrounding nobles, was a permanent one, it was soon found convenient to have a force of paid mercenaries instead of a militia composed of the citizens, this latter force being reserved for extraordinary occasions. Still, we do not find that the contingents of the towns showed any marked superiority over the rabble of footmen collected by the nobles, and in battle always left to protect the baggage. This holds good, at least, for the classic period of chivalry. In the cavalry of these times, every knight appeared armed cap-à-pied, covered all over with armor, and mounting a similarly armed horse. He was accompanied by an esquire rather more lightly armed, and by sundry other mounted men without any armor and armed with bows. In order of battle, these forces were ranged upon a principle similar to that of the ancient Doric phalanx—the heavily armed knights in the first, the esquires in the second rank, the mounted archers behind them. These last, from the nature of their arm, were soon employed in dismounted fighting, which became more and more the rule with them, so that their horses were mainly used for locomotion, not for a charge. The English archers, armed with the long-bow, while those of southern Europe carried the cross-bow, especially excelled in this mode of fighting on foot, and it was very likely this circumstance which soon led to an extension, in this service, of dismounted fighting. No doubt, in their long campaigns in France, the horses of the heavily armed knights got soon knocked up and unfit to serve for more than means of transport. In this plight it was natural that the worst mounted gendarmes should dismount and form a phalanx of lances, to be filled up by the better portion of the footmen (especially the Welsh); while those whose horses were still fit for a charge, now formed the actual fighting cavalry. Such an arrangement appeared very well adapted for defensive battles, and upon it were based all the battles of the Black Prince, and, as is well

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a From head to foot.—Ed.
b Edward, Prince of Wales.—Ed.
known, with perfect success. The new mode of fighting was soon adopted by the French and other nations, and may be considered as almost the normal system of the 14th and 15th centuries. Thus, after 1,700 years, we are brought back almost to the tactics of Alexander; with this difference only, that with Alexander cavalry was a newly introduced arm which had to strengthen the declining capabilities of the heavy infantry, while here the heavy infantry, formed by dismounted horsemen, was a living proof that cavalry was on the decline, and that a new day had dawned for infantry.

IV. THE REVIVAL OF INFANTRY

From the Flemish towns, then, the first manufacturing district of the world, and from the Swiss mountains, arose the first troops which, after centuries of decline, again deserved the name of infantry. The French chivalry succumbed as much to the weavers and fullers, the goldsmiths and tanners of the Belgian cities, as the Burgundian and Austrian nobility to the peasants and cowherds of Switzerland. Good defensive positions and a light armament did the most, supported as they were in the case of the Flemish by numerous fire-arms, and in that of the Swiss by a country almost impracticable to the heavily armed knights of the time. The Swiss carried principally short halberts, which might be used as well for thrusting as for striking, and were not too long for hand-to-hand fight; subsequently they also had pikes, and cross-bows and fire-arms; but in one of their most celebrated battles, at Laupen (1339), they had no arms for distant fighting but stones. From defensive encounters in their inaccessible mountains, they soon came to offensive battles in the plain, and with these to more regular tactics. They fought in a deep phalanx; defensive armor was light, and in general confined to the front ranks and the flank files, the centre being filled up by men without armor; the Swiss phalanx, however, was always formed in 3 distinct bodies, an advanced guard, a main body, and a rear guard, so that greater mobility and the chance of varied tactical arrangements were secured. They soon became expert in taking advantage of the accidents of ground, which, coupled with the improvement in fire-arms, protected them against the onslaught of cavalry, while against infantry armed with long lances they devised various means to work an entrance somewhere through the forest of lances, after which their short heavy halberts gave them an immense advantage, even against men cased in armor. They very soon learned, especially when assisted by artillery and small
fire-arms, to hold out in squares or cross-shaped bodies against the charges of cavalry; and as soon as an infantry was again capable of doing that, the days of chivalry were numbered.

About the middle of the 15th century the struggle of the cities against the feudal nobility had been everywhere taken up by the princes of the larger monarchies now consolidating, and consequently the latter had begun to form armies of mercenaries both for putting down the nobles and for carrying out independent objects of foreign policy. Beside the Swiss, the Germans, and soon after them most other European nations, began to furnish large contingents of mercenaries, raised by voluntary enlistment, and selling their services to the highest bidder without any regard to nationality. These bands formed themselves tactically upon the same principle as the Swiss; they were armed chiefly with pikes, and fought in large square battalions, as many men deep as there were in the front rank. They had to fight, however, under different circumstances from the Swiss who defended their mountains; they had to attack as well as to hold out in defensive positions; they had to encounter the enemy in the plains of Italy and France as well as in the hills; and they very soon found themselves face to face with the now rapidly improving small-arms. These circumstances caused some deviations from the old Swiss tactics, which were different according to the different nationalities; but the chief characteristics, the formation in 3 deep columns, figuring in name, if not always in reality, as advanced guard, main body, and rear guard or reserve, remained common to all. The Swiss retained their superiority until the battle of Pavia, after which the German Landsknechte, who had already for some time been nearly if not fully equal to them, were considered the first infantry of Europe. The French, whose infantry had as yet never been good for any thing, tried very hard during this period to form a serviceable national body of foot soldiers; but they succeeded with the natives of two provinces only, the Picards and the Gascons. The Italian infantry of this period never counted for any thing. The Spaniards, however, among whom Gonsalvo de Córdova during the wars with the Moors of Granada first introduced the Swiss tactics and armament, very soon rose to considerable reputation, and after the middle of the 16th century began to pass for the best infantry of Europe. While the Italians, and after them the French and Germans, extended the length of the pike from 10 to 18 feet, they retained shorter and more handy lances, and their agility made them very formidable with sword and dagger in close encounter. This reputation they upheld in
western Europe—France, Italy, and the Netherlands at least—to the close of the 17th century.

The contempt of the Swiss for defensive armor, based upon traditions of a different time, was not shared by the pikemen of the 16th century. As soon as a European infantry was formed in which the different armies were becoming more and more equal to each other in military qualities, the system of lining the phalanx with a few men covered with breastplates and helmets proved to be insufficient. If the Swiss had found such a phalanx impenetrable, this was no longer the case when it was met by another phalanx quite its equal. Here a certain amount of defensive armor became of some importance; so long as it did not too much impede the mobility of the troops, it was a decided advantage. The Spaniards, moreover, had never participated in this contempt for breastplates, and they began to be respected. Accordingly, breastplates, helmets, cuissarts, brassarts, and gauntlets began again to form a part of the regular equipment of every pikeman. To it was added a sword, shorter with the Germans, longer with the Swiss, and now and then a dagger.

V. THE INFANTRY OF THE 16TH AND 17TH CENTURIES

The long-bow had for some time disappeared from the continent of Europe, excepting Turkey; the cross-bow made its last appearance among the French Gascons in the first quarter of the 16th century. It was everywhere replaced by the matchlock musket, which, in different degrees of perfection, or rather imperfection, now became the second arm of the infantry. The matchlocks of the 17th century, unwieldy and defectively constructed machines, were of very heavy caliber, to secure, beside range, at least some precision, and the force to penetrate the breastplate of a pikeman. The form generally adopted about 1530 was the heavy musket fired off from a fork, as a man could not have taken aim without such a support. The musketeers carried a sword, but no defensive armor, and were used either for skirmishing or in a kind of open order, to hold defensive positions or to prepare the charge of the pikemen for the attack of such positions. They soon became very numerous in proportion to the pikemen; in the battles of Francis I in Italy they were far inferior to the pikemen in numbers, but were at least in equal numbers with them 30 years later. This increase in the number of musketeers compelled the invention of some tactical method of regularly encasing them in the order of battle. This was done in
the system of tactics called the Hungarian ordinance, invented by the imperial troops in their wars with the Turks in Hungary. The musketeers, being unable to defend themselves at close quarters, were always placed so as to be able to retire behind the pikemen. Thus they were sometimes placed on either wing, sometimes on the 4 corners of the wings; very often the whole square or column of pikemen was surrounded by a rank of musketeers, who found protection under the pikes of their rear men. Finally, the plan of having the musketeers on the flanks of the pikemen got the upper hand in the new tactical system introduced by the Dutch in their war of independence. This system is distinguished especially by the subdivision of the 3 great phalanges in which every army was formed according to both the Swiss and Hungarian tactics. Each of them was formed upon 3 lines, the middle one of which was again subdivided into a right and a left wing, separated from each other by a distance equal at least to the extent of front of the first line. The whole army being organized in half regiments, which we will call battalions, each battalion had its pikemen in the centre and its musketeers on the flanks. The advanced guard of an army, consisting of 3 regiments, would thus be formed as follows: two half regiments in contiguous line in the first line; behind each of their wings another half regiment; further to the rear, and covering the first line, the remaining two half regiments also in contiguous line. The main body and rear guard might be placed either on the flank or behind the advanced guard, but would be formed on the same plan. Here we have a return in a certain degree to the old Roman formation in 3 lines and distinct small bodies.

The imperialists, and with them the Spaniards, had found the necessity of dividing their large armies into more than the 3 masses already mentioned; but their battalions or tactical units were much larger than the Dutch, fought in column or square instead of in line, and had not had a regular formation for order of battle until during the Dutch war of independence the Spaniards began to form them in what is known as a Spanish brigade. Four of these large battalions, each consisting often of several regiments, formed in square, surrounded with a rank or two of musketeers, and having wings of musketeers at the corners, were disposed at proper intervals on the 4 corners of a square, one corner being turned toward the enemy. If the army was too large to be comprised in one brigade, two could be formed; and thus arose 3 lines, having 2 battalions in the first, 4 (sometimes only 3) in the second, and 2 in the third. As in the Dutch system,
we find here the attempt to return to the old Roman system of 3 lines.

Another great change took place during the 16th century; the heavy cavalry of the knights was broken up and replaced by a mercenary cavalry, armed similarly to our modern cuirassiers, with cuirass, helmet, sword, and pistols. This cavalry, greatly superior in mobility to their predecessors, became thereby more formidable to infantry also; still the pikemen of the time were never afraid of it. By this change cavalry became a uniform arm, and entered in a far larger proportion into the composition of armies, especially during the period we now have to consider, viz., the 30 years' war. At this time the system of mercenary service was universal in Europe; a class of men had been formed who lived upon war and by war; and though tactics might have gained thereby, the character of the men, the material composing armies as well as their morale, had certainly suffered. Central Europe was overrun by condottieri of all kinds, who took religious and political quarrels for their pretext to plunder and devastate the whole country. The character of the individual soldier had entered upon that degradation which went on increasing until the French revolution finally swept away this system of mercenary service. The imperialists formed their battles upon the Spanish brigade system, having 4 or more brigades in line, thus forming 3 lines. The Swedes under Gustavus Adolphus formed in Swedish brigades, each consisting of 3 battalions, one in front and two a little to the rear, each deployed in line, and having the pikes in the centre and the musketeers on the wings. They were so disposed (both arms being represented in equal numbers) that by forming a contiguous line either could cover the other. Supposing the order given to form a contiguous line of musketeers, the two wings of that arm of the centre or front battalion would cover their own pikes by stepping before them, while those of the two other battalions would, each on its flank, advance into alignment with the first. If an attack of cavalry was apprehended, all the musketeers retired behind the pikemen, while the two wings of these latter advanced into alignment with the centre, and thus formed a contiguous line of pikes. The order of battle was formed of two lines of such brigades, composing the centre of the army, while the numerous cavalry was stationed on the two wings, and intermixed with small bodies of musketeers. The characteristic of this Swedish system is that the pikemen, who in the 16th century had been the great offensive arm, had now lost all capacity of attack. They had become a mere means of defence, and their office was to screen
the musketeers from a charge of cavalry; it was this latter arm again which had to do all the attacking work. Thus, infantry had lost, cavalry had regained ground. But then Gustavus Adolphus put an end to the firing which had become a favorite mode of fighting for cavalry, and ordered his horse always to charge at full speed and sword in hand; and from that time to the resumption of fighting in broken ground every cavalry which adhered to these tactics was able to boast of great successes over infantry. There can be no greater condemnation of the mercenary infantry of the 17th and 18th centuries than that; and yet it was, for all purposes of battle, the most disciplined infantry of all times.

The general result of the 30 years’ war upon European tactics was that both the Swedish and the Spanish brigades disappeared, and armies were now disposed in two lines, the cavalry forming the wings and the infantry the centre. The artillery was placed before the front or in the intervals of the other arms. Sometimes a reserve of cavalry, or of cavalry and infantry, was retained. The infantry was deployed in line, 6 deep; the muskets were so much lightened that the fork could be dispensed with, and cartridges and cartridge boxes had been everywhere adopted. The mixing up of musketeers and pikemen in the same infantry battalions now gave rise to the most complicated tactical movements, all founded upon the necessity of forming what was called defensive battalions, or what we should call squares against cavalry. Even in a simple square, it was no trifle to get the 6 ranks of pikemen from the centre so drawn asunder that they completely surrounded on all sides the musketeers, who, of course, were defenceless against cavalry; but what must it have been to form in a similar way the battalion into a cross, an octagon, or other fanciful shapes! Thus it happened that the drilling system of this period was the most complicated ever seen, and nobody but a soldier for life ever had any chance of attaining even the commonest proficiency in it. At the same time, it is obvious that, before the enemy, all these attempts at forming a body capable of resisting cavalry were perfectly useless; any decent cavalry would have been in the midst of such a battalion before one fourth of the movements could have been gone through.

During the latter half of the 17th century, the number of pikemen was very much reduced in proportion to that of musketeers; for from the moment that they had lost all power of attack, the musketeers were the really active part of the infantry. Moreover, it was found that the Turkish cavalry, the most formidable of the time, very often broke into the squares of
pikemen, while they were quite as often repulsed by the well
aimed fire of a line of musketeers. In consequence, the
imperialists did away with all pikes in their Hungarian army, and
replaced them sometimes by chevaux de frise, which were put
together on the field, the musketeers carrying the blades as part of
their regular equipment. In other countries, too, cases occurred of
armies being sent into the field without a single pikeman, the
musketeers信任ing to their fire and the assistance of their own
cavalry when threatened with a charge of horse. Still, two
inventions were required to do away entirely with the pike: the
bayonet, invented in France about 1640, and improved in 1699 so
far as to be the handy weapon now in use; and the flint lock,
invented about 1650.\(^a\) The former, though certainly an imperfect
substitute for the pike, enabled the musketeer to give himself, to a
certain degree, that protection which he had hitherto been
supposed to find in the pikemen; the second, by simplifying the
process of loading, enabled him to do much more than make up
by rapid firing for the imperfections of the bayonet.

VI. THE INFANTRY OF THE 18TH CENTURY

With the superseding of the pike, all defensive armor disap-
peared from infantry equipment, and this arm was now composed
of one class of soldiers only, armed with the flint-lock musket and
bayonet. This change was accomplished in the first years of the
Spanish war of succession,\(^39^1\) coinciding with the first years of the
18th century. At the same time, we now find everywhere standing
armies of considerable magnitude, recruited as much as possible
by voluntary enlistment coupled with kidnapping, but in case of
need also by forced conscription. These armies were now regularly
organized in battalions of from 500 to 700 men, as tactical units,
subdivided for special purposes into companies; several battalions
forming a regiment. Thus the organization of infantry now began
to take a more stable and settled form. The handling of the flint
lock requiring far less space than that of the old matchlock, the
old open order was done away with, and the files were closed well
up to each other, in order to have as many firing men as possible
in the same space. For the same reason, the intervals between the
various battalions in line of battle were reduced to a minimum, so
that the whole front formed one stiff and uninterrupted line, the
infantry, in two lines, in the centre, the cavalry on the wings.

\(^a\) The New American Cyclopaedia has 1670 here.—Ed.
Firing, formerly done by ranks, every rank after having fired retiring to the rear to reload, was now done by platoons or companies, the 3 front ranks of each platoon firing simultaneously as the word of command was given. Thus an uninterrupted fire could be maintained by every battalion against the enemy in front of it. Every battalion had its distinct place in this long line, and the order giving to each its place was called the order of battle. The great difficulty now was to organize the marching order of the army so that it could always with facility pass from the marching to the fighting order, every portion of the line getting at once and quickly into its proper place. Encampments within reach of the enemy were arranged with a view to the same object. Thus the art of marching and encamping armies made great progress during this epoch; still the stiffness and unwieldiness of the order of battle formed a heavy clog upon all the movements of an army. At the same time, its formality, and the impossibility of handling such a line in any but the most level plains, still more restricted the choice of ground for battle fields; but as long as both parties were bound by the same fetters, this was no disadvantage for either. From Malplaquet to the outbreak of the French revolution, a road, a village, or a farm yard was tabooed to infantry; even a ditch or a hedge was considered almost a drawback by those who had to defend them.

The Prussian infantry is the classic infantry of the 18th century. It was principally formed by Prince Leopold of Dessau. During the war of the Spanish succession, the line of infantry had been reduced from 6 deep to 4 deep. Leopold did away with the 4th rank, and formed the Prussians 3 deep. He also introduced the iron ramrod, which enabled his troops to load and fire 5 times in a minute, while other troops scarcely fired 3 times. At the same time they were drilled to fire while advancing, but as they had to stop for firing, and as the alignment of the whole long line had to be maintained, the step was but slow—what is called the goose step. Firing began at 200 yards from the enemy; the line advanced at the goose step, stepping shorter and redoubling fire the nearer it got to the enemy, until the latter either gave way, or was so far shaken that a cavalry charge from the wings, and an advance with the bayonet of the infantry, drove him from his position. The army was always ranged on two lines, but, there being scarcely any intervals in the first line, it became very difficult for the second to come to the aid of the first when wanted. Such was the army and such were the tactics which Frederick II of Prussia found at his disposal on his accession. There appeared to be very little chance
for a man of genius to improve upon this system, unless he broke through it, and that Frederick, in his position and with the material he had for soldiers, could not do. Still he contrived to organize his mode of attack and his army so that he could, with the resources of a kingdom less than Sardinia now is, and with scanty pecuniary support from England, carry on a war against almost all Europe. The mystery may be easily explained. Hitherto the battles of the 18th century had been parallel battles, both armies being deployed on lines parallel to each other, struggling in a plain, fair, stand-up fight, without any stratagems or devices of art; the only advantage accruing to the stronger party being that his wings overlapped those of his opponent. Frederick applied to the line order of battle the system of oblique attack invented by Epaminondas. He chose one wing of the enemy for the first attack, and brought against this one of his wings, overlapping that of the enemy, and part of his centre, at the same time keeping back the rest of his army. Thus not only had he the advantage of outflanking the enemy, but also of crushing by superior forces the troops exposed to his attack. The other troops of the enemy could not come to the assistance of those attacked; for not only were they tied to their places in the line, but as the attack on the one wing proved successful, the remainder of the army entered into line and engaged the hostile centre in front, while the original attacking wing fell upon its flank after disposing of the wing. This was indeed the only imaginable method by which it was possible, while maintaining the system of lines, to bring a superior force upon any one part of the enemy's line of battle. Every thing, then, depended upon the formation of the attacking wing; and as far as the rigidity of the order of battle admitted of it, Frederick always strengthened it. He very often placed in front of the first line of infantry of the attacking wing an advanced line formed of his grenadiers or élite troops, so as to insure success as much as possible at the first onset.

The second means which Frederick took to improve his army was the reorganization of his cavalry. The teachings of Gustavus Adolphus had been forgotten; cavalry, instead of relying on the sword and the impetuosity of the charge, with rare exceptions had returned to fighting with the pistol and the carbine. The wars in the beginning of the 18th century had thus not been rich in successful charges of horsemen; the Prussian cavalry was especially neglected. But Frederick returned to the old plan of charging sword in hand and at full gallop, and formed a cavalry unequalled in history; and to this cavalry he owed a very great part of his
successes. When his army became the model of Europe, Frederick, in order to blind the military men of other nations, began to complicate to an astonishing degree the system of tactical evolutions, all of them unfit for actual war, and intended only to hide the simplicity of the means which had procured him victory. He succeeded so well in this that nobody was more blinded than his own subordinates, who actually believed that these complex methods of forming line were the real essence of his tactics; and thus Frederick, beside laying the foundation for that pedantry and martinetism which have since distinguished the Prussians, actually prepared them for the unparalleled disgrace of Jena and Auerstädt. 393

Beside the infantry of the line, which we have so far described, and which always fought in closed ranks, there was a certain class of light infantry, but this did not appear in great battles. Its task was the war of partisans; for this the Austrian Croats were admirably adapted, while for every other purpose they were useless. Upon the model of these half savages from the military frontier against Turkey, 394 the other European states formed their light infantry. But skirmishing in great battles, such as was practised by the light infantry of antiquity and of the middle ages, even up to the 17th century, had completely disappeared. The Prussians alone, and after them the Austrians, formed a battalion or two of riflemen, composed of gamekeepers and forest guards, all dead shots, who in battle were distributed over the whole front and fired at officers; but they were so few that they scarcely counted. The resuscitation of skirmishing is the product of the American war of independence. 395 While the soldiers of European armies, held together by compulsion and severe treatment, could not be trusted to fight in extended order, in America they had to contend with a population which, untrained to the regular drill of line soldiers, were good shots and well acquainted with the rifle. The nature of the ground favored them; instead of attempting manoeuvres of which at first they were incapable, they unconsciously fell into skirmishing. Thus, the engagement of Lexington and Concord 396 marks an epoch in the history of infantry.

VII. THE INFANTRY OF THE FRENCH REVOLUTION AND OF THE 19TH CENTURY

When the European coalition invaded revolutionary France, the French were in a similar position to that of the Americans a short time before, except that they had not the same advantages of ground. In order to fight the numerous armies, invading or
threatening to invade the country, upon the old line principle, they would have required well drilled men, and these were scarce, while undrilled volunteers were plentiful. As far as time allowed, they were exercised in the elementary evolutions of linear tactics; but as soon as they got under fire, the battalions deployed in line dissolved themselves, unconsciously, into thick swarms of skirmishers, seeking protection against fire from all accidents of ground, while the second line formed a kind of reserve which often enough was involved in the fight from the very beginning of the engagement. The French armies, moreover, were very differently organized from those opposed to them. They were formed, not into an unbending monotonous line of battalions, but into army divisions, each of which was composed of artillery, cavalry, and infantry. The great fact was all at once rediscovered that it matters not whether a battalion fights in its "correct" place in the order of battle, so that it advances into line when ordered, and fights well. The French government being poor, tents and the immense baggage of the 18th century were done away with; bivouacking was invented, and the comforts of the officers, which in other armies formed a large portion of the impediments, were reduced to what they could carry on their backs. The army, instead of being fed from magazines, had to depend upon requisitions on the country passed through. Thus the French attained a mobility and a facility of forming order of battle quite unknown to their enemies. If beaten, they were out of the reach of pursuit in a few hours; if advancing, they could appear on unexpected points, on the flanks of the enemy, before he got notice. This mobility, and the jealousy among themselves of the chiefs of the coalition, gave them breathing time to drill their volunteers, and to elaborate the new tactical system which was rising among them.

From the year 1795 we find this new system taking the definite form of a combination of skirmishers and close columns. The formation in line was subsequently added, though not for a whole army as hitherto, but for single battalions only, which deployed in line whenever an opportunity appeared to require it. It is evident that this latter manoeuvre, requiring more steadiness of drill, was the last to be resumed by the irregular bands of the French revolution. Three battalions formed a demi-brigade, 6 a brigade; 2 or 3 brigades of infantry a division, to which were added 2 batteries of artillery and some cavalry; several such divisions formed an army. Whenever a division met the enemy, the skirmishers of its advanced guard established themselves in a
defensive position, the advanced guard forming their reserve until the division came up. The brigades then formed upon two lines and a reserve, but every battalion in column, and with no stated intervals; for the protection of rents in the order of battle there was the cavalry and the reserve. The line of battle was no longer necessarily a straight and uninterrupted one; it might be bent in all directions, as the ground required, for now there was no longer a selection of naked level plains for battle fields; on the contrary, the French preferred broken ground, and their skirmishers, forming a chain in front of the whole line of battle, threw themselves into every village, farm yard, or copse that they could get hold of. If the battalions of the first line deployed, they generally all turned now soon skirmishers; those of the second line always remained in column, and generally charged in this formation against the thin lines of the enemy with great success. Thus, the tactical formation of a French army for battle gradually came to consist of two lines, each formed of battalions in close column, placed en échiquier, with skirmishers before the front, and a compact reserve in the rear.

It was at this stage of development that Napoleon found the tactics of the French revolution. As soon as his accession to political power allowed him to do so, he began to develop the system still further. He concentrated his army in the camp of Boulogne, and there gave them a regular course of drill. He especially practised them in the formation of compact reserve masses on a small space of ground, and in the quick deployment of these masses for entering into line. He formed 2 or 3 divisions into one army corps so as to simplify the command. He invented and brought to its highest perfection the new marching order, which consists in spreading the troops over so great an extent of ground that they can subsist on the stores it contains, still keeping so well together that they can be united on any given point before the part which is attacked can be crushed by the enemy. From the campaign of 1809, Napoleon began to invent new tactical formations, such as deep columns of entire brigades and divisions, which however signally failed and were never again revived. After 1813 this new French system became the common property of all nations on the continent of Europe. The old line system, and the system of recruiting mercenaries, had both been abandoned. Everywhere the liability of every citizen to military service was acknowledged, and everywhere the new tactics were introduced.

a Chequer-wise.—Ed.
In Prussia and Switzerland every one had actually to serve; in the other states a conscription was introduced, the young men drawing lots to determine who should serve; everywhere reserve systems were introduced, by dismissing a portion of the men, when drilled, to their homes, so as to have a large number of drilled men at disposal in case of war, with little expense in peace.

Since that time several changes have occurred in the armament and organization of infantry, produced partly by the progress of the manufacture of small arms, partly by the collision of French infantry with the Arabs of Algeria. The Germans, always fond of the rifle, had increased their battalions of light riflemen; the French, driven by the necessity of having in Algeria an arm of greater range, at last in 1840 formed a battalion of riflemen armed with an improved rifle of great precision and range. These men, drilled to perform all their evolutions and even long marches in a kind of trot (pas gymnastique), soon proved themselves of such efficiency that new battalions were formed. In this manner a new light infantry was created, not from sporting shots and gamekeepers, but from the strongest and most agile men; precision of fire and long range were combined with agility and endurance, and a force was formed which, as far as it went, was certainly superior to any other infantry in existence. At the same time, the pas gymnastique was introduced into the infantry of the line, and what even Napoleon would have considered the height of folly, running, is now practised in every army as an essential part of infantry drill.

The success of the new rifle of the French riflemen (Delvigne-Poncharra) soon produced new improvements.\(^3\) The conical bullet was introduced for rifled arms. New means were invented by Minié, Lorenz, and Wilkinson, to make the bullet glide down easily into the bore, and still to expand it, when once down, so as to fill up the grooves with its lead, and thus to give it the lateral rotation and force on which the effect of the rifle depends; on the other hand, Dreyse invented the needle gun, to be loaded at the breech, and not requiring a separate priming. All these rifles were capable of hitting at 1,000 yards, and quite as easily loaded as a common smooth-bore musket. Then the idea arose of arming the whole of the infantry with such rifles. England was the first to carry out this idea; Prussia, which had prepared for this step long before, followed; then Austria and the smaller German states; at last

\(^3\) For details on the rifles mentioned here and below see Engels' *The History of the Rifle*, this volume, pp. 436-39.—Ed.
France. Russia, and the Italian and Scandinavian states, are still behind. This new armament has completely changed the aspect of warfare, but not in the way expected by tactical theorists, and for a very simple mathematical reason. It can be easily proved, by constructing the flight of these bullets, that an error of 20 or 30 yards in the estimation of the distance of the object will destroy all chance of hitting beyond 300 or 350 yards. Now, while on the practice ground the distances are known, on the battle field they are not, and they change every moment. Infantry posted in a defensive position, and having had time to pace off the distances of the most conspicuous objects before the front, will thus have an immense advantage, at from 1,000 to 300 yards, over an attacking force. This can only be obviated by advancing rapidly and without firing, at full trot, to some 300 yards, when the fire of the two parties will be equally effective. At this distance firing will become so murderous between two well posted lines of skirmishers, and so many bullets will hit the pickets and reserves, that a plucky infantry can do no better than seize the first opportunity to make a rush at the enemy, giving a volley at 40 or 50 yards. These rules, first proved theoretically by the Prussian Major Trotha, have been practically tried by the French in their late war against the Austrians, and with success. They will, therefore, form part and parcel of modern infantry tactics, especially if they prove to be of equally good effect when tried against such a rapidly loading arm as the Prussian needle gun. The arming of all infantry with one and the same rifle gun will tend to do away with the distinctions, still existing, of light and line infantry, by forming an infantry capable of any service. In this will evidently consist the next improvement of this arm.

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a Trotha, Beitrag zur Erörterung der Frage: Welchen nothwendigen Einfluss haben die jetzt gebräuchlichen weittragenden Handfeuerwaffen auf das Gefecht der Infanterie?—Ed.
Navy, a collective term for the vessels of war belonging to a sovereign or nation. The war fleets of the ancients, though often numerous, were insignificant when compared with those of the present day, in regard to the size of the ships, their powers of locomotion, and their aptitude for offence. The sea-going vessels of Phoenicia and Carthage, of Greece and Rome, were flat-bottomed barges, unable to live in a gale of wind; sea room, in a squall, was destruction to them; they crept along the coasts, casting anchor at night in some cove or creek. To cross over from Greece to Italy, or from Africa to Sicily, was a dangerous operation. The ships, unfit to carry the press of sail to which our modern men-of-war are accustomed, were provided with but little canvas; the oars were relied upon to propel them sluggishly through the waves. The compass had not yet been discovered; latitudes and longitudes were unknown; and landmarks and the pole star were the only guides in navigation. The implements for offensive warfare were equally inefficient. Bows and arrows, javelins, clumsy ballistas and catapults, were the only arms that could be used at a distance. No serious harm could be done to an enemy at sea until the two fighting ships came into actual contact. Thus, there were but two modes of naval fighting possible: to manoeuvre so that the sharp, strong, iron-pointed prow of your own ship should be driven with full force against the enemy's broadside in order to run him down; or else to run on broadside to broadside, fasten the two ships together, and board the enemy at once. After the first Punic war, which destroyed the naval superiority of the Carthaginians, there is not a single naval engagement in ancient history offering the slightest professional interest, and Roman
dominion soon put an end to the possibility of further naval contests in the Mediterranean.

The real birthplace of our modern navies is the German ocean.\(^a\) About the time when the great mass of the Teutonic tribes of central Europe rose to trample down the decaying Roman empire and to regenerate western Europe, their brethren on the northern shores, the Frisians, Saxons, Angles, Danes, and Northmen, began to take to the sea. Their vessels were firm, stout sea boats, with a prominent keel and sharp lines, relying mostly on sails alone, and not afraid to face a gale in the middle of that rough northern sea. It was with this class of vessels that the Anglo-Saxons passed from the mouths of the Elbe and Eider to the shores of Britain, and that the Northmen undertook their roving expeditions, extending to Constantinople on the one side and America on the other. With the construction of ships that dared cross the Atlantic, navigation underwent a complete revolution; and before the middle ages had passed away, the new sharp-bottomed sea boats had been adopted on all the coasts of Europe. The vessels in which the Northmen made their excursions were probably of no very large size, perhaps not exceeding 100 tons burden in any case, and carrying one or at the outside two masts, fore-and-aft rigged.

For a long time both ship building and navigation appear to have remained stationary; during the whole of the middle ages vessels were small; and the bold spirit of the Northmen and the Frisians had passed away; whatever improvements were made were owing to Italians and Portuguese, who now became the boldest sailors. The Portuguese discovered the route by sea to India; two Italians in foreign service, Columbus and Cabot, were the first since the times of Leif the Northman to cross the Atlantic. Long sea voyages now became a necessity, and they required large ships; at the same time the necessity of arming vessels of war and even merchantmen with heavy artillery, equally tended to increase size and tonnage. The same causes which had produced standing armies on land, now produced standing navies afloat; and it is from this time only that we can properly speak of navies. The era of colonial enterprise which now opened for all seafaring nations, also witnessed the formation of large fleets of war to protect the newly formed colonies and their trade; and a period followed richer in naval struggles and more fruitful to the development of naval armaments than any that preceded it.

\(^a\) North Sea.—\textit{Ed.}
The foundation of the British navy was laid by Henry VII, who built the first ship called The Great Harry. His successor\(^a\) formed a regular standing fleet, the property of the state, the largest ship of which was called the Henry Grace de Dieu. This vessel, the largest ever built up to that time, carried 80 guns, partly on two regular flush gun decks, partly on additional platforms both forward and astern. She was provided with 4 masts; her tonnage is variously stated at from 1,000 to 1,500. The whole of the British fleet, at the death of Henry VIII, consisted of about 50 sail, with an aggregate tonnage of 12,000, and manned by 8,000 sailors and marines. The large ships of the period were clumsy contrivances, deep-waisted, that is to say, provided with towering forecastles and poops, which rendered them exceedingly top-heavy. The next large ship we hear of is the Sovereign of the Seas, afterward called the Royal Sovereign, built in 1637. She is the first vessel of whose armament we get something like an accurate account. She had 3 flush decks, a forecastle, a half deck, a quarter deck, and a round house; on her lower deck she carried 30 guns, 42 and 32-pounders; 30 on her middle deck, 18 and 9-pounders; on her upper deck 26 lighter guns, probably 6 and 3-pounders. Beside these, she carried 20 chase guns and 26 guns on her forecastle and half deck. But on her regular home establishment this armament was reduced to 100 guns, the full complement being evidently too much for her. As to the smaller vessels, our information is very scanty.

In 1651 the navy was classed in 6 rates; but beside them there continued to exist numerous classes of unrated ships, such as shallops, hulks, and later bombs, sloops, fire ships, and yachts. In 1677 we find a list of the whole English navy; according to which, the largest first rate three-decker carried 26 42-pdrs., 28 24-pdrs., 28 9-pdrs., 14 6-pdrs., and 4 3-pdrs.; and the smallest two-decker (fifth rate) carried 18 18-pdrs., 8 6-pdrs., and 4 4-pdrs., or 30 guns in all. The whole fleet consisted of 129 vessels. In 1714, we find 198 vessels; in 1727, 178; and in 1744, 128. Afterward, as the number of vessels increases, their size also gets larger, and the heaviness of the armament is augmented with the tonnage.

The first English ship answering to our modern frigate was built by Sir Robert Dudley, as early as the end of the 16th century; but it was not till fully 80 years later that this class of ships, first used by the southern European nations, was generally adopted in the

\(^a\) Henry VIII.—\textit{Ed.}\n
British navy. The particular fast-sailing qualities of frigates were little understood, for some time, in England. British ships were generally overgunned, so that their lower ports were but 3 feet from the water's edge, and could not be opened in a rough sea, and the sailing capacities of the vessels were also greatly impaired. Both the Spaniards and the French allowed more tonnage in proportion to the number of guns; the consequence was that their ships could carry heavier caliber and more stores, had more buoyancy, and were better sailors. The English frigates of the first half of the 18th century carried as many as 44 guns, of 9, 12, and a few of 18 lbs. caliber, with a tonnage of about 710. By 1780 frigates of 38 guns (mostly 18-pdrs.) and of 946 tons were built: the improvement here is obvious. The French frigates of the same epoch, with a similar armament, averaged 100 tons more. About the same time (the middle of the 18th century) the smaller men-of-war were more accurately classed in the modern way as corvettes, brigs, brigantines, and schooners.

In 1779 a piece of ordnance was invented (probably by the British Gen. Melville) which changed to a great extent the armaments of most navies. It was a very short gun, with a large caliber, approaching in its shape a howitzer, but intended to throw solid shot, with small charges, at short ranges. From these guns being first manufactured by the Carron iron company, in Scotland, they were called carronades. The shot from this gun, useless at long ranges, had fearful effects upon timber at close quarters; from its reduced velocity (by the reduced charge), it made a larger hole, shattered the timber far more, and made numerous and more dangerous splinters. The comparative lightness of the guns, too, made it easy to find room for a few of them on the quarter deck and forecastle of vessels; and as early as 1781 there were 429 ships in the British navy provided with from 6 to 10 carronades over and above their regular complement of guns. In reading the accounts of naval engagements during the French and American wars, it should be borne in mind that the British never include the carronades in the number of guns given as a ship's complement: so that, for instance, a British frigate, stated to be a 36-gun frigate, may in reality have carried 42 or more guns, including the carronades. The superior weight of metal which the carronades gave to the British broadsides, helped to decide many an action fought at close quarters during the war of the French revolution. But after all, carronades were merely a makeshift to increase the strength of the comparatively small-sized men-of-war of 80 years ago. As soon as the size of the ships was increased for
each rating, they were again cast aside, and are now comparatively superseded.

In this particular, the construction of men-of-war, the French and Spaniards were decidedly ahead of the English. Their ships were larger and designed with far better lines than the British; their frigates especially were superior both in size and sailing qualities; and for many years the English frigates were copied from the French frigate *Hebe*, captured in 1782. In the same proportion as the vessels were lengthened, the high towering erections at the bow and stern, the forecastles, quarter decks, and poops, were reduced in height, the sailing qualities of the ships being increased thereby; so that gradually the comparatively elegant and swift-sailing lines of the present men-of-war came to be adopted. Instead of increasing the number of guns to these larger ships, the caliber was increased, and so were the weight and length of each gun, in order to admit of the use of full charges, and to receive the greatest point-blank range, so as to allow of the fire being opened at long distances. The small calibers below 24 lbs. disappeared from the larger vessels, and the remaining calibers were simplified, so as to have no more than two calibers, or at the outside three, on board of any one vessel. In ships of the line, the lower deck, being the strongest, was armed with guns of the same caliber as the upper decks, but of greater length and weight, in order to have at least one tier of guns available for the greatest possible range.

About 1820 the French Gen. Paixhans made an invention which has been of great importance in naval armaments. He constructed a gun of large caliber provided with a narrow chamber at the breech for the insertion of the powder, and began to fire hollow shot, at low elevations, from these “shell guns” (*canons obusiers*). Hitherto hollow shot had been fired against ships from howitzers in shore batteries only; though in Germany the practice of firing shell horizontally from short 24-lb. and even 12-lb. guns had been long in use against fortifications. The destructive effects of shells against the wooden sides of vessels were well known to Napoleon, who at Boulogne forty armed most of his gun boats for the expedition to England with howitzers, and laid it down as a rule that ships must be attacked with projectiles which will burst after hitting. Now, Paixhans’ shell guns gave the means of arming ships with cannon which, by throwing their shells as nearly as possible horizontally, could be used at sea, ship against ship, with nearly the same probability of hitting as the old round-shot guns. The new gun was soon introduced into all navies, and, after
undergoing various improvements, now constitutes an essential portion of the armament of all large men-of-war.

Shortly afterward the first attempts were made to apply steam to the propulsion of ships of war, as it had already been applied by Fulton to that of commercial vessels. The progress from the river steamer to the coasting steamer, and gradually to the ocean steamer, was slow; in the same ratio was the progress of war steamers retarded. As long as paddle boats were the only steamers in existence, this was justifiable. The paddles and part of the engine were exposed to the enemy's shot, and could be disabled by a single lucky hit; they took up the best portion of the broadside room of the vessel; and the weight of engine, paddles, and coal so much reduced the capacity of the ship, that a heavy armament of numerous long guns was entirely out of the question. A paddle steamer, therefore, could never be a ship of the line; but its superior speed might permit it to compete with frigates, which are expected to hover on the flanks of an enemy, to collect the fruits of a victory, or to cover a retreat. Now a frigate has just the size and armament which enable it to go fearlessly on any independent roving errand, while its superior sailing qualities enable it to withdraw in time from an unequal contest. The sailing qualities of any frigate were far outstripped by the steamer; but without a good armament the steamer could not fulfil its mission. Regular broadside fighting was out of the question; the number of guns must, for want of space, be always inferior to that of a sailing frigate. Here, if anywhere, the shell gun was in its place. The diminished number of guns on board a steam frigate was counterbalanced by their weight of metal and caliber. Originally these guns were intended to throw shells only, but recently they have been made so heavy, especially the chase guns (at the bow and stern of the vessel), that they can, with full charges, throw solid shot also to considerable distances. Moreover, the reduced number of guns admits of traversing platforms and railways being laid down on the deck, by means of which all or most of the guns can be brought to bear in almost any direction; a provision by which the strength of a steam frigate for an attack is nearly doubled, and a 20-gun steam frigate can bring at least as many guns into action as a 40-gun sailing frigate with but 18 working guns for each single broadside. Thus the large modern paddle-steamer frigate is a most formidable ship; the superior caliber and range of her guns, added to her velocity, enable her to cripple an opponent at a distance where scarcely any effective return of fire is possible to the sailing vessel; while the weight of her metal
comes in with crushing power when it is to her advantage finally to force the fighting. Still the disadvantage remains that her whole motive force is exposed to direct fire, and offers a large object to aim at.

For smaller vessels, corvettes, advice boats and other light craft, not counting in a naval battle, but very useful throughout a campaign, steam was at once found of great advantage, and there were many such paddle boats constructed in most navies. It was the same with transport ships. Where landings were intended, steamers not only reduced the length of passage to a minimum, but permitted one to calculate to a moral certainty the time of arrival at any given place. The transport of bodies of troops was now made a matter of great simplicity, especially as every naval country had a large fleet of commercial steamers to fall back upon for transport vessels in case of necessity. It was on these considerations that Prince de Joinville, in his well known pamphlet, ventured to maintain that steam had altered the condition of naval warfare to such an extent as to render an invasion of England by France no longer an impossibility. Still, so long as the ships used for decisive action, the ships of the line, remained exclusively sailing vessels, the introduction of steam could work but little change in the conditions under which great naval battles were fought.

The invention of the screw propeller was destined to supply the means of revolutionizing naval warfare entirely, and to transform all war fleets into steam fleets. It was fully 13 years after the invention of the screw before the first step in this direction was made. The French, always superior to the English in naval design and construction, were the first to do it. Finally in 1849 the French engineer Dupuy-Delôme constructed the first screw line-of-battle ship, the Napoléon, of 100 guns and 600 horse power. This ship was not intended to depend upon steam only; unlike the paddles, the screw allowed a ship to retain all the lines and rigging of a sailing vessel, and to be moved, at will, by steam alone, by sails alone, or by both combined. She could, therefore, always save her coal for emergencies by having recourse to her sails, and was thus far less dependent upon the proximity of coaling stations than the old paddle-wheel steamer. On this account, and because her steam power was too weak to give her the full speed of a paddle steamer, the Napoléon and other vessels of this class were called auxiliary steam vessels; since then, however, ships of the line have been constructed which have steam power enough to give them all the speed of which the screw propeller is capable. The success of the
Napoléon soon caused screw ships of the line to be built both in France and England. The Russian war\(^a\) gave a new impulse to this radical change in naval construction; and when it was found that most strong-built ships of the line could, without too much difficulty, be fitted with a screw and engines, the transformation of all navies into steam fleets became only a matter of time. No large naval power now thinks of constructing any more large sailing vessels; almost all ships newly laid down are screw steamers, excepting the few paddle steamers which for certain purposes are still required; and before 1870 sailing ships of war will be almost as completely antiquated as the spinning wheel and the smooth-bore musket are now.

The Crimean war called into existence two new naval constructions. The first of these is the steam gun boat or mortar boat, originally constructed by the English for the contemplated attack on Cronstadt; it is a small vessel drawing from 4 to 7 feet of water, and armed with one or two heavy long-range guns or a heavy mortar; the former to be used in shallow and intricate waters generally, the latter in the bombardment, from a long distance, of fortified naval arsenals. They answered exceedingly well, and will no doubt play an important part in future naval campaigns. The mortar boat, as proved at Sveaborg,\(^403\) totally alters the relations of attack and defence between fortresses and ships, by giving the ships that power of bombarding the former with impunity which they never before possessed; at 3,000 yards, from which the shells of the mortar boats can hit an object as large as a town, they are themselves quite secure from their smallness of surface. The gun boats, on the contrary, when acting in concert with coast batteries, will strengthen the defence, and will also provide naval warfare with those light skirmishers which were hitherto wanting to it.

The second innovation is the iron-sided, shot-proof floating batteries, first constructed by the French, for the attack of coast defences. They were tried at Kinburn only, and their success, even against the rickety parapets and rusty cannon of that little place, was not so very signal.\(^404\) Still, the French appeared to be so well satisfied with them, that they have gone on ever since experimenting upon steel-plated vessels. They have constructed gun boats with a kind of shot-proof steel parapet on the forecastle, which shelters the gun and its crew; but if the floating batteries were unwieldy and had to be towed, these gun boats always had their

\(^a\) The Crimean war of 1853-56.—\textit{Ed.}
heads in the water and were not at all seaworthy. They have however produced a steel-plated steam frigate called La Gloire, which is said to be shot-proof, of very good speed, and quite capable of living in a gale. The most exaggerated statements are made with regard to the probable revolution these shot-proof frigates will create in naval warfare. We are told that ships of the line are antiquated, and that the power to decide great naval actions has passed over to these frigates with a single battery of guns, covered in shot-proof on all sides, against which no wooden three-decker can stand. This is not the place to argue these questions; but we may observe that it is far easier to invent and put on board ship rifled artillery heavy enough to smash iron or steel plates, than it is to construct vessels cased with metal thick enough to withstand the shot or shell from these guns. As to the Gloire, it is not certain after all that she is fit to live in a gale, and from her incapacity for holding coal it is said that she cannot keep the sea under steam for more than 3 days. What her British competitor, the Warrior, will do, remains to be seen. No doubt, by reducing the armament and coal, and by altering the mode of construction, it may be possible to render a ship entirely shot-proof at long and medium ranges, and a fair steamer; but in an age when the science of artillery makes such rapid strides, it is very doubtful whether such ships will be worth constructing in the long run.  

The revolution in artillery which the rifled gun is now effecting appears to be a far more important matter for naval warfare than any thing that can be effected by steel-plated ships. Every rifled gun that deserves the name gives such a precision at long ranges that the ancient inefficiency of naval firing at such ranges appears to be fast becoming a matter of the past. Moreover, the rifled cannon, by admitting elongated shot and reduced charges, allows a considerable reduction in the bore and weight of broadside guns; or otherwise, the bore remaining the same, gives results far greater. The elongated shot from a 56 cwt. rifled 32-pounder will surpass the round shot from a 113 cwt. smooth-bore 10-inch gun, not only in weight, but also in penetration, range, and precision. The power of attack of every vessel is at least tripled if it be armed with rifled ordnance. Moreover, the great desideratum has always been to invent a useful percussion shell which should explode the very moment it penetrates a ship’s side. The rotation of round shot has rendered this impracticable; the percussion fuze was not always in the proper position when the shell struck, and then it did not go off. But an elongated shot from a rifled cannon,
rotating round its longitudinal axis, must always strike head foremost; and a simple percussion cap on the fuze head bursts the shell the moment it enters the ship's side. It is not probable that any steel-clad ship yet invented can brave two such broadsides from a two-decker with impunity; not to speak of the shells which enter the ports and must explode between decks. Rifled ordnance must to a great degree put a stop to such close-fought actions as were those in which carronades could be useful; manoeuvring will once more regain the ascendant; and as steam now makes the contending vessels independent of wind and tide, naval warfare will in future much more approach the method and be subject to the tactics of land battles.

The vessels of war of which modern navies are composed are classed in various ratings, from first to sixth rates; but as these ratings are both variable and arbitrary, it will be better to class them in the common way as ships of the line, frigates, sloops, brigs, schooners, &c. Ships of the line are the largest men-of-war afloat, destined to form the line of battle in a general action, and to decide the struggle by the weight of metal thrown into the enemy's ships. They are either 3-deckers or 2-deckers; that is to say, they have either 3 or 2 covered decks armed with guns. These decks are called the lower, middle, and main or upper deck. The upper deck, which was formerly covered in at the quarter deck and forecastle only, is now covered in by a continuous open deck from stem to stern. This open deck, which is still called the quarter deck and forecastle (the position amidships being called the gangway), also carries artillery, mostly carronades; so that in reality a 2-decker carries 3, and a 3-decker 4 tiers of guns. The heaviest guns are, of course, placed on the lower deck; and the guns become lighter in proportion as the batteries are more elevated above the water. The caliber being mostly the same, this is obtained by reducing the weight of the guns themselves, in consequence of which those on the upper decks can only stand reduced charges, which implies that they can be used only at shorter ranges. The only exception to this rule is in the case of chase guns, which are placed at the bow and stern of a ship, and which, even if placed on the forecastle or quarter deck, are still as long and heavy as possible, as they are required to act at the longest ranges practicable. Thus, the bow and stern guns of English ships of the line are composed either of 8 or 10-inch shell guns, or of 56-pdr. (bore 7.7 inches) or 68-pdr. (bore 8.13 inches) solid shot guns, one of which is placed on the forecastle on a traversing platform. There are in the English navy generally 6
stern and 5 bow guns to a first rate; the remaining armament of such a ship is as follows:

<table>
<thead>
<tr>
<th>Position</th>
<th>Description</th>
<th>W'ght.</th>
<th>Length.</th>
<th>No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lower deck</td>
<td>8-inch shell guns.</td>
<td>65 cwt.</td>
<td>9 ft. 0 in.</td>
<td>4</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>32-pounder guns.</td>
<td>56 &quot;</td>
<td>9 6</td>
<td>28</td>
</tr>
<tr>
<td>Middle deck</td>
<td>8-inch shell guns.</td>
<td>65 &quot;</td>
<td>9 0</td>
<td>2</td>
</tr>
<tr>
<td>&quot; &quot;</td>
<td>32-pounder guns.</td>
<td>50 &quot;</td>
<td>9 0</td>
<td>32</td>
</tr>
<tr>
<td>Upper deck</td>
<td></td>
<td>42 &quot;</td>
<td>8 0</td>
<td>34</td>
</tr>
<tr>
<td>Forecastle and quarter deck.</td>
<td>&quot; carronades</td>
<td>45 &quot;</td>
<td>8 6</td>
<td>6</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>17 &quot;</td>
<td>4 0</td>
<td>14</td>
</tr>
</tbody>
</table>

The armament of the smaller ratings of vessels of the line is arranged upon the same principle. For the sake of comparison, we also give that of a French first rate, viz.: lower deck, 32 long 30-lb. guns; middle deck, 4 80-lb. shell guns, and 30 short 30-lb. guns; upper deck, 34 30-lb. shell guns; forecastle and quarter deck, 4 30-lb. shell guns, and 16 30-lb. carronades; in all, 120 guns. The French 80-lb. shell gun has a larger bore than the 8-inch English gun by 0.8 inch; the 30-lb. shell gun and the 30-lb. gun have a slightly larger bore than the English 32-pdr., so that the advantage of weight of metal would lie with the French. The smallest ship of the line now carries 72 guns; the largest frigate carries 61.

A frigate is a ship with only one covered deck carrying guns, and another open deck above it (forecastle and quarter deck) which is equally provided with guns. The armament, in the English service, is generally of 30 guns (either all shell guns or part shell guns and part long 32-pdrs.) on the gun deck, and 30 short 32-pdrs. on the forecastle and quarter deck, with a heavy pivot gun on a traversing platform at the bow. Frigates being mostly sent on detached service, where they are always likely to become engaged single-handed against hostile frigates sent on the same errand, it has been a great point with most naval nations to make them as large and powerful as possible. In no class of vessels is the increase in size so remarkable as in this. The United States, requiring a cheap navy strong enough to enforce respect, were the first to see the great advantage to be drawn from a fleet of large frigates, each of them superior to any frigate which other nations could bring against it. The superiority of the American ship builders in producing swift vessels was also taken advantage of, and the last war against England (1812-'14) showed in many
well contested engagements what formidable antagonists these American frigates were. Up to the present day the U.S. frigates are considered models of this class of vessels, although the difference in size when compared with other navies is not by far so marked as it was 30 or 40 years ago.

The next class of men-of-war are called corvettes. They have but one tier of guns, placed on an open deck; but the larger class are provided with a forecastle and quarter deck (not connected, however, by a continuous deck amidships), where they carry a few guns more. Such corvettes, therefore, almost correspond to what a frigate was 80 years ago, before the two elevated extremities of the vessel were connected by a flush deck. These corvettes are still strong enough to carry the same caliber of guns as the larger vessels. They also carry 3 masts, all square-rigged. Of smaller vessels, brigs and schooners carry from 20 guns to 6. They have but two masts, square-rigged in brigs, fore-and-aft rigged in schooners. The caliber of their guns is necessarily smaller than that of the larger ships, and does not generally exceed 18 or 24-pdrs. going down as low as 12 and 9-pdrs. Vessels of this small power of offence cannot be sent where serious resistance is anticipated. In European waters they are becoming generally superseded by small steamers, and they can be of actual service only on such coasts as those of South America, China, &c., where they have to meet powerless antagonists, and where they merely serve to represent the flag of a powerful naval nation.

The armaments given above are merely those adopted at present, but they will undoubtedly be changed in every respect during the next 10 years by the general adoption of rifled ship guns.\textsuperscript{407}

Written in October and November, before November 23, 1860

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FROM THE PREPARATORY MATERIALS FOR THE ARTICLES IN *THE NEW AMERICAN CYCLOPAEDIA* 40
From 1818 Dost Mohammed Khan of the Barukzye tribe (Douranee tribe, as also the Populzyes, then the dynasty of the Suddozyes, but ousted by Dost Mohammed) ruled in Kabul after many civil wars. In Peshawar and Kandahar brothers of Dost Mohammed also ruled. The one in Peshawar, Azim Khan, attacked the Sikhs but Runjeet Singh defeated him and seized Peshawar from him so that it further became a tributary of the Sikhs.

Herat alone remained under an ancient Suddozye dynasty. This was attacked by Mohamed Shah of Persia with Russian advice and aid. Agitation among the English. Fear of a Russian invasion of India, for Persia had been completely played into the hands of the Russians by English policy.

Even earlier, in 1835, Lord Auckland, Governor-General [of India], sent Alexander Burnes to Kabul as ambassador, under the pretext of a trade mission. The Persians wanted to have Dost Mohammed also on their side, but Dost was for the English alliance. But when it came to particulars the English demanded everything and would promise nothing in return. The Pole Vitkievicz intervened, promised everything and demanded little, and Burnes finally had to leave, whereupon Vitkievicz and the Persians momentarily gained the upper hand (garbled "blue books" 410).

The Indian Governor, in Simla at the time, under the influence not of the Indian Council, but of W. H. Macnaghten, secretary to
the Government, Henry Torrens and J. Colvin, his private secretaries. Macnaghten and Colvin very ambitious, particularly the former. In its Russophobia this conclave decided to restore Shah Soojah, who had been ousted back in 1809 and was living on pension in Loodhianah, to the throne of Afghanistan and to conclude an alliance with the Sikhs to this end. This was done. The army gathered. Runjeet Singh was ready. Shah Soojah began to organise a recruited army under English officers.

Meanwhile small expedition to Karrak (near Bushire) in the Persian Gulf was enough at the very last moment, September 4-9, 1838, when Herat had almost fallen, to push the Persians back. They retired, and now au fond no more fear of Russian power in Afghanistan. But the English had advanced too far, and so the expedition was undertaken, although only with a few troops.

October 1, 1838 proclamation containing the Governor-General’s declaration of war—scarcely public, when the news of the relief of Herat arrived.

The army which actually marched: 2 brigades Bengal army, 13th Queen’s Infantry Regiment, 16th, 31st, 35th, 37th, 42nd, 48th native infantry under Sir W. Cotton, 16th Lancers and Indian irregular cavalry, 9,500 men in all.

One brigade Bombay army, 4th Dragoons, 2nd and 17th Queen’s regiments, a native infantry regiment and some artillery via the Indus.

Shah Soojah’s army: 2 cavalry, 4 infantry regiments, 1 mounted battery—6,000 men under Major-General Simpson (Crimea?).

The Bengal troops and Shah Soojah’s troops marched through Sindh, on which a levy was imposed for the benefit of Runjeet Singh and Shah Soojah, to Shikarpur, where they were to meet the Bombay troops. Sir J. Keane commander-in-chief.—The Sikhs, with Shah Soojah’s son Timur Khan, through the Khyber Pass towards Kabul. Having marched off from Lahore in mid-December, by February 20 Cotton in Shikarpur, where the Shah’s army was already. The English Bengal army 9,500 men, 3,800 camp-followers, 30,000 pack-camels.

Macnaghten’s political agents and emissaries with Shah Soojah. Burnes among them.

Many camels already lost in Shikarpur.

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a This remark refers to Simpson’s participation in the Crimean war of 1853-56.—Ed.
b Engels uses the English word.—Ed.
c Macnaghten himself joined the army as British envoy at the Shah’s Court.—Ed.
Beginning of March through the Bolan Pass. To Dadur 146 miles, 16 marches. The camels were dropping for want of forage. Food supplies ditto. The Baluchistan robbers on flank and at rear. Particularly from Dadur to Quetta, 60 miles through the pass. In Quetta on March 26. Here the cavalry was due to stop, but nothing to eat. Burnes set out to Mehrab Khan of Khelat, who promised everything, but said that the land was poor.

On March 7 the Shah’s troops marched from Shikarpur. The Bombay brigade also followed, and Sir J. Keane, who arrived with it in Quetta on April 6. Nothing for it but forthwith to Kandahar. Left on April 7, over the Kodjuk Pass. Kohun-dil-Khan and his brothers fled, and the army entered Kandahar on April 25.

The army paid for everything and nationalised very liberally. In the process Macnaghten squandered a lot of money on bribery\(^a\) but to no avail. No enthusiasm for Shah Soojah.\(^b\)

June 27 from Kandahar for Kabul via Ghuznee, which was the impregnable fortress of Afghanistan, and was reached on July 21. Through treachery it came to Keane’s knowledge that one gate, the Kabul, was not walled up on the inside. He had left his siege guns in Kandahar, and had only light field guns. This news alone made capture possible. While mock assaults on the impregnable façade and a bombardment deceived the garrison, the gate was blown up with sacks of gunpowder and stormed by the 13th Regiment (under Dennie and Sale). After fierce resistance the fortress fell.

Dost Mohammed moved to Maidan, a very strong position, and then even closer to the English. But his army broke up, and Dost Mohammed fled to Bokhara, where the Khan had him seized.

The Sikhs did nothing, but as Dost Mohammed did not support the Afridis, they allowed Timur Khan through with a very few motley\(^a\) troops (under Capt. Wade). Arrived in Kabul on September 3.

On August 6 Shah Soojah and the English had entered Kabul. On September 18 the Bombay brigade marched back. On October 3 three companies of infantry, the 16th Lancers, 3rd Bengal Cavalry, 4th Local Horse\(^c\) and one battery of artillery of the Bengal division were also repulsed. Distribution of the rest: Kabul: 13th Queen’s Infantry, 35th Native Infantry, 3 cannon light foot.

\(^a\) Engels uses the English word.—\textit{Ed.}
\(^b\) This sentence is in English in the manuscript.—\textit{Ed.}
\(^c\) Engels uses the English words “Local Horse”.—\textit{Ed.}
Jellalabad: 48th Native Infantry, some cavalrymen and sappers.

Ghuznee: 16th Native Infantry, 1 squadron irregular cavalry and what was available of Shah Soojah's troops.

Kandahar: 42nd and 43rd Native Infantry, 1 squadron irregular cavalry, 1 battery and some of Shah Soojah's troops available (Nott in command).

What had become of the 31st and 37th Native Infantry non liquet. Bameean particularly through the Shah's good Gurkha Regiment and one battery mounted artillery (!! taken in hand!).

The Afghans furious at the invasion by the Kafirs, Shah Soojah hated or indifferent. English intervention in government and administration makes things even worse. The Douranees around Kandahar had reckoned on Shah Soojah giving them back their former preponderance and rights of plunder suppressed by Dost Mohammed. This was not permitted by the English. The Douranees furious about this. The Afridis in the Khyber Pass irritated instead of being paid. In Khelat, Mehrab Khan was attacked at Macnaghten's instigation for being a traitor (!), and Khelat stormed by Willshire, who seemed to have remained in the area with the 2nd and 17th Queen's and 31st Native Infantry together with cavalry and artillery. Mehrab Khan fell and part of the country annexed by Shah Soojah.

Rewards now showered from England.

In winter Macnaghten checked the revenue. Very bad. Almost everything had to be met by English subsidies. The Russian expedition to Khiva now known, and its strength greatly exaggerated because of the success in Afghanistan. Runjeet Singh died in Punjab, having already been fatally ill when the [English] expedition set out, and his sons and grandsons intrigued against each other and against the English. In Herat, Yar Mohamed, Shah Kamran's vizier, let the English pay him, and intrigued against them in Afghanistan. In Afghanistan itself the Douranees not pacified, and Khelat in open rebellion. In Bokhara, Stoddart, English envoy, arrested, maltreated and forced to embrace Islam. In the northern mountains on the other side of the Hindu Kush near Khulum the supporters of Dost Mohammed among the Uzbek tribes in unrest (hitherto they had been dubious vassals of Afghanistan).

Admittedly, the Russian expedition was a failure, as Macnaghten ascertained in July, but it was now also established that Nao Nehal

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a Not clear (Engels' remark).— Ed.

b Here, in the left margin. Engels made the following note: "Book IV. 1840 Jan."— Ed.
Singh, heir apparent and actual ruler of the Sikhs, was in direct correspondence and intrigues with the enemies of Shah [Soojah], that he had given asylum to Ghilzye refugees, etc., and was at the same time preparing the betrayal by Yar Shah, who was on intimate terms with the Persians and made himself out to be the most obedient servant of the Shah in Shah.a

Auckland had returned to Calcutta, where Sir Jasper Nicolls was commander-in-chiefb and at the same time a member of the Council. The latter proved that the armed forces in India were already extremely weak. Macnaghten continued to demand that Herat should be conquered and Peshawar taken from the Sikhs, but now of course in vain. He wanted to macadamise the Punjab to enable troops to march through and to create a direct link with India, and continued to demand money and reinforcements, the latter, however, always being denied him. Macnaghten blamed all bad luck on Herat and the Sikhs; in Afghanistan, he claimed, all was in vain since Shah Soojah was very popular!

Meanwhile, in Afghanistan constant insurrections. The Ghilzyes rose again in spring 1840. Captain Anderson, Bengal artillery, defeated them May 16 on the Turnuk river, and Macnaghten promised them a subsidy of £3,000 p.a., yet still they persisted in unrest.

In Khelat the Baluchis rose and recaptured Khelat.

By now all the Englishmen in Afghanistan convinced of the untenability of the position, only Macnaghten obstinately maintained all was well.

In August Conolly sent to Khokand and Khiva.

In the Hindu Kush Azim Khan, Dost Mohammed's son, and shortly afterwards Jubbar Khan, Dost Mohammed's brother, came with Dost Mohammed's family, respectively surrendering and submitting to the English in Bameean. At the same time various engagements with the Uzbeks in the mountains between Bameean and Kamurd, with varying success. Finally Dost Mohammed escaped from Bokhara and went to Khulum, where he gathered an army. Bajgah, a weak outpost in the mountains beyond Kamurd, had to be evacuated August 30 by the Gurkha Regiment of Shah Soojah. A newly formed Afghan regiment went over to Dost Mohammed 2-3 days later. Kabul was ready to break away, the Sikhs were intriguing these directly against the English and giving financial support to Dost Mohammed.

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a Mohamed Shah of Persia.—Ed.
b Engels uses the English word.—Ed.
On September 14 Brig. Dennie arrived in Bameean with the
35th Native Infantry. On the 18th he attacked Dost Mohammed's
Uzbeks, etc., who were debouching from the mountains on
Bameean, and utterly routed them. The wullee (chief) of Khulum
pledged not to give Dost Mohammed asylum and concluded
peace.

But Dost Mohammed reappeared in Kohistan (in the eastern
Hindu Kush). At the end of September Sale marched towards the
Ghorebund Pass against him. On September 29 a number of
fortifications in the pass captured (near Tootundurrah), on
October 3 Joolgah (a fortified village) stormed but repulsed. Dost
Mohammed was everywhere and nowhere, it was often said 40-50
miles from Kabul, where the Balahissar were being armed. At
length Dost Mohammed turned up with a fair-sized army in
Nijrow (where?). Sale marched against him, encountered him at
Purwandurrah and pursued him with his cavalry (Natives\(^a\)) as he
retreated. The latter, attacked by Dost Mohammed's horsemen,
fled immediately (November 2) and were pursued as far as
Kamurd. Thereupon Sale broke off the engagement.

After this victory, however, Dost Mohammed rode to Kabul and
surrendered to Macnaghten.

In October-November unrest in Zemindawer (north-west\(^a\)
of Kandahar) among the Parsewan inhabitants because of the
collection of taxes due from the time of Dost Mohammed, and the
cavalry escort of Shah Soojah's army defeated by these inhabitants:

End of December 1840 Nott sent troops from Kandahar against
them, and on January 3, 1841 the Zemindawer Douranees beaten.
(This insurrection directly instigated by Yar Mohamed in Herat,\(^b\)
who promised to come.) Todd (envoy in Herat) now left his post,
as nothing more could be done with Yar Mohamed, who was
openly admitting his treachery and just demanding more money—
but Auckland disavowed Todd and dismissed him!

The Douranees continued in unrest, and the Ghilzyes also rose
again. The English decided to fortify Khelat in Ghilzye once
again; the Ghilzyes refused to suffer this and banded together.
Nott sent 400 men of the 38th Native Infantry. On May 19 the
Ghilzyes were defeated at Assiai-Ilmee but this failed to bring
calm.

Aktur Khan of Zemindawer with 3,000 men defeated outside
Ghireshk by Woodburn with chiefly Afghan troops (5th Afghan

\(^a\) Engels uses the English word.— \textit{Ed.}

\(^b\) Here, in the left margin, Engels has "1841".— \textit{Ed.}
Infantry, 2 guns, and a few Afghan cavalrymen, who absconded) (in July).

Aktur Khan and another Douranee chief, Akrum Khan, back into the field. Defeated on August 17. This pacified the Douranees for some time.

On August 5 Chambers also defeated the Ghilzyes with Indian cavalry, and Macnaghten was triumphant.

"All quiet from Dan to Beersheba." a

The English in Kabul encamped outside the town, the camp miserably fortified, untenable, dominated everywhere. Elphinstone, an old, sick general, had been in command since early 1841, when Cotton resigned. The ramparts could be surmounted on horseback! All around: gardens, houses and defile paths. The stores were kept separately in a fort, and between it and the camp lay an empty fort with a walled garden, which seemed to be made for a hostile party b to cut off the communications. All this through the fault of the politicalsc who would not permit the occupation of the Bala Hissard.

The English officers and soldiers had intrigued a good deal with the women of Kabul, and the men of Kabul could get no redress.c Widespread fury of the Mohammedans, who finally decided to seek revenge. This at the heart of the fury against the invaders.c

Macnaghten saw everything, as he wrote September 20, 1841, in "couleur de rose".f Meanwhile in September another minor insurrection suppressed in Kohistan.

The Indian finances ruined by the Afghan war. Every year £1 1/4 million went to Afghanistan, and Nicolls maintained that either the Punjab had to be conquered or the force in Afghanistan to be brought up to 25,000. A new Indian loan issued. 9,000 Indian troops encamped between Karachi and Quetta, 16,000 infantry and Shah troops in Afghanistan itself. Now a ministerial crisis in England, prospects of a Tory administration opposed to all trans-Indus expeditions. (Macnaghten so blind that when the loan was issued he asked if it was intended for the Chinese

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b Engels uses the English words "hostile party".—Ed.
c Engels uses the English word.—Ed.
d Kabul's citadel which became Shah Soojah's residence.—Ed.
e Engels uses the English words "could get no redress" (paraphrase of Kaye's words).—Ed.
war!—The 44th Queen's Regiment under Shelton sent to Kabul in the spring.

Macnaghten appointed Governor of Bombay. Before departing he saw the necessity of restricting expenditure. Firstly by curtailing the subsidies to the chieftains of the Ghilzyes, Kohistanees, Momunds, Kaubulees, Kuzzilbashies. This decided it. The summoning of the chieftains to Kabul resulted immediately in a conspiracy, and they decided that the Ghilzyes in the mountains to the south of Jellalabad should rise first. This they did.

Macnaghten, however, decided, as all was quiet, to send some of the troops to India. One regiment in Kabul and one in Kandahar were sufficient succour[b] [to Shah Soojah's troops]. So he set out, on his return joining up with troops who were to take punitive measures on the way.

On October 9 the 35th Regiment Native Infantry, a cavalry squadron and two guns set out.... At Bootkhak the camp attacked. On the 10th Sale followed [Monteith] with the 13th Infantry Regiment and on October 13 arrived at the pass of Khurd-Kabul. Heavy fighting, but the English pushed through and Sale returned to Bootkhak. Monteith with the 35th Native Infantry was attacked every night in the mountains and robbed of all his camels. Admittedly peace concluded with the chieftains and promised to continue paying the old subsidies, but no go. [c] The tribes went on fighting and the chieftains laughed up their sleeves. From Tezeen to Gundamuck continual fighting, and it flared up again on the other side of the Jugdulluck. There the outlet from the defile was captured.

Sale was in Gundamuck. Macnaghten still considered it unimportant.

Kaye, War in Afghanistan, Vol. II.

The conspiracy of the chieftains in Kabul was known to Burnes and Macnaghten (the latter had not yet left) but nothing was done. On the evening of November 1 a meeting of the conspirators, decision to start an insurrection in the town in the morning, beginning with an attack on the residence of Burnes, who lived in the town.

November 2 Burnes' house destroyed and he and his guards

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[b] Engels uses the English word.— Ed.

c Engels uses the English expression.— Ed.
murdered. The English did nothing. *Ordre, contre-ordre, désordre.*
Elphinstone weak. Shah Soojah wanted no troops in the Bala Hissar! and they gave in to him!

**November 3.** Not until 3 p.m. **three** companies and **2** guns sent against the town! Repulsed, of course.\(^b\)

The fortified camp of the English (bastioned stockade continued\(^c\)) much too big for the few troops there, moreover dominated. Food supplies in a fort 400 yards removed from the S.W. corner of the camp!! Between the two lay an old earth fort with walled gardens, which was not occupied, and Macnaghten forbade its occupation!! This place (Mohamed Sheriff’s Fort) immediately occupied by the Afghans, the camp fired upon and the commissariat fort attacked (only 80 men inside!).

**November 4** three **rei**\(^d\) companies sent to the commissariat fort forced to turn back. Likewise a cavalry expedition sent to *fetch* (!) the garrison out of the commissariat fort. In the night the garrison evacuated the commissariat fort, which was immediately plundered. All the medical stores, beer, wine, etc., were lost together with the food supplies. A more distant fort where corn had been stored had already been evacuated the night of the 3rd on account of the weakness of the garrison and water shortage.

The Kohistan Regiment of Shah Soojah in Kardurrah rebelled and killed their officers.

**November 5** Elphinstone already talking of *bribing* the enemy and of negotiations!

**November 6** Mohamed Sheriff’s Fort finally captured and destroyed. Otherwise nothing happened. Some corn purchased in the surrounding villages. Elphinstone writes to Macnaghten:

> “Our case is not yet desperate [...] but it goes very fast.”\(^e\)

**Mohun** Lal, Burnes’ moonshee, sent as negotiator to the mountain tribes, in order to *bribe* the chieftains. But also secretly to pay rewards *for the heads of the most furious* (10,000 rupees a piece\(^f\)).

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\(^a\) Napoleon’s words.—*Ed.*

\(^b\) Engels uses the English expression “of course”.—*Ed.*

\(^c\) Engels uses the English word.—*Ed.*

\(^d\) The abbreviation “rei” used by Engels may stand for the English “reinforced”.—*Ed.*

\(^e\) From Elphinstone’s letter to Macnaghten of November 6, 1841 (J. W. Kaye, op. cit., Vol. II, p. 39). The quotation is in English in the manuscript.—*Ed.*

\(^f\) Engels uses the English words “rupees a piece”.—*Ed.*
Elphinstone quite ill, at a loss, undecided, depending on whoever spoke last, ordre, contre-ordre, désordre.

November 9 Brig. Shelton, who was in the Bala Hissar with the Shah's troops, called to the camp as second in command\(^a\) and as ad latus\(^b\) of Elphinstone, but the two constantly at loggerheads.

Sale's brigade was now to return from Gundamuck, to relieve them.

November 10 the Afghans en masse on the dominating foothills, fired into the camp. At Macnaghten's insistence, 1,000 men were to attack. No sooner were they assembled than counter-order from Elphinstone. Eventually sent however. A small fort captured, but the troops in the open field fled from the Afghan horsemen (Europeans! and natives\(^c\)). However, the enemy finally repulsed.

November 13 the Afghans again on the mountain, bombarding the camp from the heights of Beh-meru with 2 guns. Macnaghten wanted to attack, Shelton did not, overruled\(^c\), and 16 companies, 2\(\frac{1}{2}\) squadrons, 2 guns sent out, among them Shelton himself. The Afghan horsemen charged again and again through the English infantry, repulsing them and being repulsed themselves by the cavalry. The infantry then followed and took the heights and the 2 guns. Last success of the English.

November 15 Pottinger arrived from Kohistan wounded: the Shah's Gurkha Regiment annihilated by the mountain tribes.

November 17 news that Sale was marching towards Jellalabad. Last hope gone west. Now only a choice between occupation of the Bala Hissar, retreat or capitulation. Shelton succeeded in asserting his view that the Bala Hissar should not be occupied (his reasons childish), which alone would have made wintering possible.

November 23 second engagement at Beh-meru. The English marched out, totally defeated, lost 2 guns. The artillery alone fought well, the infantry, Europeans and Sepoys, cowardly. Chased back in disorder over the plain into the camp by the Afghans.

Now they could no longer (in Elphinstone's opinion) enter the Bala Hissar without sacrificing some of the 700 wounded and sick and almost all the stores\(^c\), ammunition and food. On half rations for the past few days! Therefore negotiations. The Afghan chieftains demand (November 24) unconditional surrender. Rejected.

\(^a\) Engels uses the English phrase.—*Ed.*

\(^b\) Assistant.—*Ed.*

\(^c\) Engels uses the English word.—*Ed.*
Mahomed Akbar Khan, Dost Mohammed's son, arrived in Kabul and became chief of the Afghans. He immediately took steps to cut off all the supplies\(^a\) of the English, and succeeded.

Abdullah Khan and Meer Musjedee, the two chieftains on whose heads the English had placed a reward, eliminated before the end of November. The first was wounded at Beh-meru by a dubious shot (second engagement) and was then allegedly given poison; the second probably poisoned or suffocated. The rewards claimed, but the English refused payment.

December 1-8 shortages in camp. Horses dying. March on Jellalabad declared impossible. Likewise a capitulation, which, it was said, could provide no protection against the tribes in the mountains. Macnaghten now wants [to move to] the Bala Hissar. December 5 the Afghans burnt the English bridge over the Kabul, \(\frac{1}{4}\) mile from the camp, without the English attempting to prevent them. December 6 Mohamed Sheriff's Fort evacuated. (5,000 men still fit for duty.\(^b\)) [The garrison of the fort consisting] of 100 men [were put to flight by] 20 Afghans who had climbed up the walls of the fort!!

The generals pressed for capitulation or retreat, which was admittedly almost impossible. Macnaghten hesitated. On the 10th news that the relief force from Kandahar, for which they had been hoping, could not get through. On the 11th everything eaten up down to the last scrap. The soldiers had become so cowardly that they were no longer fit for fighting.

December 11 capitulation. The whole of Afghanistan to be evacuated. The British troops in Kabul to go to Peshawar. Shah Soojah to accompany them or remain, as he chooses. Dost Mohammed returns. 4 British officers as hostages. Nevertheless, peace and friendship between Afghanistan and England (even a clause inserted stating that the Afghans were not to enter into any alliance without the consent of the English). The treaty accepted in the main by word of mouth.

During the entire period of the English defensive and sluggish offensive the Afghans distinguished by their use of long-range long flintlocks (jezails). They were always out of range of the poor smoothbore muskets of the English.

December 13 the Bala Hissar evacuated by the English.

December 16 the forts round the camp (small Afghan fortifications) evacuated in return for deliveries of supplies, which proved

\(^a\) Engels uses the English word.— Ed.

\(^b\) Engels uses the English expression “fit for duty”.— Ed.
to be very scanty. The Afghans suspicious, sent nothing and scoffed at the treaty.

December 18 snow. December 19 dispatch of Macnaghten's order that Ghuznee, Kandahar, Jellalabad should be evacuated. The chieftains disunited and suspicious. On December 22 Mahomed Akbar Khan had the proposal put to them that they should associate with the English, leave Shah Soojah on the throne, make him, Mahomed Akbar Khan, vizier and immediately defeat the other Afghan tribes, and let the English remain until the spring, when they should retire peacefully. Macnaghten walked into the trap, arrived on the 23rd to conclude the matter—and was murdered. The generals sat back and let this happen!

January 1 [1842] the treaty at last. The English to march, as soon as they have cattle, accompanied by Afghan chieftains. The troops in Jellalabed to march even earlier. Those in Ghuznee via Kabul, those in Kandahar direct [to India]. 6 British officers as hostages. The Afghans to conclude no alliance without the consent of the English, but may, in return, claim English help too (if this not ratified, the Afghans to do as they like). All guns except 6 horse-drawn and three small mule-drawn (mountain) guns to remain, likewise all remaining similar weapons, ammunition and stores.a

In addition all the casha (19 lakhs) remains, and bills of exchange for 14 lakhs signed for individual chieftains, to whom Macnaghten was alleged to have promised this.

Immediate warning from all parties that they would be attacked during the march. But que faire?b At first Pottinger refused to conclude this treaty, since reinforcements were on the way from India and there was great dissension among the chieftains, nor did the treaty offer any guarantee of a safe withdrawal. But a council of war (December 25) ordered it.

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a Engels uses the English word.—Ed.
b What was to be done?—Ed.
Karl Marx

EXCERPTS FROM THE ARTICLE "BLUM" PUBLISHED IN MEYER'S CONVERSATIONS-LEXICON

Mr. (Meyer)—Popular (i.e. pulp) eloquence. Steger.

Blum (Robert) born in Cologne, November 10, 1807. His father (unsuccessful budding theologian) [became a] journeyman a cooper. “Mother, a servant from the country, earned additional income by sewing.” Father † 1815: “entire responsibility for supporting the 3 children fell to the mother”. In 1816 she married an absolutely brutal bargee b (first smuggler, later a soldier in the service of Spain and Portugal). Unhappy marriage. Appalling peak of distress in the famine year of 1816-17. 1817 [Robert Blum] sent to elementary school. 1819 communion; then employed as acolyte, “which entailed free tuition in the church school” as well as bringing in money. Clash with the priests because of embezzlement and over transubstantiation. Breach of the sacred seal of confession. End of his religious activity. Artisan first as goldsmith, then girdler; journeyman’s travels; “finally had to return to Cologne. There found work in a lantern factory”. “The boss, F. W. Schmitz, [...] transferred him to the office”, took him on trips to London, Württemberg, Bavaria; lived for six months in Munich. Then to Berlin; studied there diligently (1829-30). Self-taught c Military service in the meantime. “In April 1830 Blum had to join the fusilier battalion of the 24th Infantry Regiment in Prenzlau, [...] only for 6 weeks, [...] was placed on the reserve.” Meanwhile Schmitz to Belgium and France. Blum had to return to Cologne, where his father ill and unable to earn. Becomes a theatre employee (to help the family a) under director Ringelhardt. “As such he had to handle all the dealings between director and actors, [...] to handle parts and money, to announce performances and rehearsals.” “In addition” Blum “was a poet, and was in touch with several respected editorial boards. [...] The then precarious times allowed him to be less sensitive at times to this [in]congruity, earned him a standing in the social life of Cologne far exceeding his material circumstances at the time”. Blum one of those who set the tone for the politicising circles of Cologne. Writes for freedom “in the face of the ‘tremendous’ d obstacles raised by censorship”.... “His own studies at this time

a Marx uses the English word.— Ed.
b Kaspar Gd. Schilder.— Ed.
c In the manuscript this word is written above the line.— Ed.
d This word is given in quotes by Marx.— Ed.
included nothing less than the entire dramatic literature insofar as it was available at the Cologne Theatre Library.” In 1831 Ringelhardt left Cologne. Blum a bailiff’s clerk. In the winter again a theatre employee. Became theatre secretary and assistant cashier for Ringelhardt in Leipzig; after a few years head cashier. Writes contributions to Komet, Abend-Zeitung and Elegante Zeitung.a The Theaterlexikon with Herlossohn and Marggrauff, Verfassungsfreund with Steger (3rd issue confiscated, and that was the end of that), the pocket book Vorwärts.

Blum’s political activity began in 1837, when, as spokesman of the deputation at the Leipzig citizens’ celebration for deputies Todt and Dieskau, he presented them with cups of honour. In 1840 among the first founders of the Schiller Association, from 1841 its president, promoter of this “fine annual celebration”. “In 1840 takes part in the initial preparations for the Writers’ Association, its co-president from 1841.” Sächsische Vaterlands-Blätter. “Buys himself a property which, according to the stipulations of the Constitution, makes him eligible to the town council and the Provincial Diet.” Ronge’s letter calling for a reform of the Catholic Churchb; Blum supported it in the Vaterlands-Blätter; from 1845 heads a community of the German-Catholic Society.

(Up to here Blum’s own biography both in Meyer and Steger.)

On August 12, 1845 a detachment of riflemen (Leipzig) fired on a crowd in the midst of which excesses against a prince of the royal housec had earlier been committed, 7 people killed, not one of them a rioter; the civil guard partly not summoned, partly held aside on the square itself. Terrible unrest in the morning meetings of citizens and students to storm the riflemen’s barracks.

“Blum [...] spoke in favour of observing the legal procedures. Everyone followed him to the riflemen’s house, where for several days orderly discussions took place on how to exact atonement for the blood that had been shed.” Blum taken to court for various speeches. The Sächsische Vaterlands-Blätter suppressed. In 1847 Blum also prosecuted for a protest of the Leipzig citizens against the extraordinary assembly of the estates of 1847 as being unconstitutional. Blum gives up his job as theatre cashier and founds a bookseller’s. Writes Weihnachtsbaum (biographies of free-thinking Germans) and a Staatslexikon für das deutsche Volk. “In autumn 1847 elected an unpaid member of the municipal council by the Leipzig city councilmen. The district board withheld its confirmation”; written appeal by Blum. “His political activity in Leipzig now devoted to the ‘Oratory Society’, which he founded with men of like mind.” February 1848 worked [“to overthrow the government”]. Central figure of his party for all Saxony.” Founds the Fatherland Association, soon more than 40,000 members; resumes publication of the Vaterlands-Blätter. Blum vice-president in the Preliminary Parliament, averts the threatening breach between north and south. “Opposed to the mass withdrawal of the Left.” Member of the Committee of Fifty. Elected to the Frankfurt Parliament. Blum’s “coquetry in all directions” and vacillation. In his report on his activity in parliament [he wrote]: “We want, then, the republic at the head of the whole state. But while we want this, we decidedly reject the idea of ever laying a hand on the transformation of conditions in

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a Zeitung für die elegante Welt.—Ed.
b A reference to the open letter of Johannes Ronge, founder of the “German Catholics” movement, to Bishop Arnoldi of Trier, dated October 16, 1844.—Ed.
c Johann of Saxony.—Ed.
the individual states—we would consider that a misfortune and a piece of folly. Our fatherland is constructed in such a way that its tribes must remain independent; on this rests its most beautiful life. And there is not a man in Germany who would commit the folly, if he could, of intervening in the conditions of the individual states in favour of republican forms.... No, my fellow citizens! It is a lie that has made us think of the creation of individual republics: we would be the first to oppose efforts of an entirely republican National Assembly to intervene in the individual states.”

“When the news of the Vienna rising reached Frankfurt, Blum was the first to propose issuing an address. [...] Extreme Left and Left came together. [...] Blum, Fröbel, Dr. Trampusch and Moritz Hartmann were chosen to deliver the address. On October 13 they left Frankfurt, [...] 17th October in Vienna. The City Council received them at a plenary meeting. Blum acts as spokesman. [...] From his reports in the Reichstagszeitung one sees that the movement completely captivated him.” Glowing admiration for the Viennese; enters the hall armed. “Commands a barricade in the days of the fighting. [...] After the storming of Vienna Blum stays calmly in his hotel when it is surrounded by soldiers”, he is taken prisoner. “Blum denied not a single speech or action” in front of his judges. On November 8 death by the rope, the bullet substituted out of mercy. Early on November 9 shot in the Brigittenau. Leaves a widow and 4 children. Solemn memorial ceremony. Collection of 40,000 talers for them. “Stormy meeting of the National Assembly on November 14”; von Schmerling: “Those who venture into peril perish in it.”

Excerpts made in late August and September 1857
Excerpts from the Article “Blum” 393

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a Eugenie Blum.— Ed.
b Schmerling quoted this dictum of Jesus Sirach (3:27) in his speech in the National Assembly (November 17, 1848) on the occasion of Robert Blum’s shooting.— Ed.
c This concerns an extant portrait of Blum.— Ed.
Bourrienne (Louis Antoine Fauvelet de), biographer of Napoleon Bonaparte, born in Sens, July 9, 1769, the same year as Napoleon, also entered the same year, 1778, the military school in Brienne. Approximately 6 years together in this house. "Of the 2, Bourrienne, [...] the more promising scholar: [...] in 1783, when Bonaparte, then about to leave the school, took a prize for mathematics, Bourrienne gained 7 premiums for languages and other accomplishments."b

We find the signs of Bonaparte's future greatness most clearly disclosed in Bourrienne in the very passages where the latter thrusts himself forward and leads us to believe that luck favoured Bonaparte when it really ought to have favoured the author of the memoirs. Bourrienne brings the greatness of his hero into full relief by constantly thrusting himself alongside him or in front of him.

"Adopting diplomacy, 1789, to Vienna as clerk or attaché to the embassy of the Marquis de Noailles, ambassador of Louis XVI, at the court of the Austrian Emperor Joseph; after a few months to Leipzig, to study international law and the English and German languages"; then to Warsaw, well received (1791) at the court of King Poniatowski; translates there, in literary fit, Kotzebue's L'Inconnu; 1792 return to Parisc; again he meets up with Bonaparte; both of them fare poorly; talks pitifully of Napoleon's financial difficulties. Bourrienne obtains post as secrétaire d'ambassade à Stuttgart, but scarcely arrived there, "when the overthrow of Louis XVI's throne caused him to lose this post".

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a The words "biographer of Napoleon Bonaparte" are in English in the manuscript.—Ed.

b Marx quotes in English from The English Cyclopaedia.—Ed.

c Here Marx paraphrases, partly in English and partly in German, a passage from The English Cyclopaedia.—Ed.
Bourrienne evaded the dangers of the terror by a prolonged stay abroad.

Placed on the list of émigrés. 1794 marries in Leipzig. 1795 returns to Paris with his wife, Bonaparte then out of employment\(^a\) as général de brigade à l'armée d'Italie.

With his customary pettiness Bourrienne again misrepresents his meeting with Bonaparte in Paris.

October 5, 1795 (13th Vendémiaire\(^{415}\)) gives power\(^b\) to Bonaparte, "placed at the head of the army of the interior" (i.e. of Paris); Bourrienne reproaches Bonaparte saying that he "had become colder towards his friends".\(^c\)

On Bourrienne's own admission this applies only to people like him, who boasted about their acquaintanceship with Bonaparte or desired to obtain through it in an underhand way offices and posts which they did not deserve.

Bourrienne arrested (February 1796) as an "émigré, his name not having been crossed off the fatal list". His wife turns to Bonaparte; the latter very cold. "The pity of a justice of the peace saved Bourrienne." Bonaparte (1796) commander-in-chief of the army in Italy; Bourrienne writes to him; Bonaparte invites him\(^d\); "it was at the end of the campaign of 1797, at the moment when the preliminaries of Léoben were being signed,\(^{416}\) that Bourrienne arrived at the headquarters at Gratz". From the first day writes\(^b\) at the dictation of Napoleon, follows him after the Peace of Campo Formio to Rastatt, Paris, Egypt, "returns with him", with him during the Marengo campaign,\(^{417}\) "received the title of Councillor of State. Lodged at the Tuileries in the same apartment and almost the same room as the first consul, at all hours of the day and night he had to answer his call and the orders of the most active man", etc. No money "was enough for the insatiable Bourrienne; he abused [...] his credit in order to obtain unlawful gains". Bonaparte "reproaches him severely". "Bankruptcy of the firm of Coulon, [...] who thanks to him had been charged with supplying all the equipment of the cavalry." Bankruptcy to the tune of 3 million. The head of the firm disappeared. "Bourrienne accused of causing his flight, and even his death, either in order to share the deficit with him or to appropriate it all for himself. A criminal action was about to be brought against him by the creditors when he was saved by the pretended disgrace with which Bonaparte punished him, and by an honourable exile to Hamburg"—1802, with the "title of French chargé d'affaires in the district of Lower Saxony. His mission in this post, according to the instructions of the Minister of Police, was above all to observe the actions and the secret relations of the royalist agents in the different cabinets of the Continent with England" (army contractors\(^e\) of Coulon). Later Bourrienne in Hamburg, his mission being to

\(^{a}\) Marx uses the English words "out of employment".—*Ed.*

\(^{b}\) Marx uses the English word.—*Ed.*

\(^{c}\) Marx quotes in English from *The English Cyclopaedia*.—*Ed.*

\(^{d}\) Marx uses the English words "Bonaparte invites him".—*Ed.*

\(^{e}\) Marx uses the English words.—*Ed.*
implement the continental system, i.e. "to stop and seize all merchandise and capital suspected of coming from England". "Complaints against Bourrienne for extortion and embezzlement" (among the claimants Emperor Alexander himself on behalf of the Duke of Mecklenburg). Bonaparte sends M. Augier de la Sauzaye as "commissary to inquire and report". His report "that one could safely make the chargé d'affaires return 2 millions; he [...] had apparently laid the Duke of Mecklenburg under contribution [...] for 40,000 friedrichsdors and 2 bonds for a similar amount; [...] Hamburg senate 750,000 marks banco (about 2 millions)—Napoleon reduced it [...] to 1 million". "Bourrienne [...] had to refund to the Imperial Treasury" but he did not have much of it left; a taste for excessive expenditure, [...] imprudent speculations in commerce and on the Stock Exchange"; utterly disgraced and ruined.

Showed great joy at the fall of Napoleon.

"Was one of the first to hasten over to Talleyrand, who made him postmaster-general on April 1. [...] The Provisional Government also refunds him the million." "Louis XVIII dismisses him from that post." But March 1815, at the rumour of Napoleon's return from Elba, Louis XVIII's prefect of police; "after a week has to flee"; by decree of Lyons March 13 Napoleon includes him among the members of the Provisional Government not affected by the amnesty. Follows Louis XVIII to Belgium, "appointed his minister in Hamburg, probably again with an observation mission". "On his return to Paris appointed" councillor; then minister of state; elected member of the Chambre introuvable by the department of Yonne; likewise 1821 to the Chamber, member and spokesman of the budget commission, seeming very strange that "a man known for his corruption and extravagance is charged with examining the finances of the state. [...] His affairs so bad that obliged to flee to avoid the legal proceedings of his creditors" (1828). At the home of the Duchess de Brancas, at Fontaine-l'Evêque, near Charleroi, here "writes his memoirs, put in order and edited by Max de Vilmarest, Paris 1829, 10 vols. in 8vo". Went mad after the July revolution. February 7 in a lunatic asylum (hospital for the insane) in Normandy, near Caen. "He could never write the word 'Millions' without a kind of nervous agitation, and fidgeting in his chair." 

(Biographie universelle. English Cyclopaedia No. 5—entirely copied from this.)

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a Marx uses the English words "continental system".—Ed.
b Marx quotes in English from The English Cyclopaedia.—Ed.
c Marx uses the English words.—Ed.
d Marx uses the English words "disgraced" and "ruined".—Ed.
e Marx uses the English term.—Ed.
f Marx uses the English words "in a lunatic asylum (hospital for the insane)".—Ed.
Brune (Guillaume-Marie-Anne), Marshal, was born at Brives-la-Gaillarde, in the department of Corrèze, in 1763. His father, an advocate, sent him to Paris, there to study the law. On leaving the university, financial difficulties induced him to become an apprentice-compositor, and in such quality, in 1788, he printed a literary essay of his own entitled: "Voyage pittoresque et sentimental dans plusieurs provinces occidentales de la France". Having acquired a small press of his own (Setzerei a), he published, in the first time of the Revolution, together with Jourgniac de St.-Méard and Gauthier, the Journal général de la Cour et de la Ville, one of the aristocratic papers which disappeared after the 10th of August.421 Brune, however, soon turned his back to this aristocratic print, enlisted in the guard-national, there drew attention upon himself by his martial figure and the ardour of his patriotism, became an adept of the club of the Jacobins, and decided partizan of Danton. To the protection of the latter he owed, during the famous days of September 1792, his appointment as adjunct to the adjutants généraux of the Interior, and his sudden promotion (on October 12, 1792) to the rank of coloneloadjutant-general. In this quality he first served under Dumouriez in Belgium. Sent afterwards against the federalists of Calvados, advancing under General Puisaye, he carried an easy victory since the federalist army, from different causes, melted down to a handful of men. In reward for his exploit, he wanted now to be created minister-of-war, but was put off with the advancement to the rank of general of brigade, in which quality he assisted at the battle of Hondschoote. The Committee of the Public Weal called him back,

a Composing-room.— Ed.
and intrusted him with the mission of putting down the symptoms of insurrection manifesting themselves in the Gironde, a task he vigorously executed. After Danton's imprisonment, Brune was expected to put himself at the head of a mob in order to deliver his friend, but he stood prudently aloof. The storm having passed away, he insinuated himself with the family Duplays, with whom Robespierre lived, and thus contrived to be not molested during the reign of terror. After the 9th Thermidor, he again appeared on the public stage in company of Robespierre's deadliest enemy, Fréron, whom he followed as "pacificator" to Marseilles and Avignon. On the 13th Vendémiaire he was employed by Barras as one of the under-generals (*mitraillade*), commanding the royalist sections of Paris under the command-in-chief of Bonaparte. After the affair of September 9, 1796, in which he had displayed all his energy against the Babouvists, he joined Bonaparte in Italy, and commanded a brigade of division under Masséna. He distinguished himself by his intrepidity during the whole of this campaign. (Sieh b Schlosser.422) Brune's old connexion with the Dantonists, whose ranks were composed of bold adventurers, made it desirable to Bonaparte to secure him as one of his tools. Hence he made him general-of-division on the battle-field of Rivoli, mentioned him honourably in the bulletins, and induced the Directory to confide him the second division of the Italian army, become vacant by the depart of Augereau.

After the peace of Campo Formio he was sent by the Directory to lull the Swiss into security, to divide their councils, to fall at the proper moment upon the canton of Berne with an army concentrated for this purpose, and there to plunder the treasury of Berne, which latter delicate mission peculiarly answered Brune's rapacious instincts. In plundering the treasury of Berne, Brune took care to forget drawing up an inventory of it. It was again by manoeuvres of a diplomatic rather than a military character that, as commander of the army in Italy, he persuaded Charles Emmanuel, the king of Sardinia, then the apparent ally of France, to deliver into his hands the citadel of Turin (3 July 1798).

The Batavian campaign against the Anglo-Russians who had invaded Holland,—a campaign lasting 2 months, opened on 22 Août c 1799, the capitulation of the Duke of York, signed on the

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a Grape-shot fire.—*Ed.*

b See.—*Ed.*

c August.—*Ed.*
18th October of the same year—forms the great event in Brune's military life. An English squadron debarked on the coasts of Holland with 45,000 men under the Duke of York; Brune's army 25,000 men only; Brune charged the generals Daendels and Dumoncel, the one of the defence of the province of Holland, the other of the Eastern provinces, reserving for himself a reserve with which he would be able to turn on any points menaced. The Anglo-Russians having disembarked their matériel after a lively combat with Daendels, entered the Texel, occupied the Helder and seized upon the Dutch fleet, Brune concentrated his forces before Alkmaar and attacked the allied on the 9th September, but without success. On the 18th, the Anglo-Russians, in their turn, attempted dislodging him, but a Russian column being cut off and forced to capitulate, the Duke of York retreated, and both armies re-occupied their prior positions. (This battle at Bergen.) Both armies did nothing from the battle of Bergen to the 2nd of October. This inactivity a great fault on the part of the army which was more numerous and which received its provisions by the sea only. Brune profited by it for strengthening his position and swelling his army. The vigorous attack made by the enemy under Abercromby, on the 2nd of October, in which Brune was near being cut off his retreat, he lost 4,000 men, and was obliged to transfer his headquarters to Beverwikcop-Zee and Kiommen-Dig, where Brune occupied an excellent position. It was only on the 6th that the Gallo-Batavian lines were again attacked. York took Limmen and Askerloot, while the Russians rendered themselves masters of Bakkum; but when they had arrived before Castricum, Brune routed them completely. A cavalry charge completed their defeat, and threw them back into their positions. (This: battle of Beverwyk.) York retired to his encampment behind the Zyp. Having destroyed the maritime establishments, cut upon the digues, laid fire to the buildings of the East India Company, he embarked himself for England; and in order to see this operation not troubled, he negotiated a capitulation, ignominious for the English, which stipulated, among other things, the free and unconditional renvoi of 8,000 French made prisoners before this campaign.

In 1800 he was sent to the army of Italy en remplacement de Masséna. After the battle of Marengo an armistice had been

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a Dams.—Ed.
b Return, delivery.—Ed.
c In the place of Masséna.—Ed.
concluded with the Austrians. The hostilities recommenced on 24 November. Brune seized upon 3 entrenched (retranchés) camps at the Volta, threw the enemy beyond this river, and prepared instantly to traverse it. According to his orders, his army ought to pass at two points, one between the moulin\(^a\) of the Volta and the village of Pozzolo, the other at Monbazon. This second part of the operation having encountered difficulties, Brune gave order to delay it for 24 hours, although the right wing, which had commenced to pass at the other point, had already engaged with the Austrians. It was but due to the exertions of General Dupont that the whole right wing was not captured or destroyed, and Brune forced to retreat without ever crossing the Mincio. Napoleon says that from this moment it had become evident that Brune was not made for the command-in-chief of armies.

Returned to the state-council, a member of which he had been since its creation, he was nominated president of the section of war. From 1802 to 1804, as French ambassador at Constantinople, he cut a sad figure. Recalled in December 1804, he was, on his return to Paris, appointed marshal of the Empire. He commanded for a while the camp at Boulogne. Being sent to Hamburg in 1807 as governor of the Hanseatic towns and commander of the reserve of the grand army, he vigorously seconded Bourrienne in his extortions and "concussions". A truce having been concluded at Schlatkow now between the French and the King of Sweden, he had, with regard to some contested points, a long interview with Gustavus, King of Sweden, near Anklam, in Pomerania, which seems to have given rise to suspicions on the part of Napoleon. When, afterwards, in the surrender of the island of Rügen by the Swedish general Toll, agreeably to a convention with Brune, the latter omitted in the text of the convention the titles of the Emperor Napoleon, and mentioned simply the French army and the Swedish army as parties to the agreement, Napoleon highly incensed. Berthier, by express order, had to write him that "no such scandal had ever been since the time of Pharamond".\(^b\) (He made mention of the "French army" instead of "the army of his Imperial and Royal Majesty".\(^c\)) He lost his commandment, and retired to the department of Escaut to preside over an electoral college. One moment his indiscreet complaints of the imperial

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\(^a\) Mill.—Ed.

\(^b\) Marx quotes from the article "Brune" published in Biographie universelle (Michaud) ancienne et moderne, t. 6, p. 19.—Ed.

\(^c\) "Capitulation de l'île de Rugen, en date du 7 Sept. 1807" (G. F. Martens, Recueil des principaux Traité, I, t. VIII, pp. 695-96).—Ed.
injustice threatened him with being ordered to restitute part of his plunder. Now cajoled Berthier, courtisait\(^a\) the emperor.

In 1814 he sent his adhesion to the acts of the senate against Napoleon and act of adhesion to Louis XVIII,\(^b\) who gave him the cross of St. Louis; but as the royal favours went not farther, Brune became again Bonapartist. During the "Hundred Days", he commanded under Napoleon a corps of observation on the Var, in which quality he developed all his brutal vigour against the Royalists. After the battle of Waterloo he proclaimed the king, and leaving his corps, was travelling from Toulon to Avignon on the way to Paris, when a furious mob forced its way into the inn at Avignon, where Brune was, insulted him as one of the Septembriseurs of 1792, blocked him up, removed the obstacles which he had thrown up, penetrated to his room, and shot him. The mob seized up his cadaver, dragged it through the streets, and threw it into the Rhône.

Nothing more notorious than his cupidity and greed.\(^c\)

"For more than a fortnight Avignon was consigned to turmoil, carnage and fire when, on August 2, 1815, Brune arrived there with two aides-de-camp and stopped for breakfast at the Hotel Palais-Royal where the horse relay station was. Recognised by an army veteran who had pointed him out to the curious, he regained his carriage about an hour later. A hundred steps from the town gates, where his passport was checked, the populace set upon him, throwing stones at his carriage and forcing him to return to the hotel he had just left. The crowd in the square kept swelling, and clamoured for the head of the man who had been pointed out to it as the assassin of the Princesse de Lamballe."\(^d\)

Napoleon said at Saint Helena:

"Brune, Masséna, Augereau, and many others were intrepid depredators."\(^e\)

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Published for the first time

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\(^a\) Flattered.—Ed.

\(^b\) *Le Moniteur universel*, Nos. 94 and 98, April 4 and 8, 1814.—Ed.

\(^c\) The beginning of this sentence is in German, the end is in French; the remaining part of the manuscript is also in French.—Ed.

\(^d\) *Les Événements d'Avignon*, Paris, 1818. Quoted from *Biographie universelle (Michaud) ancienne et moderne*, t. 6, p. 19.—Ed.

\(^e\) Las Cases, *Mémorial de Sainte-Hélène*. Probably quoted from the article "Brune" published in *Biographie des célébrités militaires*, t. 1, p. 243.—Ed.
Bülow (Friedrich Wilhelm, Baron von, from 1814 Count of Dennewitz, Royal Prussian general of infantry, etc.) born February 16, 1755 at the Bülow family estate of Falkenberg in the Altmark. In his 14th year he entered the regiment of Count Lottum in Berlin as a Junker. 1772 ensign, 1777 second, 1786 first lieutenant. 1793 staff captain and tutor of Prince Ludwig Ferdinand of Prussia, in which capacity he took part in the 1793 campaign, soon promoted to major. During the siege and capture of Mainz (1793) he provided brilliant proof of his courage.

In 1806, as lieutenant-colonel, to which rank he was promoted in 1805, he took part in the defence of Thorn under General L'Estocq and at the battle of Waltersdorf found the opportunity to bring himself and his battalion to the fore. In 1808 he became major-general

and commander of a Pomeranian brigade which he had been given temporarily at the beginning of the year as colonel. 1811 he was posted to the West Prussian brigade at Marienwerder and at the outbreak of the Franco-Russian war\(^a\) he was made interim Governor-General of East and West Prussia.

At the beginning of the 1813 campaign lieutenant-general, entrusted with the siege of Stettin. Relieved by General Taudenzien, he then allied himself with generals York and Wittgenstein, marching to confront the French army detachment that had moved to the right bank of the Elbe under the viceroy of Italy.\(^b\) He fought the first successful battle at Móckern\(^c\) on April 5, shortly afterwards capturing Halle,

which, however, he was soon forced to evacuate again owing to the retreat of the allied army.

\(^a\) Of 1812.— Ed.
\(^b\) Eugène Beauharnais.— Ed.
\(^c\) Known also as the battle of Dannigkow.— Ed.
Withdrew across the Elbe in order to take over the defence of Berlin, which Oudinot was threatening.

Victory at Luckau on June 4 crowned the enterprise.

"After the ceasefire commanded the 3rd Prussian Army Corps under the supreme command of the Crown Prince of Sweden."\(^a\) At the head of the 3rd Prussian Army Corps "saved Berlin a second time by the battle of Grossbeeren on August 23"; shielded Berlin for the third time by the battle of Dennewitz, September 6,

in which he forced Marshal Ney to retreat to Wittenberg.

"After laying siege to Wittenberg he fought with the northern army in the battle of Leipzig. [...] While the allied armies advanced over the Rhine he broke into Holland, took Doesburg, Jütpfen, Arnheim by storm, setting up his headquarters in Utrecht on December 2, and invested Gorkum and Herzogenbusch. In 1814 he marched from Breda, was victorious at Hogstraten on January 11, bombarded Antwerp, entered Brussels, captured la Fère and Soissons, joined up with the Silesian army, commanded the centre at the battle of Laon, March 9 and 10." Knight of the Order of the Black Eagle, appointed general of infantry. "After the peace he was made Governor-General of West and East Prussia and on the renewed outbreak of war in 1815 was given the 4th Prussian Army Corps. Owing to a delayed order not present at the battle of Ligny (June 15),\(^b\) but after his union with Blücher, achieved by a forced march, he helped to decide the outcome of the battle of Belle Alliance.\(^425\) For this the Boor\(^c\) appointed him Honorary Colonel of the 15th Regiment of the Line, which he had led so bravely and which was to bear his name. January 11, 1816 Bülow returned to his governorship, † February 25 of inflammation of the liver at Königsberg."

King made him a Grand Knight of the Iron Cross, elevating him and his descendants to the rank of counts in Paris in 1814. Took part in the Battle of the Nations.\(^426\) Then departed for Holland, from which country he expelled the French.

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Translated from the German

Published in English for the first time

\(^a\) Bernadotte.— \textit{Ed.}

\(^b\) The \textit{Conversations-Lexicon} is inaccurate here: the battle of Ligny between the Prussian army under Blücher and the French took place on June 16, 1815.— \textit{Ed.}

\(^c\) The \textit{Conversations-Lexicon} has "the King". Here and below Marx refers to Frederick William III.— \textit{Ed.}
FREDERICK ENGELS

ARTICLES
FOR THE ALLGEMEINE MILITÄR-ZEITUNG AND
THE VOLUNTEER JOURNAL,
FOR LANCASHIRE AND CHESHIRE
TO THE EDITOR
OF THE ALLGEMEINE MILITÄR-ZEITUNG

6, Thorncliffe Grove, Oxford Road, Manchester, August 24, 1860

TO THE EDITOR OF THE ALLGEMEINE MILITÄR-ZEITUNG IN DARMSTADT

As a subscriber to your esteemed journal and encouraged by the appreciative review of my pamphlet *Po and Rhine* (Duncker, Berlin)\(^a\) published therein last year,\(^{428}\) I take the liberty of sending you herewith an article that may be of interest to your readers.\(^b\) If I could help you in any way with news items, occasional articles and so forth, I should be glad to do so; I might soon be in a position to supply you with interesting information on the Whitworth gun, etc.\(^{429}\) That England’s rapid military progress is also of significance to Germany is something of which you will in any case be aware: save for Russia, England is, in the final count, our only natural and necessary ally against Bonapartism.

If you ask a service-record of your contributors, then I am truly in poor case. As a one-year volunteer in the Artillery Brigade of the Prussian Guard I did not rise above the rank of bombardier. Later, in Baden, I took part in the campaign of 1849 on the side of the insurgents.\(^{430}\) Since my period of service, however, I have constantly busied myself with military matters.

Should you find my paper worthy of acceptance, I should be much obliged if you would at once mail me a proof copy in a

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\(^b\) See this volume, pp. 409-16.— Ed.
wrapper, and I shall immediately publish it in translation in English newspapers as an excerpt from the *Allgemeine M.-Z.*, which could not but be of benefit to your journal; otherwise I would beg you to return the manuscript to me. Since my copy of the *A. M.-Z.* comes to me through a bookseller and never arrives till a month after publication, any other course would mean undue delay and the article would lose all interest here.

Might I recommend that my most recent pamphlet, *Savoy, Nice and the Rhine*, published in April, should be accorded an early if impartial review in your paper?

I remain, Sir,

Your most obedient servant

Frederick Engels


Printed according to the original
Translated from the German
Published in English for the first time

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*See present edition, Vol. 16.*— *Ed.*
A REVIEW OF ENGLISH VOLUNTEER RIFLEMEN

England, as well as Germany, is arming to repel the attack with which Bonapartism threatens her; the British volunteer riflemen arose from the same cause which made Prussia double the number of her battalions of the line. It will, therefore, be of interest to the German military public, to receive some detailed information on the present state and the fitness for actual service of the British volunteer army; for this army, from its very origin, and in virtue of its fundamental idea, is an enemy of Bonapartism, an ally of Germany.

A very few battalions excepted, this army of volunteers dates from the latter half of last year (1859); the great body has not been put in uniform and drilled more than a twelvemonth. At present its strength, on paper, is 120,000 men; but if we may draw conclusions from what is the fact in some districts, there will not be more than 80,000 men really effective and drilled; the

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a In The Volunteer Journal this article has the following introductory note, written by the author himself: "The Allgemeine Militär-Zeitung, published at Darmstadt, and considered the first military paper in Germany, in its number of the 8th September, gives an account, by a correspondent, of the Newton Review, and of the rifle movement in general. The following is a translation of this article (prepared specially for the Volunteer Journal), which no doubt will prove interesting to the volunteers of Lancashire and Cheshire, and especially to those who were present at the review. As may be expected, this account is not made up of that unqualified praise which the British press generally gives as its contribution to the movement; still the character of the contemporary in question ought to be a sufficient guarantee that it is not written by an incompetent hand, and the sympathetic tone of the whole article proves that the writer had no inclination for wanton fault-finding. As to the suggestions contained in the article, we shall leave our readers to form their own opinion upon them." — Ed.
remainder take no interest in the matter, and had better be erased from the lists.

The organisation is very simple. Wherever 60 to 100 volunteers (in the artillery 50 to 80) are brought together, in any locality, they form themselves into a company, subject to the consent of the Lord-Lieutenant of the county. They elect candidates for officers (a captain, a lieutenant, and an ensign), on whom the Lord-Lieutenant, in most cases, confers their respective commissions; but there have also been instances of rejection. Several companies may form themselves into a battalion, in which case the Lord-Lieutenant appoints the major and lieutenant-colonel, mostly according to the wishes of the officers, or according to seniority among the captains. Thus there are corps varying from one to eight companies and more, numbered in the order of their formation in their respective counties; but only full battalions of eight companies receive a lieutenant-colonel. The officers may, all of them, be appointed from among the volunteers, and they are not subjected to any examination. The adjutant, however, must be an officer from the line or militia, and he alone receives regular pay.* The volunteers find their own clothing, &c., but if desired, the Government furnishes them with rifle and bayonet by way of loan. The colour and cut of the uniform is fixed by the various corps themselves, subject to the approval of the Lord-Lieutenant. The corps have also, upon the whole, to find their own drill and practice grounds, ammunition, instructors, and music.

The uniforms of the various infantry or rifle corps are mostly dark green, dark or light grey, or brown drab. The shape is something intermediate between the French and English pattern; for a head-dress they mostly wear the French kepi, or the French or English officer's cap. The artillery is dressed in dark blue, and has adopted, for appearance's sake, the rather unserviceable and lumbering fur-cap or busby of the horse artillery. There are also a few mounted rifles whose uniform imitates that of the English cavalry, but they are a mere article of luxury.

At the time when the formation of these rifle corps was first agitated, the whole matter savoured very strongly of our own national and civic guards; there was a great deal of playing at

* To the allowance of £180 granted by the Government, most of the battalions add considerable sums; I know adjutants, lieutenants of the line, who receive £300 or 2,000 talers and even more. [Engels' note in the Allgemeine Militär-Zeitung.]
soldiers; the way in which officers were manufactured, and the appearance and helplessness of some of these officers, when on duty, were rather amusing. It may well be imagined, the men did not always elect the most capable, or even those who had the movement most at heart. During the first six months, almost all battalions and companies made the same effect upon the beholder as our own defunct civic guard of 1848.

This, then, was the material handed over to the drill-sergeants, in order to shape it into a body of serviceable field troops. The manual and platoon was gone through mostly at nights, between seven and nine o'clock, in covered rooms and by gas-light, twice or three times a week. On Saturday afternoons, if possible, the whole body made a short march, and went through company movements. To drill on Sunday was forbidden both by law and custom. The instructors were sergeants and corporals of the line, the militia, or pensioners; and they, too, had to form the officers into shape. But the English non-commissioned officer is an excellent man in his way. There is, on duty, less swearing and coarse language in the English army than in any other; on the other hand, punishment is so much the more certain to be applied. The non-commissioned imitates the commissioned officer, and thus adopts manners far superior to those of our German sergeants. Then he does not serve because of the prospect of some pettifogging office in the civil service being held out to him, as is the case with us; he has engaged himself voluntarily for twelve years, and promotion, up to the rank of sergeant-major even, offers him considerable fresh advantages at every step; in every battalion one or two commissions (adjutant and paymaster) are mostly reserved to old non-commissioned officers; and, on active service, every sergeant may attach the golden star to his collar by distinguishing himself before the enemy. The drill-sergeants belonging to this class of men have, indeed, upon the whole, made the volunteers what it was possible to make them in so short a time; they have not only made them steady in company movements, but also licked the officers into shape.

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a Instead of the words "the way in which officers were manufactured" the Allgemeine Militär-Zeitung has "favouritism [Klüngel] in the election of officers", with an editorial footnote explaining the word Klüngel: "An expression which is not quite clear to many of our readers, although our correspondent in Manchester has not forgotten it. It is of old-Cologne origin and means the connection of the most notable families with the city regiment."—Ed.

b The Allgemeine Militär-Zeitung has "new" instead of "some of these".—Ed.

c The Allgemeine Militär-Zeitung has here: "Drilling was exercised usually".—Ed.
In the meantime, the single companies, at least in the large towns, formed themselves into battalions, and received adjutants from the regular troops. Similar to the Austrian, the English subaltern is far less theoretically educated than the North German; but, same as the Austrian, if he likes his profession, he knows his duty exceedingly well. Among the adjutants who have passed over from the line to the volunteers, there are men who, as instructors, could not be better; and the results which they obtained in a very short time in their battalions are surprising indeed. Up to the present time, however, only a minority of the volunteers have been formed into permanent battalions, and, as a matter of course, these are considerably superior to the mass of companies not so formed.

The volunteers of Lancashire and Cheshire had organised a review at Newton, half way between Manchester and Liverpool, for the 11th of August, the commanding general of the district, Sir George Wetherall, taking the command. The volunteers who met here were the contingents of the manufacturing districts around Manchester; there were not very many present either from Liverpool or from the neighbouring agricultural districts of Cheshire. To judge from our own German recruiting experience, these corps must have been physically below the average; but it is not to be forgotten that by far the minority of the volunteers belong to the working classes.

The soil of Newton race-course, of itself spongy enough, had been considerably softened by the continuous rains; it was very uneven and very sticky. On one side of it there is a small brook, with here and there some thick gorse on its banks. The ground was just right for a parade of young volunteers; they most of them stood ankle deep in water and mud, and the officers' horses often sank into the clay until above the fetlock-joint.

The 57 corps which had sent in their adhesion were divided into four brigades; the first of four, the remainder of three battalions each; every battalion of eight companies. Lieutenants-colonels of the line commanded the brigades; officers of volunteers were appointed to the battalions. The first brigade had three battalions deployed, the fourth in column behind the centre. The three remaining brigades stood in second line, nine battalions in contiguous columns of companies at quarter distance, right in front.

After saluting the general, a change of front to the left was to be effected, under shelter of the battalion which stood in column behind the first line. To effect this, the two centre companies of
the battalion deployed in front of it, wheeled outwards, upon which the column passed through the opening thus formed, and then extended along the watercourse,—four companies skirmishing, and four forming the supports. The ground and the gorse were both so wet that the men could not be expected to take a correct advantage of the ground; besides, most battalions of volunteers are still occupied with the ABC only of skirmishing and outpost duty, so that it would not be fair to measure them by too high a standard in this respect. In the meantime, the deployed line effected its change of front around its own centre as a pivot; the two centre companies of the middle battalions wheeled a quarter of a circle,—the one forwards, the other backwards,—after which the remaining companies took up the new alignment. The two battalions on the wings of the first line formed columns at quarter distance,a marched into the alignment, and deployed again. It may be imagined what a time was occupied by this complicated and rather clumsy manoeuvre. At the same time, the right battalion of the line of columns advanced straight on until halted behind the new right wing of the first line; the remaining battalions faced to the right and followed in double files (fours right), each battalion turning to the front, and following the right battalion as soon as arrived on the spot originally occupied by this right battalion. When the last column has thus arrived upon the new alignment, each column independently wheeled to the left, and thus restored the front of the line of columns.

The third brigade now advanced from the centre of this line of columns; arrived about two hundred paces behind the first or deployed line, the three battalions opened out to deploying distance and deployed in their turn. The chain of skirmishers, in the meantime, having gained considerable ground, both deployed lines advanced a couple of hundred paces, upon which the first line was relieved by the second. This is effected by the first line forming fours right, and the head of each company disengaging and wheeling to the right; files in the second line give way, thus affording room for the first line to pass throughb; after which, companies form front and wheel into line. This is one of those

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a The Allgemeine Militär-Zeitung has here the following text in brackets: "the closest column known to the English".—Ed.

b In the Allgemeine Militär-Zeitung after the words "This is effected by" the following text is given: "the two lines facing to the right and forming double files, fours right, in the first line the head of each company wheeling right and in the second the head of each company wheeling left, and so the two lines passing through each other".—Ed.
drill-ground movements which are superfluous wherever they are practicable, and which are not practicable where they would be necessary. After this, the four brigades were drawn together again\(^a\) into a mass of columns, and the troops marched past the general in open column of companies (25 to 35 files front).

We shall not attempt to criticise this system of evolutions\(^b\) which, no doubt, will appear rather old-fashioned to our readers. It is evident that, whatever may be its value in an army of the line, with twelve years' service, it is certainly less adapted than any other for volunteers who can afford a few spare hours per week only for their drill. What interests us most on this occasion, is the manner in which these movements were performed by the volunteers; and here we must say that, although there was a slight hitch here and there, upon the whole, these evolutions were gone through steadily and without confusion. The most defective parts were, the wheeling in column and the deployments, which latter were done very slowly; in both evolutions, it was visible that the officers were not sufficiently formed and not yet at home in their duty. But, on the other hand, the advance in line, this chief and cardinal movement of British tactics, was good beyond all expectation; the English appear, indeed, to have quite an exceptional talent for this movement, and to learn it uncommonly quick. The marching-past also came off, upon the whole, very well,—and what was most amusing, it came off under a drenching shower of rain. There were a few mistakes against British military etiquette,\(^c\) and besides, by the fault of the officers, distances were very badly kept.

Excepted a sham-fight\(^d\) organised in London, by some oversanguine commanders of volunteers, and gone through rather wildly, this was the first time that a larger body of volunteers performed evolutions which had something more in view than eventual marching-past. If we consider that the great mass of the troops present at Newton consisted of corps which, counting one, two, or at the outside three companies, are not formed into permanent battalions, have no officers from the regulars, have been drilled by drill-sergeants alone, and have only now and then been brigaded together in a battalion, we shall have to allow that

\(^a\) The *Allgemeine Militär-Zeitung* has here: “in a similar way corresponding to the line tactics”.—*Ed.*

\(^b\) The *Allgemeine Militär-Zeitung* has “this kind of elementary tactics” instead of “this system of evolutions”.—*Ed.*

\(^c\) The *Allgemeine Militär-Zeitung* has here: “the rather complex English military etiquette”.—*Ed.*

\(^d\) Instead of “a sham-fight” the *Allgemeine Militär-Zeitung* has “a series of manoeuvres with an enemy”.—*Ed.*
the volunteers have done everything that was possible, and that they are no longer on the same level with our civic guards. As a matter of course, the corps which form permanent battalions, and are directed by adjutants from the line (for the adjutants, so far, are the virtual commanders of battalions), were also those which went most steadily through their evolutions at the review.

The men upon the whole looked well. There were, indeed, some companies as puny as Frenchmen, but others surpassed in stature the average of the present British line. Mostly, however, they were very unequal in size and breadth of chest. The pallor peculiar to the inhabitants of towns gave to most of them a rather unpleasantly unwarlike look, but eight days' encampment would soon get the better of that. The uniforms, some of them a little over-ornamental, made a very good effect in the mass.

The first year's drill has taught the volunteers so much of the elementary movements, that they may now enter upon skirmishing and rifle practice. They will be far more handy at both these kinds of work than the English line, so that by summer, 1861, they would form a very useful army, if only their officers knew more about their business.

This is the weak point of the whole formation. Officers cannot be manufactured in the same time and with the same means as privates. Up to now it has been proved that the willingness and the zeal of the mass may be relied upon, as far as is required for making every man a soldier as far as necessary. But this is not sufficient for the officers. As we have seen, even for simple battalion movements, wheeling in column, deployments, keeping distance (so important in the English system of evolutions, where open columns are very often employed\(^a\)), the officers are not by far sufficiently formed. What is to become of them on outpost and skirmishing duty, where judgment of ground is everything, and where so many other difficult matters are to be taken into consideration? How can such men be entrusted with the duty of taking care of the safety of an army on the march? Government has made it binding upon every officer of volunteers to go to Hythe for three weeks, at least. So far, so good; but that will neither teach him to conduct a patrol, nor to command a picket. And yet the volunteers are chiefly to be used for light infantry service—for that very kind of duty which requires the cleverest and most reliable of officers.

\(^a\) The *Allgemeine Militär-Zeitung* has here: "(so important in the English line tactics)". — *Ed.*
If the whole movement is to lead to something, this is the point where Government will have to step in. All companies which are still existing,—singly, or by twos and threes,—ought to be compelled to combine together in permanent battalions, to engage adjutants from the regulars. These adjutants should be bound to give to all the officers of their respective battalions a regular course of instruction in elementary tactics, light infantry service in all its branches, and the regulations affecting the internal routine of service in a battalion. The officers should be bound, besides attending Hythe,\(^a\) to do duty, for at least three weeks, with a regiment of the line or militia\(^b\) in some encampment; and, finally, they should, after a certain time, be all made to pass an examination, proving that they have learnt at least the most indispensable part of their business. Such a course of instruction and examination of the officers; further, a medical examination of the men, in order to weed out those who are physically unfit for field-service (and there is not a few); and an annual revision of the company-lists, for the removal of those men who do not attend drill, who only play at soldiers and will not learn their duty;—if this was done, the 120,000 men now existing on paper would be considerably reduced, but you would have an army worth three times the one which now counts 120,000 men on paper.

Instead of that, it is reported that the military authorities\(^c\) are busy discussing the important question, whether it would not be desirable to clothe, at the first opportunity, all rifle volunteers in the so very desirable brick colour of the line.

Written between August 11 and 24, 1860

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\(^a\) The *Allgemeine Militär-Zeitung* has “the shooting school” instead of “Hythe”.—*Ed.*

\(^b\) The words “or militia” do not occur in the *Allgemeine Militär-Zeitung*.—*Ed.*

\(^c\) The *Allgemeine Militär-Zeitung* has “the War Ministry” instead of “the military authorities”.—*Ed.*
THE FRENCH LIGHT INFANTRY

If ever our volunteers should have to exchange bullets with an enemy, that enemy will be,—everybody knows it,—French infantry; and the finest type, the beau idéal of a French foot-soldier, is the light infantry soldier, especially the chasseur.

The French chasseur is not only the model for his own army; the French give the law, to a certain degree, to all European armies in matters regarding light infantry service; thus the chasseur becomes, in a certain sense, a model for all European light infantry.

In both these qualities, as a possible opponent, and as, hitherto, the most perfect specimen of a light infantry soldier, the French chasseur is a subject of high interest to the British volunteer. The sooner our volunteer gets acquainted with him the better.

CHAPTER I

Up to 1838 there was not a rifle in use in the French army. The old rifle, with its close-fitting bullet, which had to be hammered down, and made loading a difficult and slow operation, was no weapon for the French. When Napoleon once examined the firelocks of a German battalion of rifles, he exclaimed:—“Surely this is the most unfortunate arm to give into the hands of a soldier.” The old rifle was, certainly, unfit for the great mass of the infantry. In Germany and Switzerland, a few chosen battalions were always armed with it, but they were exclusively used as sharpshooters, to pick off officers, to fire on sappers constructing a bridge, &c.; and great care was taken to form these corps from the sons of gamekeepers, or other young men who had been
trained to the use of the rifle long before they entered the army. The chamois-hunters of the Alps, the keepers of the great deer forests of Northern Germany, formed excellent material for these battalions, and they, too, were the model for the rifles of the English line.

What the French formerly used to call light infantry, were men equipped and drilled exactly the same as the regiments of the line; consequently, in 1854, a decree of Louis Napoleon deprived these 25 regiments of the name of light infantry, and embodied them in the line, where they now number from the 76th to the 100th regiment.

There was, indeed, in every battalion of infantry a company of voltigeurs, formed of the best and most intelligent soldiers of small stature; the élite of the taller men being formed into the company of grenadiers. They are the first to extend when skirmishers are required, but in every other respect they are armed and drilled like the remainder of the battalion.

After the conquest of Algiers, in 1830, the French found themselves face to face with an enemy armed with the long musket, common to most Eastern nations. The smooth-bore muskets of the French were inferior to them in range. The French columns, on the march, were surrounded on every side by mounted Bedouins in the plains, by Kabyle skirmishers in the mountains; the bullets of these enemies told on the columns, while they themselves were out of effective range of the French fire. Skirmishers, in the plains, could not move far from their columns, for fear of being surprised and cut up by the rapid Arab horsemen.

When the English army got into Afghanistan, it made acquaintance with these same long muskets. The Afghan shots, though from matchlocks only, did fearful execution in the English ranks, both in the camp at Kabul and during the retreat through the hills, at distances utterly unattainable to poor old Brown Bess. The lesson was a severe one; protracted conflicts with the tribes on the north-western frontier of British India might be expected; yet nothing was done to arm the English soldiers sent to that frontier with a weapon able to cope at long range with the Eastern matchlock.

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a See this volume, pp. 64-67.—Ed.
b On the Anglo-Afghan war of 1838-42 see this volume, pp. 44-48.—Ed.
c The Volunteer Journal has here one more sentence: “the war was to be renewed”, probably inserted by the editors. Engels deleted it when printing the article in the Essays Addressed to Volunteers.—Ed.
Not so the French. No sooner was the defect found out than steps were taken to remedy it. The Duke of Orleans, the son of Louis Philippe, on his matrimonial tour through Germany in 1836, took occasion to study the organisation of the two battalions of rifles of the Prussian guard. He saw at once that here was a starting point, issuing from which he might succeed in forming the very class of troops required for Algeria. He occupied himself at once with the subject. The old French prejudice against the rifle placed many obstacles in his way. Fortunately, the inventions of Delvigne and Poncharra, in his own country, came to his help; they had produced a rifle which could be loaded almost as quickly and easily as the smooth-bore musket, while it exceeded the latter by far, both in range and precision. In 1838, the Duke obtained permission to form a company according to his own ideas; in the same year this company was increased to a full battalion; in 1840 it was sent to Algeria to prove what it could do in actual war; and it stood the test so well, that in the same year nine more battalions of chasseurs were formed. Finally, in 1853, ten other battalions were organised, so that the whole chasseur force of the French army now consists of twenty battalions.

The peculiar military qualities of the Bedouins and Kabyles, who undoubtedly were models of light horsemen and of infantry skirmishers, very soon induced the French to try the enlistment of natives, and to conquer Algeria by setting Arab to fight Arab. This idea gave origin, among others, to the corps of the Zouaves. They were formed principally of natives, as early as 1830, and remained a chiefly Arab corps up to 1839, when they deserted in masses into the camp of Abd-el-Kader, who had just raised the standard of holy war. There remained, then, merely the cadres and the twelve French soldiers of each company, besides the two exclusively French companies attached to each battalion. The vacancies had to be filled up by Frenchmen, and since that date the Zouaves have remained an exclusively French corps, destined to take permanent garrison in Africa. But the original stock of old French Zouaves had adopted so much of the native character that the whole corps has ever since remained, in its entire spirit and habits, a specially Algerian corps, endowed with a nationality of its own, and quite distinct from the remainder of the French army. They are recruited mostly from substitutes, and thus they are most of them professional soldiers for life. They, too, essentially belong to the light infantry of the army, and have, therefore, been long since provided with rifles. There are now three regiments or nine battalions of them in Africa, and one regiment (two battalions) of
Zouaves of the Guard.

Since 1841, new attempts were made to enlist native Algerians for the local army. Three battalions were formed, but they remained weak and incomplete till 1852, when more encouragement was given to native enlistment; and this succeeded so far that, in 1855, three regiments, or nine battalions, could be formed. These are the Turcos or Tirailleurs indigènes, of whom we have heard so much during the Crimean and Italian wars.439

Thus, not counting the foreign legion (now disbanded, but to all appearances re-forming) and the three penal battalions, the French army contains 38 battalions, especially formed and trained for light service. Of these, the chasseurs, the Zouaves, and the Turcos, each have their distinguishing characteristics. Troops like the last two classes have too strongly marked a local character ever to exercise a great influence upon the mass of the French army; still, their furious onslaught—during which they still, as has been proved in Italy, remain perfectly in hand, and even anticipate by their own military tact the orders of their chief—will always remain a brilliant example to the remainder of the troops. It is also a fact that the French, in their practice of the detail of skirmishing, and their mode of taking advantage of ground, have adopted a great deal from the Arabs. But that class of light infantry which has remained essentially French, and has thereby become, as we said before, a model to the army, are the chasseurs.a

**CHAPTER II**

The very first page of the French Drill Regulations of 1831, proves what little men the French army is composed of.

Slow time, each step 65 centimètres (25 inches), and 76 paces in a minute.
Quick time, same length of step, and 100 paces in a minute.
Charging time (pas de charge), same length of step, and 130 paces in a minute.

The step of 25 inches is undoubtedly the shortest, and the celerity of 100 paces in a minute the most sluggish adopted in any army for field-movements. While the French battalion moves over 208 feet of ground in a minute, an English, Prussian, or Austrian battalion would move over 270 feet, or thirty per cent. more. Our long step of 30 inches would be too much for the short legs of Frenchmen. The same at a charge: the French advance, in a

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a The Volunteer Journal further has: “of whom more in our next number”.— Ed.
b The Volunteer Journal has the sub-heading “The Chasseurs”.— Ed.
minute, 271 feet, or as much as the English at simple quick time, while the English, at their double of 36 inches, and 150 per minute, would get over 450 feet, or sixty per cent. more. This fact alone shows that the standard size of the men cannot be reduced beyond a certain limit without affecting the efficiency and mobility of an army.

With such short legs, short steps, and slow marching time, no light infantry could be formed. When the chasseurs were first organised, care was taken from the very beginning to select the best infantry material in the country; they were all well-built, broad-shouldered, active men, from 5ft. 4in. to 5ft. 8in. in height, and mostly chosen from the mountainous parts of the country. By the regulations for chasseur drill and evolutions (published in 1845), the length of the step for the quick march was retained, but the time increased to 110 in a minute; the double (pas gymnastique) was regulated at 33 inches (83 centimètres) each step, and 165 in a minute; but for deployments, formation of square, or other urgent occasions, its time is to be increased to 180 in a minute. Even at this latter pace, the chasseur would cover but 45 feet more ground in a minute than the English soldier at his double. But it is less by extraordinary rapidity of motion that extraordinary results are attained, than by the length of time for which the chasseurs can continue this accelerated motion; besides, in cases of great urgency, rallying, &c., they are ordered to run as fast as they can.

The double is the principal thing practised in the chasseur battalions. The men are first taught to mark the time at 165 and 180 per minute, during which they shout One! Two! or Right! Left! which is supposed to regulate the action of the lungs, and to prevent inflammations. They are then made to march forward at the same rate, and the distance is gradually increased until they can go over a French league of 4,000 metres (two miles and a half) in twenty-seven minutes. If some of the recruits are found too weak in wind and limb for such exercise, they are sent back to the infantry of the line. The next step is the practice of leaping and running, in which latter pace the greatest possible rapidity has to be obtained for short distances; both the pas gymnastique and the running being practised first on the level drill-ground, or on the road, and afterwards across country, with jumping over rails and ditches. After such preparation only are the men entrusted with their arms, and now the whole course of double, running, and leaping is again gone through with rifle in hand, and in heavy marching order, the knapsack and pouch weighted to the same extent as in the field; and thus they are
made to continue for a full hour at the *pas gymnastique*, during which time they have to cover at least five miles of ground. A foreign officer in plain clothes once attempted to keep pace with such a battalion of chasseurs in heavy marching order; but, untrained as he was, he could scarcely keep up for one hour; the chasseurs marched on, alternately at quick time and at the *pas gymnastique*, and went that day over twenty-two miles of country.

The whole of the field movements and evolutions have to be gone through at the double; advance in line, forming column and square, wheeling, deployments, and everything, so that the men keep in their places as steadily at this pace as at the ordinary quick time. The time for all evolutions is 165 in a minute, only in deployments and wheelings it is accelerated to 180.

The following is the opinion of a Prussian field officer of the chasseurs:

"On the Champ-de-Mars, I saw a few companies of chasseurs manoeuvring at the side of a regiment of the line. What a contrast, from their mobility, from the whole style of their movements, to that regiment! At the first glance you see that they are a picked body, chosen from the best men of the wood and mountain districts; they are all well-knit, compact, strong, and yet so wonderfully nimble. As they flit about with astonishing rapidity, you recognise their enterprising spirit, their daring pluck, their quick intellect, their indefatigable endurance, though, certainly, you also recognise their immense conceit and French vanity. And wherever you see them, in Strasbourg, in Paris, or in any other garrison, they always make the same impression, they look as if cast in the same mould. At their head I saw none but young officers; a few only of the captains appeared thirty-five; most of them less, and even the field-officers not older. Their rapid mobility shows neither constraint nor effort; constant exercise appears to have made it their second nature, with such ease and freedom do these battalions go through their movements. Their blood has a more tranquil flow, their breath is less disturbed than with others. Single orderlies in a street would pass, in a short time, all persons walking before them; and at the same quick pace, whole battalions, at the merry sound of the bugle, defile through the streets. Whenever you see them, on the drill-ground, on the march out or home, never did they appear tired to me. Ambition, in this matter, may go hand in hand with habit.

"If quickness of motion and steadiness of aim appear to be irreconcilable, the chasseurs seem to have overcome this apparent incompatibility. I have not myself seen them practising at the target; but, according to the judgment of experienced officers, their performances in this line are not to be thought little of. If their steadiness of aim is at all disturbed, it certainly must be so in a degree very little affecting their efficiency on the field of battle. In Africa, where many an engagement was preceded by similar marches at the double, they have always known how to hit their opponents; and this proves that the special system of training to which they are subjected, tends to properly develop the powers of the body, and does not destroy steadiness of aim. With troops not so trained, this would, of course, be very different.

"The great advantages of this system of training are evident. Many are the cases in war in which it may be of decisive importance that your infantry should be capable of quicker locomotion than it is at present; for instance, in preceding the
enemy in the occupation of an important position; in rapidly attaining a
commanding point; in supporting a body attended by superior forces; or in
surprising the enemy by making a detachment suddenly appear in a direction quite
unexpected by him."

The Algerian war had made evident to the French military
authorities the immense superiority of an infantry trained in this
long-continued running. Since 1853, the question was debated
whether this system should not be applied to the whole army.
General de Lourmel (killed before Sebastopol, 440 5th November,
1854) had specially drawn the attention of Louis Napoleon to it.
Soon after the Crimean war, the *pas gymnastique* was introduced in
all French infantry regiments. The time, indeed, is slower, and
probably the step, too, shorter, than with the chasseurs; besides,
the long-continued runs of the chasseurs are much reduced in the
line. This was a necessity; the unequal bodily strength and size of
the line made the capabilities of the weaker and smaller men the
standard of the performance of the whole. But, still, the old
sluggish rate of marching can now be overcome at an emergency;
a mile or so may now and then be trotted, and, especially, the
aptitude of the men to go through their evolutions at the double,
admits of that charge, at a run, for some six or eight hundred
yards, which carried the French, last year, in a few instants, over
those very distances at which the excellent Austrian rifles were
most dangerous. The *pas gymnastique* has done a great deal
towards the winning of Palestro, Magenta, and Solferino. 441 The
run itself gives a vigorous moral impulse to the men; a battalion
charging might hesitate when marching at quick time, but the
same battalion, trained so as not to arrive out of breath, will, in
most cases, go on fearlessly, will arrive comparatively unscathed,
and will certainly make a far greater moral impression on a
standing enemy, if it charges at a run.

The extreme perfection of the chasseurs in running may pass
for a special arm like theirs, but it would be both impracticable
and useless to the mass of the infantry of the line. Nevertheless,
the English line, with its better material of men, might easily be
made to far surpass the French line in this respect; and, like every
healthy exercise, this would have a capital effect on the men,
bodily and morally. An infantry which cannot alternately run a
mile and walk a mile for a couple of hours, will soon be
considered slow. As to the volunteers, the great difference of age
and bodily strength existing in their ranks, would make it difficult
to obtain even this result, but there can be no doubt that gradual
training for the double, at distances from half a mile to a mile,
would hurt nobody's health, and improve wonderfully their efficiency for the field.

CHAPTER III

Nothing is neglected in France to develop the physical, mental, and moral powers of every individual recruit, and especially of every chasseur, in such a manner as to form him into as perfect a soldier as possible. Everything is attended to that can make him strong, active, and nimble, that can give him a rapid glance for advantages of ground, or quickness of decision in difficult situations; everything that will heighten his confidence in himself, his comrades, his arms. Drill, therefore, is but a small portion of a soldier's duties in France; and to our notions, a French battalion on the drill-ground marches, wheels, and does the manual in a shockingly loose manner. But this appears to be a consequence of the national character, and has not, so far, been attended with any bad results. English or German troops seem, themselves, to prefer a stricter system of drill; they obey the command more instantaneously, and, after a certain amount of drilling, will always exhibit more precision in all their movements than the French will ever attain. For the remainder, the system of tactical movements for the drill-ground is nearly the same in France as in England, though it is vastly different on a field of battle.

One of the chief occupations of the French soldier is gymnastic exercise. There is a central military gymnasium in Paris, which forms the teachers for the whole army. There are fifteen to twenty officers from different regiments, and besides, one sergeant from every regiment of the line or battalion of chasseurs, who remain for six months, and are then relieved by others. The course of exercises gone through is not very different from what is practised in other countries; there appears to be only one original exercise, the escalading of walls, either by putting hands and feet in holes produced by cannon-balls, or by a pole leaned against the wall, or else by means of a rope with a hook thrown over it. This kind of exercise is undoubtedly of practical value, and will contribute a great deal to make the men rely on the use of their hands and feet. The bayonet exercise is also taught in this school; but it is confined to the practising of the various points and guards; the men are never made to actually defend themselves one against the other or against cavalry.

Every garrison, in France, has the necessary conveniences for gymnastic exercise. There is, first of all, a piece of ground set
apart for the more common gymnastics, with all the necessary appliances; to this the whole of the soldiers are marched in turns, and have to go through a regular course of instruction as part of their duty. The introduction of this kind of exercise is not yet very old, and is entirely imitated from the chasseurs, who were the first to be put to gymnastics; after the system had answered so well with them, it was extended to the whole army.

There is, besides, in every barracks a fencing-room and a dancing-room. In the first, fencing with the small-sword and broad-sword is taught; in the other, dancing and wrestling which the French call "la boxe." Every soldier may choose which of these exercises he will be taught, but one of them he must learn. Dancing and the small-sword are generally preferred. Single-stick is also taught now and then.

All these exercises, as well as gymnastics, properly so called, are not taught because they are considered necessary in themselves; they are practised because they develop the bodily strength and agility of the soldier generally, and give him greater self-confidence. The fencing and dancing-rooms, so far from being the scenes where tedious duty is performed, are, on the contrary, an attraction, tending to keep the soldier in the barracks even in his leisure hours; he will go there for amusement; if, in the ranks, he was but a machine, here, sword in hand, he is an independent man, trying his individual skill against his comrades; and whatever confidence in his own quickness and agility he gains here, it is so much gain for outpost and skirmishing duty, where he is, also, more or less reduced to his own resources.

The new system of skirmishing adopted by the chasseurs has not only been adopted in the whole French army since, but it has also served as a model for many European armies, among others, for the improved practice adopted in the British army during and after the Crimean war. We shall, therefore, notice but a few of the principal traits, especially as in an engagement the French very often act quite differently, partly in accordance with general orders (as in 1859, in Italy), partly because every latitude is left to officers to act entirely according to circumstances, and partly because all drill regulations must undergo considerable alterations in battle. The skirmishers act in groups of four, each group deploying into one single line, with five paces interval from man to man. The interval between the groups is at least five paces (forming a continuous line, with one man at every five paces), and at most forty paces from group to group. The non-commissioned officers take up a position ten paces behind their sections; the
officers, each attended by a guard of four men and a bugler, twenty or thirty paces to the rear. If only part of a company is extended, the captain takes his station half-way between the skirmishers and the support. Taking advantage of cover is the principal thing to be attended to; the dressing of the line as well as the exactness of the intervals are sacrificed to it. The whole line of skirmishers is directed by the bugle alone, the signals numbering twenty-two; besides which, each chasseur battalion, and every company in it, has a distinctive signal of its own, which is made to precede the signal of command. The officers carry a whistle, which they are, however, to use in extreme cases only; it gives five signals—Caution! Advance! Halt! Retire! Rally!—and is the original of the whistle which some volunteers have adopted as part and parcel of every man's accoutrements, thus depriving their officers of the use of the whistle when it might be necessary. The skirmishers rally by groups of four, if attacked by skirmishing cavalry; by sections and sub-divisions, in irregular compact masses; on the support, where they form a kind of company square; or on the battalion, in case the latter is to act in line or to form square. These various forms of rallying are practised very much, and the French excel in them; and their variety does not create any confusion, as the men are instructed to get rallied any way they can in case of imminent danger, and then to profit of favourable movements to join the larger body to which the signal had called them. The squares are sometimes two, sometimes four deep.

Compared to the old-fashioned system, as adopted in almost all armies before the chasseurs were organised, this new method had an immense superiority. But it is not to be forgotten that it is, after all, nothing but a set of drill-ground regulations. There is no room in it, as far as it goes, for the intelligence of the individual soldier; and if it was practised on a level plain, it would be compatible with as great pedantry as might satisfy the stiffest martinet. The lines are formed with regular intervals,—they advance, retire, change front and direction same as any battalion in line, and the men are moved by the bugle as so many puppets by a wire. The real practice ground for skirmishers is before the enemy, and here the French had a splendid school for their light infantry in the fearfully broken ground of Algeria, defended by the Kabyles, the bravest, most tenacious, and most wary skirmishers the world ever saw. Here it was that the French developed to the highest degree that instinct for extended fighting and taking advantage of cover which they have shown in every war since 1792; and here the Zouaves especially turned to the best
account the lessons given to them by the natives, and served as models to the whole army. Generally a chain of skirmishers is supposed to advance in something like a deployed line, crowding together, perhaps, on points offering good cover, and thinning where they have to pass open ground; occupying the enemy’s skirmishers in front, only now and then taking advantage of a hedge or so to put in a little flank fire, and, withal, not expected nor even attempting to do much besides occupying their opponents. Not so the Zouaves. With them, extended order means the independent action, subordinate to a common object, of small groups; the attempt at seizing advantages as soon as they offer; the chance of getting near the enemy’s masses, and disturbing them by a well-sustained fire; and, in small engagements, the possibility of deciding them without calling in the masses at all. With them, surprise and ambush are the very essence of skirmishing. They do not use cover merely to open fire from a comparatively sheltered position; they principally use it to creep, unseen, close up to the enemy’s skirmishers, jump up suddenly, and drive them away in disorder; they use it to get on the flanks of their opponents, and there to appear unexpectedly in a thick swarm, cutting off part of their line, or to form an ambush, into which they entice the hostile skirmishers, if following too quick upon their simulated retreat. In decisive actions, such artifices will be applicable in the many pauses occurring between the great efforts to bring on decision; but in petty warfare, in the war of detachments and outposts, in collecting information respecting the enemy, or securing the rest of their own army, such qualities are of the highest importance. What the Zouaves are one example will show. In outpost duty, in all armies, the rule is that, especially during the night, the sentries must not sit, nor much less lay down, and are to fire as soon as the enemy approaches, in order to alarm the pickets. Now read the Duke of Aumale’s description of a camp of Zouaves*:

“At night, even the solitary Zouave placed on the brow of yonder hill, and overlooking the plain beyond, has been drawn in. You see no videttes; but wait till the officer goes his rounds, and you will find him speak to a Zouave who is lying flat on the ground, just behind the brow, and watchful of everything. You see yonder group of bushes; I should not be at all surprised if on examination you were to find there ensconced a few couples of Zouaves; in case a Bedouin should creep up into these bushes in order to espy what is going on in the camp, they will not fire, but despatch him quietly with the bayonet, in order not to shut the trap.”

What are soldiers who have learnt their outpost duty in peace garrisons only, and who cannot be trusted to keep awake except standing or walking, to men trained in a war of ruse and stratagem, against Bedouins and Kabyles? And with all these deviations from the prescribed system, the Zouaves have been surprised only once by their wary enemies.

England has, in the north-west frontier of India, a district very similar, in its military features, to Algeria. The climate is nearly the same, so is the nature of the ground, and so is the border population. Frequent forays and hostile encounters do occur there; and that district has formed some of the best men in the British service. But that these long and highly instructive encounters should not have had any lasting influence upon the mode in which all kinds of light service are carried on in the British army; that after twenty and more years of fighting with Afghans and Beloochees, that part of the service should have been found so defective that French examples had to be hurriedly imitated in order to bring the infantry, in this respect, into a state of efficiency; this is, certainly, strange.

The French chasseurs have introduced into the French army:—
1. The new system of dress and accoutrements; the tunic, the light shako, the waist belts, instead of the cross belts.
2. The rifle, and the science of its use; the modern school of musketry.
3. The prolonged application of the double, and its use in evolutions.
4. The bayonet exercise.
5. Gymnastics; and,
6. Together with the Zouaves, the modern system of skirmishing. And if we will be sincere, for how much of all this, so far as it exists in the British army, are we not indebted to the French?

There is still plenty of room for improvements. Why should not the British army come in for its share? Why should not the north-western frontier of India, even now, form the troops employed there into a corps capable of doing that for the English army which the chasseurs and Zouaves have done for the French?

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The subject of volunteer artillery is one of great importance, and ought to be widely discussed; the more so, as the part which the volunteer artillery is to take in the defence of the country does not appear to have been, as yet, very clearly defined.  

Now, it is evident that the first question to be settled is the proper sphere of action of the volunteer artillery. Unless this be done, there will never be any uniform system of training in the different corps; and as the science of artillery comprises the most multifarious subjects, the whole of which it would be difficult indeed, theoretically and practically, to teach to all the volunteer officers and privates, the different corps, when wanted for action, would arrive with very different qualifications for the duties to be performed by them; and many a company, on being put to a particular task, would be found to be very little qualified to carry it out.

In the following observations we do not by any means profess to say what volunteer artillery ought, or ought not to be; we merely wish to point out some of the conditions under which volunteer, as

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a In *The Volunteer Journal* the first paragraph reads as follows (its text is, probably, partially or wholly written by the editors): "We give, in another column of this week's journal, some remarks from the London correspondent of the *Manchester Weekly Express*, on volunteer artillery. The subject is one of great importance, and ought to be widely discussed; the more so, as the part which the volunteer artillery is to take in the defence of the country, does not appear to have been, as yet, very clearly defined. The very article to which we refer, while it wishes to see the formation of artillery corps confined to the sea-board, still expects volunteer gunners to act as a kind of field artillery, not confining themselves to the attendance upon heavy guns in fortified places, but also galloping about with 'light six-pounders or Whitworth's twelves'." — *Ed.*
well as any other artillery, has to be formed, to open the field for that
discussion which we invite, and from which, ultimately, an
understanding must arise, as to the proper sphere of action of
volunteer artillery corps.

All artillery is divided into field artillery which has to operate
with the infantry and cavalry in the field, and is provided with
horsed guns; and into siege or fortress artillery which works heav-
vy guns in stationary and protected batteries, for the attack or
defence of fortified places. If in a regular army, the length of
service of the men, and the special scientific education of the
officers, renders it possible to train the whole body to both
branches of the service, so far, at least, that on an emergency
every company can be put to any duty; this is not the case with
volunteers, who, officers as well as men, can devote but a portion
of their time to their military duties. In France, in Austria, in
Prussia, field artillery is kept quite distinct from garrison or siege
artillery. If this is the case in regular standing armies, surely there
must be some reason for it which will operate far stronger in an
army of volunteers.

The fact is this: the mere handling of a field gun is not so
different from that of a heavy gun in battery that the privates of a
volunteer company could not easily learn both. But the nature of
the duties of the officers in either case is so very different, that
nothing less than a professional education and long practice could
qualify a man to do both equally well. In an officer of field
artillery, a rapid military glance, a thorough judgment of ground
and of distances, a perfect knowledge of the effect of his guns,
enabling him to hold out against an attack to the last moment
without losing any guns, a long experience of what horses can do,
and of the way to treat them in a campaign; and, finally, a good
deal of dash combined with prudence, are the chief qualities. In
an officer of garrison or siege artillery, scientific acquirements,
theoretical knowledge of artillery in all its branches, of fortifica-
tion, mathematics, and mechanics, an ability of turning everything
into use, a patient and strict attention to the erection and repair of
earthworks, and to the effects of a concentrated fire, and a
courage more tenacious than dashing will be required. Give the
command of a bastion to a captain of a 9-pounder battery, and it
will take the best man a deal of training before he is up to the
work; put an officer who has attended for a couple of years to
nothing but siege guns, at the head of a battery of horse artillery,
and it will take a long while before he has worn off his methodical
slowness and recovered the dash required for his new arm. With
non-commissioned officers lacking the scientific education of their superiors, the difficulty will be still greater.

Of the two, the garrison artillerist seems to be the easiest formed. Civil engineers possess all the preliminary scientific knowledge required for the business, and will very soon learn the application to artillery of the scientific principles with which they are conversant. They will easily learn the handling of the different machines used in moving heavy ordnance, the construction of batteries, and the rules of fortification. They will, therefore, form the class from which volunteer artillery officers should be chiefly selected, and will be especially adapted for garrison artillery. It will be the same with the non-commissioned officers and gunners. All men who have had much to do with machinery, such as engineers, mechanics, blacksmiths, will form the best material, and on this ground the great manufacturing centres ought to form the best corps. Practice with heavy guns may be an impossibility in the interior of the country, but the sea is not so very far from our Lancashire and Yorkshire inland towns that occasional trips to the sea-side might not be organised for the purpose; besides, with heavy guns in battery, where the first graze of every shot can be seen, and the men can correct themselves, actual target practice is not of such paramount importance.

There is another thing against the attempt at getting up volunteer field artillery—the expense of the guns and the horning of them. A few companies combining amongst themselves may, indeed, be able to raise the expense of horning a couple of guns for the summer months, and drill with them in turns, but neither men nor officers will thereby be formed into efficient field artillerists. The expense of equipping a field-battery of six guns is generally reckoned about equal to that of getting up a whole battalion of infantry; no company of volunteer artillery could afford such an outlay; and considering the disgrace attached to the loss of a gun on the battle-field, it may well be doubted whether any government would ever be inclined, in case of invasion, to entrust volunteer artillery with field guns, horses and drivers, on the terms on which rifle volunteers are supplied with small arms.

On these and other grounds, we cannot but come to the conclusion that the proper sphere for the volunteer artillery is the manning of heavy guns in stationary batteries on the coast. An attempt at field artillery may be inevitable in inland towns, to keep up the interest in the movement, and it will certainly do no harm to either officers or men to be made acquainted, as far as possible,
with the handling of horsed light guns; but we confess we have, from our own personal experience in the arm, our great doubts as to their eventual proficiency in field service. Still, they will have learned a great many things which will be quite as useful to them in the use of heavy guns, and they will soon be up to the mark when placed in charge of them.

There is another point we wish to allude to. Artillery, far more than infantry and cavalry, is an essentially scientific arm, and as such its efficiency will chiefly depend upon the theoretical and practical knowledge of the officers. We have no doubt that by this time Major Griffiths' *Artillerist's Manual* will be in the hands of every officer of volunteer artillery. The contents of that book show with what a variety of subjects an artillery officer, and even a non-commissioned officer, has to make himself familiar before he can lay claim to any proficiency in his arm; yet that book is merely a short abstract of what an efficient artillerist ought to know. Besides the regular company and battalion drill, common to infantry and artillery, there is the knowledge of the many different calibres of ordnance, their carriages and platforms, charges, ranges, and various projectiles; there is the construction of batteries, and the science of sieges; permanent and field fortification; the manufacture of ammunition and fireworks; and, finally, that science of gunnery which, at the present moment, is receiving such wonderful and new additions by the introduction of rifled guns. All these things have to be learnt both theoretically and practically, and they are all of equal importance; for whenever the volunteer artillery are embodied for active service, they will come to a dead lock unless all these branches have been attended to. Of all volunteer corps, therefore, the artillery is the one in which the efficiency of the officers is of the greatest importance; and we do hope and trust that they will exert themselves to the utmost to attain that practical experience and theoretical knowledge without which they must be found wanting on the day of trial.

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THE HISTORY OF THE RIFLE

The rifle is a German invention, dating as far back as the close of the fifteenth century. The first rifles were made with apparently no other object than to facilitate the loading of the arm with an almost tight-fitting bullet. To this end, the grooves were made straight, without any spiral turning, and merely served to diminish the friction of the bullet in the bore. The bullet itself was surrounded by a piece of greased woollen or linen cloth (the plaster), and was thus hammered down without too much difficulty. These rifles, primitive as they were, must have given far better results than the smooth-bore small arms of the period, with their bullets of considerably smaller diameter than the bore.

Later on, the character of the arm was totally altered by the spiral turn given to the grooves, which transformed the bore of the barrel into a sort of female screw; the bullet, by the tight-fitting plaster, being made to follow the grooves, took the spiral turn as well, and thus retained a spiral rotation round its line of flight. It was soon found that this mode of fixing the rotation of the bullet vastly increased both the range and accuracy of the arm, and thus the spiral grooves very soon superseded the straight ones.

This, then, was the kind of rifle which remained in general use for more than two hundred years. If we except hair-triggers and more carefully worked sights, it scarcely underwent any improvement up to 1828. It was greatly superior to the smooth-bore musket in accuracy, but not so very much in range; beyond 400 or 500 yards, it could not be relied upon. At the same time, it was comparatively difficult to load; the hammering down of the bullet was a very tedious operation; the powder and plastered bullet had each to be put separately into the barrel, and not more than one
round per minute could be fired. These drawbacks made it unfit for the generality of an army, especially at a time like the eighteenth century, when all battles were decided by the rapid firing of deployed lines. With such tactics, the old smooth-bore musket, with all its glaring imperfections, was still a far preferable arm. Thus we find that the rifle remained the favourite implement of the deer-stalker and chamois-hunter, and that it was used as an exceptional arm of war, for a few battalions of sharpshooters, in such armies only as could recruit these battalions from a sufficient number of trained sportsmen among the population.

The wars of the American and French Revolutions created a great change in tactics. Henceforth extended order was introduced in every engagement; the combination of skirmishers with lines or columns became the essential characteristic of modern fighting. The masses, during the greater part of the day, are kept back; they are held in reserve or employed in manoeuvring so as to concentrate on the weak point of the enemy; they are only launched in decisive moments; but, in the meantime, skirmishers and their immediate supports are constantly engaged. The mass of the ammunition is spent by them, and the objects they fire at are seldom larger than the front of a company; in most cases, they have to fire at single men well hidden by covering objects. And yet, the effect of their fire is most important; for every attack is both prepared, and, in the first instance, met by it; they are expected to weaken the resistance of detachments occupying farm houses or villages, as well as to take the edge off the attack of a charging line. Now, with old "Brown Bess," none of these things could be done effectively. Nobody can ever have been under the fire of skirmishers, armed with smooth-bore muskets, without taking home an utter contempt for its efficiency at medium ranges. Still, the rifle in its old shape was not fitted for the mass of skirmishers. The old rifle, in order to facilitate the forcing down of the bullet, must be short, so short that it was but a poor handle to a bayonet; consequently, riflemen were used in such positions only when they were safe against an attack with the bayonet, or by cavalry.

Under these circumstances, the problem at once presented itself: to invent a gun which should combine the range and accuracy of the rifle, with the rapidity and ease of loading, and with the length of barrel of the smooth-bore musket; an arm, which is at the same time a rifle and a handy arm of war, fit to be placed into the hands of every infantry soldier.
Thus we see that with the very introduction of skirmishing into modern tactics, arose the demand for such an improved arm of war. In the nineteenth century, whenever a demand for a thing arises, and that demand be justified by the circumstances of the case, it is sure to be supplied. It was supplied in this case. Almost all improvements in small arms made since 1828 tended to supply it.

Before, however, we attempt to give an account of those improvements which have created such great and numerous changes in rifled fire-arms, by dropping the old system of forcing the bullet home, we may be allowed to cast a glance at the attempts made to improve the rifle while maintaining the old method of loading.

The rifle with oval bore which is known in England as the Lancaster rifle, has been in use on the Continent for more than forty years. We find it mentioned in a German military book printed in 1818. In Brunswick, Colonel Berner improved it and had the whole infantry of that duchy armed with it in 1832. The ovality was but slight, and the oval bullet was forced home in the old fashion. This oval bullet, however, was to be used in skirmishing only. For volley firing, the men were provided with spherical bullets of smaller calibre, which rolled down the barrel quite as easy as any musket ball. Still, the inconveniences of this system are obvious. It is merely remarkable as the first instance of giving rifled muskets to the whole of the infantry in any one army.

In Switzerland, a civil engineer and officer of rifles, M. Wild, improved the rifle considerably. His bullet was smaller in proportion to the bore than usual, and was made to take the rifling by means of the plaster only; a disk on the ramrod prevented it from entering the bore too deep, and thus driving the bullet so close on the charge that the powder got crushed; the spirality of the grooves was reduced and the charge increased. Wild’s rifle gave very good results up to above 500 yards, with a very flat trajectory; besides, it allowed of more than 100 shots being fired without fouling. It was adopted in Switzerland, Württemberg, and Baden, but is now, of course, antiquated and relinquished.

The most modern and the best rifle constructed upon the forcing principle is the new Swiss sharpshooters’ regulation rifle. This arm has adopted the American principle of a very small

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a In *The Volunteer Journal* the word “superseded” is used here.—Ed.
calibre; its bore is not more than 10.50 millimètres, or 0.42 of an inch. The barrel is but 28 inches long, and has eight flat grooves (one turn in 34 inches). The ramrod is provided with the disk as introduced by Wild. The bullet is cylindro-ogival, and very long; it is forced home by means of a greased plaster. The charge is comparatively strong, and of a very coarse-grained powder. This arm has shown the most astonishing effects; and in the trial of various rifles recently made by the Dutch Government, its range, accuracy, and lowness of trajectory, were found to be unequalled. In fact, at a range of 600 yards, the highest point of its trajectory is only 8 feet 6 inches, so that the whole of the flight, at that range, is dangerous space for cavalry, and that even for infantry the last 100 yards of the trajectory are dangerous space; in other words, an error in judging distance of 100 yards, at 600 yards range, would not prevent the bullet from hitting an object six feet high. This is a result far surpassing that of any other rifled musket; the very best of them require an elevation, which raises the highest points of the trajectory, for 600 yards, to 13 to 20 feet, and reduces the dangerous space to from 60 to 25 yards. This extraordinary flatness of trajectory is produced by the small calibre of the arm, which admits of a very elongated bolt-shaped shot, and of a comparatively powerful charge; with a small bore, the rifle may be made very strong, without being clumsy, the shot may be long, without being heavy, and the charge may be powerful, relatively, without producing too severe a recoil. It is certain that the forced loading has nothing to do with the admirable shooting of the arm; indeed, it forms its only drawback, and prevents it from being used as the general arm of infantry. The Swiss have, therefore, restrained it to their companies of sharpshooters, in whose hands, no doubt, it will answer uncommonly well.

We shall next show how the rifle came to be made into a weapon fit to be placed into the hands of every infantry soldier.

Delvigne, a French officer, was the originator of the first attempt to make the rifle a weapon fit for general infantry use. He saw clearly that to do this, the bullet must slip down the barrel as easy, or nearly so, as the bullet of a smooth-bore musket, and be made, afterwards, to change its shape so as to enter into the grooves.
To obtain this end, he constructed, as early as 1828, a rifle with a chamber at the breech; that is to say, the extreme end of the bore at the breech, where the powder lies, was made of considerably smaller diameter than the remaining part of the barrel. This chamber was adopted from howitzers and mortars which had always been so constructed; but while, in ordnance, it merely served to keep well together the small charges used for mortars and howitzers, it answered quite a different purpose in Delvigne’s rifle. The powder having been dropped down into the chamber, the bullet, smaller than the bore, was made to roll down after it; but, arrived on the edge of the chamber, it could not pass any further, and remained supported on it; and a few smart blows with the ramrod were sufficient to force the soft lead of the bullet sideways into the grooves, and to enlarge its diameter so much that it fitted tight in the barrel.

The greatest inconvenience in this system was, that the bullet lost its spherical shape, and became somewhat flattened, in consequence of which it was apt to lose the lateral rotation impressed upon it by the grooves, which impaired its precision considerably. To remedy this, Delvigne invented elongated shot (cylindro-conical), and although the experiments with this kind of shot were not, at first, very successful in France, it answered very well in Belgium, Austria, and Sardinia, in which countries Delvigne’s rifle, with various improvements, was given to the Chasseur battalions instead of the old rifle. Although his rifle is at present almost everywhere superseded, Delvigne’s improvements embrace the two great principles on which all succeeding inventors have been obliged to rely. Firstly, that in muzzle-loading rifles, the shot must go down with a certain windage, so as to admit of easy loading, and must change its shape, so as to enter the grooves, only after it has been rammed home; and secondly, that elongated shot are the only projectiles adapted for modern rifles. Delvigne thus at once put the question on its proper footing, and fully deserves the name of the father of the modern rifle.

The advantages of elongated shot over spherical bullets are numerous, so long as their lateral rotation (around its longitudinal axis) can be secured to the former, which is accomplished in a satisfactory manner by almost every modern rifle. The elongated shot offers a far smaller section, in proportion to its weight, to the resistance of the atmosphere than the spherical bullet. Its point can be so shaped as to reduce that resistance to a minimum. Like a bolt or an arrow, it is to a certain degree supported by the air below it. The consequence is, that it loses far less of its initial
velocity by the resistance of the air, and that, consequently, it will reach a given distance with a far lower trajectory (that is to say, with a line of flight far more dangerous to the enemy) than any round shot of the same diameter.

Another advantage is, that the elongated shot offers a far greater surface of contact to the sides of the barrel than the round shot. This makes the former take the rifling far better, and therefore admits of a reduced pitch of the rifling as well as of a reduced depth of groove. Both these circumstances facilitate the cleaning of the arm, and at the same time permit the use of full charges without increasing the recoil of the gun.

And finally, as the weight of the elongated shot is so much greater than that of the round bullet, it follows that the calibre, or diameter of bore, of the gun can be considerably reduced, while it still remains capable of firing a projectile equal in weight to the old round bullet. Now, if the weight of the old smooth-bore musket and that of its bullet be considered as the standard weights, a rifle for elongated shot of this weight can be made stronger than the old musket in the same proportion as the bore has been reduced, and it will still not exceed the weight of the old musket. The gun being stronger, it will stand the charge so much the better; it will have less recoil, and, consequently, the reduced bore will admit of relatively stronger charges, whereby a greater initial velocity, and, consequently, a lower line of flight will be secured.

The next improvement was made by another French officer, Colonel Thouvenin. He clearly perceived the inconvenience of leaving the shot, while being rammed into the grooves, supported on a circular projection touching its edges. He therefore did away with the edges of the chamber, boring out the whole of the bore to one uniform diameter as heretofore. In the middle of the screw closing the bore, he fixed a short strong steel pin, or peg, which projected into the bore, and around which the powder was to fall; on the blunt top of this peg the shot was to be supported while the ramrod hammered it into the grooves. The advantages of this system were considerable. The expansion of the shot, by the blows of the ramrod, was far more regular than in Delvigne’s rifles. The arm could afford a greater windage, which facilitated loading. The results obtained with it were so satisfactory that, as early as 1846, the French Chasseurs à pied were armed with Thouvenin’s rifles; the Zouaves and other light African infantry followed; and as it was found that the old smooth-bore muskets could, with little expense, be transformed into Thouvenin’s rifles, the carbines of
the French foot-artillery were all altered accordingly. The Prussian rifles were armed with Thouvenin's rifle in 1847; those of Bavaria in 1848; and most of the smaller States of Northern Germany followed the example, in some cases arming even portions of the line with this excellent weapon. In all these rifles there is visible a certain approach to unity of system, in spite of all their variations as to calibre, &c.; the number of grooves is reduced (mostly to 4), and the pitch generally is from three-quarters of a turn to one turn in the whole length of the barrel.

Still, Thouvenin's rifle had its drawbacks. The force required to drive, by repeated blows, the lead of the shot, laterally, into the grooves was incompatible with that length of barrel which the common musket of infantry of the line must always have as an effective handle to a bayonet. It was, besides, very difficult for skirmishers, crawling or kneeling, to apply that force. The resistance offered to the explosive force by the shot, jammed as it is in the grooves just in front of the powder, increases the recoil, and thereby restricts the gun to a comparatively small charge. Finally, the peg always remains an undesirable complication of the arm; it renders the cleaning of the space around it very difficult, and is liable to get out of order.

Thus the principle of compressing the shot by blows from the ramrod gave very satisfactory results, for the time being, in the system of Delvigne, and better results, again, in that of Thouvenin. Still it could not assert its superiority, for an arm for general infantry use, over the old smooth-bore gun. Other principles had to be resorted to before a rifle fit for every soldier's hands could be produced.

III

Delvigne, whose rifle we described in the preceding article, found it advisable to hollow out his elongated bullets from the base, in order to reduce their weight to something like that of the old spherical bullet. Though he very soon found that this hollow projectile was incompatible with the system of expanding the shot by mechanical blows, his experiments sufficed to prove to him that the gas developed by the explosion, on entering the cavity formed in the bullet, had a tendency to expand the walls of this hollow portion so as to make the bullet fit the barrel exactly and take the rifling.

It was this discovery which was taken up in 1849 by the then Captain Minié. He did entirely away with the peg or pillar at the
bottom of the bore, and restored to the rifle the simplicity which it had possessed before Delvigne and Thouvenin; relying entirely upon the expansive action of the explosion upon the hollow portion of his bullet. This bullet was cylindro-ogival, with two ring-shaped indentations round the cylindrical portion,* and hollowed out conically from the base; a cup-shaped hollow iron plug (culot) closed the hollow portion, and was driven into it by the force of the explosion, thereby effectively expanding the lead. The bullet had sufficient windage to go easily down, even when surrounded by the greased paper cartridge.

Here, then, we have at last a rifle and a bullet constructed upon principles which render it possible to give this arm to every foot soldier. The new arm loads as easily as the smooth-bore musket, and has an effect far superior to that of the old rifle, which it equals in precision, but far exceeds in range. The rifle with expansion bullet is undoubtedly—of all muzzle-loaders—the best arm for general use as well as for sharpshooters, and it is owing to this circumstance that it owes its very great success, its adoption in so many services, and the many attempts that have been made to improve the shape of the shot or the grooving of the rifle. The Minié bullet, in consequence of its being hollowed out, can be made but little heavier than the old round bullet of the same calibre; the bullet lying loose on the powder, and being only gradually expanded as it passes through the barrel, the recoil is far less than with either the old or the Delvigne and Thouvenin rifles, in every one of which the shot is jammed fast in the barrel, and has to be dislodged by the full force of the explosion; consequently the Minié rifle can apply a relatively stronger charge. The grooves have to be made very shallow, which facilitates the cleaning of the barrel; the length of axis in which one full turn of the grooves is made has to be pretty great, in consequence of which the number of rotations, and also the friction with the air (which takes place at every rotation), is diminished, whereby the initial velocity is better preserved. The hollow base-end of the shot also brings its centre of gravity more forward; and all these circumstances combine to produce a comparatively low trajectory.

The general adoption of the Minié rifle was, in fact, owing to another circumstance: That, by a very simple process, all old smooth-bore muskets could be transformed into rifles fit for Minié

* These indentations (cannelures) had been invented by Tamisier, another French officer. Besides reducing the weight of the bullet and the friction in the barrel, they were found to balance the shot in the air, similar to the wings of an arrow, and thus to lower the trajectory.
bullets. When the Crimean war made it desirable, in Prussia, that the whole infantry should at once be armed with rifled muskets, and the requisite number of needle-guns had not yet been manufactured, 300,000 old muskets were rifled and rendered fit for Minié ammunition in less than a year.

The French Government were the first to arm a few battalions with the Minié rifle; but the grooves were progressive, that is to say, they were deeper at the breech than at the muzzle, so that whatever lead had entered the grooves at the breech, was again compressed by the shallowing grooves during its progress through the barrel, while at the same time from within the expanding force of the powder continued to act. Thus such an amount of friction was created that very often the solid point of the shot was torn off and sent out of the barrel while the hollow base-end remained fast in the grooves. This, and other defects, induced the Government to renounce any further attempt to introduce the Minié rifle.

In England, as early as 1851, 28,000 of these rifles were constructed, similar to those tried in France; the bullets were slightly conical, with ogival point, with a round hollow plug, and without indentations, as it was intended to press them. The results were very unsatisfactory, chiefly in consequence of the shape of the bullet; until, in 1852, new experiments were made, from which, finally, the Enfield rifle and bullets proceeded, which will be again alluded to hereafter. The Enfield rifle is but one of the modifications of the Minié. It has, since 1854, definitively superseded all smooth-bore muskets in the British army.

In Belgium, the Minié rifle, with slight alterations, has been adopted since 1854 for riflemen, and latterly for the line also.

In Spain, in 1853, the rifles received the Minié, which has since also been given to the line.

In Prussia, in 1855-56, the Minié rifle was provisionally given to the line, as already stated. It has since been completely superseded by the needle-gun.

In the smaller German States, the Minié rifle was also adopted, with very few exceptions.

In Switzerland, the Prélat rifle, destined to arm the whole of the infantry with the exception of the sharpshooters, is but a modification of the Minié.

And in Russia, finally, the Government is just now occupied in replacing the old smooth-bore muskets by Minié rifles of a very good model.

In almost every one of these countries has the number, depth, and pitch of the grooves, and the shape of the bullet, undergone
various modifications of detail, to describe the most important of which will be the purport of our next chapter.

IV

We again recapitulate the principle of Minié's system: A rifled musket, with shallow grooves, is loaded with an elongated bullet, which is so much smaller in diameter than the bore, that it glides down easily. This bullet is hollowed out from its base, that is to say, from the end resting on the powder. On firing, the gas suddenly developed by the explosion enters into this hollow part, and by its pressure against its comparatively thin sides, expands the lead so as to make it fit the bore and enter into the grooves; the bullet, therefore, must follow the turn of these grooves, and retain the lateral rotation characteristic of all rifle bullets. This is the principle, the essential part in all the different rifles firing expansion bullets; and it is common to them all. But in matters of detail, a great many modifications have been made by various inventors.

Minié himself adopted the plug. This plug was a little, round, cup-shaped piece of sheet-iron, driven into the mouth of the hollow part of the bullet. It was intended to be driven deeper into the hollow by the explosion, and thus to assist and render more certain the expansion of the shot. It was, however, soon found that this cup-shaped plug had great inconveniences. It separated very often from the bullet on leaving the muzzle, and in its irregular line of flight it slightly wounded sometimes troops belonging to the firing party and placed a little in advance laterally. It also sometimes turned over while being driven into the lead, and thus caused an irregular expansion, and thereby a deviation of the shot from the line of aim. As it had been proved that the expansion of the shot might be obtained without any plugs at all, experiments were made to fix the best shape of an expansion bullet without plug. The Prussian Captain Neindorff appears to have been the first to propose such a bullet (in 1852). The hollow of this projectile is cylindrical, but widened out towards the base, in the shape of a tun-dish. This shot gave very good results as to range and precision, but it was soon found that the plug served another purpose besides expansion—it preserved the thin sides of the hollow shot from getting crushed during transport and rough handling; while Neindorff's bullets became deformed during transport, and then gave very bad results. In most German services, therefore, the hollow iron plug was
maintained, but it was made of a long, pointed, sugar-loaf shape, and then answered very well, never turned over, and scarcely ever got separated from the leaden shot. The Enfield bullet, as is well known, has a solid wooden plug.

In some States, however, the experiments with bullets without plugs were continued, and such bullets adopted for the service. This was the case in Belgium, France, Switzerland, and Bavaria. The chief object in all these experiments was to fix a shape for the hollow part of the bullet which would prevent crushing while it allowed expansion. Thus the hollow was formed in the shape of a bell (Timmerhans, in Belgium), of a three-sided prism (Nessler, in France), with a cross-shaped section (Plönnies, in Darmstadt), &c. But it appears almost impossible to unite the two elements, solidity and expansibility, in any modification of an expansion shot without a plug, unless the calibre be considerably reduced. The new Bavarian projectile (Major Podewils'), which has a plain cylindrical hollow, and very strong sides to it, appears, so far, to answer best, but the Bavarian rifle also has a small bore.

In countries where old smooth-bore muskets were rifled for Minié bullets, the large calibre of the old musket became, of course, compulsory. But where entirely new rifles were provided for the army, the calibre was considerably reduced, from considerations to which we have alluded in a former article. The English Enfield rifle has a calibre of 14.68 millimètres, the South-German rifle (adopted in Württemberg, Bavaria, Baden, and Hesse-Darmstadt) of 13.9 mm. The French alone, in their rifles for the guard, retained the calibre of their smooth-bore muskets (17.80 mm.).

The Enfield rifle is a very fair specimen of the expansion system. Its calibre is small enough to admit of a shot twice the length of its diameter, and still not much heavier than the old round musket bullet. Its workmanship is very good, and superior to that of almost all rifles served out to Continental troops. The bullet has very good proportions; against the wooden plug it is objected that it may either swell, and thereby increase the diameter of the shot, or shrink, and then fall out; but we think these objections futile. If the swelling of the plug presented any inconvenience, it would have been found out long since; and in case of its shrinking, the make of the cartridge prevents its falling

—a The words "unless the calibre be considerably reduced" do not occur in The Volunteer Journal.—Ed.
—b The words "but the Bavarian rifle also has a small bore" do not occur in The Volunteer Journal.—Ed.
out. The results obtained with the Enfield rifle are about on a par with those of the best Continental expansion rifles.

The objections to the Enfield, as a rifle with expansion bullets, are these: That the calibre might still be smaller, giving a longer bullet for the same weight and a stronger barrel with the same weight; that five grooves are proved to be better than three; that the barrel of the long Enfield, at least, is too delicate, towards the muzzle, to be used as a handle for a bayonet; that the bullet, from having no ring-shaped indentations, must suffer an enormous amount of friction in the barrel, and thereby runs the risk of having the solid point torn off, while the ring-shaped hollow part sticks fast to the grooves.

To change the calibre is a very serious matter; and without that it will be very difficult to give the muzzle end of the barrel more solidity. This appears to us the most serious objection. All other objections appear unimportant; the number of grooves, and the shape of the bullet may be altered any time without inconvenience; and even as it is, the Enfield has proved itself a very useful arm of war.

We have, so far, compared the Enfield with such rifles only which use expansion bullets; the comparison with rifles based upon different principles we must reserve for a future occasion, when we shall have examined the various other constructions now in use.

V

In 1852, an English gun-maker, Mr. Wilkinson, and an Austrian officer of artillery, Capt. Lorenz, simultaneously, but each independently of the other, invented another method of making a loose-fitting elongated bullet increase its diameter by the force of the explosion, so as to make it fit the bore closely, and follow the turn of the grooves. This method consisted in making the explosion compress the bullet lengthways instead of expanding it.

Take a soft or elastic ball, place it on a table, and make it fly off with a smart blow of the hand. The first effect of the blow, even before it starts the ball, will be a change in its shape. Light as it is, the weight of the ball offers resistance enough to become flattened on the side where it receives the blow; it is compressed in one direction, and, consequently, its size must increase in another direction, similar to what it does when you completely flatten it. As the blow acts upon the elastic ball, so is the explosion of the powder expected to act upon the compression bullet of Lorenz and Wilkinson. The weight, the vis inertiae of the bullet is made the
means, which, by its resistance to the force of the explosion, compresses the bullet lengthways, and thereby makes it larger sideways; when the shot comes out, it is shorter and thicker than when it was put in.

An elongated bullet of solid lead, in order to offer sufficient resistance, and thus to be sufficiently compressed to take the grooves, would have to be very heavy—in other words, very long in proportion to its thickness. Even with a small calibre such a bullet would be too heavy for war, as the men would be overweighted with ammunition if they carried the usual number of rounds. To remedy this, two very deep ring-shaped indentations are cut into the cylindrical part of the bullet. Take an Enfield bullet, remove the plug, fill the cavity with molten lead, and when cold, cut these two indentations, close to each other and close to the flat end, into the cylindrical part of the projectile, leaving the three remaining portions of the bullet strung, as it were, upon a common axis of solid lead. The bullet will then consist of two very flat truncated cones, pointing forward, and of the heavy solid point, all of which are solidly connected with each other. This bullet will answer as a compression bullet. The resistance against the explosion will be offered by the heavy fore part or point of the bullet; the head of the rear cone will be driven, by the force of the powder, into the base of the cone in front of it, whose head, again, will be driven into the rear end of the point; and thus the shot, being shortened and compressed in the direction of its length, will be made so much thicker that it closes on all sides to the bore and takes the rifling.

From this it is evident that the solid point is the principal portion of the compression bullet. The longer and heavier it is, the more resistance will it offer, and, consequently, the more certain will be the compressive effect of the explosion. So long as the calibre of the rifle is small, say rather less than the Enfield, it will be possible to make compression bullets not heavier in metal than expansion bullets; but with the calibre grows the surface of the base of the bullet, or in other words the surface exposed to the immediate action of the powder; and this is the cause why, with large calibres, compression bullets will always have to be too heavy to be of any use; otherwise the force of the explosion, by overcoming the resistance of the bullet, would throw it out of the barrel before it had time to become properly compressed. Large calibred, smooth-bore muskets may, therefore, be altered into rifles for expansion shot, but they will never do for compression bullets.
With small calibres and flat grooves, the compression system gives excellent results. The forward position of the centre of gravity is very favourable to a low trajectory. The compression bullet has all the advantages of the expansion system, as far as regards ease and rapidity of loading, and smallness of recoil. The bullet is solid, and can stand transport and rough usage well enough; its shape allows of its being pressed, instead of cast. The only drawback is that it requires a very small windage, of not more than about 0·01 of an inch, and a great regularity both in the size of the bores and that of the bullets, as evidently the compressive effect does not increase the circumference of the shot by near as much as the expansive effect; and thus, with a greater windage, or old barrels, it would be doubtful whether the bullet becomes compressed enough to take the rifling. But this small windage is no great objection, as many rifles with expansion shot have no greater windage (the Enfield, too, for instance, has only 0·01 of an inch), and there is now no difficulty in constructing both barrels and bullets of very exact and regular dimensions.

The Austrian army has adopted the compression bullet for the whole of the infantry. The calibre is small, 13·9 millimètres, or 0·546 of an inch (0·031 less than the Enfield); the barrel has four very flat grooves (an even number of grooves, though decidedly objectionable in expansion rifles, is found to answer better in compression rifles than an odd number), with one turn in about six feet six inches (almost the same as the Enfield). The bullet weighs about 480 grains (50 grains less than the Enfield), and the charge is 1-6th of its weight (with the Enfield, about 1-8th of the weight of the bullet). This arm stood its trial in the Italian campaign of 1859, and the great number of French soldiers, and especially officers, who succumbed to it, testify to its excellence. It has a considerably lower trajectory than the Enfield, which is owing to the proportionally stronger charge, to the smaller calibre producing a more elongated shot, and, may be, to the action of the two ring-shaped indentations.

Saxony, Hanover, and one or two small German States have also adopted, for their light infantry, rifles from which compression bullets constructed on Lorenz's principle are fired.

In Switzerland, besides the sharpshooters' rifle mentioned before, there has been adopted a rifle of the same calibre (10·51 millimètres or 0·413 of an inch, 0·164 smaller than the Enfield) for compression shot. This rifle is used by the light companies of the infantry battalions. The bullet is on Lorenz's model, and the results given by this rifle, in lowness of trajectory, range and
precision, class it second only to the Swiss sharpshooters' rifle above alluded to, whose bullet, forced home in the old fashion, has the flattest trajectory of any known rifle. At 500 yards, the Swiss compression bullet fired from this rifle gives a dangerous space of 130 yards! *

So far, there can be no doubt that the compression-system has given better results than the expansion system, as it has hitherto certainly produced the lower trajectory. It is, however, equally doubtless that this is not owing to the system in itself, but to other causes, among which the smallness of the calibre is the principal one. With an equally small calibre, the expansion bullet must produce as low a line of flight as its hitherto more successful competitor. This will soon be made evident. The rifles of the four States of South-Western Germany (Bavaria, &c.) have the same calibre as those of Austria, so that they may in case of need use Austrian ammunition, and vice versa. But, in adopting the same diameter of bore, they have all of them adopted expansion bullets; and the practice tables of both classes of shot will thus afford a fair test of the merits of either. If, as we expect, the expansion bullet will then give as good results as its competitor, it will deserve the preference; for—1st, it is more certain of taking the rifling, under any circumstances; 2nd, it may be made lighter, with the same bore, than compression shot; and, 3rd, it is less affected by the enlargement of the bore, which takes place in all gun-barrels after having been in use for a certain time.

VI

All the rifles which we have hitherto described, were muzzle-loaders. There have been, however, in former times, a great many kinds of fire-arms which were loaded at the breech. Breech-loading in cannon preceded muzzle-loading; and most old armouries will contain rifles and pistols two or three hundred years old, with a moveable breech, into which the charge could be introduced without being passed through the barrel by a ramrod. The great difficulty always was to join the moveable breech in

* By dangerous space is understood that portion of the flight of a bullet in which it is never higher than the height of a man, say six feet. Thus, in this instance, a shot aimed at the bottom of a target six feet high and 500 yards distant, would hit any object, six feet high, standing in the line of aim anywhere between 370 and 500 yards from the man firing. In other words, with the 500 yards sight, an error of 130 yards in judging the distance of the object may be made, and still the object will be hit if the line of aim was taken correctly.
such a way to the barrel that it could be easily separated and put on again, and that the mode of fixing it was solid enough to stand the explosion. With the deficient mechanical contrivances of those times, it was no wonder that these two requisites could not be combined. Either the parts fixing the breech on to the barrel were deficient in solidity and durability, or the process of unfixing and re-fixing it was fearfully slow. No wonder, then, that these arms were thrown aside, that muzzle-loading did its work quicker, and that the ramrod ruled supreme.

When, in modern times, military men and gun-makers were bent upon the construction of a fire-arm which should combine the quick and easy loading of the old musket with the range and precision of the rifle, it was natural that breech-loading should again receive attention. With a proper system of fixing the breech, all difficulties were overcome. The shot, a little larger in diameter than the bore, could then be placed, together with the charge, in the breech, and on being pushed forward by the explosion, would press itself through the bore, fill the grooves with its excess of lead, take the rifling, and exclude all possibility of windage. The only difficulty was the mode of fixing the breech. But what was impossible in the 16th and 17th centuries need not be despaired of now.

The great advantages of a breech-loader, supposing that difficulty overcome, are obvious. The time required for loading is considerably reduced. No drawing, turning round, and returning ramrod. One motion opens the breech, another brings the cartridge into its place, a third closes the breech again. A rapid fire of skirmishers, or a quick succession of volleys, so important in many decisive circumstances, are thus secured in a degree which no muzzle-loader can ever equal.

With all muzzle-loaders the art of loading is rendered difficult as soon as the soldier, in skirmishing, is kneeling or laid down behind some covering object. If he keeps behind his shelter he cannot hold his gun in a vertical position, and a great part of his charge will stick on to the sides of the bore while running down; if he holds his gun straight up he has to expose himself. With a breech-loader he can load in any position, even without turning his eye from the enemy, as he can load without looking at his gun. In line, he can load while advancing; pour in volley after volley during the advance, and still arrive upon the enemy with a gun always loaded. The bullet can be of the simplest construction, perfectly solid, and will never run any of the chances by which both compression and expansion shots miss taking the grooves, or
experience other unpleasant accidents. The cleaning of the gun is uncommonly facilitated. The chamber, or place where the powder and bullet lie, which is the part always most exposed to fouling, is here laid completely open, and the barrel or tube, open at both ends, can be easily inspected and cleaned to perfection. The parts about the breech being necessarily very heavy, as otherwise they could not withstand the explosion, bring the centre of gravity of the rifle nearer the shoulder, and thereby facilitate a steady aim.

We have seen that the only difficulty consisted in the proper closing of the breech. There can be no doubt that this difficulty has now been fully overcome. The number of breech-loaders brought out during the last twenty years is wonderful, and some of them, at least, fulfil all reasonable expectations, both as to the efficiency and solidity of the breech-loading apparatus, and as to the ease and rapidity with which the breech can be fixed and unfixed. As arms of war, however, there are at present only three different systems in use.

The first is the gun now used by the infantry in Sweden and Norway. The breech-loading apparatus appears to be sufficiently handy and solid. The charge is fired by a percussion cap, both cock and piston being at the under side of the chamber piece. Of the practice made by this gun we have not been able to obtain any particulars.

The second is the revolver. The revolver, same as the rifle, is a very old German invention. Centuries ago, pistols with several barrels were made, provided with a revolving apparatus, which, after every shot, made a fresh barrel turn into the position required for the action of the lock upon it. Colonel Colt, in America, again took up the idea. He separated the chambers from the barrels, so that one barrel did for all the revolving chambers, thus making the arm breech-loading. As most of our readers will have handled one of these Colt's pistols, it will be unnecessary to describe them; besides, the complicated nature of the mechanism would render any detailed account impossible without diagrams. This arm is fired by percussion caps; and the round bullet, rather larger than the bore of the barrel, takes the grooves while being pressed through it. Colt's invention having become popular, a great number of revolving small-arms have been invented, but only Deane and Adams have really simplified and improved it as an arm of war. Still, the whole thing is extremely complicated, and applicable, for war purposes, to pistols only. But, with a few improvements, this revolver will become a necessity for all cavalry, and for sailors when boarding, while for artillery it will be far
more useful than any carbine. As it is, its effects at close quarters are terrible; and not only have the American cavalry been provided with them, but they have also been introduced into the British, American, French, Russian, and other navies.

The Swedish gun, as well as the revolver, is fired from without by common percussion caps. The third class of breech-loaders, the much talked-of Prussian needle-gun, does entirely away with these too; the charge is fired from within.

The needle-gun was invented by a civilian, Mr. Dreyse, of Sömmerda, in Prussia. After having first invented the method of firing a gun by means of a needle suddenly penetrating an explosive substance fixed in the cartridge, he completed his invention, as early as 1835, by constructing a breech-loader, supplied with this needle-firing apparatus. The Prussian Government at once bought up the secret, and succeeded in keeping it to themselves up to 1848, when it became public; in the meantime they resolved upon giving this arm, in case of war, to all their infantry, and commenced manufacturing needle-guns. At present, the whole infantry of the line, and the greater portion of the Landwehr^4^ are armed with it, while all the light cavalry are at this moment receiving breech-loading needle-carbines.

Of the breech-loading mechanism we will only say that it seems to be the simplest, handiest, and most durable of all those that have, so far, been proposed. It has now been tried for years, and the only fault that can be found with it is this, that it does not last quite so long, and will not bear quite so many rounds as the fixed breech of a muzzle-loader. But this is a fault which appears unavoidable in all breech-loaders, and the necessity of renewing, a little sooner than with the old arms, a few pieces of the breech, cannot in any way detract from the great merits of the arm.

The cartridge contains bullet, powder, and the explosive composition, and is placed, unopened, into the chamber, which is slightly wider than the rifled barrel. A simple motion of the hand closes the breech, and at the same time cocks the gun. There is, however, no cock outside. Behind the charge, in a hollow iron cylinder, lies a strong, pointed steel needle, acted upon by a spiral spring. The cocking of the gun consists in merely drawing back, compressing, and holding fast this spring; when the trigger is drawn, it sets the spring loose, which at once sends the needle quickly forward into the cartridge, which it pierces, instantaneously explodes the explosive composition, and thus fires the charge. Thus, loading and firing with this gun consists of five motions only: opening the breech, placing the cartridge in it, closing the
breech, presenting, and firing. No wonder that, with such a gun, five well-aimed rounds can be fired in a minute.

The projectiles first used for the needle-gun had a very unfavourable shape, and, consequently, gave a very high trajectory. This defect has been very successfully remedied a short time ago. The shot is now much longer, and has the shape of an acorn taken from its cup. It is of considerably smaller diameter than that of the bore; its rear-end is embedded in a kind of cup, or bottom, of a soft material, so as to give it the requisite thickness. This cup sticks on to the bullet while in the barrel, takes the rifling, and thus gives the shot the lateral rotation, while at the same time it considerably diminishes friction in the barrel, and yet does away with all windage. The practice of the gun has been so much improved thereby, that the same sight, which formerly served for 600 paces (500 yards), now serves for 900 (750 yards); certainly an immense lowering of the trajectory.

Nothing is further from the truth than that the needle-gun is of a very complicated construction. The pieces composing the breech-loading apparatus and the needle-lock are not only far less numerous, but also far stronger than those composing a common percussion-lock, which yet nobody thinks too intricate for war and rough usage. Moreover, while the taking to pieces of a common percussion-lock is an affair requiring considerable time and sundry instruments, a needle-lock can be taken to pieces and refitted in an incredibly short time, and with no other instruments than the soldier's ten fingers. The only piece liable to break is the needle itself. But every soldier carries a reserve-needle, which he can fit to the lock at once, without having to take it to pieces, and even during an action. We are also informed that Mr. Dreyse has rendered the breaking of the needle a very unlikely thing, by an improvement in the lock, which makes the needle go back to its sheltered position as soon as it has done its work of exploding the charge.

The trajectory of the present Prussian needle-gun will be about the same as that of the Enfield rifle; its calibre is a little larger than that of the Enfield. With a reduction of calibre to that of the Austrian, or better still, the Swiss sharpshooters' rifle, there is no doubt that it would equal any of these arms in range, precision, and flatness of trajectory, while its other enormous advantages would remain to it. The breech-loading apparatus could even be made much stronger than at present, and the centre of gravity of the gun would be brought still nearer to the shoulder of the aiming soldier.
The introduction into an army of an arm capable of such rapid firing will necessarily produce many speculations as to what changes this will produce in tactics; especially among people so fond of speculating as the North Germans. There has been no end of controversies on the pretended revolution in tactics which the needle-gun was to produce. The majority of the military public, in Prussia, at last came to the result that no charge could be made against a battalion firing needle-gun volleys in rapid succession, and that consequently it was all up with the bayonet. If this foolish notion had prevailed, the needle-gun would have brought upon the Prussians many a severe defeat. Fortunately, the Italian war proved to all who could see, that the fire from modern rifles is not necessarily so very dangerous to a battalion charging with spirit, and Prince Frederick Charles of Prussia has taken occasion therefrom to remind his comrades that passive defence, if ever so well armed, is always sure of defeat. The tide of military opinion has turned. People again begin to see that men, and not muskets, must win battles; and if any real change in tactics will be made by the new gun, it will be a return to a greater use of deployed lines (where the ground admits of it), and even to that charge in line which, after having won most of the battles of Frederick the Great, had become almost unknown to the Prussian infantry.

VII

Having now passed in review the different systems upon which the various rifles, now in use in European armies, are constructed, we cannot take leave of our subject without saying a few words with respect to a rifle which, although not introduced into any service, enjoys a well-deserved popularity for its astonishing precision at long ranges. We mean, of course, the Whitworth rifle. Mr. Whitworth, if we are not mistaken, claims as original two principles in the construction of his fire-arms—the hexagonal bore and the mechanical fit of the projectile in the bore. The bore, instead of having a circular, has a hexagonal section throughout, and a very strong pitch or turn, as is shown on the surface of one of the hexagonal bullets. The bullet itself is of a hard metal, fits the bore as nice as possible, and is not expected to alter its shape in consequence of the explosion, as its six corners make it follow the twist of the grooves with unerring certainty. To prevent windage, and to lubricate the bore, a cake or bottom of greasy matter is inserted between the powder and the charge; this
grease melts from the heat of the explosion, while travelling, behind the bullet, towards the muzzle.

Now, in spite of the undeniably excellent results which Mr. Whitworth has obtained with his rifle, we believe that this principle is inferior to either that of expansion, or of compression, or of breech-loading with a bullet larger in diameter than the bore. That is to say, we believe that either a rifle for expansion-shot, or one for compression-shot, or one constructed on the system of the Prussian needle-gun, would beat a Whitworth rifle if the workmanship was equally good, the calibre equally small, and all other circumstances alike. Mr. Whitworth's mechanical fit may be ever so nice, he cannot make it as close as the change in the shape of the bullet during and after the explosion makes it. There is in his rifles with hard bullets always that which a rifle is meant radically to avoid, namely, windage and consequent escape of gas; even the melting grease cannot entirely do away with that, especially in a rifle which, from long use, has become a trifle larger in the bore. There is a very distinct limit to all mechanical fit in such a case, and that is, the fit must be loose enough to let the bullet go down easily and quickly, even after a couple of dozen rounds. The consequence is that these hexagonal bullets do fit but loosely, and although we do not know exactly what the amount of windage is, still the fact that they will go down quite easily without any grease and with a piece of paper wrapped round them, makes it probable that it is not much less (if less at all) than that of the Enfield bullet, which is the one-hundredth part of an inch. Mr. Whitworth, in contriving this rifle, seems to have had chiefly two leading ideas: firstly, to do away with all possibility of getting the grooves loaded; and, secondly, to do away with all the accidents which may prevent a cylindrical bullet from taking the rifling—because they prevent either expansion or compression taking place—by adapting the shape of the bore and that of the shot to each other beforehand. The obstruction of the grooves by particles of lead torn off from the bullet may occur in all rifles with soft leaden bullets; the accidents preventing a bullet from taking the grooves in the correct way may occur in either compression or expansion rifles, but not in breech-loaders on the Prussian principle. But neither of these inconveniences is so great that they cannot be overcome, and that, in order to avoid them, the first principle in rifle making should be sacrificed, viz., that the bullet takes the rifling without leaving any windage.

In saying so, we are backed by an excellent authority, namely by Mr. Whitworth himself. We are informed that Mr. Whitworth has
dropped his principle of mechanical fit as far as his rifle is concerned, and certain it is that at present most people fire from his rifle not a hard, solid, hexagonal bullet, but a soft, leaden, cylindrical bullet. This bullet is hollowed out at its base similar to the Enfield bullet, but it has no plug; it is very long (the one 480 grains, three times as long as its diameter, the other, 530 grains, three and a half times its diameter), and takes the rifling by the effect of the explosion. Here, then, we have Mr. Whitworth's principle of mechanical fit entirely abandoned for that of expansion, and the Whitworth rifle turned into a subordinate species of the genus Minié quite as much as the Enfield ever was. Remains the hexagonal bore; and how will that answer for an expansion rifle?

The hexagonal bore has, of course, six grooves, and we have seen that an even number of grooves has been found to answer, for expansion bullets, not so well as an uneven one, as it is not desirable that two grooves should be diametrically opposite to each other. Then the grooves in most expansion-rifles are very shallow—in the Enfield, for instance, scarcely visible. In the hexagon the difference between the diameter of the inner circle (representing the bore at large) and that of the outer circle (drawn through the six corners) is about 2-13ths, or rather less than one-sixth part of the former; or, in other words, the lead has to expand nearly one-sixth of its diameter before it can properly close to the corners of the hexagonal bore. From this it would appear that the hexagonal bore, although exceedingly ingenious for the system of mechanical fit, is about the most unlikely to answer for the system of expansion.

Still it answers, as the results of almost every rifle contest prove. How is this possible, if Mr. Whitworth has abandoned the essential point of his principle, and now applies a principle for which his rifle is not adapted?

First of all, there is the excellence of the workmanship. It is well known that for accuracy in the most minute and even micrometrical details, Mr. Whitworth stands unrivalled. As his engineering tools, so are his rifles; perfect models in the construction of their detail. Look at the sight on the muzzle of his rifles, and at that of any other class! There is no comparison: and in rifles firing at 1,000 yards range, this is an immense advantage.

Secondly, and chiefly: the calibre of the Whitworth rifle is 0.451 of an inch minimum bore (what we have called the inner circle). The Enfield is 0.577; the Swiss sharpshooters' rifle, which we have more than once mentioned as giving the lowest trajectory known, is 0.413. Now, look at the difference in the shape of the bullet.
The Whitworth expansion bullet of 530 grains is about three-eighths of an inch longer than the Enfield bullet of the same weight; while the former is about three and a half times its own diameter in length, the latter is scarcely twice its own diameter. It is evident that a bullet of the same weight and with the same charge will cut better through the air, that is, give a lower trajectory if it is thin and long, than if it is short and thick. Then, the charge of the Enfield is 68 grains of powder; for the Whitworth, charges of 60, 70, and 80 grains are used, but we have been told by good shots who are in the habit of using this rifle that 80 grains are required to make the bullet expand well and give good results at long ranges. Thus we have a charge for the Whitworth fully one-sixth stronger than for the Enfield, and that charge would act better (even with equal weight), as it explodes in a more confined space and acts upon a far smaller surface of the bullet.

Here, then, we have another specimen of the immense advantage of a small bore, which gives a long, thin, bolt-shaped shot. Whoever of my readers has attentively followed our inquiries into the advantages of the various rifles, will have long since come to the conclusion that the shape of the bullet is of far more importance than the system on which either shot or rifle is designed; and that in order to have a portable soldier's bullet of the best shape, we must have a small bore. This is the lesson the Whitworth rifle again teaches us.

We may also learn from it that, with a small bore, the long, heavy point of the bullet offers resistance enough to allow the hollow tail end to expand with certainty, and without the assistance of a plug. The Whitworth bullet has but a small cavity at its base, and no plug; it has to expand at least three times as much as any other expansion bullet; and still, with 80 grains of powder (which the rifle stands without too much kicking), it does take the rifling quite sufficiently.

That Mr. Whitworth's rifle will ever become a weapon of war, we very much doubt; indeed, we think the hexagonal bore will soon go out altogether. If volunteers who had become practically convinced of the superior shooting of the Whitworth rifle as compared with the present Enfield, have proposed that they should be armed with the former, they have certainly far overshot the mark. We think it utterly unfair to compare the two species of arms. The Whitworth is an arm of luxury, which costs at least twice as much as the Enfield to produce. In its present state it is too delicate a weapon to be placed into every soldier's hands; but
take, for instance, the delicate sight from the muzzle, replacing it by one fit for rough usage, and its accuracy at long ranges will be considerably diminished. To arm both army and volunteers with the Whitworth, one of two things must be done; either the calibre of the regulation small-arms must remain the same as now, and then a Whitworth, with the bore of the present Enfield, would give far worse results than the present Whitworth, or the bore must be reduced, say to that of the present Whitworth, and then it is probable that an Enfield with that reduced bore, on the making of which as much had been spent as on a Whitworth, would give as good or better results.

VIII

We conclude with a short recapitulation of the different systems of rifles now in use, and of the principles which we may consider as established with regard to this arm.

The different systems of rifles are as follows:—

1. The system of forcible loading, the tight fitting bullet and plaster being hammered down by strong blows of the ramrod. This is the oldest plan of making a bullet take the rifling. It has now been almost universally abandoned for arms of war; the principal and very remarkable exception being the new Swiss sharpshooters’ rifle, which has a very small calibre and a long, bolt-shaped shot, and which gives, of all rifles now in use, the lowest trajectory. It is not intended for an arm for the mass of the infantry, but for select bodies only, and requires careful loading in order to give the highly favourable results which distinguish it above all other rifles now known.

2. The system of flattening the loose fitting bullet against some obstacle at the bottom of the breech (either the rim of a narrowing chamber—Delvigne—or a peg placed in the middle of the chamber—Thouvenin) and thus driving it into the grooves. This plan, for a time very generally favoured, is now becoming more or less superseded by the following systems. Let us observe, at the same time, that it requires a rather large calibre, as otherwise the chamber becomes too narrow.

3. The system of expansion, the loose fitting, elongated shot being hollowed out from the base, and the gas created by the explosion entering into the cavity and blowing it up, so to say, to a sufficient degree to make the bullet fit the bore and take the rifling. This system now is in general favour, and is still capable of great improvement, as has latterly been shown by the excellent
result which Mr. Whitworth obtained with his rifle since he adopted the principle of expansion.

4. The system of compression, in which the same result is obtained by providing the bullets with deep, circular indentations, which allow the explosive force, while opposed by the weight of the heavy fore part of the projectile, to compress it lengthways, and thereby give it the required increase of diameter. This plan, although evidently less safe than the expansion principle, has given excellent results with small calibres, as has been proved in Austria and Switzerland. Still, the compression-bullet, fired from the Swiss sharpshooters' rifle above alluded to, does not give quite as good results as the tight-fitting plaster bullet from the same arm.

5. The breech-loading system, which has advantages of its own over all other systems of rifles in the mode of loading and firing, offers, at the same time, the greatest certainty of the bullet taking the rifling, as the chamber and bullet may be made slightly larger than the rest of the bore, and thus the bullet cannot get to the muzzle without being pressed into the grooves. This system, indeed, appears to be destined gradually to supersede all other systems.

We do not count Mr. Whitworth's system of mechanical fit, as it has been abandoned as far, at least, as small arms are concerned; and with these alone we have now to do. If the various systems are classed according to their intrinsic merits, we should say that the breech-loading needle-gun stands highest; next, the expansion system; then the compression system. The two first systems may be considered to be superseded; for even if forcible loading, in Switzerland, so far gives better results, with the same calibre, than compression, we should not at all be inclined to give to the system the credit of these results without a very searching examination; and, besides, the Swiss sharpshooters' plaster bullet is acknowledged to be unfit for the mass of the infantry.

At the same time, we have seen that since the introduction of elongated bullets, the system on which either rifle or shot is constructed is of but secondary importance in obtaining great range, low trajectory, and accuracy of flight. As long as bullets were round, the system of rifling was of greater importance, for then all bullets were met by the resistance of the air under nearly equal circumstances, and the influences of a stronger pitch of rifling, of deeper or more numerous grooves, &c., were comparatively far more important than now. But with elongated shot, a new element appears on the ground. The bullet may be made
longer or shorter, within pretty wide limits, and now the question is which shape of bullet is most advantageous? On theoretical grounds it is clear that the same mass of lead, started with the same initial velocity, will better retain that velocity if its shape is long and thin, than if it is short and thick; supposing always that the lateral rotation which a rifle would give it, is there to prevent its going head over heels. The resistance of the air is the retarding force; it gradually diminishes the original velocity imparted to the bullet by the powder, and thus gives the ever-increasing force of gravity, so to speak, a greater hold upon the projectile. The initial velocity depends upon the charge, and in some degree upon the construction of the arm; this we may, therefore, consider to be fixed; the force of gravity is also fixed, and a given quantity; remains, as variable, the shape of the bullet to enable it to dart through the air with the least amount of resistance; and to evade atmospheric resistance, as we have said, a long and thin shot is far better fitted than a short and thick one of the same weight.

Now, the maximum weight of the bullet for military purposes is also a given quantity. A man must be able to carry, at least, sixty rounds over and above his arms and accoutrements. To produce the best-shaped bullet, therefore, out of this given weight of lead (say 530 grains), the length must be increased and the thickness diminished;—in other words, the bore of the rifle must be made less. Up to a certain point this will hold good without exception. Look at the 530 grains in the Enfield and at the same weight in the Whitworth bullet; a single glance explains why the latter has a so much lower trajectory (that is, retains its initial velocity so much better), and will, therefore, hit a target at a 1,000 yards with ease, while the Enfield cannot be trusted at that distance. And yet, the two are both expansion bullets, and the general construction of the Whitworth is certainly not the best adapted for expansion. Or look at the Swiss sharpshooters' rifle, with a bore still smaller than the Whitworth, and giving still better results and a still lower trajectory, be its bullet rammed home with a plaster, or let down loosely and compressed by the explosion. Or take the Prussian needle-gun; by reducing the diameter and increasing the length of the bullet, and guiding it in the wide bore by a bottom or wad, the same sight which formerly marked the 600 yards' range, now carries the bullet to 900 yards. We shall, therefore, be pretty safe in considering it as an established fact that, in a general way, the efficiency of rifles, no matter on what system they are constructed, will be in the inverse ratio of the diameters of their bores. The smaller the bore, the better the rifle, and vice versa.
With these observations we take leave of a subject which may have appeared rather dry to many of our readers. Still its importance is very great. No intelligent soldier ought to be ignorant of the principles on which his arms are constructed, and are expected to act. What we have attempted to expose here, the non-commissioned officers of most continental armies are expected to know; and surely, the majority of the volunteers, "the intelligence of the country," ought to be as well up in the knowledge of their fire-arms as they!

Written between the end of October 1860 and the first half of January 1861

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Reproduced from the collection, checked with the text in *The Volunteer Journal*
The volunteer army has had, for some time, its infantry and artillery in considerable numbers; it has had its small complement of cavalry too; and now, the last branch of military service, the engineering branch, is gradually being taken up. The subject of volunteer engineers is at present very widely discussed, and it deserves the attention it enjoys. The corps of Royal Engineers is too weak already for the numerous duties it has to perform at home and in the colonies. What will it be in case of a war, and anticipated invasion? Then the numerous fortifications which now are in course of erection, and by means of which the dockyards are being surrounded by vast entrenched camps, will require a considerable number of engineer officers and men for their garrison; and the army in the field, swelled to twice or three times its present number by the addition of the volunteers, will also be in want of a certain complement of engineers, to give it its full liberty of action before the enemy. Unless the corps of Royal Engineers is considerably increased, the duties of this branch of the service must either be imperfectly performed, or they must be performed by volunteers trained for them beforehand.

The number of engineers to be attached to an army in the field is, after all, not very numerous; three or four companies to an army corps of two divisions (16 to 24 battalions of infantry, with a due proportion of cavalry and artillery) would be quite sufficient. Supposing a field-army of 40,000 of the line, 20,000 militia, and
100,000 volunteers, in all 160,000, or 200 battalions, this would give from eight to ten corps, and require about thirty companies of engineers. We will suppose ten companies to be furnished by the Royal Engineers; this would leave twenty companies to be supplied by the volunteer movement. About the same number more volunteer engineers would be sufficient to assist the royals in the defence of the fortified dockyards; so that something like forty companies of volunteer engineers would appear an ample complement for the present strength of the volunteer infantry and artillery. If the number of volunteers should so far increase as to enable them to appear in the field, after deducting garrisons, with more than 100,000 men, one additional engineer for every hundred additional riflemen would be enough; giving 200 engineers (or three companies) for every army corps of 20,000 men.

For the present, then, forty companies, or about 3,000 effectives, would be the maximum engineer force which it might be advisable to create. And it will require a great deal of energy to make them engineers not only in name, but also in reality. We find already now that among artillery volunteers a great deal of time is devoted to company and battalion drill, carbine in hand, although all this work serves for parade purposes only, and will never avail them one jot on active service, be it with field-guns, or be it in fortifications. And we are afraid it will be the same with the engineers. They should, above all things, bear in mind that every hour spent on company drill, beyond what is required to give them a military bearing, a ready and instantaneous obedience to orders, and the capability of moving in good order on a march, is an hour lost to them; that they have quite different things to learn, and that on these, and not on steady marching past, depends their efficiency. They will have to acquaint themselves—men as well as officers—with the elements of field and permanent fortification; they will have to practise the construction of trenches and batteries, and the making and repairing of roads. If means can be found, they will have to construct military bridges, and even to dig mines. Some of these branches, it is to be feared, can only be taught theoretically, as fortresses in England are scarce, and pontoons also; and not every volunteer can be expected to go to Portsmouth or Chatham to study fortification or assist at the laying down of a pontoon bridge. But there are others which it is in the power of every company to practise. If there was a company of engineers formed here in Manchester, we could show them plenty of lanes in as bad a state as any to be passed by a column in
war, and where those whom it concerns would very likely be only too glad to allow them to practise road-making to their heart’s content. It would not be very difficult for them to find a plot of land on which they could construct a few field-works, dig trenches, and erect batteries; especially as such a plot of land would offer both the artillery and rifle volunteers an opportunity of practising such parts of their service as they could otherwise not be made to go through. They might even find spots where they would be allowed occasionally to throw a small bridge of chevalets\(^a\) over one of those high-banked rivers of our neighbourhood, which offer such capital facilities for this kind of bridges wherever their bottom is firm. Such things, and many others of the same kind, should constitute their chief practice; company drill should be gone through rapidly at first, and only taken up again when the corps have got on fairly with their real engineering business; then, in the second winter, the nights may be used for drill with advantage. But if the engineers make it a point, from the beginning, to compete with the rifles in the style of marching past, and in battalion evolutions, to the detriment of their specific education; if the attention of the officers is directed more towards the duties of an infantry officer than to professional education—then the volunteer engineers may depend upon it that in a campaign they will far oftener be used as infantry than as engineers.

There will be little difficulty in finding very efficient officers, if they are selected from the only class fit for the post—the civil engineers. A few months’ theoretical study, and an occasional journey to Chatham, Portsmouth, or Aldershot, will soon make them conversant with most branches of military engineering, and the military education of their companies will help them on. They will learn by teaching. Their own profession compels them to know all the principles of military engineering, and as they must be very intelligent and well-informed men, the application of these principles to military subjects will give them but little difficulty.

We have read a statement in the Army and Navy Gazette\(^b\) respecting some immense military engineering organisation, which is to comprise all the lines of railway in the country, and to

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\(^a\) Piers.—Ed.

\(^b\) “The Transport Service”, The Army and Navy Gazette, November 10, 1860.—Ed.
promise vast results in case of an invasion.\textsuperscript{a} The shape in which this plan is presented before the public is excessively vague; so far we do not see the immense advantages that are ascribed to it, and rather think that two different things have been mixed up together. No doubt it is of the highest importance to study the strategical bearings of every single line of railway in the kingdom, as well as of the whole network of railways combined. This is so important that we should consider it a grave delinquency if it had not been done long ago, and if there were not now lying in the archives of the Horse Guards,\textsuperscript{450} as well as of the various district commanders, very extensive papers embodying the results of these studies. But this is the duty of the staff, and not of the engineers. As to forming the engineers, firemen, platelayers, and navvies of every railway line into a corps of military engineers, we do not see the great advantage of this. These men have already, so to say, a military organisation, and are under stricter discipline than any volunteer corps in the country. What they are expected to do in their quality as volunteer engineers, they are quite as capable of doing in their present capacity. And as in time of war their presence at their present posts would be far more indispensable than now, there can be no earthly use in training them to special branches of military engineering.

These remarks apply to the plan only as far as it has been made public; if it should turn out, hereafter, that it contains other features, we must, of course, reserve our opinion. We may be permitted, however, to point out another advantage to which the vast amount of engineering intelligence in this country may be turned. Most armies have, besides the officers connected with the Sappers and Miners, a number of engineer officers unattached to any companies, and doing special duties. Why not give the civil engineers of England a chance of preparing themselves for this service? The College of Civil Engineers might be made the means to effect this purpose. A few courses of lectures on military engineering, and a short practical course with a company of engineers would do all that is required; an examination, strictly confined to military subjects, and which in this case would be absolutely necessary, might be made the principal test of admission to the Corps of Unattached Volunteer Engineer Officers; the Government to have, of course, the power to reject candidates

\textsuperscript{a} The Volunteer Journal has here: "The principal features of the plan are reproduced in last week's Volunteer Journal." The reference is to the article "A Volunteer Engineer Corps" in issue No. 11 for November 17, 1860.—Ed.
considered ineligible. Such officers would be of great service, for it is upon the intelligence of the officers that in this case everything depends; and on an emergency they would better get on with a few volunteer riflemen or artillerymen, placed under their command for the execution of some engineering work, than regular engineer officers with a section or two of infantry of the line told off to them for the same kind of duty.

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Reproduced from the collection, checked with the text in The Volunteer Journal
According to the *Almanach de Gotha,* which is as good an authority on the subject as can be found anywhere, the war footing of the French army for 1860-61 has been fixed as follows:—

1. **Infantry:** *Guards*—12 battalions of Grenadiers, 16 ditto of Voltigeurs, 2 of Zouaves, 1 of Chasseurs; in all 31 battalions. *Line*—103 regiments of 4 battalions, in all 412 battalions; 3 regiments of Zouaves, 2 of the *Foreign Legion*, 3 of Turcos (or native Algerian rifles), at 3 battalions each, 24 battalions; *Chasseurs*, 20 battalions; *Zephyrs*, or light African (disciplinary) battalions, 3; *Pompiers* (firemen) of Paris, 1 battalion. In all 491 battalions; or in time of war

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<td><strong>Total</strong></td>
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This is the war footing. The peace establishment is as follows:

- Infantry: 255,248
- Cavalry: 61,023
- Artillery: 39,023
- Engineers: 7,467
- Train, &c.: 11,489
- Gendarmes, invalids, &c.: 41,496

Total: 415,746 men.

In January, 1859, a short time before the Italian war broke out, the Constitutionnel published an official status of the French army, showing a war establishment of 568,000 men, with a peace establishment of 433,000. How, then, has it been possible within two years to augment the war footing by 200,000 men, while the peace footing has been actually reduced?

Again, the annual contingent of able-bodied young men disposable for the army is about 160,000. Of these, under Louis Philippe, between 40,000 and 60,000 were actually enrolled, and found sufficient to keep the army up, in spite of the losses in Algeria. Later on, 80,000, and even 100,000 and more, have been enrolled; the Empire which is peace consumed twice the amount of food for powder than the constitutional monarchy or the republic had required. The time of service is seven years; but, even supposing that of late 100,000 men had been enrolled annually (which is above the average), this would, for seven years, give 700,000 men only; and deducting from these the losses during campaigns and from other causes, there would be scarcely as many as 600,000 men. How, then, are the remaining 163,000 found?

The answer to these two questions is comprised in the late acts of the French Emperor. Before the Italian war, the regiments, hitherto formed in three battalions of eight companies each, are formed in four battalions of six companies each; thus, by merely changing the distribution of the 24 companies of a regiment, four battalions are got instead of three. The size of a battalion has a maximum; above 1,000 men it becomes too strong for one man to command it with his voice, and too unwieldy for quick manoeuvring.

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a See L. Boniface, "Paris, 29 janvier", Le Constitutionnel, No. 30, January 30, 1859.—Ed.

b A reference to Louis Bonaparte's words "L'Empire c'est la paix" ("The Empire is peace") from his speech made at Bordeaux on October 9, 1852.—Ed.
ing. But the size of a company is far more variable; whether 100 or 250 men, is a matter of choice, not of necessity. By forming the fourth battalions in the way indicated, with the same number of officers and sergeants, the regiment was enabled to muster 4,000 instead of 3,000 strong, as soon as the men were found. During the war, the regiments went out in the strength of three fighting battalions, the fourth forming the depôt. Thus, in the fourth battalions of the 100 regiments of the line, the means were found to place 100,000 men more than the old cadres could employ. After the war, the fourth battalions were dissolved, but they have been reinstated again a short time ago. Three more infantry regiments (101st, 102nd, 103rd) have been formed, offering room for 17,000 men more. These new formations account for 112,000 men; and the 51,000 men which remain to be accounted for may constitute the figure to which the army in January, 1859, in consequence of previous losses, was short of its full war complement. This would show that there are cadres now, in the French infantry alone, sufficient to organise the enormous number of men stated above, without any recourse to new formations. But where are the men to be found who are to fill up these cadres?

The regular enrolments of the last seven years will have left on the rolls from 550,000 to 600,000 men. The annual contingent available is about 160,000 men. One year's levy would leave but 50,000 men short, in the worst case; and in case of need, there are the young men who, during the last six years, have been entirely liberated from service by drawing favourable lots at the conscription. These might be made available to the tune of some 300,000 at least, but as long habit has made such men consider themselves freed for ever from the obligation to serve, as they are partly married, partly scattered all over the country and hard to find, such a measure would be both unpopular and difficult to carry out.

How, then, does Louis Napoleon make up for the deficiency? By introducing a modification of the Prussian reserve system. Of the 160,000 men available every year, a portion, say one-half, is taken to fill up the vacancies of the standing army. The remainder is enrolled on the reserve list; they are embodied and drilled, the first year two months, the second and third years one month each; they remain liable to be called out for seven years in all, same as the line. Now, we have some reason to believe that if the military surgeons are not over strict in passing the men, and in time of war they get often exceedingly lenient, the annual contingent of
160,000 able-bodied men might, by a stretch, be raised to 200,000; but that we will for the present leave out of the question. In seven years, 160,000 men annually would give an army of 1,112,000 men, and deducting a good round number for losses, there would be fully one million of soldiers. Thus we see that by the new reserve system lately introduced, Louis Napoleon's troops will in a couple of years outgrow the organised bodies ready to receive them. That eventuality, however, is also provided for. In future the four battalions of a regiment are all to be fighting battalions; a fifth battalion is now forming under the name of battalion of instruction, and under the pretext of drilling the men put on the reserve list. This new organisation finds room for 103,000 men more, raising the number of men which can be usefully employed by existing corps or cadres to 863,000 men.

Not satisfied with this, the French Government propose to form one more regiment of guards and 17 of infantry of the line; these 18 regiments represent 90 more battalions, or 90,000 men.

Thus, before this year is out, we are sure, from what is known even now, that the French army will be so organised as to be able to stow away comfortably in its battalions, squadrons, and batteries, not less than 953,000 men. And as to finding the men to fill up these organisations, we have seen that up to 700,000 men can be found even this year, without falling back upon men liberated in former years; but, if the universal liability to service, either in the line or reserve, be once acknowledged, it will be easy enough to apply the same principle to the men liberated in the last six years (Napoleon has done the same over and over again in his time); and then there can be no doubt that the full 953,000 men will be soon together.

Here, then, we have the man who unintentionally caused the volunteer movement, responding to it by quietly and noiselessly organising an army of a million of men, and at the same time laying down twenty iron-cased frigates on the stocks, maybe to escort a fraction of that army across the Channel.

Written at the end of January 1861

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Reproduced from the journal
ON THE MORAL ELEMENT IN FIGHTING.
BY MARSHAL BUGEAUD

[The Volunteer Journal, for Lancashire and Cheshire, No. 23, February 9, 1861]

The following lines are translated from the instructions which the then Colonel Bugeaud, a of the 56th French regiment, wrote down for his officers. It is, without any exception, the best thing the Marshal has ever written. It lays down, with a masculine energy unsurpassed in the military literature of any country, and with a clearness such as only long experience in war can give, those principles of infantry-fighting which even now are invariably acted upon by the French; and which, so far, have given them the victory over armies which, from long habits of peace, appear to have trusted more to scientific tactics than to arousing all the moral energies of the soldiers. These principles are not new, nor are they in any way exclusively French; but they are here grouped well together, and expressed in fine manly language. They do not in any way supersede the science of tactics, but they form a very necessary complement to it; and they are, besides, most of them so self-evident, and require so little military science to be understood, that they will be perfectly intelligible to the majority of the volunteers.

Gentlemen,—The art of engaging a body of troops has a powerful influence on the issue of a combat; by it, good dispositions are crowned with success, and defective ones deprived of their worst consequences. There is between troops of highly developed moral faculties, energetically conducted, penetrated with the real principles of fighting, and troops constituted and instructed as most European troops are, the same difference which exists between adults and children. That is a

\[ A \text{ reference to the section “Principes phisiques et moraux du combat de l’infanterie” of the book Aperçus sur quelques détails de la guerre.—Ed.} \]
truth of which I have been convinced by twenty engagements. You will recognise it like myself, I hope, and you will assist me, with all the means in your power, to raise the 56th to that high elevation of both soul and instruction that no imperial or royal guards in the world could resist us for five minutes on ground equally fair to both parties.

Most of you, gentlemen, have seen engagements of infantry which amounted merely to a timid exchange of fire, at very long range, by troops placed parallel to each other.

Either party appeared to expect victory from chance, or from the fright which its bullets might cause to their opponents. Millions of cartridges were fired away without any other results but killed and wounded on either side, until some circumstance or other, mostly independent of the troops engaged, determined the retreat of one of the two lines. Men who have thus exhausted their fire and seen their ranks decimated, are but little disposed to new efforts, and easily put to flight by fresh troops, acting upon better principles.

That is not the way of fighting of solidly instructed infantry. We shall now try to establish those principles which must give us an immense superiority over all infinitaries of Europe.

These principles, gentlemen, are not mere bookworm speculations; experience has made me adopt them ever since the commencement of the Peninsular war, in 1808, and they have always ensured success to me, against the Spaniards, the English,* and the Austrians. I hope you will adopt them, because they are in harmony with what you must have yourselves observed in the engagements where you were present; you will do your best to penetrate your subordinates with them; and when these principles are in the very soul of the whole regiment, from the drummers to the colonel, the 56th may consider itself invincible; it may be defeated by the re-union of several arms acting at once against it, but never by infantry alone, though that infantry should far outnumber its strength.

Fighting has its moral and its physical part. The first appears to me the most essential; but let us begin by treating of the second.

To fire at long range is the type of bad infantry; good infantry saves its fire. It is because this fire constitutes its greatest strength that an infantry should not throw it away, and should be taught to aim with the greatest accuracy. If the moment for firing has not arrived, keep yourself out of range, or hide your troops. When that moment arrives, march on to meet your enemy with an energy and coolness that permit you to execute anything. If your opponent, against all probability, should stand firm and allow you to come very near him without firing himself, then you give the first volley, and take good care that your men always load two bullets to a round. I have owed, more than once, success to the use of the two bullets. In the heat of action I might forget to order it, but you will think of it; I attach great importance to this. With that cool determination, and with this fire of two bullets to the round, you will seldom have to fire a second volley, whether in attacking a position or in repelling a body of troops charging you.

Whoever knows a little about war, will know that it cannot be otherwise. If you arrive close upon your enemy with loaded arms, when they have exhausted their fire, how could they resist? Their moral courage is terror-struck by the fear of a volley at close quarters, which cannot but be terrible, and they will give way. Then

* Marshal Bugeaud commanded, as major or lieutenant-colonel, a battalion in the army of Marshal Suchet, in Catalonia. It is well known that this portion of the French force in Spain was the most successful, and maintained its position longer than any other.
give your volley, enter into their ranks, and make prisoners, which is better than killing; while you kill one man with the bayonet, you might have taken six prisoners. These struggles cost the conqueror but little; you lose a few men in advancing, but as soon as you have closed upon and upset your enemy, you don't lose a man. This system of tactics, gentlemen, will guarantee to you the victory, and if the whole army were penetrated with them, it would conquer, no matter how bad the general dispositions might be. These dispositions are not within our province; but when we are told the point where we are to strike, we must strike so as to crush everything before us. That was the tactics of Duguay-Trouin, and this mode of fighting contributed more than all his other talents towards forcing his brilliant reputation. He arrived close upon the enemy's vessel with all his guns loaded, and his men laid down on deck; as soon as he touched his opponent, his men sprang up, and swept the hostile decks by a superior fire, which made boarding an easy matter.

[The Volunteer Journal, for Lancashire and Cheshire, No. 24, February 16, 1861]

Besides the above-mentioned, we must employ still other means, for we ought to have as many odds as possible in our favour. A good use of skirmishers will be a powerful auxiliary; their actions must always precede that of the masses, be it for attack or for defence. When you attack, they will find out such accidents of ground as the eye could not reconnoitre from a distance; they will throw upon the enemy's ranks a shower of bullets which will disturb them, and prevent them from aiming with precision upon the line which advances without firing. They will have to be directed as much as possible towards those points where the decisive combat will not take place. If, however, they should be required to act in front of the attacking line, they will finally withdraw towards its flanks, in order not to impede its action, and then attempt to gain the flanks of the enemy, in order to demoralise him and to make prisoners, or else they will retire by the intervals of the battalions, or lay down flat on the ground, in order to let the line pass over them.

The fire of skirmishers should no more be thrown away than that of lines. It is not a question of merely exchanging bullets: these bullets should contribute towards success. To this effect, a moment before the attack of the line, the skirmishers will be shown the positions they will have to occupy, before they commence firing; and as soon as they have commenced firing, the line will advance to the attack. You will feel that if the skirmishers were left to themselves for any length of time very near the enemy's forces, they would be driven back, and the end in view would not be attained; you would have to reinforce them in order to repel the enemy's skirmishers, who had driven them in, and that would be a serious inconvenience. It is, then, of the highest importance never to engage skirmishers but apropos; and the proper moment will almost invariably be that of the attack. In case the enemy incommodes us before that moment by his skirmishers, we shall drive them in by sudden and short, but rough, attacks. You will be sure of making them give way if, instead of opposing to them a parallel line of skirmishers, as is generally done, you out-flank and turn them; or if you pierce their line by a company running at them in a cluster. This is the consequence of a moral effect, which I try to explain to myself in this way:—

Skirmishers cannot have that moral force, that sense of cohesion, which results from the contact of elbow to elbow, and from the unity of command. Every skirmisher, to a certain degree, commands himself, and consults his own forces only. He sees a numerous cluster of men running at him; he is too weak to resist; he gives way. His neighbours, right and left, do the same; and are followed again
by their neighbours, who run from unconscious imitation, or because they fear to 
be cut off; they rally farther to the rear, in order to recommence firing.

Our charging company will not return this fire; it will either retire again, or 
take shelter behind some accident of ground. Nothing is so stupid, so damaging, as 
these everlasting engagements of skirmishers, which lead to nothing at all; you use up your 
men and your ammunition, without advancing matters, and often, at the decisive moment, 
you lack the means which you have thus squandered. I insist upon this because waste of 
ammunition is the greatest fault of our infantry, as well as of all others. Many 
times, after half-an-hour’s firing, and before anything is decided, you have 
everywhere the cry that cartridges are running short; men leave the ranks to get 
some, and that often is the cause of defeat. Sixty rounds per man should suffice 
for the greatest battle. In 1815, the 14th of the line, then commanded by Colonel 
Bugeaud, was under fire in the Alps for eight hours, and kept one-third of its 
cartridges. The enemy fired all the eight hours long, but the 14th never replied but 
by single volleys, and that only when the Austrians, who attacked us, were close to 
its position. The volley was invariably, and at once, followed by a charge with the bayonet, 
which settled that attack, without further skirmishing and stray firing. Both parties 
returned to their previous positions, which were very near each other; the 
Austrians continued to fire, but the 14th abstained until again attacked.

This example has also for its object to make you appreciate the true principles 
of fighting when defending a position, viz., always to attack, yourself, at the last 
decisive moment; but here, as much as when you are attacking, there is another 
extremely effective means to determine the victory, and that is, to avoid, as much 
as ever possible, parallel fighting, which equalises advantages in a certain manner, 
and cannot be decided in our favour except by moral superiority, and our 
better-fed fire of two bullets to each round. We shall, therefore, at the decisive 
moment, try to envelop the flanks of the enemy. When on the defensive, in broken 
ground, this is easy enough. As soon as the enemy’s attack is well developed, we 
send a portion of our reserves, in column, towards the flanks of the position, and 
at the decisive moment these troops show themselves, advance, and deploy, so as to 
take the enemy in flank; we detach skirmishers towards his rear, and as soon as 
each battalion or wing has deployed, it charges at once, so as not to give the enemy 
the time to ward off the attack. Charged at the same time both in front and flank, 
he ought to be quickly defeated.

The same means may be employed when we are attacking. Two small columns 
would march behind the two flanks of the deployed line, and, when arrived near 
ought to the enemy, would form in line, too, so as to prolong it and form a sort 
of crescent, overlapping and embracing his line; or, if you have not troops enough 
for that purpose, the flank battalions of the advancing line might wheel into open 
column while on the march, gain the flanks of the enemy, re-form line, and 
charge, the intervals left by them being filled up by skirmishers. This movement 
appears to me very well adapted for the purpose, and very practicable, if the 
commander of the battalion knows well how to judge his distance, so as to 
commence it neither too soon nor too late. Of course, if darkness or broken 
ground permit you to gain, unseen, the flanks of your enemy, that is to be taken 
advantage of in preference.

When retreating, be particularly sparing of your ammunition. While you 
defend yourself by firing, you lose ground—you do not get any nearer to your 
destination. There are even occasions when you will have to run in order to get out 
of your opponent’s reach. This is often the only means of escaping destruction. 
How many bodies of troops have been annihilated for having made a slow and 
measured retreat, which was falsely called methodical? The only sensible method is
to do everything to attain your end: on a retreat, this end is to get quickly out of reach of your opponent, because circumstances do not any longer permit you to fight; but your end can never be to involve yourselves, through a misunderstood feeling of honour, into a struggle which cannot but be disastrous, and from which you often will find it impossible again to disentangle yourselves. In this case, flight is the only methodical course of proceeding. There is an example of it from the history of one of our greatest modern captains.

During Marshal Masséna's retreat from Portugal, Marshal Ney was ordered to keep back the English with the rear-guard, in order to give the baggage-train time to pass a défilé. He performed this task with his usual energy; but the English army receiving reinforcement after reinforcement, the position was no longer tenable. On leaving it he would have to descend into a narrow valley, and to re-ascent another hill-side beyond it; during this time his troops would have remained under the fire of the enemy, who, of course, would at once have occupied the abandoned position. The marshal thought that a slow retreat would subject him to great losses; he therefore ordered the colours of the battalions, the orderlies of the staff, &c., to mark out on the hill to the rear a new line to be traced by officers of the staff. No sooner was this done than he sent his battalions, at a run, across the valley to fill up this line, which was thus re-formed as if by enchantment. Without this admirable precaution we should have lost many men, and probably the affair would have ended in our being routed. At the same time, it is evident that this manoeuvre is inapplicable wherever you have to fear any cavalry; in such a case, you will have to get on as quick as you can, all the while maintaining a respectable order in your ranks.

I have often heard it said by pretended tacticians that a retreat ought to be made at slow time; this principle has always appeared to me false. No doubt there are occasions when a portion of the army will have to stop the enemy, in order to give the remainder time to get out of the way; but, then, you will not have to march at slow time, you will have to fight, and very often to advance and charge, in order to restore the moral courage of your men, and to diminish that of the enemy. But when that portion of the army has performed its part, when the end is gained, when the growing accumulation of the enemy's forces render it impossible to that portion to fight on, then it will soon have to retire as quick as circumstances will permit.

We shall, therefore, learn to run away methodically, though in disorder, and to reform our ranks promptly; to form in line at the double, on one of the flanks of the enemy, in inverted or correct order; and always to aim with the utmost precision.

[The Volunteer Journal, for Lancashire and Cheshire, No. 26, March 2, 1861]

Moral force has always appeared to me to be superior to physical force. You prepare this moral force by elevating the soul of the soldier, by imparting to him a love of glory, a feeling for the honour of his regiment, and especially in developing that patriotism, the germ of which lies in every man's breast. With men thus trained, you can with ease perform great things, if you have known how to gain their confidence. To obtain that, you will have to fulfil towards them all your duties, to make them your friends, to talk often with them on war and warfare, and to prove to them that you are capable of leading them well. Under fire, you will have to give to them a brilliant example of courage and coolness.

You should pay every attention to whatever circumstance may tend to raise the moral courage of your own men and to weaken that of your opponents. It is for
this purpose that the 56th will never permit itself to be attacked; it will always, at the
decisive moment, take the initiative of the fight, and charge. For the defensive, it will
place itself in rear of the line on which it intends the struggle to take place, in
order to advance to it at the decisive moment. In such a case you see the power of
moral influences; every physical advantage is in favour of a troop posted in a
locality strong both by nature and art; and yet, this posted troop will almost
invariably be dislodged if it confines itself to a stand-still fight. Morally as well as
physically, it may be said that a good defensive must always be carried on offensively.
Offensive movements on the flanks and rear of your opponent, tell almost
invariably; even if executed by a mere handful of men, they singularly affect the
morale of the enemy. For these movements there can be no better manoeuvre than
the formation of close columns in rear of the flanks of the charging line, which
columns deploy and envelop the enemy as soon as you come to close quarters. And
because these manoeuvres are so very telling, you will have to put your own men
on their guard against them, by pointing out to them that they themselves may be
attacked in this manner, and by showing to them how this will be guarded against.
You will also have to tell them that cries of alarm may be raised in the rear, such as—"We are surrounded," "We are cut off," &c.; you will inform them that the
supernumeraries, and besides them, sections of picked men to the rear, have strict
orders to bayonet or shoot down any emissaries of the enemy or any bad soldier of
our own who should raise such cries; that such hostile detachments as might
venture to threaten our flanks and rear, will soon be disposed of by our reserves,
and that your own men, for the moment, have nothing to think of but how to
conquer that enemy who is straight before them.

By raising the morale of your men, you will further make sure that your ranks
will not be thinned by men pretending to look after the wounded. When the fight
is over, if we are at hand, we shall take every care of them; but our first task and
our first duty is to conquer. The wounded of a victorious army are never
abandoned; those of a beaten army are made to undergo a thousand evils. To
occupy ourselves with the wounded during battle is therefore false mercy, and
generally a mere cloak for cowardice. The officers here again will have to give the
example of devotion in repelling, if wounded, any attentions offered to them by
soldiers who ought to fight.

At the battle of Austerlitz,455 a great number of our wounded privates were
seen sending back to their battalions their comrades who offered to take them to
the dressing places.

One of the best means of maintaining the moral courage of the soldier is the
brilliant conduct of the officers, in every phase of an engagement. Is the regiment
halted under the fire of artillery? they should walk up and down proudly in front
of their men, and keep their spirits up by merry talk or by words of energy. Is it
time to rush upon the enemy? they should prepare them for it, repeat to them the
principles laid down above on the use of their fire, and recommend them to keep
together as much as possible in hand to hand fighting, and to rally promptly at the
first signal.

There is one good means to prevent your men from beginning to fire too soon;
it is simply this, that the mounted officers march in front of the line. "Soldiers,"
the colonel might say, "you will not fire on your officers! I shall not pass to your
rear until it will be time to commence firing." Troops thus led will always be brave,
and will rarely be vanquished, because they will rarely find an enemy having their
moral firmness and their principles of fighting.

If cavalry presents itself, the soldiers should be reminded of the strength of our
square, which renders them invulnerable. As far as I am concerned, I declare to
you I heartily wish that at the first engagement at which we may assist, we may be charged by cavalry, so sure am I that this would be an opportunity of glory for the 56th.

The moral courage of soldiers is never more severely tried than on a retreat. It has often been said that the French are little fitted for this kind of fighting, which would be tantamount to saying that the French are bad soldiers. This is absurd. Numberless facts have proved, during the last forty years, that the French, when well commanded, can make brilliant retreats. The national character has often been accused when the fault ought to have been laid at the door of the generals who make bad dispositions, or were unfit to call forth the moral energy of the troops.

An old proverb says: "Make a sheep of yourself, and you will be shorn." You must make lions of yourselves on a retreat; and when you will have given three or four hard knocks to an enemy who pursues you too hard, you will be respected. With a little experience of warfare it is easy to have some of those rear-guard successes which tend so much to revive the moral courage of a retreating army, and to make the pursuers excessively timid. On a retreat, you have always the choice of the ground on which to fight; there you mass and group your forces, so as easily to envelop the head of the enemy's column, which will have become very long during the pursuit. The part to be performed by every one must be well traced beforehand, and the fighting must be quick and dashing. No indecision or hesitation must be shown; the head of the enemy's column must be crushed, and then you retire quickly, in order not to become engaged with the reinforcements which will be continually arriving.

Gentlemen, I have said enough to make you appreciate the power of moral force. This moral force arises from the confidence an officer knows how to inspire to his subordinates; it is made to grow by acts of tact, of intelligence, and of courage. You will take care to give to your soldiers, in time of peace, a good opinion of what you will be capable of in time of war. You will attain this if you do not confine yourselves to inspections and reviews, or to a mere dreary drill—all matters, no doubt, very useful, but without any influence upon the morale of the soldier. You will reason with your men on our past wars, recount to them the distinguished actions of our brave army, excite in them the wish to emulate them, and, in one word, do everything in order to inspire them with the love of glory.

Written in February 1861

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Reproduced from the journal
The following articles were originally written for *The Volunteer Journal for Lancashire and Cheshire*, and are now republished, in their present shape, at the desire of the Proprietors of that paper, who seem to consider them worthy of a larger circulation among the Volunteers, than could be given to them in a periodical of a more or less local character. Whether this opinion be correct, remains for the public to decide.

It will hardly be necessary to premise that the facts contained in articles such as those on the Rifle, on French Light Infantry, &c., are neither new nor original; on the contrary, such articles are necessarily, to a great extent, compilations from other sources, which it will, however, not be necessary to enumerate; the only portion of these papers which may be considered original, are the conclusions at which the author arrives and the opinions he expresses.

Manchester, March 9th, 1861

*F. E.*
ESSAYS

ADDRESSED TO VOLUNTEERS.

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Title page of the collection Essays Addressed to Volunteers
THE GENERAL CONTENTS COMPRISE:—

A Chronicle of the Week, recording the most important proceedings of the several corps of the two counties, reported by special correspondents, and embracing information upon rifle ranges, administrative organisation, official inspections, rifle contests, methodology and gunnery practice, formation of new corps, appointments and promotions, &c.

Descriptive articles on the more important general events, reviews, rifle meetings, &c.

Original contributions upon various topics of permanent interest and value to the volunteer service.

Notices of improvements and new inventions in guns and gunnery.

Editorial Comments; Government Notices; Official Papers; Correspondence; and information on all national events connected with the development of the volunteer force.

The following are among the Contents of the first volume of the Journal, viz.:—from September, 1860, to February, 1861.

DESCRIPTIVE PAPERS AND REPORTS.

The Review of Lancashire Volunteers at Knowsley.

The Cheshire County Rifle Contest on Leasowe Common.

The Newton Review Rifle Contest at Southport.

The Lancashire County Contest at Hightown.

A German Account of the Newton Review. Translated by the Author from the Allgemeine Militär Zeitung.

The Inaugural Meeting of the First Engineer Corps in Lancashire.

Cheshire County Rifle Association at Chester.

Lancashire County Rifle Association at Preston.

The Annual Rifle Contests at Chester, Blackburn, Wigan, Frodsham, Southport, Accrington, &c.

ESSAYS AND EDITORIAL ARTICLES.

The History of the Rifle: Eight Chapters.

French Armaments.

The French Light Infantry: Three Chapters.
There has been one thing wanting to the volunteer movement, and that is a fair and intelligent, but plain and outspoken criticism by competent outsiders. The volunteers have been to such a degree the pets of the public and the press, that such a criticism became an absolute impossibility. Nobody would have listened to it; everybody would have declared it unfair, ungenerous, untimely. The shortcomings of volunteer performances were almost invariably passed over in silence, while every corps was extolled to the skies for whatever it did go through tolerably well. The politeness of people, with any regard for impartiality, was most fearfully taxed; everywhere they had to give their opinion upon some volunteer affair or other, and unless they were prepared to utter the most fulsome and unqualified praise, they were lucky if they escaped being thought conceited snobs. How often have the volunteers been insulted by the stupid piece of flattery that they were fit to fight any troops in the world? How often have they been told that no division of the line could have done better what they did at Hyde Park, Edinburgh, Newton, or Knowsley?

Now, setting aside such absurd flattery, which at all times would have been ridiculous, we are quite prepared to admit that a fair trial had to be given to the volunteers before a fair opinion could be passed on their proficiency. But that time has passed long ago. If the volunteer movement, after nearly two years' existence, cannot yet bear criticism, it will never be able to bear it. The great reviews of last summer, in our opinion, mark the period at which the movement passed from infancy into adolescence; by these reviews the volunteers themselves actually provoked criticism; and yet that criticism, with one or two exceptions, was not publicly exercised by those who ought to have done so.
The effects, as well of this absence of plain and outspoken criticism as of this unmitigated adulation, are now visible enough. There will be scarcely a single volunteer corps of eighteen months' standing which does not consider itself, in the silence of its own conviction, quite as good as it has any business to be. The men, after having gone through the simplest battalion movements, through the routine work of skirmishing on a level piece of ground, and through a little rifle shooting, will be but too apt to say that they can do all these things as well as the line; and what the officers think of themselves has been shown by the race for promotion to captaincies, majorities, and lieutenant-colonelcies, which has been going on in almost every corps. Everybody considered himself perfectly fit for any commission he might be able to procure; and, as in the majority of cases, it was certainly not merit which made the man, we need not wonder that, in a good many instances, we have anything but the right man in the right place. Officers and men so firmly believed in what a benevolent press and public chose to call the perfection of their performances, that they began to think soldiering an uncommonly easy thing; and it is a wonder their own mushroom-perfection did not make them consider a standing army, composed of long-trained officers and soldiers, quite unnecessary in a country where perfect soldiers could be manufactured far easier on the volunteer plan.

The first distinct proof of the damage done to the movement by its friends in the press, was the sham fight last summer in London. Some enterprising colonels of volunteers thought the time had come to give their men a foretaste of what fighting looked like. Of course, the wiseacres among the regulars shook their heads, but that did not signify. These regulars bore an ill-will to the volunteer movement; they were envious of them; the success of the Hyde Park review almost made them go mad; they feared the sham fight would come off better than anything the line had ever done in that branch, &c. Had not the men gone through the manual and platoon, battalion drill, and skirmishing? And the officers, though mere civilians a short time ago, were they not now efficient captains, majors, and colonels? Why should they not lead a brigade or a division, as well as a battalion? Why should they not play a little at generals, having so well succeeded in the lower grades?

Thus did the sham fight come off, and a regular sham it was, according to all accounts. The thing was gone through with a supreme contempt for all accidents of ground, with a splendid
disregard for the effects of fire, and with a perfectly ludicrous exaggeration of all the impossibilities which are inherent in every sham fight. The men learned nothing by it; they took home with them an idea of fighting totally the reverse of reality, an empty stomach, and tired legs: the latter two, perhaps, the only things which might be considered in any way useful to incipient warriors.

Such childishness was pardonable in the boyhood of the movement. But what shall we say to the return of similar attempts at this present time? Our indefatigable London self-made volunteer generals are at work again. Their own laurels of last summer do not let them rest. A mere sham fight on an ordinary scale no longer satisfies their ambition. This time a great decisive action is to be fought. An army of 20,000 volunteers will be thrown from London upon the south coast, will repel an invasion, and return to London the same evening, so as to be able to attend to business next morning. All this, as the *Times* very properly observes, without any organisation, without staff, commissariat, land transport, regimental train—nay, without knapsacks, and without all those necessaries for campaigning which a line soldier carries in that receptacle! However, this is but one side of the question; it shows only one striking feature of the incredible self-confidence which our volunteer generals have the satisfaction of possessing. How the mere tactical knowledge, the art of handling the troops, is to be procured, the *Times* does not inquire. Yet this is quite as important a point. The drill of volunteers, so far, has been gone through on level ground only; but battle-fields generally are anything but level and unbroken, and it is just the taking advantage of this broken and undulating ground which forms the basis of all practical tactics, of the whole art of disposing troops in action. Now, this art, which has to be learned theoretically and practically, how are the volunteer generals, colonels, and captains to know it? Where have they been taught it? So little has this groundwork of practical tactics been attended to, that we do not know of a single corps which has been instructed, practically, in skirmishing in broken ground. What, then, can become of all such attempts at sham fights but a performance, which, satisfactory, perhaps, to ignorant spectators, will be most certainly useless to the men made to go through it, and which cannot but tend to make the volunteer movement look ridiculous in the eyes of military men assisting at such a spectacle.

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*a A reference to the article on the volunteer movement beginning with the words "It would be nothing less than a misfortune" and published in *The Times*, No. 23879, March 13, 1861.—*Ed.*
To our astonishment, we find that even in practical Manchester an attempt is made to manufacture volunteer generals. No doubt we are not quite so advanced as our friends the Cockneys; we are not to have a sham fight, but a mere field-day of all the Manchester volunteers—something, it appears, in the style of the Newton review; and the affair is to come off on some comparatively level piece of ground. Now we wish it to be understood that, so far from disapproving this, we think, on the contrary, that half-a-dozen such field-days every year would do the Manchester volunteers a deal of good. We would add, that we should even consider it desirable that these field-days should come off in ground a little more broken, so as to allow the manoeuvres (against a supposed enemy) to come off with more variation, and to gradually give officers and men the habit of manoeuvring in broken ground. Such manoeuvres would give the adjutants excellent opportunities for afterwards connecting with them, at officers' drill, a few practical lectures on the mode of taking advantage of ground in fighting. So far, then, we not only approve of the plan, but should even wish to see it extended and regularised. But, then, we are informed by a paragraph, which appeared last Saturday in a local paper, that on this occasion the volunteers will do everything for themselves. That is to say, they are going to have a volunteer commander-in-chief, volunteer generals of brigade, and a volunteer staff. Here, then, we have the attempt to import into Manchester the London system of manufacturing volunteer generals, and to that we decidedly object. With all due respect to the commanding officers of regiments in Manchester, we say they have yet a great deal to learn before they become—and we make here no exception—fully efficient commanders of battalions; and if, before they have made themselves fully equal to the responsibility already undertaken by them, they aspire to act for a day in higher commands, we say that they do that which would be the greatest curse to the volunteer movement, namely, playing at soldiers, and that they degrade the movement. At the head of their battalions they would be in their places, they would be able to look after their men, and they would learn something themselves. As Brummagem generals, they would be of no real use, neither to their men nor to themselves. All honour to the adjutants of our Manchester regiments, who deserve the greater part of the credit of having made their regiments what they are; but their place is with their respective regiments, where,

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a March 9, 1861.—Ed.
as yet, they cannot be spared, while they would be of no real use
to those regiments if they played, for a day, at adjutant, general,
and brigade-major—a thing which surely would not give them,
personally, any particular satisfaction.

When we have in Manchester the head-quarters of the northern
division of the army, with a numerous and efficient staff—when
we have an infantry and a cavalry regiment garrisoned here—
surely there is no necessity of recurring to such extraordinary
pranks. We think it would be both more conformable to military
subordination, and also more in the interest of the volunteers
themselves, not to collect in such numbers, under arms, without
offering the command to the general of the district, and leaving to
him the choice of appointing staff and line officers to the division
and brigades. No doubt the volunteers would be met in the same
friendly spirit as they have been on former occasions. They would
then have men at the head of the division and brigades who
understand their business, and can point out mistakes when they
occur; and they would also preserve their own organisation
unbroken. No doubt this would preclude colonels from acting as
generals, majors as colonels, and captains as majors; but it would
have the great advantage of keeping out of Manchester that
manufacture of Brummagem generals for which London is now
getting an unenviable notoriety.

Written between March 13 and 16, 1861

Reproduced from the journal

First published in *The Volunteer Journal*,
*for Lancashire and Cheshire*, No. 28, March
16, 1861
The performances of the volunteer forces of London and neighbourhood on Easter Monday appear to have fully borne out our anticipations expressed in the article on "Volunteer Generals." The attempt of Lord Ranelagh to gather for a day, under his own command, all the volunteers of his district at once created a split among the different corps. An opposition candidate for the commandery-in-chief started up in the person of Lord Bury; to the sham fight at Brighton he opposed a field day at Wimbledon. Great was the division among the various corps; and the consequence was, that some went to Brighton under Lord Ranelagh, some to Wimbledon under Lord Bury, some to the same place, but independently, some to Richmond, and some to Wanstead. There would be no harm in this dispersion alone. Every corps is quite independent of the other, and has a right to enjoy its holiday after its own fashion. But there must arise, and has arisen, a great deal of harm from the acrimonious debates, the personal bickerings, and animosities which have preceded this split, and which are sure to continue for some time. Commanding officers have taken their post for one side or the other; their men have equally taken part, and not always with their commanders; so that the majority of the London volunteers are broken up into two great parties—the Ranelagh and the Bury faction. At Brighton, a great many men of the corps which had been ordered to Wimbledon appeared without arms, but in uniform, to protest against the decision and order of their own immediate superiors;

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[a] April 1, 1861.—*Ed.*

[b] See this volume, pp. 479-83.—*Ed.*
and Lord Ranelagh, enjoying this mark of sympathy amazingly, had them even formed into a provisional battalion, and, with an exquisite military taste not hitherto met with in any army, allowed them to march past with his own men. So, at least, reports the *Daily Telegraph*.\(^a\)

Now, we ask, what right have either Lord Ranelagh or Lord Bury to put themselves forward as candidates for volunteer generals, and thereby to cause dissensions among bodies hitherto acting harmoniously together? Both these officers have served in the regulars; if they had the ambition to become generals, there was for them, as for others, the usual way of aspiring to that position; and, from their social position, they stood a chance ten times better than the great bulk of their other comrades. They knew very well, when entering the volunteers, that the highest active rank compatible with that service is that of lieutenant-colonel; that in case the volunteers were ever called out to act, they would be brigaded together with the line and militia, and placed under the command of brigadiers from the line; that the very nature of the British military organisation renders it impossible to appoint general officers from any other branch of the forces than the line. In aspiring to the position of temporary volunteer generals, they aspire to places which neither they nor any other volunteer officer will ever be called on to fill, and which they, from want of experience in the handling of masses of troops, must be incapable of filling. But if, in order to play the general for a day, they disturb the harmony between the various corps of their district, and risk to do the movement serious harm, they deserve even stronger and more unequivocal condemnation.

In all large gatherings of volunteers, hitherto, it has been the usage of offering the command in chief and the appointment of brigadiers and divisionary generals, to the military commander of the district. We have said in our previous article that we fully approve of this proceeding, because it is in accordance with military etiquette and subordination, and because it ensures efficient commanders. Now we see that it does more. Had the command of the Easter performance been entrusted to the proper authorities, there would have been no split, and all this bickering would have been saved. But the London commanders appear to have imbued their men with a highly ludicrous fear of the Horse Guards.\(^b\) "For God's sake, keep the Horse Guards out!" is their cry. We in the north have not been so particular. We have always

\(^a\) "The Sham Fight at Brighton", *The Daily Telegraph*, April 2, 1861.—*Ed
been on capital terms with our natural military superiors, and have found the benefit of it; we hope, too, that the old system may be continued, and save us from those ridiculous quarrels now dividing the London force.

How jealous the Londoners were of the Horse Guards is shown by the uproar created by the presence at Brighton of General Scarlett, who was deputied by the Horse Guards to report upon the proceedings. The wise men of the different corps shook their heads in the most serious manner. To send that general here was an attempt on the part of the Horse Guards to put in the thin end of the wedge. The most fearful consequences were predicted if this were allowed to pass as a matter of course. The volunteers ought to protest; and, indeed, it was proposed that General Scarlett was not entitled to the salute which was due to the lord-lieutenant of the county only. The matter was finally settled by both coming up and receiving the salute in common. But that such questions could be discussed, shows how much some volunteers do mistake their position.

Thus we see, that neither as regards discipline within the corps, nor subordination or even deference to superior officers, has this Easter affair been of any benefit to the London volunteers.

In turning to the various field days, we must premise that we can only go by the reports of the London press, which are exceedingly incomplete and obscure as to military features; and if we should make mistakes in facts, it cannot, therefore, be laid to our charge.

Lord Ranelagh's five brigades took up a position east of Brighton, facing the town, after having marched past. They were very small, each numbering three battalions of 400 men on an average. With this force a ridge of hills was to be occupied, which was far too extensive for such a small number. Now, in this case, if 7,000 men accept a combat, the supposition is, that the enemy is not of a very great superiority in numbers, as otherwise they would retire on their reserves. Consequently, the commander would form his troops in a first and second line, and a reserve, as usual; supporting his flank as best he could, and trusting to his reserves and to the main body (supposed to be in his rear) for the repulse of any outflanking movements on the part of the enemy. But as it would appear by almost all reports, Lord Ranelagh extended the whole of his 7,000 men in one single line! He had a programme made out for three times that number, and as only 7,000 had come instead of 20,000, he made the small number occupy the whole extent of ground marked out for the expected
larger number. If this has been actually done, it would settle at once and for ever Lord Ranelagh's claims to generalship, volunteer or other. We are most unwilling to believe that he should have committed such an absurdity, but we have never seen the almost unanimous statement of the press contradicted, and, therefore, must believe it to be the case. We are even told that there was a small reserve of a few companies, but that two-thirds of it were at once called into the first line, so that scarcely the ghost of a second line, or reserve, was on the field.

This first line, with its supposed second line and supposed reserve, was attacked by a supposed enemy who was received by skirmishers, and after these had been thrown back, by file-firing from the right of companies. Why the volunteers are taught file-firing in sham-fights is more than we can tell. We believe that all soldiers who have seen service will agree with us that file-firing, of some use at the time when the lines advanced at the goose-step, is now completely antiquated, that it never can be of any good in front of the enemy, and that there is no useful intermediate link between the fire of skirmishers and the volley.

The imaginary enemy repulsed the defensive line. How the action of the second line and reserves (which must, after all, have been supposed to support the first line) was represented, we are at a loss to understand. The battalions had to suppose, not only that they were repulsed, but also that they were relieved. A second line of hills to the rear was then occupied and lost, but at a third accident of ground matters took a turn, and imaginary reinforcements coming up, the enemy was beaten back but not seriously pursued.

We are told by the Times that the movements gone through were of the simplest nature. The following is a summary which the correspondent of the Telegraph got from an officer, as a report of the movements of his battalion:

"Having arrived in fours, the ranks formed quarter-distance column in front of No. 1; column wheeled to the left and deployed again on No. 1, advanced in line, covered by No. 1, halted, the assembly was sounded and the skirmishers came in; firing from the right of companies; line retired, and from the proper right of companies passed by fours to the rear; front turn into column; formed quarter-distance column in rear of No. 1; marched by sub-divisions round the centre; opened out to wheeling distance from the rear; left wheeled into line and fired a volley; moved in column of companies from the right along the rear; lined to the front on No. 1; formed quarter-distance column in front of No. 1; deployed on No. 2; then No. 1 advanced to the front, and the remainder right wheeled; formed quarter-distance column in rear of No. 1; fours left, and so left the hill."

a A reference to the article "The Review at Brighton", The Times, No. 23896, April 2, 1861.—Ed.
Of the way in which these movements were carried out, we only know that, as usual with volunteers, distances very often were lost, and companies got asunder when forming line.

At Wimbledon, Lord Grosvenor manoeuvred his battalion early in the morning, and marched off when Lord Bury's two brigades (under 4,000) arrived. These went through a very simple performance, but very well adapted to give the men an idea of events and evolutions such as will occur in actual war. The whole is so well described in Colonel M'Murdo's address that we have merely to add that here, too, we find file-firing used to fill up the interval between the retreat of the skirmishers and the opening of volley firing—a thing we most decidedly consider faulty in every respect. The Duke of Wellington rather let his men lie flat down in such moments than stand up to be shot at by artillery and return a weak, ineffectual, and, to themselves, demoralising file-fire.

For the remainder, we concur entirely with Colonel M'Murdo's admirable address, with which we conclude these remarks. We hope all volunteers will note and bear in mind what he says on company drill. The elementary instruction of volunteers must necessarily be less perfect than that of the regular soldier, but it is nevertheless of the highest importance in giving solidity to battalions. The greatest attention to company drill alone can make up in some degree for this unavoidable defect.

Colonel M'Murdo says:—

Volunteers, to men of understanding it is not necessary that the movements which you have gone through to-day should be fully explained, but I think it necessary to call your attention to the nature of the two positions which you have taken up in the course of the field movements through which you have gone. The first position which you took up was naturally one of very great strength—so great that two-thirds of the enemy would have been non-effective. His cavalry could not have acted with effect, nor could his artillery have injured you except by a vertical fire. It was supposed that the enemy, finding that too strong a position, endeavoured to reach the plateau on which we now stand by turning our flank up one of those long valleys in the direction of Wimbledon. It was necessary, therefore, that you should quit the strong position which you formerly held by changing your front to the left. The enemy had a double object in view. He desired to come upon plain level ground, by which means he could bring both his artillery and his cavalry to bear in the action, as well as his infantry; he also desired, by turning your left flank, to reach the Wimbledon Road, by which he could march through you on London. It is my desire to point out to you the difference in the two positions which you held. It was a very different thing when

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a This refers to McMordo's speech at Wimbledon on April 1, 1861, which was quoted in the article "Field Day at Wimbledon" (The Times, No. 23896, April 2, 1861). Below Engels freely quotes from this speech.—Ed.
you were along that rugged crest of a hill, where neither cavalry nor artillery could reach you. You checked the enemy there, and any number of bold men could have checked an enemy there; but here you are brought, as it were, on a sort of billiard table, where you might be exposed to the operations of, perhaps, the best troops in Europe. I observed, in forming the line here, that some battalions were a little unsteady. I do not blame them for it, because they have as yet had very little practice. Still they were unsteady; and if they were unsteady in coming into line to-day, what would be the case if this plain were swept by the artillery of an enemy, if you were choking with thirst, many of your comrades falling around you, and suddenly, through the dust and smoke, you felt the very ground shake under you by a heavy charge of the enemy’s cavalry. Consider how liable young troops would be to be unsteady under such circumstances. What is it that overcomes all this? It is discipline, and discipline alone. By the term discipline I do not mean the correction of bad conduct—I mean that habitual union, that combination of mind and body brought to bear upon a certain object; that combination of mind and body that sets the whole in action, and makes a company, a battalion, or a brigade, act like a machine. Now this can only be acquired by company drill; it can only be acquired by paying great attention to individual drill, because I consider a company to be the unit of an army, and when individuals are well drilled and steady the company is steady, and the whole army will be steady. All that you have learned in the way of shooting, all your zeal, all your patriotism, will be of no avail in the day of battle without a thorough knowledge of your company drill. Company drill and nothing but company drill will do, and therefore I beg you to consider that excellence in shooting is not everything, because nothing will do unless you have perfect steadiness of formation under fire. Gentlemen, you have had a hard day’s work on the wet ground, and therefore I will no longer detain you, but leave you to return to those homes which you are so well able to protect.

Written between April 2 and 6, 1861

First published in The Volunteer Journal, for Lancashire and Cheshire, No. 31, April 6, 1861

Signed: F. E.
In our last number but one we called the especial attention of volunteers to the remarks of Colonel M'Murdo on company drill.\(^a\) We now recur to the subject as we think it is high time that its importance should be fully appreciated by every rifleman in the country.

The other day we took occasion to witness the battalion drill of a volunteer corps, which, on the whole, stands decidedly above the average of the force of this district in proportionate number of effectives, good attendance at drill, attention to duty on the part of officers, and, consequently, in general efficiency. To our great surprise, we found that there was very little progress beyond what we had seen this same corps perform some six months ago. The battalion movements came off slightly better than at the close of last season, but the manual and platoon were gone through in a rather slovenly manner. Even in shouldering arms, every man looked as if acting without any consciousness that he was to act in concert with some 400 men right, left, and in rear of him. In making ready and presenting, every rifle seemed to take a pride in coming to the proper position independently of its neighbours; and, altogether, a quiet disregard of the one—two, or one—two—three, by which the execution of each word of command is to be characterised, appeared the general order of the day.

In one corner of the barrack-yard in which this took place, we happened to see a squad of a line regiment fall in for drill under a sergeant. They were, we suppose, the awkward squad of the battalion, ordered for extra drill. What a difference! The men

\(^a\) See this volume, pp. 488-89.—*Ed.*
stood like statues; not a limb moved till the word was given, and then those limbs only moved which had to execute the command—the remainder of the body remained perfectly still. When the command struck their ears, every arm moved simultaneously, every motion into which the execution of the command was divided was perfectly distinct, and was gone through at the same moment by every man. The whole squad, in fact, moved like one man. Those gentlemen who are so fond of boasting that the volunteers can do all their work quite as well as the line, would do well to go and study the line a little; they would then soon find out that between the best volunteers and the worst drilled line regiment there is still an enormous difference.

But what, it will be said, is the use of such perfection of drill to the volunteers? They are not intended to have it, they cannot be expected to have it, and they will not require it. No doubt this is quite correct. The very attempt to make volunteers emulate the line in perfection of drill would be the ruin of the movement. But drilled the volunteers must be, and so far drilled that common simultaneous action shall become quite mechanical, quite a matter of course with them; so far, that all their movements and motions can be gone through steadily, simultaneously, by all, and with a certain degree of military bearing. In all these points the line will remain the model which they will have to look up to, and company drill will have to be the means by which the required efficiency can alone be obtained.

Take the manual and platoon. That on any given word of command, the whole of the rifles in the battalion should be moved simultaneously, and in the manner prescribed, is not a mere matter of appearance. We must suppose that all volunteer corps are now so far advanced that the men can go through this exercise without positively hurting each other, or knocking their rifles together. But even beyond this, a mere slovenly way of going through the different motions has, undoubtedly, a great moral effect upon the battalion under drill. Why should any one man be particularly attentive to the command, if he has blunders committed right and left, and rifles coming up or down in a straggling way long after he has performed the command? What confidence, before the enemy, can a man on the left wing have in his comrades on the right wing, unless he knows they will load, make ready, and present together with him on the command being given, and will be ready again, as soon as he himself shall be, either to fire again or to charge? Moreover, every experienced soldier will tell you that the habit of such simultaneous action—
the certainty of the officer's command being responded to by those two or three round distinct sounds, denoting that every man acts at the same time as his comrades—has a very great moral influence on the battalion. It brings home to the senses of the men the fact that they really are like one body; that they are perfectly in the hand of the commander, and that he can employ their strength at the shortest notice and with the greatest effect.

Again, take the movements of large or small bodies of troops. Unless every man is so far confirmed in his drill that every movement he may be required to go through is done almost mechanically on the word being given, a battalion will never move steadily. A soldier who has still to ransack his memory or his intellect to make out what kind of thing the command given asks him to do, will do more harm than good in a battalion. So will a man who, either from habit or some other cause, is apt to think that certain movements will necessarily be followed by others; he will often receive a command quite different to what he expected, and then he will very probably blunder. Now, these defects can only be overcome by constant company drill. There the officer in command can put the small body under his orders, in a quarter of an hour's time, through so many different movements and formations, and can vary the order of passing from one to the other to such an extent, that the men, never knowing what is to come, will soon learn to be attentive and to respond quite mechanically to the word of command. In a battalion, all movements are necessarily much slower, and therefore on the whole less instructive to the men, though more so to the officers; but it is an acknowledged fact that men, perfect in their company drill, will, under good officers, learn their battalion movements perfectly in a very short time. The more the men are tossed about in company movements by a competent quick-eyed instructor, the steadier will they afterwards be in the battalion. And it requires no pointing out how important perfect steadiness in a battalion is: a volley may be given rather irregularly, and still take effect; but a battalion thrown into disorder in forming square, deploying, wheeling in column, &c., may at any time be hopelessly lost if in front of an active and intelligent enemy.

Then there is the important point of distances. It is an indispensable fact that no volunteer officer or soldier has an eye for distances. In marching in open or quarter distance column, in deploying, every battalion drill shows how difficult to the officers it is to keep the correct distance. In re-forming column from square, the men of the centre sections almost always lose their
distance; they step back too far or too little, and the wheel backwards is consequently done in a very irregular way. The officers can learn to keep distance in the battalion only, though company movements in sub-divisions and sections will tend to improve them; but the men, to learn how to re-form column from square (a movement of the greatest importance before the enemy), will have to practise it in their companies.

There is another point to be considered, and that is the military bearing of the men. We do not only mean the erect, proud, and yet easy position of each individual man under arms, but also that quick simultaneous action in company and battalion movements which is as necessary to a body on the move as to a battalion handling its rifles at a stand-still. Volunteers appear quite satisfied if they manage, somehow or other, to get into their proper places in something like the prescribed time, including, generally, a few seconds of respite. No doubt this is the principal point, and in the first year of the existence of a volunteer corps anybody would be perfectly satisfied with it. But there is for every move a certain fixed mode of doing it, prescribed by the regulations, and this is supposed to be that mode by which the object in view can be attained in the shortest possible time, with the greatest convenience to all concerned, and, consequently, with the highest degree of order. The consequence is, that every deviation from the prescribed mode is necessarily connected by a slight degree of disorder and want of regularity, which not only makes an impression of slovenliness upon the beholder, but also implies a certain loss of time, and makes the men think that the detail of the regulations is mere humbug. Let any man see a body of volunteers advance by double files from the centre and front, form company, or go through any other change of formation, and he will at once see what kind of negligent habits we are attaining. But such faults, which may be suffered in an old line regiment, which has a good sub-stratum of solid drill, and will be made to go through the same drill again and shake off its easy ways, are far more dangerous in a body of volunteers, where that solid foundation of detail-drill is unavoidably wanting. Their slovenly habits, which have to be tolerated in the beginning, as the men must be hurried through all elementary work, will increase and multiply unless regularly and assiduously checked by strict company drill. It will be impossible to drive such habits out entirely, but at all events they may be, and ought to be, so far checked as not to gain ground. As to the individual bearing of the men, that we suppose will gradually improve, though we very much doubt whether that
peculiar waving of a line, marking time, seen in all volunteer drills, will ever disappear. We allude to a certain habit of moving the upper part of the body in marking time, which appears common to all volunteers we have yet seen. No sooner goes up the right foot, than up goes the right shoulder and down goes the left; with the left foot, the left shoulder moves upwards, and thus the whole line waves to and fro like a ripe corn-field under a mild zephyr, but not very much like a body of sturdy soldiers prepared to meet the enemy.

We believe we have said enough to call attention to the subject. Every volunteer who has the movement at heart, will agree with us as to the necessity of regular and diligent company drill; for, let us repeat it, the volunteer force has been unavoidably neglected in its elementary education, and it requires great attention and a deal of work to make up in some manner for this defect.

Written in mid-April 1861

First published in *The Volunteer Journal, for Lancashire and Cheshire, No. 33, April 20, 1861

Signed: F. E.
RIFLES AND RIFLE-SHOOTING
THE LANCASTER AND ENFIELD RIFLES

The recent contest between Lieut. Wallinger and the sergeants of the Royal Engineers, reported in our numbers for April 6th and 13th, has recalled public attention to the merits of the Lancaster rifle, especially as a service weapon. In the match at Chatham the sergeants fired with the ordinary military 577 oval-bore Lancaster carbine of the Royal Engineers, the cost of which is about £4. To match such a weapon with the highly-finished Whitworth, costing about £25, is evidently unfair. A more equal comparison might be instituted between the Lancaster and the ordinary Enfield, because the difference in the cost of these two weapons is not very material, and the price of the Lancaster would probably be reduced to an equality with the Enfield if it were manufactured in as great numbers at the Government factories. The question then remains, is it a better rifle? A writer in the London Review, reasoning from general principles, and judging also from actual experience, answers in the affirmative; and we invite attention to the following passages from his article on the subject:—

The law which governs accurate rifle-shooting or practice is very simple. It is only necessary to establish an equation between the length and diameter of the ball, and to give to that ball an adequate rotatory motion around its polar axis, when unfailing accuracy must be the result, irrespective of the precise method by which

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a A reference to the articles “Lancaster v. Whitworth Rifles” and “Lancaster or Whitworth”, published in The Volunteer Journal, for Lancashire and Cheshire, Nos. 31 and 32, April 6 and 13, 1861. This reference is probably made by the Volunteer Journal editors.—Ed.
the rotary or rifle motion is given. That is to say, the interior of the rifle barrel may be cut into any number or any shape of grooves, or no grooves at all, so long as the equation is preserved, and the bullet acquires a proper rotary motion, and then the accuracy in every case will be equal. The consideration, however, that must determine the proper arm for a soldier involves as first conditions that the weapon should not exceed a certain weight and dimension, and that it should be easily loaded and easily cleaned. It therefore follows, that to be easily loaded, the bearing surface, in the act of loading, should be as small as possible; and that, in the shape given to the rifling, as far as practicable, all angles should be avoided. We know no other form that so perfectly carries out this proposition as the spiral oval, inasmuch as the bearing surfaces in the act of loading are but two, and no form offers so great facilities for cleaning with the unavoidably scanty means at the disposition of the soldier during active service. This opinion seems to be borne out by the results of the Indian campaign, and by the trials at Malta, Gibralter, and other foreign stations. In India the Enfield rifle is said to have completely "shut up" at many critical periods of the campaign. The papers and private letters and official reports teemed with complaints; yet with the same ammunition, under the same circumstances, the oval-bore rifles with which the Royal Engineers were armed never failed to perform their duty to the satisfaction of both officers and men.

When the Enfield rifle is made with a diminished bore and an elongated bullet is used, comparably with the Whitworth the effect is just as good; yet the Enfield service-rifle, as it now exists, must be regarded as an attempt to satisfy impossible conditions. The officers charged with the construction of this arm were not permitted to reduce the calibre of the weapon below a given limit. Hence the adoption of the standard bore of .577. As a consequence of this too great diameter of bore, an inherent difficulty presented itself, namely, that of securing a perfectly and unfallingly hermetrical fit between the interior of the bore and the ball when driven from the barrel by the explosion of the powder. Let us examine the actual result of the imperfect conditions exhibited in the Enfield rifle. The weight of the ball is fixed at 530 grains, the charge of powder at 70 grains, the calibre, as before stated, at .577. Now, the effect of 70 grains of powder acting on the large cross-section of the ball, will not and does not give pressure sufficient to produce in every case sufficient expansion of the ball into the grooves. Careful experiment shows that not 10 per cent. of the bullets are equally and fully expanded on every side. Sometimes one groove is distinctly marked, sometimes two, and in only one-tenth of the total rounds are they fully expanded, hence the inaccuracy of the shooting of the .577 bore service-rifle.

Now, the perfect conditions of accurate practice from rifles grooved in any form may be described as follows:—That the bore should be .5 inch, the length of ball 1.12 inches, rotation or twist 1 in 18 inches, charge of powder 90 to 100 grains (No. 6), weight of ball identical, namely 530 grains. The force exerted under this condition upon the cross-section of the ball may be considered as plus, therefore there is an unfailling and unerring fit between the ball and the bore, and it arises in this way: the diminished diameter of the bore gives increased length of ball, and no wooden plug is necessary as in the service bullets to drive out the metal. The bullet is therefore an homogeneous solid of about three diameters long. In the explosion the expansive force of the powder is first exerted on the rear or posterior section of the ball (a), and the transmission of the motive force, although almost instantaneous, is nevertheless met by the vis inertiae of the mass of metal constituting the ball, exerted in the whole length (from a to b), and backed by the counter resistance of the air in the barrel.
It is at a glance evident that this resistance must be evinced in the middle portion of the bullet or part of greatest resistance (c), and consequently, by a perfectly natural expansion there, the bullet would be slightly shortened, say about one-tenth of an inch, while the central portion would be increased in diameter sufficiently to fit hermetically the form of the interior of the barrel, whatever its shape might be.

When these more perfect conditions are fulfilled, not once in 500 times is there any defective expansion, the ball invariably taking the form of the rifle, and thus there results the most excellent rifle practice.

These remarks apply to all rifles of every description.

What is it these favourable conditions do for a rifle, and why do they give more accurate shooting? Having shown how the interior of the bore is perfectly fitted by the bullet, we will endeavour to trace its results. One of the main achievements in the construction of a rifle is to get a "low trajectory," that is, that the curve the bullet describes in its flight should be as near an approach to a straight line as possible, and, as a necessary sequence, a high velocity is absolutely necessary, so that gravitation may have the minimum of effect in depressing the ball in its passage. Now, the effect of diminution of the calibre achieves the first result, and by the employment of a larger charge of powder on the small cross-section of the ball, the highest velocity and the most accurate results are obtained.

With respect to the methods of rifling, it will be inferred from what we have already said that so long as the ball gets a proper "spin" on leaving the barrel, it matters not in itself how that rotation is given, whether by an hexagonal bore, as in the Whitworth, an oval, as in the Lancaster, or by three grooves, as in the Enfield. Neither is a number of grooves necessary, for if one has a sufficient grip on the bullet to turn it, the requisite condition is fulfilled. Still, there are inherent defects in the manners of grooving which may easily be shown. If the rifling be angular, there is a loss of power in effecting the expansion necessary to fill up the angles, besides the probable escape there of the propelling gas. Moreover each angle is a line of weakness to the barrel; so with any number of grooves, and proportionably to their depths are the same defects manifested. The spiral oval, therefore, of the Lancaster gun is theoretically the best, as presenting the form to which the bullet will most readily adapt itself with the slightest expansion.

That the Lancaster rifle must have great merits appears from the fact, that, before the adoption of the Enfield pattern, the Lancaster rifle, then in competition with it, was recommended in preference by four separate and distinct committees. It was submitted for approval to the Commander-in-Chief, and by him sent for final decision to Hythe. The first report from the officers of the School of Musketry there was most favourable; the second report decided in favour of the Enfield. The reason then assigned for this decision was that the balls "stripped." Subsequently, however, the following facts are said to have transpired. The first 10,000 rounds of Pritchett ammunition, with which the first trials there were
conducted, were of the proper standard diameter. With these cartridges admirable shooting resulted. In the second experiment the same ammunition was not employed, the former having been made in 1853, the latter in 1854; the experimenting officers at Hythe being entirely unconscious of any difference in the ammunition, not having been informed that in the bullets made in the latter year there was a difference of \(0.07\) less in the diameter, as compared with the bullet of 1853.

This fact was not detected until a year and a-half after the final decision in favour of the Enfield, when Colonel (then Captain) Fitzroy Somerset tested the pattern of the Royal Engineer oval-bore carbine. It is easy to see that the diameter of the diminished Pritchett bullet being less than the proper standard, it would, in many instances, especially when there was any excess of hardness in the lead, pass out of the barrel without acquiring a rotatory motion, that is, it would not sufficiently expand to fill the interior of the barrel, whether of a Lancaster or any other rifle.

That the Whitworth is too expensive for army use, and requires more delicate treatment than it is likely to get in actual service, we think few will question, and the tests should therefore be applied to the Lancaster and Enfield or other patterns respectively, which are fitted for the rough usage of warfare. The way of doing this, however, will not be by rifle-matches, but by firing from a fixed rest, with equal quantities of powder, and with bullets of the same weight and cast, thus making all such conditions equal, and leaving the test open only to the respective merits of the weapons themselves.

The preceding remarks refer to two different questions: 1. Which is the best proportion between the diameter and the length of an elongated rifle-shot to be fired from any rifle? And, 2. What are the merits of the Lancaster or oval-bore rifle?

As to question No. 1, we are far from agreeing with the author, that the proportions of his best bullet are preferable to all others. The rifles which, so far, have given the best results—the Swiss and the Whitworth—have both a smaller calibre than 0.5, and a greater proportional length of shot. We cannot, however, here enter into a discussion on a point of such a general nature.

As to question No. 2, we cannot see what positive evidence the author gives of any superiority of the Lancaster rifle over the Enfield. That the carbines of the Engineers "shut up" less often than the Enfield rifles of the infantry, is easily explained by the fact that the infantry are a hundred times more numerous, in any army, than the Engineers; and that the latter do not use their carbines once when the line use their rifles a hundred times; because Engineers are there for other purposes altogether than to act as infantry.

That a long and heavy expansion-shot, hollowed out sufficiently at the rear end, with a full charge, can be made to take almost any shape of rifling, is proved in the instance of the Whitworth; here the amount of expansion required is extremely great, and still the
bullet takes the hexagonal shape at its rear end. No doubt, therefore, such a bullet can be made to expand sufficiently to fill up an oval bore, if the difference of the two diameters be not too great. But why on that account the Engineer carbine should be better than the Enfield is more than we can perceive. The ideal bullet of our author has nothing whatever to do with this carbine—it would not fit it; and if even with a reduction of calibre, our author considers an increased charge of 90 to 100 grains of powder necessary to make his bullet fully take the oval bore, we think that looks much like a silent admission that the present charge of 70 grains does not always ensure a full expansion of the bullet in the oval bore of the Engineers' carbine. Our author does not say what is to become of the increased recoil from the increased charge; still we know that 80 to 90 grains give, in the Whitworth, a not very pleasant amount of recoil, which, in rapid firing, very soon affects the steadiness of aim.

The uncommonly good results given by the Engineers’ carbine in the Chatham match, as well as some exceedingly good shooting with Lancaster rifles by private gentlemen, mentioned at times in the press, make it desirable that the capabilities of the oval-bore expansion rifle, and its fitness for a service weapon, should again be tried. We, for our part, believe that it will be found to have its faults too, and that the principle of the rifling is a very secondary matter indeed in military muskets. Instead of quibbling with the Enfield about such minor matters, why not come to the point at once, and say that its greatest and most important defect is its large calibre? Change that, and you will find all other improvements but matters of detail.

Written at the end of April 1861

First published in The Volunteer Journal, for Lancashire and Cheshire, No. 35, May 4, 1861

Signed: F. E.
ALDERSHOT AND THE VOLUNTEERS

The Duke of Cambridge, in his speech at the London Rifle Brigade dinner, a said he should be very glad to see the volunteers at Aldershot. The only difficulty, to him, appeared to be, how to get them there. We propose to venture a few suggestions how to overcome this difficulty.

It is, undoubtedly, quite out of the question to send to Aldershot, or any other camp, whole corps of volunteers. The elements of which they are composed preclude every chance of it. There is no company, much less a battalion, a majority of whose members could spare as much as a fortnight, at one and the same time, for such a purpose.

But if we cannot get the volunteers to Aldershot in bodies, could they not go there singly, and yet learn a great deal? We think they could, if the thing was arranged so as to offer every facility to volunteers to avail themselves of the opportunity.

We believe the great majority of the volunteers to be composed of men who can, now and then, get relieved from their usual avocations for a fortnight in a year. A great many take a regular holiday of that duration, and even longer. Among these there are certainly a considerable number who would not at all object—on the contrary—to spend, for once, their time and their money at Aldershot, if they were received there. Thus, there would be no difficulty whatever, between May and the end of September, to keep at Aldershot a floating population of volunteers amounting, at all times, to the strength of a decent battalion at least. If we can,

a The Duke of Cambridge's speech (of April 13, 1861) is quoted in the second leading article in The Times, No. 23907, April 15, 1861.—Ed.
then, get this floating population to the camp, how can this be utilised?

We propose that a range of huts or tents be set apart for say 600 volunteers, and that a captain, or, better still, a major, from the line be appointed to the command of this volunteer camp, with an adjutant and sergeant-major to assist him. The camp to be opened say in May, as soon as a sufficient number of volunteers have given in their names; if the camp is full, further applicants to be admitted as there may be room for them, the whole of such volunteers to be formed into a battalion; a blouse of a prescribed cut and colour to be worn over the tunics, so as to give the whole a uniform look. As there is sure to be an excess of officers, there will be no other chance but to make officers do duty, for the time being, as sergeants and even privates. Far from considering this a drawback, we should consider it an advantage. No volunteer officer is so well grounded in his personal drill that such a momentary relapse into the ranks would be useless to him; let him recollect that every line officer has to shoulder the rifle for a certain period year after year. The distribution of the temporary officers' posts in the battalion might be easily regulated: the senior captains present might begin, and afterwards others might take their posts by rotation. The major in command could perhaps be intrusted with a deal of discretionary power in nominating to these appointments, in order to ensure a lively emulation among the officers present. These, however, are matters of detail, the arrangement of which would cause but little trouble if the idea was once taken up in good earnest.

Such a battalion, with its floating population, would never attain any very great efficiency, and the major in command, as well as his assistants, would have no easy post of it. But it would ensure one object: that among the volunteer army generally, and among the officers and sergeants specially, a nucleus would be formed of men who have at all events really been soldiers, if only for a fortnight. This may look a contemptibly short period; yet we have no doubt that every man would feel immensely different on leaving, to what he did on reaching Aldershot. There is an immense difference between drilling once or twice a week after the whole day has been spent on business and other matters, and drilling, even for a fortnight only, morning, noon, and night in a camp. During that fortnight, every volunteer present will have no other business to look after but his military education; he will be confirmed in his drill to a degree which no length of the present volunteer drill can raise him up to; and, besides, he will see a
great deal more of soldiering than he ever could expect to see in his own corps, unless it encamped on purpose. On leaving Aldershot, every man will think that he has learned during that fortnight at least as much as during the whole of his preceding volunteer service. In due time there will be scarcely a company of volunteers in which one or more members have not been down to Aldershot; and everybody must see to what an extent such an infusion of better educated elements will improve the steadiness and the military manners, too, of the various corps.

We have supposed that the course of instruction for every man is to be a fortnight, merely because almost everybody might find means to spare that short time. But there could be nothing to prevent allowing such volunteers as can afford it, to stop at the camp for a full month.

As a matter of course, the volunteers in camp would have to keep themselves. The Government ought to find tents and camping utensils, and might, perhaps, make arrangements for the delivery of rations, to be paid for by the men. In this way, without costing the country anything to speak of, the affair would be cheap for the volunteers, and everything put upon a regular camp footing.

We have no doubt that, were the experiment once made, the volunteers would at once cordially respond to it; the battalion would be kept up always to its full complement, and, perhaps, the necessity for similar battalions, at other camps, or at Aldershot, would soon arise. If the excess of officers became very considerable, a special “officers’ battalion” might be formed at one of the camps, with a somewhat longer period of attendance, and we believe such a battalion would answer well for at least one season.

There is, however, another mode of making the camps, and the line generally, useful for volunteer officers: by attaching, temporarily, such officers to battalions of the regulars. This might be done without taking the officers too far from their homes; during the period of such attachment (say a month) the volunteer officer to do duty as if actually serving in the regiment. No doubt means might be found to allow at least one volunteer officer at a time to be thus attached to a battalion, without in any way infringing upon the habits and position of the line officers, who have always shown the best possible spirit towards the volunteers. If this point was taken up, we should consider it advisable to allow no volunteer officer to be attached to the line who had not shown, in some manner or other, that he was fit to profit by it; for he would go there, not to be taught the rudiments, but to be confirmed and
perfected in what he knows already, and to learn matters which he cannot learn in his corps.

Both our suggestions—the formation of floating battalions at the camps, and the permission for duly qualified volunteer officers to be attached to the line for a month—have in view the education of the officers chiefly. We repeat, again and again, that the officers form the weak points of the volunteer army; we add, that it now must be evident to all that the present system of volunteer education cannot make the officers, as a body, efficient, and that, therefore, new means of instruction must be found if the force is, not only not to retrograde, but to improve.

We throw out these suggestions for no other purpose but to invite attention to the question. We have no wish to lay before the public a fixed plan, with all details worked out, all eventualities provided for, ready to be put into practice at once. That would be the business of others, if the matter was taken up seriously. But we mean to say, the whole volunteer movement was an experiment, and unless people are prepared to experimentalise a little more in order to find out the proper way to improve the new army which has resulted from that experiment, the movement must ultimately come to a dead lock.

Written at the end of April and the beginning of May 1861

First published in The Volunteer Journal, for Lancashire and Cheshire, No. 36, May 11, 1861

Signed: F. E.
We believe that in all Great Britain, nowhere has there been among volunteers a greater readiness and alacrity to conform to all War Office orders and regulations, to take up a proper position with regard to the regular army, to work the movement in harmony with the authorities, than in Lancashire, and among other towns, in Manchester. When armouries were ordered to be provided, the order was carried out, although it unavoidably implied great inconvenience in a large town. Whatever orders were sent down were obeyed at once and without a murmur. When our volunteers met in large masses, they anticipated the Duke of Cambridge's desire, and requested the military authorities of the district to take the command and organise the brigades. The desire for efficiency made our Lancashire volunteers criticise all Government interference with a favourable eye; they knew that uniformity and regularity were above all things requisite, and they looked upon every War Office circular as a step towards ensuring these requisites. The *Volunteer Journal*, from its very first number, has not ceased to recommend a willing and cheerful obedience to War Office orders, and to advocate the great advantages of perfect harmony between the volunteers and the military authorities, both local and central. While in other localities, especially in London, there were mysterious rumours abroad respecting the baneful influence of the Horse Guards, the attempts of the authorities to get in the thin end of the wedge, &c., we have never been swayed by such considerations for a single moment. We have given the Commander-in-Chief, the Secretary for War, and all their subordinates, full credit for sincerity when they asserted their
willingness to support the movement in every possible shape and form.

But we cannot close our eyes to the fact, that latterly one or two little matters have occurred which look as if there really had been some change in the view men in authority take of the volunteer movement, especially since Lord de Grey and Ripon gave up the Under-Secretaryship for War. A few weeks ago, we believe it was on Whit-Monday, a Lord Ranelagh reviewed in Regent's Park such of the London volunteers as would come on his invitation. Now, we have more than once strongly condemned Lord Ranelagh's attempts at playing general. He might have applied to Colonel M'Murdo, the inspector-general of volunteers, to review his men, or to recommend another qualified officer for the purpose. However, right or wrong as regards propriety, he went with his men to the park; the affair had been publicly announced, and was so well known that a large crowd of spectators assembled. There were among this crowd people who behaved in a most shameful manner; they pressed round the volunteers, broke their ranks, rendered evolutions impossible, threw stones, and some even, it is stated, attempted to wound the officers' horses with pointed instruments. When this commenced, the officers in charge naturally looked out for the police, but out of the 6,000 men constituting the army of Sir Richard Mayne, we are told that not one man was there! The consequence was, that Lord Ranelagh's review was a total failure, owing to the interference of the crowd. Now, if the matter had been allowed to take its course, it is quite possible that it would have proved as much a failure on its own merits, as Lord Ranelagh's previous attempts had invariably done. As it was, Lord Ranelagh was made a martyr of, and strongly recommended to the sympathy of all volunteers.

There can be no doubt that the total absence of the police from this publicly-announced review was not quite accidental. It has been stated in the press that they must have had orders to keep away; and we know that in London, among volunteers, it is very generally believed that the Horse Guards had something to do with this affair, and that it is desired at the Horse Guards to undermine the volunteer movement in every possible way. The feeling in London is very strong upon the matter, and we confess the facts of the case—which, as far as we are aware, it has never

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a May 20, 1861.—Ed.
b See this volume, pp. 479-83 and 484-89.—Ed.
been attempted to excuse or explain away—are well adapted to create such a feeling.

This week we have to record another affair which certainly does not look as if the authorities intended to do, as they promised, everything in their power to assist the volunteers. It has been announced, some time ago, that one of our Manchester regiments intended to go into camp for a short period. We believe this announcement was not made before it had been ascertained that it could be carried out. It is commonly reported that verbal application was made to the authorities for tents, &c., and that this application was granted; and that, moreover, the terms had been fixed upon which it had been granted. We believe these arrangements were come to not more than two or three weeks ago. On the strength of this, all other arrangements as to the ground for encampment, canteen, officers' mess, and other matters, were entered into; and when everything is straight, and the formal application for the tents is made, the Government all at once draw back, and declare they cannot furnish any tents at all!

As a matter of course, this upsets the whole plan, and the expense and trouble incurred by the regiments has all been wasted; and we all know that volunteer regiments have every reason to be careful of their small balance, if any, at the banker's. We are told that so many volunteer regiments are said to have applied for tents that the Government cannot possibly find tents for all, and that therefore none can be furnished to any corps. Whether this be correct or not, the Government ought to know that a bargain is a bargain, and that posterior events could not relieve them from engagements already undertaken. But rumour, which is now beginning to do its work in Manchester quite as much as in London, says that this is a mere idle pretext, and that the Government do not want the volunteers to go under canvas at all; that even if the corps in question were to provide tents or huts at their own expense, and from an independent source, the encampment would not be looked on with a favourable eye in high quarters.

Such occurrences are certainly not adapted to promote that cordiality between the authorities and the volunteers which is so essential to the further success of the movement. The movement is too powerful for any Government to put down; but want of confidence in the authorities on the part of the volunteers, and hidden opposition on the part of the authorities, can very soon create considerable confusion, and hamper its progress for a time.
This ought not to be allowed. There are a great many volunteer officers in Parliament. Let them get up in their places and take care that the Government give such explanations as will at once put the matter right, and show the volunteers that they will have to expect cordial support instead of hidden hostility.

Written at the beginning of June 1861

First published in *The Volunteer Journal, for Lancashire and Cheshire*, No. 40, June 8, 1861

Signed: F. E.
A short time ago there was published, in Berlin, a book on “The French Army on the Drill-ground and in the Field,”\(^a\) which created a great sensation, and rapidly passed through several editions. Although the author merely calls himself “an old officer,” it is no mystery that the book is written by General Count Waldersee, late Minister of War in Prussia. He is a man of very high standing in the Prussian army, where he has particularly distinguished himself by revolutionising the old pedantic system of teaching the soldier skirmishing, patrolling, outpost, and light infantry duty generally. His new method, to which we may revert on some other occasion, is now introduced in that army. It is remarkable for doing away with all pedantry of forms, and exclusively appealing to the intellectual resources of the soldier in the performance of a duty which can only be carried out well by the intelligent and harmonious co-operation of a number of men. An officer who lays so much stress on the intellectual training of every individual soldier, very naturally took great interest, at all times, in the French army, as the one which is most famous for the individual military intelligence of its men; and we need not, therefore, be astonished if we find that he has made that army the especial object of his studies, and that he has many friends and acquaintances in its ranks, from whom he can obtain valuable information. After the successes of the French against one of the best and bravest European armies, in the Italian campaign of 1859,\(^{465}\) it became a question of European interest to what circumstances such extraordinary and unvaried victories were

\(^a\) Die französische Armee auf dem Exercirplatze und im Felde, Berlin, 1861.—Ed.
owing; and in the above publication General Waldersee gives what he considers to be an elucidation of the subject.

The following is taken from an account of the general character of the French army:

It partakes of all the good qualities, but also of all the faults and weaknesses, of the French character. Animated by a genuine warlike spirit, it is full of combativeness, thirst for action and for glory, brave and plucky, as it has shown at all times, and more recently on the battle-fields of Algeria, the Crimea, and Italy. Everywhere there have been occasions on which both officers and soldiers—particularly among the picked troops—have performed wonders of bravery; and the performances of the French soldiers generally, in these campaigns, are worthy of the highest respect.

Of great bodily and mental mobility—which, however, is often enough increased to a continuous restlessness—the French soldier is indefatigable and persevering in battle, as well as in hard work of all kinds.

Self-confident in the highest degree, full of ambition and vanity, every individual soldier has but one desire—to march upon the enemy. He knows no difficulties; he goes by the old French proverb, "If the thing is possible, it is as good as done; if it is impossible, it will be done somehow." Without much reflection—often, indeed, very inconsiderately—he advances, convinced there are no difficulties he cannot overcome. Thus, with the dash and impetuosity inherent to his nation, he always presses for the attack, in which is his chief strength. Besides this, the French soldier is intelligent, handy, particularly adapted for individual fighting, and accustomed to act on his own responsibility. He is inventive and clever in embarrassing situations; he has a peculiar knack of making himself comfortable in a bivouac; of improving bridges, &c., under fire; of putting, at a moment's notice, houses and villages into a defensible state, and of defending them afterwards with the greatest tenacity.

War is the life-element of an army. The French Government very wisely consider war as the normal state of the troops, and, therefore, at all times and under all circumstances treat them with the same strictness and severity as if actually on a campaign. The regiments are concentrated in camp as frequently as possible, and besides are made to change garrisons constantly, so as not to allow any peace habits to grow up among them. In the same spirit, the drill of the men is exclusively adapted for the purposes of war, and nothing whatever is done for purposes of parade. No corps is ever judged from its style of marching past, and it is, therefore, rather surprising to foreign officers to see French battalions march past—even before the Emperor— with a slovenly gait, in undulating front lines, the men stepping with different feet, and marching at ease with sloped arms.

But the picture has its dark as well as its bright side. All these good military qualities which urge on the French soldier to advance impetuously, show their brilliant effects only so long as you allow him to advance. The sentiment individuel, which is at the root of all his qualifications for attack, has its great disadvantages too. The soldier, being principally busied with himself, goes along with the mass as long as it advances successfully; but if this mass be forcibly, and, perhaps, unexpectedly, made to retire, its cohesion, the connection of every individual with his comrade, is soon severed, and the more so as, in such a case, the careless tactical training of the troops—of which, more hereafter—renders all steadiness impossible, and leads to confusion and utter dissolution.

\[\text{\textsuperscript{a}}\text{ Napoleon III.—Ed.}\]
Add to this that the French are naturally given to envy, and, with all their national levity in critical moments, are apt to be suspicious of others. The French soldier follows his officers eagerly and willingly into battle, but only so long as these officers are in front of him, and literally lead him on. This is what the soldiers expect, and when advancing under fire they express it by shouting, “Epaulettes to the front!” Thus field officers and generals have generally to march to the charge in front of their troops—the very place, certainly, for a general—and this explains the excessive losses the French always have had in officers. But if a retreat becomes inevitable, confidence in the officers will soon disappear, and, in extreme cases, make room for open disobedience. From these causes, a retreat, energetically forced upon a French army, has always been disastrous to it, and will ever be so.

General Waldersee might have added a great deal more on the facility with which the confidence of the French soldier in his officers melts away under adverse circumstances. The confidence of the men in their immediate superiors, even after repeated unsuccess, is the best standard of discipline. Measured by this, the French are not much better than totally undisciplined levies. It is a matter of course for them that they never can be beaten except by “treachery”; and whenever they lost a battle and had to retreat more than a few hundred yards—whenever the enemy surprised them by an unexpected move, they regularly raised the cry, “We are betrayed!” So much is this part and parcel of the national character, that Napoleon, in his memoirs (written long after the fact, at St. Helena), could impute, by insinuation, some kind of treacherous action to most of his generals; and that French historians—military and otherwise—could amplify these insinuations into the most wonderful romances. As the nation of the generals, so does the soldier think of his regimental and company officers. A few hard knocks, and discipline is completely at an end; and thus it is that, of all armies, the French have made the most disastrous retreats.

[The Volunteer Journal, for Lancashire and Cheshire, No. 44, July 6, 1861]

Of the mode of recruiting the soldiers and officers, Waldersee gives the following account: —

The French soldier is recruited by drawing lots among the young men of the country; but every man has the right of paying a sum fixed by Government for a substitute. This sum flows into a fund administered by the Government, from which the substitute receives a small sum as bounty on enlisting, and the remainder on the expiration of his term, the interest being paid to him during his time of

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3 Mémoires pour servir à l’histoire de France, sous Napoléon, écrits à Sainte-Hélène, Paris, 1823.—Ed.
service. The sum owing to him may, however, be partially or totally forfeited by crime or bad conduct. Thus the Government have the selection of substitutes entirely in their own hands, and are in the habit of enlisting, as much as possible, men only who have already served one term of seven years, and who have proved themselves reliable and well conducted. A great many old soldiers are thus secured to the army, and from them most of the non-commissioned officers are selected. The term of service is seven years; of this time, however, the greater portion of the men are but four or five years actually with the colours, spending the remainder on furlough.

The non-commissioned officers are selected with great care and tested with great regard by the officers. They are mostly distinguished, not only by an excellent character and a perfect knowledge of the details of their duty, but also by intelligence, independence, a fine soldier-like bearing, and a certain dignity, especially in their relations with the privates, over whom they know very well how to maintain the great authority which the regulations have given them. As every non-commissioned officer is eligible for a commission, they manage to keep the privates at a respectful distance, while, on the other hand, they use every effort to distinguish themselves and give a good example to their subordinates.

At present the majority of the non-commissioned officers consist of substitutes. A few only are made corporals and sergeants during their first term of service, and among them, particularly those young men who, having had a good education, and finding themselves excluded by the great throng of candidates from the military schools, enlist voluntarily in the army in order to try for a commission. Such young men very soon advance to the position of non-commissioned officers, and on passing the practical military examination prescribed for sergeants before they can be made sub-lieutenants, very often receive a commission after having served from two to four years.

The generality of officers promoted from the ranks receive their commissions after from 9 to 12, and often after from 15 to 20 years only. Of 170 such officers, taken at random, 16 received commissions after from 2 to 4, 62 after 5 to 8, 62 after 9 to 12, and 30 after from 13 to 20 years’ service. The first 16 belonged to the class of educated young men; the 62 who received commissions after from 5 to 8 years, were promoted for distinction before the enemy. Thus, in time of peace, promotion from the ranks, even in France, is slow work.

The officers recruit themselves partly from the ranks, as stated above, and partly (in times of peace principally), from the military schools, where the young men have to attend for two years, after which, on passing a severe examination, they at once receive commissions. These two classes of officers keep at a great distance from each other; the pupils of the military colleges and the educated men promoted from the ranks, looking down with disrespect upon the old sub-lieutenants and lieutenants who gained their epaulettes by long service; the officers, even of the same battalion, form anything but that compact body which they do in almost every other army. Yet those men who were raised from the comparatively less educated portion of the ranks (and who now, after the heavy losses in the Crimea and Italy, form the greater portion of the subalterns), are very useful in their way. Though very often positively ignorant, and sometimes rough, and scarcely above the sergeant in character or manners, they are generally clever within their sphere of action, perfectly at home in their duty, conscientious, strict, and punctual; they know exceedingly well how to treat the soldier, how to take care of him, how to stimulate him by their example, both in garrison life and under fire. Besides this, they at present mostly possess a good deal of experience in camp life, marching and fighting.
On the whole, the French officer is intelligent and eager for war; he knows what he is about, and—especially under fire—he knows how to act on his own responsibility, and how to excite the men by the example of his own bravery. Add to this—for the majority of them—a good deal of campaigning and fighting experience, and we must say that they are possessed of qualities which place them very high in their profession.

Promotion is given either by seniority or by selection. In peace, two by seniority to one by selection; in war, the reverse. But selection is generally limited to the educated class of officers, while the mass of those raised from the ranks are promoted by seniority only, and thus attain their captaincy at a rather advanced age. This is about the highest step they ever reach, and they are generally quite satisfied to be able to retire on a captain's pension.

Thus it happens that in the French army you see a good many subalterns of from 30 to 40, and a good many captains approaching 50; while among field-officers and generals there are a great many comparatively young men. This is no doubt a great advantage; and the continued wars in Africa, the Crimea, and Italy, having considerably quickened promotion, have brought still more young men into high commands.

To show the proportion in which promotion to the higher grades is dealt out to the two classes of officers, the following statement of officers killed and wounded, or employed in high commands in Italy, will be read with interest:—From the military schools: 34 generals, 25 colonels commanding regiments, 28 other field-officers, 24 captains, 33 lieutenants and sub-lieutenants. From the ranks: 3 generals, no colonels commanding, 8 field-officers, 66 captains, 95 subalterns.

The generals proceed less from the staff and the scientific or select corps than from the generality of the field-officers. They therefore are mostly wanting in military instruction of a higher order; a few among them only have les vues larges.a

Badly up in strategy, they are rather clumsy in handling large bodies of troops, and therefore much in want of superior orders or scientific assistance; so that very often in the field, as on the drill-ground, they receive a regular programme of the movements to be gone through for engaging in action. On the other hand, they are full of common sense, and ready at inventing expedients; they know the practical part of their duty, are zealous, ambitious, and devoted to the service. Their habit of acting independently gives them the necessary vigour under fire. They know no difficulties: act at once on every emergency, without awaiting or sending for orders; are not afraid of responsibility; and, brave like every Frenchman, they always personally lead on their troops.

Most of them have fought in Algeria, the Crimea, and Italy, and, therefore, are in possession of a valuable store of warlike experience. Of the generals engaged in Italy in 1859 there were twenty-eight old Africans, eighteen of whom had also fought in the Crimea. One general alone (Partouneau) made his first campaign in Italy.

This continued fighting has endowed the French army with a younger body of generals than any other army can boast of. To keep this up in time of peace, lieutenant-generals retire on half-pay at 65, and major-generals at 60 years of age.

In short, the French generals must be regarded as comparatively young and bodily active, intelligent, energetic, experienced in war and well adapted for it, though but a few have, so far, shown themselves unusually clever and well acquainted with the handling of large bodies of troops, and though neither the Crimean nor the Italian war have developed any extraordinary military genius.

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a Broad views.—Ed.
Passing to the drill-practice of the French, our author says: —

The recruit, boorish and clumsy as he is when joining his regiment, nevertheless often enough, before a fortnight is over, and before even he may have received his full equipment, stands sentry with the dignity and authority of an old trooper, and very soon becomes formed by the careful individual training which he is made to go through. Though company and battalion drill leave very much to be desired, every individual soldier is carefully trained to gymnastic and bayonet exercise, fencing with the small sword, and long running at double-quick time... On the drill-ground the infantry is generally without steadiness, loose, and therefore rather slow; but on a march it is exceedingly quick, and broken to long marches, great portions of which are made at the double; which pace is very often used in action, and to no mean advantage. These are the performances by which the excellence of a body of troops is judged in France; it is never judged by its drill, much less by mere marching past. The fact is, the French cannot march past in good order, because they are defective in that drill in detail which, after all, is necessary to every good body of troops.

Talking about drill, our author gives the following anecdote of Napoleon 1: —

Napoleon was well aware of the drawbacks inherent to this loose system of drill, and did his best to redress it. Under his iron rod, precision of drill was adhered to as much as it was possible with Frenchmen—though he himself was no very good drill-master. One day, at Schönbrunn, in 1809, he had the idea of drilling himself a battalion of his guards; to make them faire la théorie, as the French call it. He drew his sword, and gave the word; but after having ordered a few movements, he got his men into such utter confusion that he called out, putting his sword back into the scabbard, “The devil take your——theory! Set that mess right again.” (Que le diable emporte votre théorie! Redressez cette cochonnerie!)

About the “Turcos,” the native Algerian troops, we find the following remarkable statement: —

According to reports received from French officers, the Turcos above all disliked an engagement with the Austrian Rifles. Whenever they met them, they not only refused to advance, but threw themselves down, and, like the camels of the desert, could not be induced either by threats or by blows, to rise to the attack.

On the drill-ground of an infantry regiment—

Recruit-drill is gone through in a very pedantic manner, but still very superficially; little attention is paid to the bearing of the individual men, and thus, the regulations are carried out (in company and battalion-drill) in a positively slovenly manner. Very little care is taken that the men stand properly at attention, that the dressing is good, the line well closed up, or even that the men step out with the same foot. It appears to be sufficient that the men be there, and arrive
together, somehow or other. An army accustomed to such a loose system of drill will certainly not show to any great extent the disadvantages it entails, so long as it continues to advance. Still, this system must exercise a very bad influence on discipline and order in action; and whenever a retreat under fire becomes inevitable, it may bring on the most serious consequences. This is the reason why the attempt at a retreat in good order has so often proved dangerous to the French, and why a retreat forced upon them by a solid, well-schooled army will always prove disastrous to them.

After disposing of the drill, General Waldere see gives an epitome of Marshal Bugeaud's principles of fighting (the same which we have in great part translated in preceding numbers of the Volunteer Journal, under the heading, "On the moral elements in fighting"). With these principles he fully coincides, attempting at the same time to prove—and not without success—that most of them are old practical rules, to be found already in the instructions of Frederick the Great. We pass over this, as well as over a lengthy strategical criticism of the campaign in Italy in 1859 (in which not less than eighteen distinct blunders of General Gyulay are shown up), in order to come to the observations on the mode of fighting of the French in that campaign.

The most essential principles of this method are:

1. To act on the offensive whenever this is in any way possible.
2. To treat protracted firing with contempt, and to pass as soon as ever possible to a charge with the bayonet, at the double.
   
This being once known, it has been very generally concluded that the French always and everywhere, with a complete disregard of all tactical forms, had rushed upon the Austrians, and that they had always instantly, and without further ado, run them down or driven them away.
   
But the history of the campaign is there to prove that this was far from being the case. On the contrary, it shows:
   
1. That the French certainly did in most cases, not always, attack their opponents impetuously in double quick time, but that scarcely ever did they conquer them at the first charge. Not only were they generally unsuccessful in this, but in most cases they were defeated with loss in several repeated attacks, so that during action they retreated nearly as often as they advanced.
   
2. That often enough they charged without firing, but, once repelled, they were obliged to carry on the engagement by firing, which firing lasted for some time, though interrupted by repeated bayonet charges. At Magenta and Solferino such firing engagements lasted several hours.

The author now gives, from reports received both from French and Austrian officers, an account of the tactical formations applied by the French during the Italian campaign, by extracts from which we shall conclude this article.

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<sup>A</sup> See this volume, pp. 469-75. — Ed.
Our author, after describing the general character and principles of fighting of the French army, proceeds to give an account of the tactical formations employed by them in the Italian campaign of 1859.

A French army division is composed of two brigades, the first of which has a battalion of chasseurs, and two regiments (of three battalions each) of the line, while the second has only two regiments (or six battalions) of the line. Each battalion has six companies.

In the line of battle, the first brigade forms the first line, the battalions being formed in columns at half distance with full deploying intervals between them, and covered by a line of skirmishers. The second brigade stands in second line, 250 yards to the rear, the battalions equally in columns at half distance, but with only half deploying intervals between them; they are generally placed behind one of the wings of the first line.

The formation of column generally adopted in the Italian war was what the French call column of divisions—two companies with them being called a division. The six companies are ranged two in front, two at half-distance behind them, and again two companies at half-distance behind the second pair of companies. This column may either be formed on the two centre companies or on the two extreme companies of either wing. With the Guards, who were all picked men, it was always formed on the two centre companies, and thereby (same as in the English double column on the two centre sub-divisions) the time both for forming column and for deployment was abridged by one-half; but with the line it was generally formed on the two right companies. The reason was, that by this method the “grenadier” company (No. 1) was placed in the front of the column, while the light or “voltigeur” company (No. 6) came to the rear. Thus these two companies, consisting of picked men, formed, so to speak, a framework in which the less reliable four “centre companies” were encompassed; and, moreover, in case the two rear companies were ordered to extend as skirmishers, the light company was one of them, while the grenadier company, in the front line, remained together unless the whole battalion had to extend.

For an army fighting chiefly, not in line, but by a combination of skirmishes and columns, this formation offers great advantages. One-third of the men (the two front companies) are always in a position to make use of their fire-arms, while at the same time deployment is simple and can be got through very quickly. The great distance between the component parts of the column (half company distance or about 40 yards) tends very much to reduce the ravages which artillery makes in closer columns; and when it is borne in mind that, as a rule, two companies were extended, so that the whole column consisted of two companies in front, and two at 40 yards behind them, it is seen that this formation approaches the line as much as possible; the two rear companies acting rather as a reserve or second line to the two front ones than as that bodily support which is generally supposed to be given by the rear men to the front line in continental columns of attack. Moreover, although deployments into line did now and then occur in the Italian campaign, the ground in Lombardy is such that fighting in line is positively impossible. In these small fields, intersected by hedges, ditches, and stone walls, and covered, besides the corn, with mulberry trees connected one with another by vine branches; in a country where the lanes, running between high walls, are so narrow that two
 carts can scarcely pass each other—in such a country all regular formations often cease so soon as troops advance to close with the enemy. The only thing necessary is to have plenty of skirmishers in front, and to dash with the compact masses on to the most important points. Now, for such a purpose, there could be no better formation than that selected by the French. One-third of the battalion skirmishing—no supports, the column at 100 yards to the rear being support enough—the whole advancing rapidly, the skirmishers, when near enough, clearing the front of the battalion and hovering on its wings; the first line giving a volley and charging; the second, 40 yards to the rear, following as a reserve and keeping as much order as the ground will allow. We must admit that this method seems very well adapted for all purposes of attack in such ground, and will keep the men as much as possible together, and under the control of their officers.

Wherever the ground was open enough to admit of regular movements, the attack was carried out in this way—the skirmishers engaged the enemy until the order was given for the column to advance; the supports—if supports there were—forming on the flanks of the line of skirmishers, and extending themselves to the front of either wing, in order to envelop and give cross-fire to an advancing enemy; when the column came up to the line of skirmishers, the latter crowded in the intervals of battalions, advancing in a line with the head of the column; at twenty yards from the enemy the head of the column fired a volley and charged. When the ground was very thickly covered, as many as three or four companies of a battalion were extended, and cases are reported (at Magenta, the Turcos) where whole battalions extended as skirmishers.

Against an Austrian bayonet attack, a method similar to that prescribed by the British regulations for street firing (battalion drill, section 62) was sometimes employed. The leading companies of the column gave a volley, faced outwards, and filed to the rear, where they re-formed; the succeeding companies did the same, until, after the rear companies had fired their volley and cleared the front, the whole battalion charged the enemy.

In decisive moments, the soldiers were ordered to deposit their knapsacks on the ground, but to provide themselves with some bread and all the ammunition they contained, which they stored away about their persons as best they could. This is the origin of the fable, "That the Zouaves carried their cartridges habitually in their breeches' pockets."

At Magenta, the Zouaves and the 1st Grenadier Guards deployed for a time, and fired by files and by ranks; at Solferino, too, the division of Voltigeurs of the Guards (twelve battalions) deployed in a single line before going into action, but when actually engaged, they seem to have been in the usual column. As both these deployments were made under the immediate command and in the presence of Louis Napoleon, there can scarcely be any doubt that he ordered them from some recollection of English line manoeuvres; but in both cases the predilection of the French officers for their own national mode of fighting and the nature of the ground, appear to have prevailed as soon as the real tug of war came on.

In the attack of a village, several columns, preceded by thick swarms of skirmishers, were launched; the weaker column, destined to attack the front of the position, was held back to the last, while stronger columns turned the flanks of the village. The troops who took the place at once occupied and fortified it, while the reserves pursued the enemy. To defend a village, the French trusted more to the reserves behind it or on its flanks than to a strong garrison in the houses themselves.

With this abstract of the tactical formations of the French army of Italy in 1859, we take leave of Count Waldensee's work.
Although England is far less rough ground for fighting than Lombardy, still her numerous fences, ditches, clusters of trees, and coppices, combined with the undulating nature of the ground, and the deep wooded ravines cut into it, make her a far rougher battle-field than the large uninterrupted plains of Northern France, Belgium, and Germany. If ever a French army should attempt a descent on English soil, there can be little doubt that the formations of its infantry would be very similar to those employed in Italy; and that is the reason why we think these formations not without interest to English volunteers.

Written between the second half of June and the beginning of November 1861

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Signed: *F. E.*
A MILITARY CRITICISM OF THE NEWTON REVIEW

Last year's Newton review\(^a\) was a great success, the greater because beset by difficulties of all kinds. It was the first attempt to bring together the volunteers of Lancashire in a body; the railway arrangements were anything but what they should have been; the ground was in an execrable state; the weather was very bad. In spite of all this, the thing went off uncommonly well, and our volunteers went home, wet, hungry, thirsty, but with the proud consciousness that they had surprised everybody by the cool, steady, and soldierlike manner in which they had gone through their work.

Can as much be said of this year's review? We are afraid it cannot. The railway arrangements were excellent; the ground was in capital order; the weather was fine; the volunteers had gone through another year's drill; and yet, we are sure, most of them went home less satisfied with their day's work and their day's success than last year. Whose fault was that?

When the troops arrived on the ground, the flags marking out the positions of the various brigades were in their places, and generally the battalion aids were at once placed. But a good many of the battalions, especially those which arrived first, were moved about, halted, again moved, and again halted for a long time before they were brought to their proper places. The consequence was that corps which were from half an hour to an hour on the ground before the review commenced, could not find time to pile arms and dismiss their men for even a few minutes to get refreshment. This was certainly not the fault of the commanders of battalions.

\(^a\) August 11, 1860.—*Ed.*
After the general salute, the evolutions commenced. But there were scarcely any evolutions. The first brigade deployed, and went through a series of firings one round by companies from centre to flank, one volley by battalions, three rounds file-firing. In the meantime the second brigade deployed, and after the firing was over, relieved the first line. This was done by both lines forming fours deep, and the fours of the second line passing through the spaces of the first. The regulations themselves characterise this movement as one adapted for _parade purposes_ only, and never to be applied on service (p. 113). Then the second brigade went through the same course of firing, while the third brigade deployed to form a second line, and the first brigade fell back to the rear in column. We noticed that the first brigade was a very long while over this, and only got out of the way when the firing of the second brigade was nearly over. Then the third, and afterwards the fourth brigade advanced and took their turn of firing, after which the whole body formed in mass of columns and marched past.

Thus, it is evident, instead of evolutions, there were but two points in which the volunteers present could show their proficiency—the firing and the marching past. Now, we protest against blank cartridge firing being made a test by which to judge such a body as the volunteers assembled at Newton. There were regiments which have fired immense numbers of blank cartridges, and which, consequently, long ago obtained considerable success in sharp, round volleys. There were others which are quite as well, perhaps better, up in their company and battalion drill and in target practice, but which scarcely ever fired blank cartridge before. And there were a great number of the small country corps, formed into battalions for the occasion, which never had a chance of firing a battalion volley, for the very simple reason that, so far, they have not been able to go even through battalion drill. Volley-firing, as far as it is to be judged by the sound only, and not by the effect, is of all the duties of a soldier by far the easiest; an otherwise steady battalion will learn it in a very short time, and if the great majority of the battalions present gave very bad volleys, indeed, we must say we are more pleased with it than otherwise, inasmuch as it shows that they have not wasted their time with practising an art which they can learn in a week at any time, and which is very apt to be indulged in as a plaything and an advertisement.

The only good point in the programme was that it gave the whole of the infantry present something to do. Otherwise it was
very poor indeed. There was no skirmishing, scarcely any evolutions, and there was a test of efficiency set up which was not only delusive, but positively unfair to the mass of the corps present. As to the gallant cavalry charge which concluded the manoeuvres, we better say nothing of it. The public took it for a capital joke.

In the marching past we noticed again the everlasting weakness of volunteers—the utter disregard to distances. Only one regiment came past with anything like proper distances, and it was not the one which had distinguished itself so much by its volleys. Now, we think that proper distance-keeping is both more difficult and more important, in the present style of volunteer drill, than sharp volleys. Upon the whole, the marching past showed less improvement upon last year than one had a right to expect; but we are bound to say that in this respect the smaller corps from the country had made the greatest progress. This deserves so much the more a public acknowledgment as these small corps have to struggle against the greatest difficulties, are mostly deprived of the assistance of adjutants, and have no higher military authority to go by than their drill-sergeant.

We noticed with regret the progress of the scarlet coat, and even the bear-skin cap, among the Lancashire volunteers; it seems to indicate a hankering after show, which cannot do the movement any good. This is a subject, however, which would bear us too far away from Newton, and we shall, therefore, return to it on some other occasion.

Written between August 3 and 10, 1861

Reproduced from the journal

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Signed: F. E.
VOLUNTEER OFFICERS

"Lieutenant A. B., dishonourably discharged; Second Lieutenant C. D., struck off the list; Captain E. F., dismissed the United States service,"—such are a few specimens of the latest items of military news we receive by wholesale from America.

The United States have had a very large volunteer army in the field for the last eight months; they have spared neither trouble nor expense to make this army efficient; and, moreover, it has had the advantage of being posted, almost all that time, in sight of the outposts of an enemy who never dared to attack it in a mass or pursue it after a defeat. These favourable circumstances ought to make up, to a very large extent, for the disadvantages under which the United States volunteers were organised; for the poor support they got from a very small army of the line, forming their nucleus; and for the want of experienced adjutants and drill instructors. For we must not forget that in America there were many men both fit and ready to assist in the organisation of the volunteers—partly German officers and soldiers who had undergone regular training and seen service in the campaigns of 1848-49, partly English soldiers emigrated during the last ten years.

Now, if under these circumstances a regular weeding of the officers becomes necessary, there must be some weakness inherent, not to the volunteer system in itself, but to the system of officering volunteers by men chosen indiscriminately by themselves from among themselves. It is only after an eight months' campaign in the face of the enemy that the United States Government ventures to call upon volunteer officers to qualify themselves, in some degree, for the duties they undertook to perform when they
accepted their commissions; and see what an amount of voluntary or forced resignations, what a heap of dismissals, more or less dishonourable, is the consequence. No doubt, if the United States army of the Potomac were opposed to a force steadied and kept together by a due proportion of professional soldiers, it would have been dispersed long ago, in spite of its numbers and of the undoubted individual bravery of the men composing it.

These facts may well serve as a lesson to the volunteers of England. Some of our readers may recollect that, from the very starting of the Volunteer Journal, we maintained that the officers were the weak point of the volunteer system, and insisted upon an examination, after a certain time, calling upon the officers to prove that they were at least in a fair way of becoming fit for performing the duties they had undertaken. Most of the gentlemen who had taken upon themselves to command and to instruct men in a line of business of which they were as perfectly ignorant at the time as the men themselves—most of these gentlemen scorned the idea. That was the time when all Government assistance and Government interference were equally scorned. But since then the call upon the pockets of these same gentlemen has been heavy enough to make them apply for pecuniary assistance from Government; and, as Governments run, this means, at the same time, a call for Government interference. Moreover, a two years' experience has brought out pretty plainly the defects of the present system of officering volunteer corps; and we are now informed by a metropolitan commanding officer, and apparently upon authority, that before long the volunteer officers will be called upon to prove their fitness for command before a board of examination.

We heartily wish this to be the case. The fact is, the English volunteer officers, too, do require weeding to a certain extent. Look at a line regiment at drill, and compare it to a volunteer battalion. What it takes the volunteers an hour and a half to go through, the line men go through in less than half an hour. We have seen a deal of square-forming by some of the best volunteer regiments in the country, and we cannot help saying they must be wretched cavalry that would not have cut them up each time before they had their flanks ready for firing. That was not the fault of the men. They appeared to know their duty as well as could be expected, and to do it sometimes even as mechanically as

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a See this volume, pp. 415-16.—Ed.
b Colonel Money.—Ed.
you see in a line regiment. But the men had to wait for the company officers, who appeared to hesitate about the word of command to be given, and about the moment when they ought to give it. Thus, hesitation and sometimes confusion was thrown into a formation which, above all others, requires a promptness, both of command and of execution, imparted by long practice only. Now, if this be the case after two years' practice, is this not a proof that there are plenty of volunteer officers holding responsible situations which they are not fit to hold?

Again, the commanders of battalions have lately received some very high praise from the hands of highly competent authority. It was said that they appeared to be up to their work, while the company officers were not always so. We are not at all inclined, as will have been seen above, to dispute the latter statement; but we must say that if the high authority alluded to had seen the lieutenant-colonels and majors, not at a great review, but at plain battalion drill, the opinion given would probably have been slightly different. At a great review, no field officer in command of a battalion, if not perfectly up to his work, would attempt to act on his own responsibility. He has his adjutant—who knows what he is about—for a prompter; and he is prompted by him accordingly, and goes through his work creditably, while the poor captain has to bungle through his performance without any prompter at all. But look at the same field officer at battalion drill. There he has no vigilant general's eye watching him; there he reigns supreme: and there the adjutant, often enough, has to take the post assigned to him by the Queen's regulations, and must keep his advice to himself until asked for it, or until the mess is complete. This is the place where you see the volunteer field officer in his true light. He is there to instruct his men in battalion drill; but not being himself perfect in that science, he profits of their being there to instruct himself in it. As the old saying goes, docendo discimus. But if the teacher is not well on his legs in the art he has to teach, blunders and confusion are apt to occur, and, unfortunately, do occur often enough. It will not contribute either to the proficiency in drill of a volunteer battalion, or to its confidence in its commander, if the men find out that battalion drill, for them, means nothing but giving their field officer in command an opportunity of learning his drill himself, while they are tossed

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a The reference is probably to General George Wetherall.—Ed.
b Victoria.—Ed.
c We learn by teaching.—Ed.
about here and there, without any purpose even, and expected to rectify, by their superior knowledge, the blunders of their superior officer.

We do not mean to say that commanding officers of volunteers have not put themselves to some trouble to learn their duty; but we do mean to say that if company officers cannot be manufactured out of civilians as easily as private soldiers, field officers are far more difficult to manufacture. We must come to the conclusion, on the mere ground of battalion drill experience, that none but professional soldiers are fit to command battalions. And if we consider that drill is but one part of a field officer's duty, that the commander of a battalion, being liable to be detached for independent duty, where he has to act on his own responsibility, requires a knowledge of higher tactics, we must say that we should be very sorry to see the lives of 600 or 1,000 men entrusted to the guidance of such civilians as now form the great majority of commanders of battalions.

Depend upon it, if the English volunteers ever will have to face an enemy, it will not be under the favourable circumstances which now permit the American Government to clear the ranks of their volunteer officers from the most incapable subjects. If the English volunteers are called out, it will be to fight, not a volunteer army like themselves, but the most highly disciplined and most active army in Europe. The very first engagements will be decisive; and, depend upon it, if any hesitation or confusion arises, either by the wrong commands of the colonels, or by the uncertainty of the captains, that will be taken advantage of at once. There will be no time for weeding when once before the enemy, and therefore we hope it will be done while there is time.

Written in mid-November 1861

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Signed: F. E.
LESSONS OF THE AMERICAN WAR

When, a few weeks back, we drew attention to the process of weeding which had become necessary in the American volunteer army,¹ we were far from exhausting the valuable lessons this war⁴⁶⁹ is continually giving to the volunteers on this side of the Atlantic. We therefore beg leave again to revert to the subject.

The kind of warfare which is now carried on in America is really without precedent. From the Missouri to Chesapeake Bay, a million of men, nearly equally divided into two hostile camps, have now been facing each other for some six months without coming to a single general action. In Missouri, the two armies advance, retire, give battle, advance, and retire again in turns, without any visible result; even now, after seven months of marching and counter-marching, which must have laid the country waste to a fearful degree, things appear as far from any decision as ever. In Kentucky, after a lengthened period of apparent neutrality ᵣ⁷⁰ but real preparation, a similar state of things appears to be impending; in Western Virginia, constant minor actions occur without any apparent result; and on the Potomac, where the greatest masses on both sides are concentrated, almost within sight of each other, neither party cares to attack, proving that, as matters stand, even a victory would be of no use at all. And unless circumstances foreign to this state of things cause a great change, this barren system of warfare may be continued for months to come.

How are we to account for this?

The Americans have, on either side, almost nothing but volunteers. The little nucleus of the former United States' regular

¹ See this volume, pp. 521-24.—Ed.
army has either dissolved, or it is too weak to leaven the enormous mass of raw recruits which have accumulated at the seat of war. To shape all these men into soldiers, there are not even drill-sergeants enough. Teaching, consequently, must go on very slow, and there is really no telling how long it may take until the fine material of men collected on both shores of the Potomac will be fit to be moved about in large masses, and to give or accept battle with its combined forces.

But even if the men could be taught their drill in some reasonable time, there are not officers enough to lead them. Not to speak of the company officers—who necessarily cannot be taken from among civilians—there are not officers enough for commanders of battalions, even if every lieutenant and ensign of the regulars were appointed to such a post. A considerable number of civilian colonels are therefore unavoidable; and nobody who knows our own volunteers will think either M'Clellan or Beauregard over timid if they decline entering upon aggressive action or complicated strategical manœuvres with civilian colonels of six months' standing to execute their orders.

We will suppose, however, that this difficulty was, upon the whole, overcome; that the civilian colonels, with their uniforms, had also acquired the knowledge, experience, and tact required in the performance of their duties—at least, as far as the infantry is concerned. But how will it be for the cavalry? To train a regiment of cavalry, requires more time, and more experience in the training officers, than to get a regiment of infantry into shape. Suppose the men join their corps, all of them, with a sufficient knowledge of horsemanship—that is to say, they can stick on their horses, have command over them, and know how to groom and feed them—this will scarcely shorten the time required for training. Military riding, that control over your horse by which you make him go through all the movements necessary in cavalry evolutions, is a very different thing from the riding commonly practised by civilians. Napoleon's cavalry, which Sir William Napier ("History of the Peninsular War" [Vol. III, p. 272]) considered almost better than the English cavalry of the time, notoriously consisted of the very worst riders that ever graced a saddle; and many of our best cross-country riders found, on entering mounted volunteer corps, that they had a deal to learn yet. We need not be astonished, then, to find that the Americans are very deficient in cavalry, and that what little they have consists of a kind of Cossacks or Indian irregulars (rangers), unfit for a charge in a body.
For artillery, they must be worse off still; and equally so for engineers. Both these are highly scientific arms, and require a long and careful training in both officers and non-commissioned officers, and certainly more training in the men too, than infantry does. Artillery, moreover, is a more complicated arm than even cavalry; you require guns, horses broken in for this kind of driving, and two classes of trained men—gunners and drivers; you require, besides, numerous ammunition-waggon, and large laboratories for the ammunition, forges, workshops, &c.; the whole provided with complicated machinery. The Federals are stated to have, altogether, 600 guns in the field; but how these may be served, we can easily imagine, knowing that it is utterly impossible to turn out 100 complete, well-appointed, and well-served batteries out of nothing in six months.

But suppose, again, that all these difficulties had been overcome, and that the fighting portion of the two hostile sections of Americans was in fair condition for their work, could they move even then? Certainly not. An army must be fed; and a large army in a comparatively thinly-populated country such as Virginia, Kentucky, and Missouri, must be chiefly fed from magazines. Its supply of ammunition has to be replenished; it must be followed by gunsmiths, saddlers, joiners, and other artisans, to keep its fighting tackle in good order. All these requisites shone by their absence in America; they had to be organised out of almost nothing; and we have no evidence whatever to show that even now the commissariat and transport of either army has emerged from babyhood.

America, both North and South, Federal and Confederate, had no military organisation, so to speak. The army of the line was totally inadequate, by its numbers, for service against any respectable enemy; the militia was almost non-existent. The former wars of the Union never put the military strength of the country on its mettle; England, between 1812 and 1814, had not many men to spare, and Mexico defended herself chiefly by the merest rabble. The fact is, from her geographical position, America had no enemies who could anywhere attack her with more than 30,000 or 40,000 regulars at the very worst; and to such numbers the immense extent of the country would soon prove a more formidable obstacle than any troops America could bring against them; while her army was sufficient to form a nucleus for some 100,000 volunteers, and to train them in reasonable time. But when a civil war called forth more than a million of fighting men, the whole system broke down, and
everything had to be begun at the beginning. The results are before us. Two immense, unwieldy bodies of men, each afraid of the other, and almost as afraid of victory as of defeat, are facing each other, trying, at an immense cost, to settle down into something like a regular organisation. The waste of money, frightful as it is, is quite unavoidable, from the total absence of that organised groundwork upon which the structure could have been built. With ignorance and inexperience ruling supreme in every department, how could it be otherwise? On the other hand, the return for the outlay, in efficiency and organisation, is extremely poor; and could that be otherwise?

The British volunteers may thank their stars that they found, on starting, a numerous, well-disciplined, and experienced army to take them under its wings. Allowing for the prejudices inherent to all trades, that army has received and treated them well. It is to be hoped that neither the volunteers nor the public will ever think that the new service can ever supersede, in any degree, the old one. If there are any such, a glance at the state of the two American volunteer armies ought to prove to them their own ignorance and folly. No army newly formed out of civilians can ever subsist in an efficient state unless it is trained and supported by the immense intellectual and material resources which are deposited in the hands of a proportionately strong regular army, and principally by that organisation which forms the chief strength of the regulars. Suppose an invasion to threaten England, and compare what would be then done with what is unavoidably done in America. In England, the War-office, with the assistance of a few more clerks, easily to be found among trained military men, would be up to the transaction of all the additional labour an army of 300,000 volunteers would entail; there are half-pay officers enough to take, say three or four battalions of volunteers each under their special inspection, and, with some effort, every battalion might be provided with a line-officer as adjutant\textsuperscript{473} and one as colonel. Cavalry, of course, could not be improvised; but a resolute reorganisation of the artillery volunteers—with officers and drivers from the Royal Artillery—would help to man many a field-battery. The civil engineers in the country only wait for an opportunity to receive that training in the military side of their profession which would at once turn them into first-rate engineer officers. The commissariat and transport services are organised, and may soon be made to supply the wants of 400,000 men quite as easily as those of 100,000. Nothing would be disorganised, nothing upset; everywhere there would be aid and assistance for
the volunteers, who would nowhere have to grope in the dark; and—barring some of those blunders which England cannot do without when first she plunges into a war—we can see no reason why in six weeks everything should not work pretty smoothly.

Now, look to America, and then say what a regular army is worth to a rising army of volunteers.

Written at the end of November and the beginning of December 1861

Reproduced from the journal

First published in The Volunteer Journal, for Lancashire and Cheshire, No. 66, December 6, 1861

Signed: F. E.
The real opening of the campaign in this war dates from the advance of the Union forces in Kentucky. Not before Missouri and Western Virginia had been finally reconquered did this advance commence. The Secessionist troops held three strong positions—entrenched camps—in the State of Kentucky: Columbus, on the Mississippi, on their left; Bowling Green, in the centre; Mill Springs, on the Cumberland River, on their right. Their line thus extended fully 250 miles as the crow flies. By road, the distance certainly was 300 miles east and west. Such an extended line precluded all possibility of these corps supporting each other, and gave the Federal forces a chance of attacking each of them separately with superior forces. There was no great risk in such a course, as none of the three Secessionist corps were strong enough to advance, even if unopposed, beyond the Ohio River. The great mistake in the Secessionist position was the attempt to occupy everything, and the consequent dissemination of the troops. One strong central entrenched camp, destined to be the prepared battle-field for a decisive action, and held by the main body, would have defended Kentucky far more efficiently; for it must either have attracted the main body of the Federals, or placed them in a disadvantageous position if they attempted to march past it without noticing this strong concentration of troops. As it was, the Federals attempted to attack these three camps one after another, and to manoeuvre their enemy out of them, so as to compel him to fight in the open. This plan was completely in accordance with the rules of military art, and it was executed with a vigour and rapidity which deserves much commendation, as well as the perfect success obtained. Towards the middle of January, a body
of 15,000 Federals moved upon Mill Springs, which was held by about 10,000 Confederates. The Federals manoeuvred so as to make their adversaries believe that but a weak force was in the neighbourhood, and the Confederate general, Zollicoffer, at once took the bait thrown out to him. He marched out of his works, attacked the first Federal body he met, but very soon found that he had to do with a force superior to his own in numbers, and at least its equal in spirit and discipline. He fell, and his troops were as completely routed as the Federals had been at Bull Run. But this time the victory was followed up far differently. The beaten army were pursued very closely until they arrived, broken, demoralised, and deprived of their field artillery and baggage, at their camp of Mill Springs. The camp was constructed on the northern shore of the Cumberland River, so that the troops, in case of another defeat, had no retreat but by a few steamers and boats across the river. We shall find that almost all these Secessionist camps were thus placed on the enemy’s side of a river. Such an encampment is perfectly correct, and of the greatest utility—when there is a bridge. The camp, in that case, serves as a bridge-head, and gives to its occupants the chance of throwing their forces at will on either bank of the river, by which alone they obtain a perfect command over it. But to do the same thing when there is no bridge, is to place your troops in a position where they have no retreat after an unlucky engagement, and when, therefore, they will either have to surrender or to be massacred and drowned, same as the Federals were whom General Stone’s treachery had sent across the Potomac at Balls Bluff.

Accordingly, when the defeated Secessionists reached their camp at Mill Springs, the fact at once became patent to them that unless they could beat off an attack on their entrenchments, they would have to surrender very speedily. After the experience of the morning, they had no longer any confidence in their powers of resistance; and when the Federals, next morning, advanced to attack the entrenched camp, they found that the enemy had taken advantage of the night to cross the river, abandoning camp, baggage, artillery, and stores. Thus the extreme right of the Confederate line was driven back into Tennessee; and Eastern Kentucky, where the population are chiefly Union men, was reconquered for the Union.

About the same time—the second half of January—the preparations for dislodging the Secessionists from Columbus and Bowling Green were commenced. A strong fleet of mortar-boats and iron-clad gunboats had been got ready, and the news was
spread everywhere that they were to accompany the march of a strong army down the Mississippi, from Cairo to Memphis and New Orleans. A ridiculously conspicuous reconnaissance was made towards Columbus. The retreat of this strong body of troops, which did not effect anything, even looked like a serious check to the Union troops. But it seems that all these demonstrations on the Mississippi were mere blinds. When everything was ready, the gunboats were quietly removed into the Ohio, and thence into the Tennessee River, which they steamed up to Fort Henry. This place, together with Fort Donelson, on the Cumberland River, formed a second line of defence of the Secessionists in Tennessee. The position was well chosen; for if they had retreated behind the Cumberland River, this would have covered their front, and the Tennessee River their left flank, while the narrow strip of land between the two would have been sufficiently covered by the two camps just named. But the rapid action of the Federals broke through the second line before even the left and centre of the first was attacked.

In the first week of February, the Federal gunboats appeared before Fort Henry, and shelled it with such effect that it at once surrendered. The garrison escaped to Fort Donelson, the land force of the expedition not being strong enough to invest the place. Then the gunboats steamed down the Tennessee again, up the Ohio, and up the Cumberland, towards Fort Donelson; only one gunboat boldly steamed up the Tennessee, right through the heart of the State of Tennessee, skirting the State of Mississippi, and penetrating as far as Florence, in Northern Alabama, where a series of flats and swamps (the so-called mussel shoals) stop further navigation. The single fact of one gunboat performing this long journey (at least 150 miles) and returning without ever being attacked, proves in itself that there must be, along this river at least, a strongly prevailing Union sentiment, which no doubt will tell very powerfully if the Federals should penetrate so far.

The naval expedition up the Cumberland now concerted its movements with those of the land forces under Generals Halleck and Grant. The Secessionists at Bowling Green were deceived as to the Federal movements, and remained quiet and confident in their camp, while a week after the fall of Fort Henry, Fort Donelson was invested on the land side by 40,000 Federals and menaced on the river by a powerful fleet of gunboats. Same as Mill Springs and Fort Henry, the entrenched camp of Fort Donelson was constructed with its rear to the river and no bridge for a retreat. It was the strongest place the Federals had as yet attacked. The
works were not only constructed with much greater care, but, besides, it was large enough to shelter the 20,000 men which held it. On the first day of the attack, the gunboats silenced the fire of the batteries facing the river and shelled the interior of the works, while the land forces drove in the enemy's outposts and compelled the main body to take shelter close under the guns of their works. On the second day, the gunboats, having suffered severely the day before, appear to have done little work, but the land forces had to fight a long and sometimes severe battle with the columns of the garrison, which tried to break through their right in order to keep open the line of retreat towards Nashville. But a vigorous attack of the Federal right upon the Secessionist left, and strong reinforcements sent to the Federal left, decided the victory in favour of the assailants. Several outworks had been stormed; the garrison, hemmed in within their inner lines of defence, without any chances of retreat, and evidently not in a condition to resist an assault next morning, surrendered on the third day unconditionally. General Floyd escaped on the evening of the second day, it is said, with 5,000 men. It is not quite clear how that was possible; the number is too large to have been stowed away on steamers during the night; but still they may have successively crossed the river, and escaped along its right bank. The whole of the artillery, baggage, and stores, together with 13,300 prisoners, fell into the hands of the Unionists; 1,000 more prisoners were made next day, and on the appearance of the Federal advanced guard, Clarksville, a town higher up the river, surrendered with great quantities of stores, collected there for the Secessionist troops.

Whether Nashville has also fallen, appears very uncertain, and we can scarcely believe it. As it is, these successes of the Federals, in the short space of three weeks, are quite enough for them to be satisfied with. Columbus, the only place the Secessionists now hold in Kentucky, they can continue to hold at very great risks only. If they lose a decisive battle in Tennessee, the garrison of Columbus cannot escape being compelled to surrender, unless the Federals commit very great blunders. And that the Confederates are now compelled to fight a decisive battle in Tennessee, is one of the great results of the Federal victories. They have concentrated, we are told, 65,000 men at and about Nashville; it may be that they have succeeded in collecting even a larger force. But the combined troops of Halleck, Grant, Buell, and Thomas, together with the reserve now hurrying up from the camps of instruction in Kentucky, Ohio, Indiana, and Illinois, will enable the Federals to outnumber them; and with their morale necessarily much raised
above that of their adversaries by the late successes, and with a strong Union party among the population to keep them well informed of the movements of the enemy, we do not see that they have any reason to be afraid of the issue.

Written between March 7 and 14, 1862

First published in *The Volunteer Journal, for Lancashire and Cheshire*, No. 80, March 14, 1862
AN INSPECTION OF ENGLISH VOLUNTEERS

Two years have passed since you permitted me to report in your journal on the review of volunteers in Newton in August 1860. It may be of interest to your readers to learn something further, after such a lapse of time, on the strength and tactical training of the English militia.

On a suitable occasion, perhaps soon, I shall go into the strength and present organisation of the volunteers; I limit myself today to saying that the official effective strength of the volunteer army is 162,800 men, stronger, that is, than ever before, and I proceed at once to describe, by an example, the tactical training of this army.

On August 2 Colonel McMurdo, Inspector General of all volunteers, held a review at Heaton Park, one hour from Manchester, of the contingent raised by that city. The troops consisted of the First, Second and Third Manchester "regiments" (6th, 28th and 40th Lancashire Corps) and the "regiments" raised by the suburbs of Ardwick and Salford (33rd and 56th Lancashire). Only three of these so-called "regiments" (the First and Third Manchester and the Ardwick Corps) were in battalion strength; the other two together made up a battalion; these battalions varied from 18 to 21 squads per company, each battalion was made up of eight companies and was about 400 strong on the average, including officers. Also present were the volunteer cavalry (32 men) and artillery (two amusette one-pounders lent by Mr. Whitworth and about 150 men, constituted as infantry to guard the guns), likewise from Manchester. In most

\[\text{See this volume, pp. 409-16.—Ed.}\]
of the battalions the infantry could have been stronger by 100-150 men, but the commanders seem to have seen to it that the untrained men stayed at home.

The terrain (the southern portion of the park belonging to the Earl of Wilton, where horse races were previously held) is a hilly ridge dropping from west to east; it is bounded by valley bottoms on the right and left which, in front of the eastern foot of the hill, combine to form a flat meadow some 800 paces square. The brook running along the northern foot of the hill, beyond which the land rises again, limited the terrain on that side; in every other direction it was enclosed by the woods up against the park wall. The terrain is quite open in character except for fenced or free-standing shrubbery as well as isolated trees and a swampy place here and there.

Colonel McMurdo's reviews, contrary to most usual reviews of volunteers, are always conducted without a programme prepared in advance and known to the troops; the gentlemen never know in advance what they will be called on to do. Accordingly, the manoeuvres they are ordered to perform are only such as are actually employed in face of the enemy, excluding any kind of tactical sophistication. McMurdo, the son-in-law of Sir Charles Napier, the conqueror of Sind, and his chief of staff in India, is no pedant but a thoroughly practical soldier, and all his actions with the volunteers prove that he is just the man for his present position.

The brigade received the inspector in line, as usual. After the initial formalities, he had quarter-distance columns formed (the usual column in England for manoeuvres of bodies of troops outside the range of enemy fire), then had the ranks closed to centre and the front of the line of the column shifted forward to the right, so that the flat meadow mentioned above and the woods of the eastern wall of the park lay to the front. During these manoeuvres, which were executed rapidly and without disorder, the cavalry deployed in extended formation, went through the woods and opened fire on the supposed enemy, but soon drew back. Now the battalion on the right wing (6th Lancashire) was sent forward, four companies deployed and four in support; the next two battalions (the combined 28th and 56th Lancashire and the 33rd Lancashire) deployed, while the battalion on the left wing (40th Lancashire) remained in column formation and took up a position, along with the cavalry, 200 paces to the rear, as reserve. The two guns were placed on the edge of a hill on the right wing of the line of skirmishers. Until the order to advance
was given, the skirmishers, the supporting troops and the deployed line lay flat on the ground. In this posture the brigade made a genuinely military impression such as one is not accustomed to find in usual volunteer manoeuvres; one could see that a real soldier was in command.

The signal to advance and fire sounded for the line of skirmishers. The combat in loose order was not executed particularly well. The men, accustomed to deploying to a pattern on the open plain of their drill-ground, were much too anxiously concerned with their alignment to think of cover. Natural features and thicket were so much Greek to them. Besides, there were the fenced bushes, which were not to be entered and completely confused the men; one company remained halted before one such thicket in the narrow valley and fired into it with the utmost composure, while the rest of the line had long since gone around and was already beyond it. In addition, the line of skirmishers swung gradually all the way over to the left flank, so that the woods into which the cavalry had charged were attacked very little or not at all and the front of the deployed line was more and more exposed. Since the initial disposition and course of the manoeuvre did not seem in any way to call for this movement, I must presume that it was due to a misunderstanding. The artillery advanced, firing, with the right wing of the skirmishers, laid itself for the most part open; and if my field glasses did not deceive me, the wheels of the gun carriages were often tilted on the slope.

The skirmishers were also reinforced for a moment by deployment of the supporting troops and then called back; the deployed line had gone forward in the meantime and opened fire by squads. The fire of the right wing, especially the 28th Lancashire, was very heavy and almost too fast; in the centre, at the right wing of the 33rd Lancashire, it was sluggish and interrupted by long pauses, and rather irregular on the left wing. Here one part of the line stood just behind an undulation of the ground almost twice the height of a man, but that did not stop them from rattling away at it merrily. Meanwhile, the 40th Lancashire had come up from its position in the reserve to 200 paces behind the line, and deployed; to the right of it, the reasssembled 6th Lancashire spread out. Both let the left-wing sections of the companies swing back to the rear in order to make room for the passage through of the first line, now breaking off by companies in double files and falling back. I must say that I have never been able to take kindly to this manoeuvre prescribed
in the regulations; on this occasion it made a worse impression than ever on me. The regulations prescribe that the first line, as it draws back, wheels about and goes up in line, up to a company in frontage, to the second line, which is likewise deployed; the first line then breaks off by companies and passes through the gaps formed as described above. If the first line is pulling back only because it is out of ammunition, is little unnerved and need not fear any immediate attack, such a manoeuvre can be executed at the double; for an active adversary, however, this would certainly be the moment to send in his main body. Here, however, the thing was not even done according to the regulations. The first line broke off at once in companies and had to retire a full two hundred paces in this formation, which was rather untidily executed into the bargain, without being covered by skirmishers.

The 6th and 40th Lancashire regiments for their part now opened up fire by squads, which was considerably more uniform and better sustained than that of the two other battalions. After perhaps four or five cartridges per man had been shot off—the artillery had kept up a continuous fire from the right wing of whatever unit formed the first line at the time—halt was sounded and this ended the first act of the manoeuvres. So far Colonel McMurdо had handled his brigade as a detached body engaged in independent combat with a supposed enemy; the positions and movements were all related to the opposite terrain held by the enemy. From this point on he drew up the four battalions in a single line, operating as the first line of a larger unit. The limited space no longer made it possible to take the terrain opposite into account, and in order to keep the men together in mass movement, there was no further deployment of skirmishers.

[Allgemeine Militär-Zeitung, No. 45, November 8, 1862]

At the beginning, the first line changed front forward to the left, which brought it into the prolongation of the above-mentioned northern valley. The other battalions deployed to the left of it and the entire line opened fire by squads. It was then extended more and more to the left, while from the right wing on the battalions broke off in companies one after another, marched behind the front to the left wing, and reformed there. After the left wing had in this way been shifted almost to the woods of the western wall of the park, the front was drawn back 90 degrees to
the right, with the left wing as pivot. With the exception of the battalion on the left wing, this manoeuvre was executed, as usual, by assembling the battalions in quarter-distance columns, marching along the line of the new direction and deploying, and was done very quickly and in perfect order, even though on a steep slope. As the battalions deployed again, I went right along the front of the 40th Lancashire Corps and saw each company come up into the line of direction, and I must say that our best-drilled continental troops of the line might have done this more elegantly and “smartly” but certainly not more calmly or quickly. In the course of the manoeuvre Colonel McMurdo expressed his appreciation out loud several times to the battalion. The 6th Lancashire Corps too deployed rapidly and in order; I have seen French troops of the line execute this manoeuvre much more carelessly.

After some squad firing the brigade advanced in echelons from the left flank with 100 paces distance between the battalions, halted and formed a square at the double. This was not executed particularly well since the march through the thickets had separated the men to some extent. The battalions deployed again, advanced into alignment with the battalion on the left wing, each gave a salvo, which by and large was solid enough, and now the entire brigade advanced in a single line. I could wish that some of the officers, so numerous in Germany, who hold that movements in line cannot be executed with young troops, could have seen the frontal march of this line of 640 squads. The terrain was as rugged as one could wish. The front ran across a hilly ridge that fell off rather steeply on three sides, the ground was full of holes and humps, and there were many single trees. None the less the line went forward several hundred paces in perfect order, fairly well aligned, in close order and without deviation, especially the two centre battalions (6th and 40th), and Colonel McMurdo, both on the spot and later to his staff officers, expressed his complete satisfaction with this manoeuvre. Finally he had the attack sounded, and now off they went, as volunteer troops do, running at top speed a hundred paces or so down the slope into the open field, more like a race than an attack. When the halt was sounded, the 40th Lancashire Corps was compact and in order, though poorly aligned, the Sixth not in such good order. On the wings, however, especially the left, things were very disorderly; the men were badly disarrayed, many had fallen, and one man in the front rank was wounded in the calf, since at that point part of the second rank had also fixed bayonets. This ended the
manoeuvres; the troops formed up to defile, defiled and went home.

I believe that an example like this will give the readers of the Allgemeine Militär-Zeitung a much more vivid picture of the character and the degree of training of these volunteers than any doctrinaire discussions. Although the number of troops concentrated there was small, just for that reason it was possible to execute more practical manoeuvres than would otherwise be possible here with larger masses of volunteers; sufficient space for the latter is never to be found here. In addition, the battalions present constituted a very good average sample of the English volunteer corps: two of them, as will have been seen, were considerably more advanced than the other two and represented the consolidated battalions of the larger cities; the other two, which were more backward in their training if only because of their less homogeneous composition, were more representative of the units formed in the country and smaller towns. On the whole it can be said that the volunteers have adequately learned the principal battalion manoeuvres; they form columns and deploy, and they move in columns and in line with sufficient, and occasionally great assurance. On the other hand, it would be well to spare them the artificial marches and counter-marches still contained in the English regulations, as in so many others. Open-order combat, always the weak side of the English, is known to the volunteers only to the extent that it could be taught them on the drill-ground, but in this respect too there are significant differences among the various battalions. The errors that came to light in this inspection do not differ in any way, as we have seen, from the errors seen daily in the training exercises of our continental peacetime armies, even though those armies have the advantage of being led by officers who have grown grey on the field of manoeuvre. In this connection it should not be overlooked that the officers of the English volunteers are still the weak side of the entire corps, although here too considerable improvement can be seen. One who rejoices in the march past will find that the volunteers are further advanced in this art too than he would have expected. Finally, as to their performance on the firing range, they can beyond question bear comparison with any standing army in Europe and certainly have an average of more good shots per battalion than most troops of the line. All in all, the experiment is to be regarded, after three years, as completely successful. Almost without any expense to the Government, England has created an organised army of 163,000 men for the country's defence—an
army that has gone so far in its training that, depending on the varying degree of training of the battalions, it needs only three to six weeks of encampment and exercises to become a thoroughly dependable field force. And in the worst of cases any attempt at invasion would be bound to give the English at least that much time!

Written probably between August 2 and 8, 1862

First published in the *Allgemeine Militär-Zeitung*, Nos. 44 and 45, November 1 and 8, 1862

Signed: F. E.
NOTES
AND
INDEXES
NOTES

1 In April 1857 Charles Dana, one of the founders of The New American Cyclopaedia, invited Marx to contribute to it. On Engels' advice, Marx agreed to write a number of articles, and Engels promised to help him with those on military and military-historical subjects. Subsequently Engels undertook most of these articles so that Marx could complete his economic research. Marx wrote primarily biographical essays on military figures and on politicians, for which Engels also helped him to elucidate the military aspect. Marx's and Engels' work together for the Cyclopaedia, like their joint reporting for the New-York Daily Tribune, is an example of the close collaboration between the founders of scientific communism.

The New American Cyclopaedia was "a popular dictionary of general knowledge" prepared by a group of progressive bourgeois journalists and publishers on the New-York Daily Tribune editorial board and edited by Charles Dana and George Ripley. It was published in 16 volumes by D. Appleton and Company, New York, in 1858-63 and reprinted in 1868 and 1869. A number of prominent US and European scholars wrote for it. Despite the eclecticism typical of this and other bourgeois encyclopaedias, many articles in The New American Cyclopaedia reflected progressive democratic views. Marx and Engels wrote their articles from revolutionary-proletarian, materialist positions notwithstanding the editors' demand not to express their party point of view. But because of this demand Marx limited the range of his subjects mainly to military problems and to the study of different countries, giving up the idea of writing essays on the history of German philosophy, the Napoleonic Code, Chartism, socialism and communism, which he thought it inadmissible to deal with even in a spirit of apparent neutrality. It may have been for this reason also that Marx did not contribute the article "Aesthetics" as originally planned.

The articles in The New American Cyclopaedia were published anonymously, and only volumes II, V and XVI contained lists of the authors of major articles. Marx is also mentioned as the author of the articles "Army", "Artillery", "Bernadotte", "Bolivar", "Cavalry", "Fortification", "Infantry", and "Navy" (actually these articles were written by Engels, except for "Bernadotte" and "Bolivar"). Marx's and Engels' authorship of other articles has been established on the basis of the Marx-Engels correspondence, Charles Dana's letters to Marx, Marx's notebooks, where the dispatch of articles to New York was
entered, and other material (conspectuses, extracts for articles, etc.). In all, the authorship of 81 articles has been established. Some of them may have been abridged by the Cyclopaedia's editors, who in some cases interfered with the text.

Marx and Engels contributed to The New American Cyclopaedia from July 1857 to November 1860, and their articles (those known to us) were published in volumes I-V, VII, IX and XII. They were also included, unchanged, in the 1868-69 edition of the Cyclopaedia but were not reprinted any more during their authors' lifetime. A collection of them was not published until 1933 in the Soviet Union in: Marx and Engels, Works, First Russian Edition, Vol. XI, Part II.

The most complete publication of these articles was in volumes 14 (1959) and 44 (1977) of the Second Russian Edition of the Works of Marx and Engels. However, this publication left out some articles—“Austerlitz”, “Augereau”, and “Badajos”, of which Engels was erroneously regarded as the author. When preparing the Russian edition, the editors established the true authorship of a number of articles wrongly attributed to Marx and Engels by some bibliographers. Thus the articles “Abd-el-Kader” and “Chartism” were written by William Humphrey, “Austerlitz” by Henry W. Herbert, “Epicurus” by Hermann Raster, “Socialism” by Parke Godwin, and “Hegel” by Henry Smith. The article “Aesthetics” could not have been by Marx either, for it conflicts with the views expressed by Marx on the subject in his works.

In the present English edition, the articles by Marx and Engels from The New American Cyclopaedia are published on the basis of research carried out during the preparation of the Second Russian Edition of their Works.

2 “Abensberg” is the first in the provisional list of articles for The New American Cyclopaedia written by Engels overleaf his letter to Marx of May 28, 1857, to be agreed on with Dana with respect to his initial request (see present edition, Vol. 40). Besides this theme Engels listed the following: Aboukir, Axle (artillery), Acre (St. Jean d’Acre, its siege), Actium (battle of), Adjutant, Afghanistan (invasion by English), Åland Isles—see Bomarsund, Albuera (battle of), Aldenhoven, Alessandria (fortress and sieges), Algeria (French conquest of and English bombardment of), Almeida (siege of in Peninsular war), Amusette (artillery), Anglesey (Marquis of), Attack (in battle and siege), Antwerp (fortress and sieges), Approaches, Arbeia (battle of), Arquebus, Aspern and Essling (battle of 1809), Augereau (Marshal), Advanced Guard. In his letter to Marx, July 11, 1857, Engels said that he had begun writing articles according to the list (by that time it had probably been slightly changed) and promised to send him by July 14 the articles “Abensberg”, “Adjutant”, “Alma” and “Ammunition” (the last two were not mentioned in the list), “and more such stuff, thus finishing off the whole of A (except ‘Algeria’ and ‘Afghanistan’) up to Ap and Aq”. On July 14 Marx thanked Engels for the first, and on July 24 for the second, batch of articles he had received. Judging by an entry in Marx’s notebook about the dispatch of the first batch, this material was sent off to New York on July 24. Some articles mentioned in the list (“Axle”, “Approaches”, “Advanced Guard”) were not published in the Cyclopaedia and were probably not written by Engels. There is no indication that Engels wrote the articles “Anglesey” and “Augereau”.

3 The defeat of the Austrian army at Abensberg was an episode in the five-day battle of Regensburg (from April 19 to 23) during the Austro-French war of 1809 (a war waged by France against the fifth European coalition: Austria, Britain,
Portugal and Spain). It was followed by the Austrians' defeat at Landshut on April 21 and at Eckmühl on April 22, and their retreat from Regensburg on April 23 under pressure from French troops. Nevertheless, the Austrian army retained its fighting capacity and put up a stubborn resistance to the French advance on Vienna.

4 Acre was captured by Richard Coeur de Lion in 1191 during the third crusade (1189-92). The crusades were military colonialist expeditions by the big West European feudal lords and Italian trading cities under the religious banner of recovering Jerusalem and other “Holy Lands” from the Mohammedans. Peasants also took part in the crusades, hoping thus to be freed from feudal oppression. History knows eight main crusades (1096-99, 1147-49, 1189-92, 1202-04, 1217-21, 1228-29, 1248-54 and 1270). Not only Mohammedan states in Syria, Palestine, Egypt and Tunisia but also the Christian Byzantine Empire were the objects of the crusaders’ aggressive strivings. The crusaders’ conquests in the Eastern Mediterranean were not lasting, and were recovered by the Mohammedans.

The Knights of St. John (also Hospitallers)—members of a Catholic military order founded by the crusaders in Palestine early in the twelfth century. After the defeat at Acre in 1291 they transferred their seat to Cyprus, then, early in the fourteenth century, to Rhodes and in 1530 to Malta (from that time on it was also called the order of Malta); since the nineteenth century its seat has been in Rome.

5 The abortive siege of Acre by the French (from March 21 to May 20, 1799) was an episode in the Egyptian expedition of the French army and navy under General Bonaparte, started in 1798 with a view to conquering Egypt and Syria from Turkey and preparing a base for a blow against the British possessions in India. Napoleon’s successes in Egypt were reduced to naught by the destruction of the French fleet by the British squadron under Admiral Nelson at Aboukir on August 1, 1798, the victories of the Russo-Austrian forces under Suvorov over the French in Northern Italy, and the successful actions of the Russian squadron under Admiral Ushakov in the Mediterranean. Napoleon returned to France in the autumn of 1799 and the army left in Egypt was forced to capitulate to the British in 1801.

6 A reference to the military clashes between Turkey and the Egyptian ruler Mehemet Ali, who revolted against the Sultan. Syria was seized by Egypt during the Turkish-Egyptian war of 1831-33, but was restored to Turkey with the military support of the European powers during the war of 1839-41.

7 Under the Brundisium agreement concluded by Octavian, Mark Antony and Lepidus in 40 B.C. the Roman state was divided among these triumvirs. Antony received the Eastern provinces, Octavian the Western provinces (together with Illyria), and Lepidus became ruler of Africa (in 36 B.C. he was ousted from power by Octavian). The agreement remained in force until the open conflict between Antony and Octavian in 31 B.C.

8 Engels informed Marx of his intention to write this article (“Airey”) in a letter dated May 28, 1857. The letter contained a list of themes planned for the beginning of their contribution to The New American Cyclopaedia (the theme in question was not in the list). In this letter Engels asked Marx for information about Airey’s military career prior to the Crimean campaign. Marx’s extracts
from several sources have survived, in particular from the Opening Address of Major-General Sir Richard Airey, K.C.B., Quartermaster-General of the Forces. Before the Board of General Officers Assembled at the Royal Hospital, Chelsea, London, 1856, which were used in this article.

Marx may have put the finishing touches to the text sent to New York, and the article can be regarded as written jointly by Marx and Engels. But it is also possible that Engels himself used the extracts made for him by Marx.

p. 7

9 Under the Frederikshamm Peace Treaty of September 1809, which concluded the Russo-Swedish war of 1808-09, Sweden ceded Finland and the Åland Islands to Russia.

p. 9

10 The battle of Bomarsund in August 1854, during the Crimean war, is described by Engels in two articles in the New-York Daily Tribune (see present edition, Vol. 13, pp. 379-88) and in an item in The New American Cyclopaedia (see this volume, p. 287).

p. 9

11 A reference to the battle of Hangut, a peninsula at the exit of the Gulf of Finland, which took place on July 25-27, 1714, between the Russian and Swedish fleets during the Northern war (1700-21). The battle ended in a victory for the Russians.

p. 9

12 During the Peninsular war between Britain and Napoleonic France (1808-14), the fortress of Badajos (Southwestern Spain) was three times besieged by the Anglo-Spanish-Portuguese allied army under Wellington. Alongside the regular hostilities, the Spanish and Portuguese peoples waged a national liberation war against the French invaders. Captured by the French in March 1811, Badajos was besieged by the allies on May 4. The siege lasted 10 days and was raised in view of Soult's approaching army. At the end of this article Engels says that the siege of Badajos was raised a few days after the battle of Albuera (May 16, 1811), an inaccuracy which was revealed after publication of the article and which is explained (see Engels' letter to Marx of February 18, 1858) by a mistake in one of the sources used by Engels. On May 25, following the victory at Albuera, the allies resumed the siege but on June 17 they lifted it because of the approaching French reserves. The allies laid siege to Badajos for a third time on March 16, 1812 and took it on April 6 after successfully storming it.

p. 10

13 The battle of Neerwinden (Belgium) on March 18, 1793 was fought between the French army and an Austrian force advancing after the victory at Aldenhoven during the war of revolutionary France against the anti-French European coalition (Austria, Prussia, Britain and others). It ended in a victory for the Austrians.

p. 12

14 Engels' letter to Marx of May 28, 1857 shows that in this article he also intended to describe the battle of Aldenhoven of October 2, 1794, in which the French defeated the Austrians. Either Engels did not do so or the editors of the Cyclopaedia abridged the text.

p. 12

15 The New American Cyclopaedia has two items under this title. The first item reads as follows: "ALESSANDRIA. I. A division of Piedmont, containing about 550,000 inhabitants, growing maize, wine, silk, madder, and flax."
Item II is by Engels (who in his letter to Marx of May 28, 1857 said that he was going to write about fortresses and sieges) and is the one reproduced in this volume. p. 13

The unsuccessful siege of Alessandria by the French in 1657 was an episode in the Franco-Spanish war of 1635-59. Northern Italy, the greater part of which (the Duchy of Milan) had fallen into the hands of the King of Spain by 1635, was one of its theatres.

The seizure of Alessandria by Prince Eugene of Savoy in October 1706 was a military operation by the allied Austrian and Savoy troops against the French in the War of the Spanish Succession (1701-14) caused by the struggle for the division of the then decaying feudal Spain’s European and colonial possessions, and by the naval and colonial rivalry between Britain and France. France and Spain, whose crown passed to Philip Bourbon, grandson of Louis XIV, after the extinction of the male line of the Spanish Habsburgs, were opposed by a coalition of Britain, the Austrian Habsburgs (to which dynasty the Emperor of Germany also belonged), the Netherlands, the Duchy of Savoy, Portugal, Prussia and other German states. As a result of the war the Spanish possessions in Northern Italy passed to the Austrian Habsburgs while the fortress of Alessandria was ceded to the Duchy of Savoy. p. 13

Annexed to France in September 1802 Piedmont was ruled, together with Genoa annexed in 1805, by a French military governor. In 1814 the independence of Piedmont was restored under the rule of the Savoy dynasty. The territory of the former Genoese Republic was united to it by decision of the Vienna Congress of 1815. p. 13

“Alma” did not figure in the provisional list of articles for The New American Cyclopaedia contained in Engels’ letter to Marx of May 28, 1857. But on July 11, 1857 Engels wrote to Marx that in a few days he was going to send him an item on this subject, together with other articles under A. Marx apparently sent it to New York with the first batch of articles on July 24, 1857. Charles Dana acknowledged receipt in a letter of September 2, 1857. p. 14

There are three items bearing this title in The New American Cyclopaedia: “ALMEIDA. I. A town of Portugal”, “II. A seaport town of Brazil” and “ALMEIDA, Francisco de, the first Portuguese viceroy of India”. The provisional list of articles in Engels’ letter to Marx of May 28, 1857, contains the note: “Almeida (siege of in Peninsular war)”, which provides grounds for regarding Engels as the author of the first item. The battle mentioned in it was fought during the Peninsular war of 1808-14 (see Note 12). p. 19

The events mentioned in the text belong to the period of the bourgeois revolution in the Netherlands (1566-1609), in which the struggle of the bourgeoisie and the masses against the feudal system was linked with the war of national liberation against absolutist Spain which had subjugated the Netherlands (now Belgium and Holland) in the sixteenth century. In the course of the war with Spain, the Northern Provinces formed the Dutch Republic (the United Provinces of the Netherlands) and won independence, while the Southern Netherlands remained under the Spaniards. In 1576 Antwerp was burned down by the Spaniards, the following year it was recaptured by the insurgents, and in 1579 it joined the anti-Spanish United Northern Provinces. However, in 1585 it was retaken by the Spaniards. p. 21
In the autumn of 1832 the Anglo-French fleet blockaded the Dutch ports, and the French army laid siege to the fortress of Antwerp to force Holland to fulfil the terms of the London Treaty of 1831. The treaty provided for recognition of the independence of Belgium which had separated from the Kingdom of the Netherlands as a result of the bourgeois revolution of 1830, and for the transfer of Antwerp to the Belgians. The fortress capitulated in late December 1832.

Evidence indicates that the articles “Arbela”, “Arquebuse”, “Aspern” and “Attack” belong to the second batch of articles beginning with A (according to the provisional list in Engels' letter to Marx of May 28, 1857), which he forwarded to Marx immediately after the first batch “up to Ap and Aq” received by Marx on July 14, 1857. On July 24 Marx wrote to Engels that he had received the new material, and judging by an entry in his notebook, he dispatched it, together with the first batch of articles, to New York.

Among the preparatory materials collected by Engels for the article “Army” there is an extract from the article “Arbela”, published in the third volume of The Encyclopaedia Britannica (Edinburgh, 1853), which he probably used when writing this article.

The battle of Arbela on October 1, 331 B.C. completed the military rout of the Persia of the Achaemenids and the conquest of its territories by Alexander of Macedon. It was preceded by two big battles between the Macedonian and Persian armies: in May 334 B.C. on the Granicus river (Northwestern Asia Minor) and in November 333 B.C. at Issus (a town in Cilicia on the road from Asia Minor to Syria). These battles were won by the Macedonians.

The battle of Bosworth (Leicestershire, England) on August 22, 1485 was fought between the soldiers of Henry Tudor, distant relative of the House of Lancaster, and the army of Richard III, of the House of York. Richard III was defeated and killed and Henry Tudor was proclaimed King Henry VII. This battle ended the War of the Roses (1455-85) between the House of York, whose emblem was a white rose, and the Lancastrians with a red rose as their emblem.

The battle of Agincourt (Azincourt) on October 25, 1415 was fought during the Hundred Years' War, a series of wars between England and France lasting from 1337 to 1453, and ended in a victory for the English. The cause of the war was the struggle of the two countries over the possession of the commercial and industrial towns of Flanders, the main consumer of English wool, and the English kings' claims to the French throne. In the first period of the war the English managed to seize a considerable part of Southwestern France, but during the 1360s and 1370s almost the whole of this territory was liberated. In 1415 the English feudal lords resumed hostilities and soon seized all of Northern France, including Paris. However, as a result of a popular war against the foreign invaders, the English were driven out of the whole of France with the exception of Calais.

The battle of Pavia (Northern Italy) took place on February 24, 1525 between the armies of Francis I of France, then an ally of Henry VIII of England, and of Charles V (Emperor of Germany and King of Spain). The French were defeated and Francis I himself taken prisoner. The battle was one of the major events in the Italian wars waged (with intervals) from 1494 to 1559 between France, on the one hand, and Spain and the German (Holy Roman) Empire, on
the other, over the possession of Italy. As a result of these wars France was forced to give up its claims to Italy, the greater part of which fell into the hands of the Spanish Habsburgs.

27 The English civil wars during the bourgeois revolution of the mid-seventeenth century were waged between the Royalists, who strove to restore the absolute power of Charles I, and the Parliamentarians. At the beginning of the first civil war (1642-46) the Parliamentary army, whose leaders favoured compromise with the Royalists, suffered defeats. But after the reorganisation of the armed forces by Oliver Cromwell, and thanks to the activity of the masses, there was a turn in the war and the King was defeated. In the spring of 1648 a second civil war broke out following Royalist revolts and the actions in support of Charles I by the Scottish feudal aristocracy. It ended in August 1648 with new victories by the revolutionary army. In 1649 Charles I was beheaded, and a republic was established in England.

28 Engels refers here to the campaign against Austria during the war of Napoleonic France against the fifth anti-French coalition (Britain, Austria, Spain and Portugal) in 1809.

The grand army (grande armée)—the name given in 1805 to the group of the armed forces of the French Empire operating in the main theatres of the Napoleonic wars. Besides French troops, it included contingents from various countries conquered by Napoleon (Italy, Holland, the German states and Poland).

29 On the five-day battle of Regensburg (Bavaria), April 19-23, 1809 see Note 3.

30 In the battle at Waterloo (Belgium) on June 18, 1815 Napoleon's army was routed by the Anglo-Dutch and Prussian armies under Wellington and Blücher, and this decided the final victory of the seventh anti-French coalition (Britain, Russia, Austria, Prussia, Sweden, Spain and other states). Victory was ensured by the endurance of the British infantrymen who rebuffed the numerous attacks of the French, and by Blücher's army which came in time to the aid of the Anglo-Dutch forces.

31 A reference to the battle of Leipzig on October 16-19, 1813 between the armies of the sixth European coalition (Russia, Austria, Prussia, Britain, Sweden, Spain and other states) and of Napoleonic France. This "battle of the nations" ended in victory for the anti-French coalition and led to Germany's liberation from Napoleon's rule.

32 This refers to the continued hostilities between the armies of the sixth European coalition (Russia, Austria, Prussia, Britain, Sweden, Spain and other states) and of Napoleonic France on French territory from the beginning of 1814. Despite a series of defeats, the allies occupied Paris at the end of March 1814, and Napoleon abdicated and was exiled to Elba. His restoration to power in March 1815 led to the formation of the seventh anti-French coalition. There followed his defeat at Waterloo (see Note 30), his second abdication (on June 22, 1815) and his exile to St. Helena.

33 Engels mentions the major battles fought during the Greco-Persian wars (500-449 B.C.) in which the Greek city-states managed to uphold their independence and to repulse the Persian state which had undertaken a number
of predatory campaigns in the Balkans. Under the peace treaty of 449 B.C. the King of Persia was compelled to give up his claims to the territories in the Aegean Sea and to recognise the independence of the Greek cities in Asia Minor which had been conquered by the Persians.

At the battle of Marathon (a plain in Attica), September 490 B.C., the army of the Athenians and Plataeans under Miltiades defeated the Persians.

In July 480 B.C. a small allied army of Greeks under Leonidas, King of Sparta, blocked the way to Central Greece, through the Pass of Thermopylae, for the many-thousand-strong Persian army under Xerxes. However, the Persians managed to outflank the Greeks. Leonidas withdrew his main forces, but three hundred Spartans headed by him continued to defend the passage and fell heroically in an unequal battle.

At the battle of Plataea (Central Greece) in the autumn of 479 B.C., the united Greek army under the Spartan Pausanias and the Athenian Aristides defeated the Persians.

34 At the battle of Crécy on August 26, 1346 and that of Poitiers on September 19, 1356, the English, using a combination of knights and archers, defeated the French army whose main force consisted of cavalry. These battles, like that of Agincourt (see Note 25), were fought during the Hundred Years' War (1337-1453) between England and France.

35 In 1812 the English ruling classes began a war against the USA with a view to restoring their domination in North America, lost as a result of the eighteenth-century American bourgeois revolution. At first the war favoured the English but in 1813 the Americans managed to drive them out of the state of Michigan, bordering on Canada. Though the English temporarily seized Washington in 1814, they suffered considerable losses, owing to the successful actions of the American fleet, and were forced to conclude a peace treaty in Ghent in December 1814 on the basis of recognition of the status quo ante bellum. Military operations ceased in January 1815.

36 On August 2, 216 B.C., at Cannae (Southeastern Italy), the Carthaginian general Hannibal defeated the Romans. This major battle of the Second Punic war between Rome and Carthage (218-01 B.C.) is described in detail by Engels in his article "Cavalry" (see this volume, p. 296).

37 The battle of Leuctra (Boeotia) between the Theban and Spartan armies was fought in 371 B.C., during the Boeotian war (378-362 B.C.). In this war Thebes, where democratic elements had come to power, opposed the supremacy of oligarchic Sparta in Greece. The defeat at Leuctra undermined Sparta's might and led to the decline of the Peloponnesian Alliance headed by it.

At Mantinea (Peloponnesus) the Thebans and their allies under Epaminondas defeated the Spartan army in 362 B.C. But the Thebans' heavy losses and the death of their general prevented them from consolidating their success. Thus Thebes failed to maintain its supremacy in Greece.

38 At the battle of Fontenoy (Belgium) on May 11, 1745, during the War of the Austrian Succession (1740-48), the French army under Maurice of Saxony defeated the allied Anglo-Hanoverian, Dutch and Austrian armies. The war was caused by the claims of some European states, primarily Prussia, to the Austrian Habsburgs' possessions which, after the death of Charles VI, passed to his daughter Maria Theresa, there being no male heir. Prussia's allies were
France, Bavaria (until 1742) and Saxony. England, which strove to weaken France—its commercial and colonial rival—fought on the side of Austria, also supported by the Netherlands, Sardinia and Russia. As a result of the war, Prussia seized and annexed Silesia, but the rest of the Habsburgs' possessions remained in the hands of Maria Theresa.

*Chippewa* was the site of a battle (July 5, 1814) won by the Americans during the 1812-14 war between England and the United States. p. 37

On August 11, 1857 Marx made in his notebook the following entry concerning the dispatch of this item to New York: “Cyclopaedia. Afghanistan. Abatis.” This item seems to belong to the “militaria” which Engels (at the time undergoing medical treatment at Liverpool) had promised Marx, in a letter dated July 30, 1857, he would send him as soon as possible (see present edition, Vol. 40). Charles Dana acknowledged receipt of the item in a letter to Marx of September 2, 1857. p. 39

That Engels wanted to write an article on Afghanistan (with emphasis on the Anglo-Afghan war of 1838-42) is evident from the fact that he included this topic in the provisional list of articles for *The New American Cyclopaedia* in his letter to Marx of May 28, 1857. On July 11, 1857, however, Engels informed Marx that the article would not be ready by July 14, as agreed. The work on it apparently took longer than expected. Marx had received it by August 11 and, as can be seen from the entry in his notebook for this date, sent it off to New York. In a letter to Marx of September 2, 1857 Charles Dana acknowledged receipt of “Invasion of Afghanistan”.


Engels uses the term “clan”, widespread in Western Europe, to designate *heli* (tribal groups) into which Afghan tribes were divided. p. 41

*Soonees* (Sunnites) and *Sheeahs* (Shiites)—members of the two main Mohammedan sects which appeared in the seventh century as the result of conflicts between the successors of Mohammed, founder of Islam. p. 42

The Moguls—invaders of Turkish descent, who came to India from the east of Central Asia in the early sixteenth century and in 1526 founded the Empire of the Great Moguls (named after the ruling dynasty of the Empire) in Northern India. Contemporaries regarded them as the direct descendants of the Mongol warriors of Genghis Khan, hence the name “Moguls”. In the mid-seventeenth century the Mogul Empire included most of India and part of Afghanistan. Later on, however, the Empire began to decline due to peasant rebellions, the growing resistance of the Indian people to the Mohammedan conquerors, and increasing separatist tendencies. In the early half of the eighteenth century the Empire of the Great Moguls virtually ceased to exist. p. 42

The Mahrattas (Marathas)—an ethnic group who lived in Northwestern Deccan. In the mid-seventeenth century they began an armed struggle against the Empire of the Great Moguls, thus contributing to its decline. In the course of the struggle the Mahrattas formed an independent state of their own, whose rulers soon embarked on wars of conquest. At the close of the seventeenth century their state was weakened by internal feudal strife, but early in the eighteenth century a powerful confederation of Mahratta principalities was formed under a supreme governor, the peshwa. In 1761 they suffered a crushing defeat at the hands of the Afghans in the struggle for supremacy in
India. Weakened by this struggle and internal feudal strife, the Mahratta principalities fell a prey to the East India Company and were subjugated by it as a result of the Anglo-Mahratta war of 1803-05.

45 The Sikhs—a religious sect which appeared in the Punjab (Northwestern India) in the sixteenth century. Their belief in equality became the ideology of the peasants and lower urban strata in their struggle against the Empire of the Great Moguls and the Afghan invaders at the end of the seventeenth century. Subsequently a local aristocracy emerged among the Sikhs and its representatives headed the Sikh principalities. In the early nineteenth century these principalities united under Ranjit Singh whose Sikh state included the Punjab and some neighbouring regions. The British authorities in India provoked an armed conflict with the Sikhs in 1845 and in 1846 succeeded in turning the Sikh state into a vassal. The Sikhs revolted in 1848, but were subjugated in 1849.

46 The siege of Herat by the Persians lasted from November 1837 to August 1838. Intent on increasing Britain's influence in Afghanistan and weakening Russia's in Persia, the British Government declared the Shah's actions to be hostile to Britain and demanded that he should lift the siege. Threatening him with war, it sent a squadron into the Persian Gulf in 1838. The Shah was forced to submit and to agree to a one-sided trade treaty with Britain. Marx described the siege of Herat in his article "The War against Persia" (see present edition, Vol. 15).

47 During the Anglo-Afghan war the East India Company resorted to threats and violence to obtain the consent of the feudal rulers of Sind, a region in the northwest of India (now in Pakistan) bordering on Afghanistan, to the passage of British troops across their territory. Taking advantage of this, the British demanded in 1843 that the local feudal princes proclaim themselves vassals of the Company. After crushing the rebel Baluchi tribes (natives of Sind), they declared the annexation of the entire region to British India.

48 Sepoys—mercenary troops in the British-Indian army recruited from the Indian population and serving under British officers. They were used by the British to subjugate India and to fight the wars of conquest against Afghanistan, Burma and other neighbouring states. However, the Sepoys shared the general discontent of the Indian people with the colonial regime and took part in the national liberation insurrection in India in 1857-59.

49 This is one of a number of articles beginning with B for which Marx received a request in the summer of 1857. He forwarded this request to Engels in his letter of August 26, 1857 (see present edition, Vol. 40). The list of articles asked for by Charles Dana has not survived, but later, in connection with an additional request from New York for articles beginning with B, Marx repeated it in his letter to Engels of February 1, 1858, reminding him of the work already done. The list included: "Barbette", "Bastion", "Bayonet", "Barclay de Tolly", "Battery", "Battle", "Bem", "Bennigsen", "Berthier", "Bernadotte", "Bessières", "Bivouac", "Blindage", "Blücher", "Blum", "Bolivar y Ponte", "Bomb", "Bombardier", "Bombardment", "Bomb (-ketch, -proof, -vessel)", "Bonnet", "Bosquet", "Bourrienne", "Bridge (pontoon)", "Brown (Sir George)", "Brune", and "Bugeaud". There is also a list of articles beginning with B (with some of the items crossed out) at the end of Marx's notebook for 1857.
In his letter of August 26, 1857 Marx asked Engels to send articles for the *Cyclopaedia* as soon as possible. By September 15 he had received three articles which, together with the articles “Barclay de Tolly” and “Berthier”, he dispatched to New York on that day, as seen from his notebook entry for September 15: “Barclay. Berthier. Bayonet. Barbet. Bastion für die Cyclopaedia”. On the same day Marx wrote to Engels that besides these articles he had forwarded to Dana the articles “Blum” and “Bourrienne”, but according to his notebook they were dispatched to New York a week later, with other material.

50 Engels’ letter to Marx of September 10, 1857 and his biographical sketches of Bennigsen and Barclay enclosed in it show that the article “Barclay de Tolly” was a joint work of Marx and Engels, though the final editing was done by Marx. Besides reference books the authors used the following sources when writing this article: Martens’ collected treaties and conventions, A. H. Jomini’s *Vie politique et militaire de Napoléon* (Vol. 4, Paris, 1827) and Th. von Bernhardi’s *Denkwürdigkeiten aus dem Leben des ... Grafen von Toll* (Vol. 2, Leipzig, 1856). In these books Russia’s Patriotic War of 1812 against Napoleon’s invasion is described tendentiously, which was bound to tell on the elucidation of some of its aspects in the articles written by Marx and Engels, who did not have more objective sources to hand at the time. This article, for example, contains inaccuracies in explaining why Mikhail Kutuzov was appointed commander-in-chief of the Russian army and why he abandoned the position at Gzhatsk (more precisely at Tsarevo-Zaimische). His role in subsequent Russian military operations is also presented inaccurately. Barclay de Tolly is wrongly opposed to Kutuzov, for the former, though an outstanding Russian military leader and patriot, was far inferior to Kutuzov as regards strategic talent, the understanding of the character of the war, military experience and popularity among the army and the people. These were precisely the reasons why Kutuzov was appointed commander-in-chief under pressure from public opinion and despite Alexander I’s dislike for him.

On this article’s dispatch to New York see the previous note. p. 50

51 A reference to the *battle of Preussisch-Eylau* (East Prussia) on February 7-8, 1807 between the French and the Russian army (which also included Prussian units) during the war of the fourth coalition (Britain, Russia, Prussia and Sweden) against France. After the defeat of the Prussian army by Napoleon in 1806 the main theatre of war shifted to East Prussia, where Napoleon came up against stubborn resistance from the allied army of Russia and Prussia. This battle was indecisive (see also Marx and Engels’ article “Bennigsen”, this volume, pp. 77-78). p. 50

52 In March 1809 (during the Russo-Swedish war of 1808-09), Russian forces under Barclay de Tolly entered Swedish territory from Finland. This accelerated the carrying out of the Swedish aristocracy’s plot against Gustavus Adolphus to limit the King’s power in favour of the aristocratic oligarchy. In March 1809 Gustavus Adolphus was deposed and soon after his uncle, the Duke of Zudermanland, was proclaimed king under the name of Charles XIII. In September Sweden was compelled to sign the Frederickshamn Peace Treaty with Tsarist Russia (see Note 9).

A similar operation had earlier been undertaken by the Swedes themselves during the Danish-Swedish war of 1657-58: in January 1658, the Swedish army under Charles X invaded Denmark across the ice-bound straits of the Little and
the Great Belt and forced it to conclude a peace treaty advantageous to Sweden.

53 According to Phull's plan, if Napoleon invaded Russia, the Russian armed forces were to be divided into three armies. One army was to repulse the enemy's main blow relying on an entrenched camp in Drissa built for the purpose in 1811-12, while the other two armies (protecting the southwestern frontier) were to manoeuvre on the enemy flanks and in his rear. This plan scattered the Russian forces and doomed them to piecemeal defeat by the superior enemy forces. However, the Russian command, including Barclay de Tolly, adopted a timely decision to leave the Drissa camp and withdraw to the interior so as to unite their armies.

54 The battle of Smolensk between Napoleon's army and the Russian troops covering the withdrawal of the main forces of Bagration's and Barclay de Tolly's armies, which had united on August 3, 1812, took place on August 16-18, 1812. At the cost of heavy losses Napoleon captured the city which had been abandoned by the Russian rearguard after the withdrawal of the main Russian forces.

55 Russian troops reached Tsarevo-Zaimischche (southwest of Gzhatsk) on August 29, 1812. This position was abandoned by the Russian army by decision of Kutuzov who had been appointed commander-in-chief shortly before. He intended to give decisive battle to the French when there was a more favourable alignment of forces, for which it was necessary to win time and bring up reinforcements. The Russians therefore retreated to Borodino, which on September 7 became the scene of a great battle, which was to bring about a turn of the tide in Russia's favour in the Patriotic War of 1812, despite the forced but expedient abandonment of Moscow.

56 Marx and Engels mention a number of battles between the armies of the sixth European coalition (Britain, Russia, Austria, Prussia, Sweden, Spain and other states) and Napoleonic France.

The siege of Thorn (Toruń), a Polish fortress on the Vistula held by a French garrison, was begun by the Russians under Barclay de Tolly in the middle of February 1813. On April 16 the fortress ceased resistance and on April 18 an agreement was signed on its capitulation and transfer to Prussia, Russia's ally.

At the battle of Königswartha (Saxony) on May 19, 1813 the allied Russo-Prussian forces under Barclay de Tolly defeated the French. Lauriston's Corps suffered most.

At the battle of Bautzen (Saxony) on May 20-21, 1813 Napoleon's army won a victory over the allied Russo-Prussian forces, who, however, withdrew in perfect order, covered by the Russian rearguard under Barclay de Tolly. The following day a rearguard battle took place at Görlitz between the French and the Russians retreating from Bautzen, who emerged victorious.

On August 30, 1813, as a result of the battle at Kulm (Khlúmeč, Bohemia) between the Austro-Prusso-Russian forces under Barclay de Tolly and the French army, Vandamme's Corps was cut off from the main body and was forced to capitulate.

At the battle of Leipzig on October 16-19, 1813 (see Note 31), Barclay de Tolly commanded the central group of the allied forces.

57 See Note 30.
At the battle of the Speyerbach (Palatinate) on November 15, 1703 the French army won a victory over the German imperial army, the outcome being decided by a French bayonet attack. The battle took place during the War of the Spanish Succession (see Note 16) which was fought in Italy, Spain, Western and Southwestern Germany, and in the Netherlands.  

When writing the article "Berthier" Marx used information on his life and military activity contained in Engels' letter of September 11 or 12, 1857.

The American War of Independence (1775-83)—a revolutionary war fought by 13 British colonies in North America. As a result of their victory an independent state was formed, the United States of America. France fought on the side of the Americans.

On October 5 and 6, 1789, during the French Revolution, the masses who had come to Versailles from Paris clashed with the King's guard and forced Louis XVI to return to Paris, thus thwarting a counter-revolutionary plot prepared by the Court against the Constituent Assembly.

On February 19, 1791 Paris was the scene of popular unrest caused by an attempt of the King's female relatives to flee abroad.

Vendée—a department in Western France; during the French Revolution of 1789-94 the centre of a royalist revolt raised in March 1793 in which the local peasant masses took part. In June 1793 the Vendeans besieged and captured the town of Saumur from the republican forces, but later sustained a number of defeats. The revolt was suppressed in 1795 but attempts to revive it were made in 1799 and later.

The 9th Thermidor (July 27, 1794)—a coup d'état which led to the overthrow of the Jacobin revolutionary government.

After the 9th Thermidor Kellermann commanded the Alpine and Italian armies of the French Republic which were to defend the southern borders, including the passes over the Alps, against Austrian and Piedmontese troops threatening invasion.

Marx lists a number of battles of the 1796-97 campaign in which the French army under General Bonaparte routed the allied Austrian and Piedmontese (Sardinian) armies in Northern Italy. At the battle of Mondevi Bonaparte's army defeated the Piedmontese troops, forcing the King of Piedmont to conclude a separate peace treaty with France. The Austrians' defeat at Lodi led to Bonaparte's capture of Milan. The battle of Rivoli (January 14-15, 1797), also won by Bonaparte, finally determined the outcome of the entire campaign in favour of France. The conclusion of a peace treaty between France and Austria in October 1797 completed the collapse of the first anti-French coalition (1792-97).

Under the pretext of helping the Italian republicans, Bonaparte sought to establish French rule in Italy by setting up "daughter" republics. In March 1798 a Roman Republic was proclaimed, with the help of the French forces, and Pius VI fled. But in 1799, following the invasion of Italy by the armies of the second anti-French coalition, the Italian republics were abolished and the Pope's power restored in the Roman Papal States. With the restoration of French rule in Italy Napoleon incorporated the Papal States into the French
Empire in 1809, having previously united part of their territory to the vassal Kingdom of Italy.  

See Note 5.

The 18th and 19th Brumaire (November 9-10, 1799)—a coup d'état which led to the establishment of the military dictatorship of Napoleon Bonaparte, who was proclaimed Emperor of the French in 1804.

At the battle of Marengo (Northern Italy) on June 14, 1800 the army of Napoleon, who had received incorrect information on the disposition of the Austrian forces, was unexpectedly attacked by the Austrians who were nevertheless defeated. The French victory at Marengo and successful operations on the other fronts led to the collapse of the second anti-French coalition, formed at the end of 1798 by Britain, Austria, Russia, Spain, Naples and Turkey. As a result Napoleon's rule was consolidated.

See Note 28.

On October 17, 1805, during the war of the third European coalition (Britain, Austria, Russia and the Kingdom of Naples) against Napoleonic France, the Austrian army under General Mack, surrounded by the French near Ulm, was compelled to capitulate.

Berthier was given the title of Prince of Wagram in honour of the victory of Napoleon's army over the Austrians at Wagram on July 5-6, 1809, during the war against the fifth coalition (Austria, Britain, Spain and Portugal). After this defeat the Austrians were forced to accept a harsh peace treaty with Napoleon in October 1809.

A reference to the provisional government under Talleyrand set up by the Senate in April 1814, after the defeat of Napoleon's army and the entry of the Allies into Paris. It promoted the restoration of the Bourbons.

As can be seen from the list contained in Engels' letter to Marx of May 28, 1857, Engels intended to write the article “Algeria” together with the first batch of articles beginning with A. But by the middle of July 1857 it was not ready, perhaps not even begun (see Engels' letter to Marx of July 11, 1857). Engels finished it only by the middle of September. On September 18 Marx made an entry in his notebook on the dispatch of “Algiers, Ammunition” to New York, and also informed Engels of this on September 21.

The editors of The New American Cyclopaedia made some changes in the article. As Engels' letter to Marx of September 22, 1857 shows, the no longer extant original text contained an account of the war of liberation of the Algerian people under Abd-el-Kader (see Note 80) and a characterisation of Marshal Bugeaud's colonialist activity. They were probably omitted by the editors because the Cyclopaedia already contained a special item on Abd-el-Kader and was to include an article on Bugeaud from Marx (see this volume, pp. 211-14). There are other signs of the editors' interference with the text.

In his article Engels managed to overcome the tendentious approach to the history of Algeria in the historical literature and reference books available to him at the time (in particular he made use of the article “Algeria” in Wigand's Conversations-Lexikon, Vol. I, Leipzig, 1846). Nevertheless, some outdated and one-sided ideas on particular questions in Engels' sources are reflected in his article, for example, on the role of Christian countries in fighting Algerian
piracy (these countries themselves engaged in privateering on a large scale), and on the circumstances and motives of the first French occupation of Algeria.

75 Barbary powers—a name given by Europeans in the past to the Moslem states along the Mediterranean coast of North Africa. On the Knights of Malta see Note 4.

76 Janizaries—the main body of the feudal Turkish footguards, formed of young prisoners of war and Christian subjects of the Sultan converted to Islam. They took part in wars of conquest and performed garrison duties in conquered countries. Forming an isolated body, the janizaries came to play an independent role in political life and participated in feudal strife both at the centre and in the provinces of the Ottoman Empire. The janizaries' corps was abolished in 1826.

77 On April 30, 1827, at a reception in his residence, Hussein, Dey of Algiers, had an argument with the French Consul-General Deval over the French Government's non-payment of a debt to his subjects. In reply to Deval's defiant attitude Hussein slapped him in the face with his fan. This incident served as a pretext for Charles X to blockade the Algerian shores in 1827-29, following which the French colonialists began the conquest of the country in 1830.

78 The government of Charles X intended to transfer the administration of Algeria formally to the Porte under terms which actually established French control over the country and at the same time increased the Ottoman Empire's financial dependence on France. France was to receive four Algerian ports and 20 million francs from the Sultan for "aid" in "returning" Algeria to him. But the negotiations with the Porte were interrupted by the July 1830 revolution in France, which led to the replacement of the Bourbons by the Orleans. The July monarchy began the process of establishing direct French rule in Algeria.

79 In the autumn of 1836 a French expedition under Marshal Clausel against the province of Constantine, which was in the hands of the Algerian insurgents, proved a failure. The following autumn a second expedition was organised under General Damrémont, who had succeeded Clausel as Governor-General of Algeria. This time, at the cost of heavy losses, the French managed to take Constantine by storm.

80 The liberation struggle of the Algerians led by Emir Abd-el-Kader lasted with short intervals from 1832 to 1847. Between 1839 and 1844, the French used their considerable military superiority to conquer Abd-el-Kader's state in Western Algeria. However, he continued guerrilla warfare relying on support from the Sultan of Morocco. When the latter was defeated in the Franco-Moroccan war of 1844, Abd-el-Kader retreated to the Sahara oases. The last stage of this struggle was an insurrection in Western Algeria in 1845-47, which was put down by the French colonialists.

In 1847 Abd-el-Kader was taken prisoner, but even after that the Algerians' anti-colonialist revolts continued both in Western and Eastern Algeria.

81 Marabouts—Moslim hermits or monks; they took an active part in the liberation struggle of the North African peoples against the European colonialists.
82 Bureaux Arabes—French military administrative bodies in Algeria dealing with questions that directly concerned the local population. They were set up in all occupied provinces and had wide powers.  

83 Engels intended to write the article “Ammunition” in July 1857, as is evident from his letter to Marx of July 11-12 of that year. But being busy with other articles for The New American Cyclopaedia he did not begin writing it until the middle of September. It was dispatched to New York on September 18, 1857, as is shown by an entry in Marx’s notebook.

84 In a letter to Marx of September 18, 1857 Engels promised to send him “Battle”, “Battery” and, time permitting, other articles beginning with B in accordance with Dana’s request (see Note 49). However, by that time only the first of these articles was ready, and Marx sent it off to New York on September 22, 1857, together with the articles “Blum”, “Bourrienne” and “Bennigsen”. Marx’s notebook contains an entry on the dispatch of these articles on that day.

85 At the battle of Leuthen (Lutynia), Silesia, on December 5, 1757, during the Seven Years’ War, the army of Frederick II of Prussia defeated the Austrians. The Seven Years’ War (1756-63)—a war of Britain and Prussia against Austria, France, Russia, Saxony and Sweden. In 1756 and 1757 the Prussians won a number of victories over Austrian and French troops, but the results achieved were nullified by the Russian successes in Prussia (1757-60). As a result of the war France ceded many of its colonies (including Canada and almost all its possessions in the East Indies) to Britain, while Prussia, Austria and Saxony largely to re-recognise the pre-war frontiers.

86 At the battle of Kolin (Bohemia) on June 18, 1757, during the Seven Years’ War, the army of Frederick II of Prussia was routed by the Austrians. At Kunersdorf (Prussia, east of Frankfort on the Oder) the Russian and Austrian armies under the general command of Pyotr Saltykov inflicted a heavy defeat on Frederick II’s army on August 12, 1759. As the result of their victories, the Russians temporarily occupied Berlin in 1760.

87 The rough draft of this article was made by Engels and enclosed in his letter to Marx of September 10, 1857. It was based largely on A. H. Jomini’s book Vie politique et militaire de Napoléon (vols. 1-4, Paris, 1827). Marx edited this draft and supplemented it with data from Biographie universelle (Michaud) ancienne et moderne (Vol. 3, Paris, 1854), Napoleon’s Mémoires pour servir à l'histoire de France (Paris, 1823), Fr. Chr. Schlosser’s Zur Beurtheilung Napoléon’s und seiner neusten Tadler und Lobredner (Frankfurt am Main, 1835) and other books. He sent off the final version to New York on September 22, 1857, as can be seen from an entry in his notebook.

88 See Note 85.

89 This refers to the long siege and capture by the Russians in December 1788 of the fortress of Ochakov, a stronghold of the Turks in the north of the Black Sea during the Russo-Turkish war of 1787-91.

90 At Ozmiana and Solli in June 1794, during the Polish national liberation uprising under Kosciusko, Bennigsen’s corps inflicted a defeat on Polish troops. In August the Russians broke the resistance of the Polish army defending Vilna (Vilnius) and entered the city.
The suppression of the uprising resulted in the third partition of Poland in 1795 (the first and second partitions took place in 1772 and 1793) among Austria, Prussia and Russia. This partition put an end to the existence of Poland as an independent state.

p. 76

91 The siege and capture by the Russians of the town of Derbent (formerly belonging to Persia) in 1796 was a reply to the invasion of Georgia by the Shah of Persia, Aga Mohammed, in 1795, which was accompanied by the mass slaughter and enslavement of many Georgians.

p. 77

92 A reference to the war of the fourth coalition (Britain, Russia, Prussia and Sweden) against Napoleonic France (see Note 51).

p. 77

93 The French began the siege of Danzig (Gdańsk) in March 1807. The garrison consisting of Prussian troops and an allied Russian detachment offered stubborn resistance. An attempt to relieve it was made by another Russian detachment. The fortress surrendered to superior enemy forces at the end of May 1807.

p. 78

94 See Note 31.

p. 78

95 On August 26, 1857 Marx wrote to Engels telling him, among other things, that in the list of articles beginning with B requested by Dana for The New American Cyclopaedia “there are only two non-military articles”—“Blum” and “Bourrienne”—and on September 15 he informed Engels that he had dispatched them to New York together with other material. However as can be seen from his notebook Marx finished them only a week later and sent them to the United States on September 22, 1857.

When writing his article on Blum Marx made excerpts from the detailed biographical article “Blum” in Meyer's Conversations-Lexicon (second Supplement Volume, 1853, pp. 240-46) (see this volume, pp. 391-93), and from Fr. Steger's Ergänzungs-Conversationslexicon (Vol. 1, Leipzig, 1846, pp. 153-60), and other sources.

p. 80

96 The Leipzig Schiller Association and the Association of German Authors in the 1840s united German writers to fight for freedom of the press and spread liberal ideas in Germany.

p. 81

97 German Catholicism—a religious movement which arose in a number of German states in 1844. The “German Catholics” did not recognise the supremacy of the Pope, rejected many dogmas and rites of the Roman Catholic Church and sought to adapt Catholicism to the needs of the German bourgeoisie.

p. 81

98 The meeting of Leipzig citizens before the riflemen's barracks was held the day after Saxon troops opened fire on a popular demonstration in Leipzig on August 12, 1845. The demonstration took place at the time of the military parade on the occasion of the arrival of Crown Prince John and was in protest against the Saxon Government's persecution of the “German Catholics” movement (see Note 97). Prince John of Saxony was believed to be chiefly responsible for the persecution. Engels described this event in his article “The Late Butchery at Leipzig.—The German Working Men's Movement” (see present edition, Vol. 4, pp. 645-48).

p. 81

99 The Fatherland's Association (Vaterlandsverein) was a broad democratic organisation founded in Leipzig at the end of March 1848, during the growing revolutionary movement prompted by the February revolution in France and
the March revolution in the German states. It was headed by petty-bourgeois and bourgeois republicans—Blum, Ruge, Jaeckel and others.

100 The Preliminary parliament or Preparliament, which met in Frankfurt am Main from March 31 to April 4, 1848, consisted of representatives of the German states, most of them constitutional monarchists. After the rejection of a proposal to establish a federal republic in Germany and to turn the Preparliament into a constituent organ, a group of republicans headed by Hecker and Struve walked out. A more moderate section of the republican-democratic opposition, headed by Blum, took part in setting up a Committee of Fifty which was proposed by the liberals to secure the convocation of all-German National Assembly by agreement with the Federal Diet (organ of the German Confederation).

101 The Frankfurt Parliament, or the German National Assembly, which opened on May 18, 1848, in St. Paul’s Church in the free city of Frankfurt am Main, was intended to unify the country and draw up a Constitution. The liberal majority turned the Assembly into a mere debating club, and at the decisive moments of the revolution it yielded to the counter-revolutionary forces. In spring 1849, the liberals left the Assembly after the Prussian and other governments rejected the Imperial Constitution they had drawn up. The rest of the Assembly moved to Stuttgart and was dispersed by the Württemberg authorities on June 18, 1849.

Robert Blum was one of the leaders of the Left minority, which consisted of a moderate and a radical faction.

102 The Vienna uprising of October 6-7, 1848 was in response to the Austrian Government’s order for the dissolution of the Hungarian Sejm and the dispatch of Austrian troops against Hungary. Headed by petty-bourgeois democrats, the masses prevented the Vienna garrison from marching to Hungary and seized control of the city after a fierce struggle. However, the insurgents did not receive the necessary support from other revolutionary forces in Austria and Germany. On November 1 their resistance was broken by Windischgrätz’s counter-revolutionary forces which dealt out harsh treatment to the participants in the uprising.

The students’ corps mentioned below in the text or the Academic Legion—an armed organisation founded after the March 1848 revolution in Austria—played an active part in the October uprising.

103 On Marx’s work on the article “Bourrienne” see Note 95 and pp. 394-96 of this volume.

104 On June 20, 1792, a mass manifestation took place in Paris in front of the Legislative Assembly and the royal palace of the Tuileries. The participants demanded the cancellation of the royal veto on the decree establishing a camp of Marseilles volunteers (fédérés) near Paris, and restoration to their ministerial posts of the Girondist leaders (representatives of the moderate republican bourgeoisie) dismissed by the King. The refusal to meet these demands made the atmosphere still more tense. Subsequent events led to a popular uprising on August 10, 1792, which overthrew the monarchy and established a republic in France.

105 A reference to Napoleon’s campaign in Northern Italy in 1800, during the war against the second anti-French coalition which ended in a victory for the French at Marengo (see Note 69).
The Continental System, or the Continental Blockade, proclaimed by Napoleon I in 1806, prohibited trade between the countries of the European Continent and Great Britain.  

Marx has in mind Mémoires de M. de Bourrienne, Ministre d'État, sur Napoléon, le directoire, le consulat, l'empire et la restauration (vols. I-X, Paris, 1829). Most of these memoirs are assumed to have been written by the former Napoleonic diplomat Villemarest, who specialised in fabrications of this kind.  

The “Army” was listed among the first articles which Dana requested for The New American Cyclopaedia and which Engels undertook to write. On May 8, 1857 Dana wrote to Marx: “The principal article is that on Army. This should be historical, giving an account of the organization of the antique armies, and of the progressive changes made down to the present day, with notices of peculiarities in the different leading armies of the world. I have marked ten pages as the limit, but if it can be done in less so much the better. This article will not include the statistics of the military force of the different powers, as they will be given under the head of these powers,—Austria for instance. I have marked for you, while the remainder of that article has been given to another.” It was all the more difficult to write such a comprehensive article within the time stipulated as Engels was still working on a number of articles beginning with A and had started on those beginning with B. Nevertheless, Engels began collecting the necessary material in July 1857, started writing the article in August and finished it not later than September 24. He kept Marx informed of the course of his work (see his letters of July 11, August 21, and September 8 and 22, 1857, present edition, Vol. 40). Marx did all he could to help Engels collect material for the article: he sent him books and excerpts from reference books and other works (see his letter to Engels of July 16 and Jenny Marx’s letter to Engels sent in mid-August 1857).  

Engels made use of many sources, beginning with the works of ancient historians and military writers (Herodotus, Xenophon, Sallust, Polybius, Vegetius, and others) and ending with those of nineteenth-century authors (Wilkinson, Clausewitz, Jomini, Rüstow, and others), and consulted various reference books. He mentions some of these sources in the article itself. The following excerpts are extant: from Rüstow’s Heerwesen und Kriegführung C. Julius Cäsars (Gotha, 1855) and from the article “Army” published in the seventh edition of the Encyclopaedia Britannica (1842, Vol. III). Marx, in his turn, also made excerpts on some aspects of the history of war, in particular from Pauly’s Real-Encyclopädie der classischen Alterthumswissenschaft in alphabetischer Ordnung (vols. 2-6, Stuttgart, 1842-52), Allgemeine Encyclopädie der Wissenschaften und Künste. Herausgegeben von J. S. Ersch und J. G. Gruber (published in Leipzig from 1818), from Wilkinson’s three-volume Manners and Customs of the Ancient Egyptians (London, 1837).  

In the article “Army” Engels summarised to a certain extent his long and thorough study of military science and history, and the experience of contemporary wars. Marx praised the article in his letter to Engels of September 25, 1857 and sent it off the same day to New York, as can be seen from an entry in his notebook (Dana acknowledged receipt in a letter of October 9, 1857). Marx also made some critical remarks to Engels concerning the origins of mercenary armies in antiquity (among the Carthaginians), the
development of military science in fifteenth- and sixteenth-century Italy, and among the Eastern peoples. Marx thought these questions had not been adequately dealt with in the article. Engels took most of these remarks into consideration later when he wrote the articles “Artillery”, “Cavalry”, “Fortification” and “Infantry”, which supplement his “Army”. p. 85

110 *Testudo* (literally: tortoise)—a shelter used to protect soldiers in siege operations. On the Roman *testudo* see this volume, p. 94.

111 On the battles of *Marathon*, *Plataea* and *Thermopylae* see Note 33.

Greek troops landed on *Mycale* (Asia Minor) in 479 B.C., defeated the Persians and destroyed their ships which had been dragged on shore and used for erecting an entrenched camp. The Greek victories at Plataea and Mycale removed the threat of a Persian invasion of the Balkans. p. 88

112 See Note 23.

113 Solon’s reforms (594 B.C.) divided the free citizens of the Athenian Republic into four groups according to the size of their annual income from their land. The first two groups enjoyed considerable political privileges but were liable to military service entailing great expenses (the first had to build warships and the second to supply mounted soldiers). The third group had restricted political rights, but it made up the backbone of the army, its heavy infantry. The fourth or poorest group, that of the “thetes”, was for a long time deprived of the right to hold public offices and originally was exempt from military service; later on, however, light infantry was recruited from among it. p. 89

114 By the *allies of Athens* Engels means the Greek city-states, mainly on the islands in the Aegean Sea and the coast of Asia Minor, which were members of the Athenian Naval Alliance (originally called Delian League) founded in 478 B.C., during the Greco-Persian wars. As Athens grew in power it subdued the allies and made them its tributaries. The Athenian Naval Alliance was dissolved in the late fifth century B.C. Athens managed to restore it partially in 378 B.C. but the new alliance existed only until 355. p. 90

115 The *Peloponnesian war* (431-04 B.C.)—a war between two groups of Greek states: the Athenian Naval Alliance and the Peloponnesian Alliance headed by Sparta. It was caused by the struggle for hegemony in Greece, commercial rivalry among the Greek city-states and political contradictions between the Athenian slave-owning democracy and the aristocratic oligarchy of Sparta. The war was won by Sparta. Under the treaty of 404 B.C. Athens had to acknowledge Sparta’s supremacy and surrender almost all its ships. p. 90

116 The *Sicilian expedition* was undertaken by the Athenians in 415 B.C. to subdue the Greek city-states of Sicily, above all Syracuse. Athens hoped thus to establish its supremacy in the west of the Mediterranean and to increase its resources in order to deliver a blow at its main rival, Sparta. The military operations in Sicily continued until 413 B.C. and ended in a complete defeat for the Athenian naval and land forces unsuccessfully besieging Syracuse. p. 91

117 *Ephors*—a body of five Spartan magistrates chosen annually by an assembly of free citizens. They were granted wide powers, including the right to dispose of the treasury, appoint military commanders and control the actions of the kings. p. 91
118 *Periaeci*—a social group in Ancient Sparta. They possessed land and property, and the richest of them had slaves. Personally free, they even enjoyed self-government to some extent but were deprived of many political rights. 

p. 92

119 *Helots*—agricultural population of Southern Peloponnesus enslaved by Sparta. Being the property of the Spartan state, the Helots cultivated plots of land granted to individual Spartans to whom they paid rent (usually half of the produce). They frequently raised revolts, which were brutally suppressed by the slave-owners.

p. 92

120 See Note 37.

p. 92

121 See Note 37.

p. 93

122 The town of *Samos* (on the Island of Samos, in the southeast of the Aegean Sea) was besieged by an Athenian naval expedition under Pericles in 440 B.C. The population of the island, which belonged to the Athenian Naval Alliance, had revolted with the intention of seceding from the Alliance. After a siege of many months the town was forced to capitulate, and Athenian rule was restored on the island.

p. 93

123 By the *conquest of Greece* Engels means the subjugation of the Greek city-states by Philip II of Macedon, under whose rule Macedonia greatly increased its influence. An anti-Macedonian coalition headed by Athens was formed in 339 B.C., but its forces were defeated by Philip's army in 338 B.C. The all-Hellenic congress held in Corinth in 337 B.C. proclaimed the King of Macedon commander-in-chief of all the Greek armed forces and confirmed Macedonian rule over the Greek city-states, which continued to be formally regarded as independent.

p. 95

124 The *Achaean League*—a confederation of Peloponnesian city-states formed in 280 B.C. against Macedonia. It had considerable armed forces which were routed by the Romans in 146 B.C. and its territory was incorporated into Macedonia, which became a Roman province in 148 B.C.

p. 96

125 *Tribe* (Rom. Hist.)—a territorial-administrative unit. King Servius Tullius (6th cent. B.C.) introduced reforms under which the city of Rome was divided into four tribes on a territorial basis instead of the earlier division according to the clan or family principle. At the same time several country tribes were formed. All free citizens possessing land within the territory of a given tribe were included in that tribe.

p. 97

126 *Horsemen (knights)*—in early Roman history—equites, or rich citizens constituting a privileged class liable for service in the cavalry. Subsequently this name was given to Roman slave-owning merchants and usurers belonging to the class of equites.

p. 97

127 The *First Civil War* (88-82 B.C.)—a struggle for power between two antagonistic groups of Roman slave-owners. One group was headed by Lucius Cornelius Sulla, representing the slave-holding aristocracy (*nobilitas*), and the other by Gaius Marius who relied on merchants and usurers and tried to use the urban and rural plebeians. The war ended in the defeat of Marius' followers and the establishment of Sulla's dictatorship—a step towards the abolition of the Roman Republic and the founding of the empire.

p. 98
128 A reference to the battle of the Muthul (Northern Africa), 109 B.C., in which the Roman army under Quintus Caecilius Metellus defeated the army of King Jugurtha of Numidia. This was the first Roman victory in the Jugurthin e war (111-05 B.C.). Rome proved victorious at the end. p. 98

129 Roman military units of each grade had their own badges. Thus since the time of Gaius Marius a silver eagle attached to the shaft was the badge of a legion. p. 98

130 The war between Rome and Pyrrhus, King of Epirus (Northwestern Greece), over the Greek towns in the south of Italy took place in 280-75 B.C. At the beginning Rome suffered two major defeats but later, supported by Carthage, it crushed the mercenary army of Pyrrhus and drove him out of the Peninsula. p. 99

131 A reference to the battle of Kynoskephalae (Thessaly) in 197 B.C., during the Second Macedonian war (200-197 B.C.), in which the Roman army under Titus Quinctius Flamininus routed the army of Philip V of Macedon. As a result, the Romans consolidated their influence in Greece, later establishing their rule there. p. 100

132 The Social War (90-88 B.C.) — a war of Rome’s Italian allies (socii) against the rule of the Roman Republic ("alliance" was a form by which the Roman slave-owners subjugated conquered tribes and peoples). The movement of the Italians who had seceded from Rome was suppressed but in the course of the war Rome was forced to grant them the rights of Roman citizens, initially with certain reservations. p. 100

133 Roman Gallia (corresponding to Provence, a historical region in the south of France) — part of Gallia (Gaul) conquered by the Romans at the end of the second century B.C. p. 100

134 The expeditions of the German emperors against Italy were started by King Otto I who was invested with the crown of the Holy Roman Empire in Rome in 962. These expeditions were especially frequent from the tenth to the thirteenth century and continued until the sixteenth century despite the decline of the Emperor’s power and the increasing feudal dismemberment in Germany itself. On the crusades see Note 4. p. 103

135 On the battles of Crécy and Poitiers see Note 34; on the battle of Agincourt see Note 25. p. 104

136 A reference to the wars against the Mongols during their invasion of Central Europe in 1241-42, after their incursions into the Russian lands in 1237-40. Apart from Poland, Moravia, Hungary and Dalmatia were the scene of these wars. The advanced detachments nearly reached Venice, but, weakened by the resistance of the Russian principalities, they were compelled to withdraw to their East-European and Asian territories. p. 105

137 Engels refers to the liberation wars of the Swiss cantons against the Austrian Habsburgs in the fourteenth and fifteenth centuries, and to the Swiss war of 1474-77 against Charles the Bold, Duke of Burgundy, who tried to seize lands belonging to the Swiss Confederation. The Swiss upheld their independence due to the superiority of their infantry of free peasants and townspeople over the knights. p. 105
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138 Bashi-Bazouks—soldiers of Turkish irregular cavalry in the eighteenth and nineteenth centuries.  p. 106

139 At the battle of Marignano (Northern Italy) on September 13-14, 1515 the army of Francis I of France, supported by his Venetian allies, defeated the Swiss mercenary troops of the Duke of Milan. This was one of the major battles in the Italian wars of 1494-1559 (see Note 26).  p. 107

140 See Note 26.  p. 107

141 This refers to the bourgeois revolution of 1566-1609 (see Note 20).  p. 107

142 The Thirty Years' War (1618-48)—a general European war in which the Pope, the Spanish and Austrian Habsburgs and the Catholic German princes fought against the Protestant countries: Bohemia, Denmark, Sweden, the Republic of the Netherlands, and a number of German states. The rulers of Catholic France, being rivals of the Habsburgs, supported the Protestants. Germany was the main arena of the struggle, the object of pillage and territorial claims. The treaty of Westphalia (1648) sealed its political dismemberment.  p. 109

143 The battles of Leipzig, Lützen and the Lech were fought in the Thirty Years' War.  
At the battles of Leipzig (or Breitenfeld) on September 17, 1631 and of the Lech (Bavaria) on April 15, 1632 Gustavus Adolphus' army routed the Imperial-Catholic troops under Tilly. At Lützen (Saxony) Gustavus Adolphus defeated Wallenstein's Imperial army on November 16, 1632.  p. 110

144 The Military Frontier or the Military Border Area—the southern border regions of the Austrian Empire, where military settlements began to be set up in the sixteenth century for protection against Turkish invasions. The inhabitants of these regions—Serbs, Croats, Romanians, Szeklers, Saxons, and others—were allotted plots of land by the state, for which they had to serve in the army, pay taxes and perform certain public duties. The soldiers of these regions were called borderers.  p. 110

145 At Mollwitz (Malujowice, Silesia) Frederick II's army defeated the Austrians on April 10, 1741, during the War of the Austrian Succession (1740-48) (see Note 38).  p. 111

146 This was the first European coalition against revolutionary France. In February 1792, supported by Britain and Russia, Prussia and Austria concluded a military alliance and began intervention in France. After the proclamation of the French Republic and the execution of Louis XVI in January 1793, Britain, the Netherlands, Spain, Naples, Sardinia and several small German and Italian states openly joined the anti-French coalition. France's war against this coalition continued until 1797.  p. 113

147 See Note 60.  p. 113

148 See Note 85.  p. 116

149 At the battle of Inkerman on November 5, 1854, during the Crimean war of 1853-56, the Anglo-French forces defeated the Russian army, but the Russians' vigorous action prevented the enemy from storming Sevastopol and instead the city was besieged. Engels described the battle in detail in his article "The Battle of Inkerman" (see present edition, Vol. 13, pp. 528-35).  p. 117
Landwehr—the army second reserve formed in Prussia during the struggle against Napoleon. In the 1840s it consisted of men under forty who had done three years' active service and had been in the reserve not less than two years. In contrast to the regular army, the Landwehr was called up only in case of extreme necessity (war, or threat of war).

This paragraph was apparently added by the editors of The New American Cyclopaedia.

"Battery" belongs to a group of articles written in accordance with Dana's first request for articles beginning with B (see Note 49). On September 18, 1857 Engels informed Marx of his intention to send him this article in a few days. But on September 24 he wrote to Marx that he would start writing it, and perhaps some others, the next day, i.e. September 25. Engels finished "Battery" by the end of September. Marx recorded the dispatch of the new material to New York in the following entry in his notebook on September 29, 1857: "Cyclopaedia. Bem. Bessières. Bosquet. Bivouac. Battery. Blindage. Bonnet."

When publishing Engels' article the editors of the Cyclopaedia supplemented it with a special section, the article "Floating Batteries" by another author, containing data on the building of warships of this class in the USA.

The greater part of the article "Bem" was written by Marx. He gave a political characterisation of Bem and did the final editing. At the same time he reproduced, almost textually, the description of Bem's military activity during the Polish insurrection of 1830-31 and the 1848-49 revolutionary war in Transylvania contained in Engels' letters to Marx of September 11 or 12 and 18, 1857 (see present edition, Vol. 40). Marx's excerpts from articles about Bem have been preserved, including those from The English Cyclopaedia (Vol. V, London, 1856) and Meyer's Conversations-Lexicon (Vol. 4D, Hildburghausen, Amsterdam, Paris and Philadelphia, 1845).

A reference to the defence of Danzig (Gdańsk) in 1813. Held by Napoleonic troops, it was besieged by the Prussians and Russians by land and sea for eleven and a half months. During that time the garrison sustained three regular sieges but finally had to capitulate. The allies entered the city on January 2, 1814.

The insurrection of units of the St. Petersburg garrison on December 14, 1825 was headed by a secret society of Russian revolutionary nobles opposed to the autocracy and the feudal-serf system. They are known in history as the Decembrists. The Decembrists sought to prevent the taking of the oath to the new Emperor, Nicholas I, and to secure the introduction of civic liberties and the convocation of a Constituent Assembly to decide the question of a Constitution. The insurrection was suppressed by Tsarist troops and its participants were subjected to severe reprisals. Five of its leaders were hanged and 121 participants were sentenced to hard labour and exile in Siberia.

By the "Warsaw insurrection of 1830" Marx and Engels mean the Polish national liberation uprising of November 1830-October 1831. The majority of its participants were revolutionary gentry (szlachta) and its leaders came mainly from the aristocracy. It was suppressed by Russian troops, with the support of Prussia and Austria. The uprising was of major international significance.
because it diverted the forces of counter-revolution and thwarted their plans for an offensive against the bourgeois revolutions of 1830 in France and of 1830-31 in Belgium.

At the battle of Ostrolenka on May 26, 1831 Tsarist troops under Dibich defeated the Polish insurgents. The final blow was delivered when the Russians captured Warsaw in September 1831, after storming its suburb Vola on September 6 (see below in the text). The remnants of the insurgent army fled to Prussia and Austria.

Bem planned to take part in the civil war in Portugal (1828-34) between the absolutists (the feudal-clerical party), headed by Dom Miguel who had seized the Portuguese throne in 1828, and the constitutionalists (the liberal-bourgeois party) grouped around Queen Maria da Gloria and her father, Dom Pedro. Bem's plan did not materialise.

The Viennese Mobile Guard, consisting mainly of workers and artisans, was formed by Bem during the October 1848 uprising in Vienna (see Note 102) as the most disciplined and efficient part of the insurgent armed forces.

Honvéd (literally: "defenders of the homeland")—the name of the soldiers of the Hungarian revolutionary army of 1848-49, which was formed by decision of the Hungarian revolutionary government on May 7, 1848.

The expedition of Bem's army to the Banat (a region in the Serbian Voivodina, then part of Hungary) was undertaken in the spring of 1849. At the beginning of the 1848 revolution the Voivodina was the scene of the Serbs' growing national movement and of anti-feudal actions by democratic strata in town and country. However, the Serbian movement for autonomy was influenced by the liberal bourgeoisie, the nobility and the clergy and used by the Habsburgs against the Hungarian revolution. Military operations between the Voivodina Serbs and the Hungarians began in May 1848. In the Banat, inhabited by Hungarians, Germans and Romanians as well as Serbs, they were complicated by clashes between the Serbian and non-Serbian population. The struggle against the counter-revolutionary forces in the Serbian Voivodina, Transylvania, and other ethnic regions then included in Hungary, was hampered by the erroneous stand on the nationalities question adopted by the Hungarian bourgeois and aristocratic revolutionaries. Only shortly before the fall of the Hungarian Republic on July 28, 1849 did they officially agree to recognise the equality of all nationalities inhabiting Hungary.

At the battle of Temesvár (Timişoara) on August 9, 1849, during the Hungarian national liberation war, the Austrian army under Haynau defeated the Hungarian Southern army which was trying to hold its positions until joining up with the Northern army of the Hungarian Commander-in-Chief Görgey. Four days later the Northern army capitulated to the Russians. The revolution in Hungary was suppressed.

In the autumn of 1850 the Arab population of the city of Aleppo (Haleb) rose against the local Christians and the Turkish authorities. This rising grew into a rebellion against Turkish rule, which was put down by Turkish troops.

When working on biographical essays on military leaders, Bessières in particular, Marx wrote to Engels on September 17, 1857 inquiring about their military records and their role in individual battles. Marx took into account

164 The *Constitutional Guard* was charged, in accordance with the Constitution adopted in 1791, during the French Revolution, with protecting the King and his palace. It was formed after the disbandment of the Royal Guard. In May 1792 the Legislative Assembly, under pressure from the democratic movement, decreed its dissolution.

165 The *guides*—special sub-units in a number of European armies used for guiding troops. In the French army during the Napoleonic wars they protected Napoleon's headquarters and served as his bodyguard.

166 The battles mentioned were fought during the wars of France against the first, second, third and fourth European coalitions.

On September 4, 1796, during the campaign in the north of Italy, the French army under Bonaparte defeated the Austrians at Roveredo.

On the battle of Rivoli in the same campaign see Note 65.

On the siege of the fortress of St. Jean d'Acre (Acca) during the French expedition to Egypt see Note 5.

At the battle of Aboukir on July 25, 1799, during the same expedition, the French destroyed a Turkish force landed by the Anglo-Turkish fleet on the Egyptian coast.

On the battle of Marengo see Note 69.

The battle of Austerlitz (Moravia) on December 2, 1805 between the Russo-Austrian and French armies was won by Napoleon I. After this defeat Austria withdrew from the third anti-French coalition and concluded a peace treaty with Napoleon. Russia and Britain formed a new, fourth, coalition in 1806 and continued the war.

At the battle of Jena (Thuringia) on October 14, 1806, the French troops under Napoleon routed the Prussians. The same day Marshal Davout's troops defeated the main Prussian forces at Auerstädt. The defeat of Prussia—a member of the fourth anti-French coalition—in these two battles (often united in one as the battle of Jena) led to the occupation of most of Prussia by the French.

On the battle of Preussisch-Eylau see Note 51.

The battle of Friedland between the French and the Russians on June 14, 1807 is described in this volume, pp. 78 and 199.

167 A reference to the British naval expedition to the mouth of the Scheldt in July 1809 during the war of the fifth coalition against Napoleonic France. It was undertaken when Napoleon's main forces were engaged against Austria. The British captured Walcheren island, but failed to use it as a base for military operations against Antwerp and other French strong points in Belgium and Holland. They had to evacuate it in December 1809.

168 The battle of Lützen (Saxony) between Napoleon's army and Russo-Prussian armies took place on May 2, 1813. Napoleon forced the enemy to retreat, but the retreat was orderly.
169 See Note 166.

170 In writing this item Engels made use of Marx’s excerpts from Burn’s *A Naval and Military Technical Dictionary of the French Language* (London, 1852) which Marx sent him in his letter of September 15, 1857 (see present edition, Vol. 40). These excerpts are extant.

171 The first part of this article was written by Marx, as is seen from the extant excerpts; they are in the main from *The English Cyclopaedia* (Vol. V, London, 1856) and Steger’s *Ergänzungs-Conversationslexikon* (Vol. 10, Leipzig and Meissen).

The passage on Bosquet’s participation in the Crimean war of 1853-56 belongs to Engels. It reproduces almost word for word part of a letter to Marx of September 22, 1857, in which Engels described Bosquet’s role in the major Crimean operations, in compliance with Marx’s request in his letters of September 17 and 21, 1857.

172 The battle of Balaklava (Crimea) between the Russian army and the allied Anglo-French and Turkish forces took place on October 25, 1854. Units of the Russian army tried to cut off the British and Turkish forces besieging Sevastopol from their base in Balaklava. They succeeded in inflicting serious losses on them, especially on the British cavalry, but failed to achieve the main objective. For a description of this battle see Engels’ article “The War in the East” (present edition, Vol. 13, pp. 518-27).

173 See Note 149.

174 A reference to the storming of the Sevastopol fortifications by French and British troops on September 8, 1855, as a result of which the French managed to capture the Malakhov (Malakoff) Hill, the defenders’ main strong point. After an eleven months defence the Russian garrison abandoned Sevastopol by order of the command which considered its further defence useless. The storming of Sevastopol on September 8 is described by Engels in his articles “The Fall of Sevastopol” and “The Great Event of the War” (see present edition, Vol. 14, pp. 519-23 and 546-52).

175 The article “Bomb” is the first of a new batch of articles beginning with B which Engels wrote in accordance with Dana’s request (see Note 49). Marx made excerpts from reference books in the library of the British Museum, in particular from *The British Cyclopaedia of Arts and Sciences* by Ch. F. Partington and sent them to Engels, presumably on September 16, 1857, together with excerpts on bridges. On October 6 Marx made an entry in his notebook: “Cyclopaedia. Bomb. Bombardment. Bomb-Ketch. Bomb-Vessel. Bombardier. Bomb-Proof”, which shows that Marx dispatched the articles listed to New York on that day.

176 See Note 21.

177 *Valenciennes composition*—an incendiary mixture of saltpetre, sulphur and powder first used in 1793, during the siege of the French-held town of Valenciennes by Austro-British forces (an episode in the French Republic’s war against the first European coalition).

178 *Sveaborg* (Suomenlinna) was a Russian fortress situated on a group of islands at the entrance to the Helsinki harbour in the Gulf of Finland. The bombardment
of Sveaborg by British and French ships took place on August 9 and 10, 1855, during the Crimean war, 1853-56. For more on this event see Marx and Engels' article "The Anglo-French War Against Russia" (present edition, Vol. 14, pp. 484-89).

179 See Note 30.

180 The siege of Sevastopol (during the Crimean war, 1853-56) by the allied forces of France, Britain, Turkey and Sardinia lasted from September 25, 1854 to September 9, 1855.

181 On the bombardment of Sveaborg see Note 178.

182 Engels helped Marx considerably in his work on this article. In his letters to Marx of September 11 or 12, and particularly of September 21 and 23, 1857, he adduced many facts on Bernadotte's military record, especially during Napoleon's campaigns against the third, fourth and fifth European coalitions (1805, 1806-07 and 1809). Engels' account of Bernadotte's role in these campaigns was founded mainly on A. H. Jomini's Vie politique et militaire de Napoléon (vols. 1-4, Paris, 1827). It was reproduced by Marx almost word for word.

Marx sought to give a complete picture of Bernadotte, above all as a politician and diplomat. He collected a vast amount of biographical data, as can be seen from his letter to Engels of September 17, 1857 (in which he wrote about the different appraisals of Bernadotte by various historians) and from the extant excerpts from the Biographie universelle (Michaud) ancienne et moderne, The English Cyclopaedia, Meyer's Conversations-Lexicon and Fr. Chr. Schlosser's Zur Beurtheilung Napoleon's und seiner neusten Tadler und Lobredner.

On October 15, 1857, Marx made the following entry in his notebook: "Cyclopaedia. Military Bridges. Brown. Bernadotte", which shows that he sent off these articles to New York on that day. On Dana's request for articles beginning with B see Note 49.

183 At Fleurus (Belgium) on June 26, 1794, the French under General Jourdan routed the Austrian army of the Prince of Coburg. This victory enabled the French revolutionary army to occupy Belgium and start offensive operations in Holland and on the western bank of the Rhine. Early in October 1794 the French crossed the Ruhr and took possession of the fortress of Jüllich, and on November 4 they compelled the fortress of Maestricht to capitulate.

184 The Directory (consisting of five directors of whom one was re-elected every year) was the leading executive body in France set up under the 1795 Constitution, adopted after the fall of the Jacobin revolutionary dictatorship in the summer of 1794. It governed France until Bonaparte's coup d'état of 1799 and expressed the interests of the big bourgeoisie.

185 The 1797 invasion of Istria (Balkan province of the Republic of Venice) was undertaken on General Bonaparte's initiative during the campaign against the Austrians in Northern Italy in 1796-97 (see Note 65).

186 On the 18th Fructidor (September 4, 1797), by order of the Directory supported by General Bonaparte, government troops occupied the premises of the Corps législatif and arrested royalist deputies who were preparing a monarchist coup d'état. The Directory itself was renewed. The events of the 18th Fructidor revealed the instability of the Directory's bourgeois regime and its vacillations
either to the left, in face of royalist danger, or to the right, for fear of the democratic movement.

187 The Treaty of Campo Formio was concluded by General Bonaparte with Austrian representatives on October 17, 1797. It formalised Austria's withdrawal from the first anti-French coalition and sanctioned its relinquishment of its possessions in Northern Italy where the Cisalpine Republic was formed under French protectorate. Belgium, the Ionian Islands and some of Austria's possessions on the Rhine were ceded to France. At the same time a large part of the territory of the abolished Republic of Venice and its possessions in Istria and Dalmatia went to Austria.

188 During the coup d'état of the 30th Prairial (June 18, 1799) the Corps législatif succeeded in changing the composition of the Directory, from which three outright reactionaries were dismissed. This was done under the influence of growing public discontent over French defeats in Germany and Italy and the republic's worsened economic and financial situation.

189 See Note 62.

190 See Note 28.

191 See Note 166.

192 A reference to the battles of Auerstädt and Jena—see Note 166.

193 The treaties of Tilsit were signed on July 7 and 9, 1807 by Napoleonic France and Russia and Prussia, members of the fourth anti-French coalition. In an attempt to split the defeated powers, Napoleon made no territorial claims on Russia and even succeeded in transferring some of the Prussian monarchy's eastern lands to Russia. The treaty imposed harsh terms on Prussia, which lost nearly half its territory to the German states dependent on France, was made to pay indemnities, and had its army reduced. However, Russia, like Prussia, had to break its alliance with Britain and, to its disadvantage, join Napoleon's Continental System. Napoleon formed the vassal Duchy of Warsaw on Polish territory seized by Prussia during the partitions of Poland at the end of the eighteenth century, and planned to use it as a springboard in the event of war with Russia.

The military alliance between France and Denmark against Sweden was concluded on October 31, 1807 in Fontainebleau. France's operations against Sweden coincided with the Russo-Swedish war of 1808-09.

194 See Note 72.

195 See Note 167.

196 Schönbrunn—the imperial summer residence in Vienna where, in the autumn of 1809, Napoleon I dictated peace terms to Austria after its defeat in the 1809 campaign.

197 See Note 9.

198 See Note 106.

199 The peace of Bucharest, concluded on May 28, 1812, ended the Russo-Turkish war of 1806-12. Under this treaty Bessarabia and several Transcaucasion
regions were to go to Russia. Turkey was to grant Serbia autonomy in domestic matters and to seal its former agreements with Russia acknowledging a number of autonomous rights for Moldavia and Wallachia. The peace treaty with Turkey, achieved owing to the victories of the Russian army and the diplomacy of its Commander-in-Chief Mikhail Kutuzov, enabled Russia to free considerable forces for the war against Napoleonic France.

200 A reference to the peace treaties and treaties of alliance between Russia and Britain and between Britain and Sweden directed against Napoleonic France. p. 155

201 This refers to a convention signed by Russia and Sweden in Abo (Turku) on August 30, 1812. It virtually formalised their military alliance against Napoleonic France. The convention also contained a provision obliging Russia to render military assistance to Sweden against Denmark if the latter refused to cede Norway to the King of Sweden. In return, Sweden agreed to support the Tsarist Government’s territorial claims, in particular to the Duchy of Warsaw then subject to Napoleon. p. 156

202 The military treaty of March 3, 1813, signed in Stockholm between Britain and Sweden, provided for the dispatch of Swedish troops to take part in the war against Napoleon’s army, and for British subsidies for this purpose. Article 2 of the treaty obliged Britain to support Sweden’s claims to Norway. p. 156

203 The armistice of June 5, 1813 was concluded by Russia and Prussia with Napoleon I until July 20, but later it was prolonged up to August 10. During the armistice Alexander I, Frederick William III and Bernadotte met in the castle of Trachenberg (Silesia) on July 12, 1813 to decide upon further military operations. When the peace negotiations failed Austria officially joined the coalition. Hostilities resumed in August 1813. p. 156

204 See Note 31. p. 157

205 See Note 156. p. 158

206 Under pressure from liberal opposition the Swedish Diet (Riksdag) of 1844-45 abrogated the law allowing the government to close down newspapers. It issued a law on the convocation of the Diet every three years, established the equal right of men and women to inherit land, and approved the principles of liberal reforms of the penal code. A parliamentary committee was set up to carry out an electoral reform. p. 158

207 Engels began to work on this article in the first half of September 1857, but he could not obtain all the necessary source material in Manchester. He therefore wrote to Marx on September 11 or 12 asking him to collect the information he needed in London, including data on pontoons in different armies contained in the third edition of H. Douglas’ An Essay on the Principles and Construction of Military Bridges, and the Passage of Rivers in Military Operations (London, 1853).

Marx made extracts from various reference books in the library of the British Museum, in particular from Burn’s A Naval and Military Technical Dictionary of the French Language (London, 1852), and sent them to Engels. “Many thanks for the thing on bridges. Wholly adequate,” Engels wrote to Marx on September 18, 1857. He did not finish the article until the middle of October, as can be seen from the entry in Marx’s notebook on its dispatch to New York. p. 159
In 55 B.C., during Caesar's conquest of Gallia (Gaul) (58-51 B.C.), the Romans, pursuing the defeated Teutons, crossed the Middle Rhine and stayed on its right bank for eighteen days. This crossing, undertaken to demonstrate Rome's military power, is described by Caesar in the fourth book of his commentaries on the Gallic war.

A reference to the war of 1846-48 between the United States and Mexico, as a result of which the USA seized almost half of Mexico, including Texas, Upper California and New Mexico.

The article "Brown" was asked for in Dana's first request for articles beginning with B, of which Marx informed Engels on August 26, 1857. On September 17 and 21 he asked Engels for his opinion of Brown and other military leaders, probably intending to begin writing this article. Soon after, Marx made the relevant extracts from The English Cyclopaedia (Vol. V, London, p. 948), and edited and used them extensively in his article; he left out the laudatory comments on Brown's role in the Crimean war and added an account of Brown's military qualities that made him popular among the soldiers (probably based on a letter from Engels which has not survived). On October 15, according to the entry in Marx's notebook (see Note 182), the article was dispatched to New York. However, the original was probably lost and, as can be judged from Marx's letter to Engels of February 1, 1858 and from the entry in his notebook on April 17, Marx had to send either a copy or another version, and it was this that the Cyclopaedia published.

The British bombarded Copenhagen in September 1807 to prevent Denmark from joining the Continental Blockade (see Note 106).

At the battle of Talavera (Toledo province, Spain) on July 27-28, 1809, the allied Anglo-Spanish forces under Wellington and Le Cuesta repulsed the attacks of the French, who suffered heavy losses and were compelled to abandon their positions.

On the storming of Badajos on April 6, 1812, see Note 12.

The events mentioned belong to the final stage of the Anglo-American war of 1812-14 (see Note 35). In August 1814, an English detachment 4,000-strong, under Major-General Ross, landed in the Chesapeake Bay. At the village of Bladensburg, six miles from Washington, they routed an American volunteer corps defending the capital and temporarily took possession of it. They set fire to the Capitol, the White House and other government buildings, and returned to their ships.

On the battle of Inkerman see Note 149.

When referring to "the first unsuccessful attack on the Redan" (the 3rd bastion of Sevastopol's defences) Marx has in mind one of the major battles of the Crimean war fought at Sevastopol that ended in defeat for the Allies—their full-scale assault on the southern (Korabelnaya) part of the city on June 18, 1855 launched on the fortieth anniversary of the battle of Waterloo (see Note 30). The assault was repulsed at every point. Marx gave a detailed account of the battle in his report "The Mishap of June 18.—Reinforcements"
and Engels described it in his articles “From Sevastopol” and “The Late Repulse of the Allies” (see present edition, Vol. 14, pp. 297-301, 313-19 and 328-32).

217 Engels conceived the idea of writing an essay on the Spanish Armada of 1588 when thinking out subjects for the first articles beginning with A, as we see from his letter to Marx of May 28, 1857. Marx undertook to collect material and began to send it to Engels in July 1857 (see Jenny Marx’s letter to Engels of August 12 or 13). But the main portion of the material was evidently prepared later, for Marx himself only mentions it in his letter to Engels of September 21. It consisted of carefully edited excerpts from various sources, including the article “Elizabeth” in The English Cyclopaedia (Vol. V, London, 1856, pp.761-64) and works of some contemporaries of the events. The final version of the article mentions only part of the sources originally given by Marx. In particular, it does not contain reference to Orders Set down by the Dyke of Medina, etc. to Be Observed in the Voyage toward England (London, 1588) or to the English translation (published in London in 1590) of the work by the Florentine writer Petruccio Ubaldino, A Discourse, Concerninge the Spanishe Fleeete Invadinge Englane in the Yeare 1588, and Overthroune by Her Majestie's Navy (Marx used a reprint in The Harleian Miscellany: A Collection of Scarce, Curious, and Entertaining Pamphlets and Tracts, etc. (Vol. I, London, 1808). Engels worked on the article between September 21 and October 19: he abridged the material prepared by Marx, edited it again and added some facts. When he sent the manuscript to Marx on October 19, Engels asked him to insert some names which he had been unable to make out in the excerpts. Marx put the finishing touches to the text and, judging by the entry in his notebook, sent it off to New York on October 23, 1857, together with the article “Ayacucho”.

218 Engels informed Marx of his intention to write an article on Ayacucho on May 28, 1857, but he only began work on it about September 21, when Marx told him about the material he had collected. Extant are Marx’s excerpts from the article “Ayacucho” in the Encyclopédie des Gens du Monde (Vol. 2, Paris, 1833), from A View of South America (New York, 1826), from J. S. Florez’ Espartero. Historia de su vida Militar y Politica (vols. 1-4), and from M. A. Principe, R. Giron, R. Satorres, A. Ribot, Espartero: Su pasado, su presente, su porvenir (Madrid, 1848).

The battle of Ayacucho was most likely described by Engels. The concluding part belongs to Marx. The portrayal of Espartero and his followers conforms to that contained in Marx’s article “Espartero” written in 1854 for the New-York Daily Tribune (see present edition, Vol. 13, pp. 340-46). The article was sent off to New York on October 23, together with “Armada”.

219 At the battle of Junin (Peru) on August 6, 1824, Colombian, Chilean and Peruvian troops under Simon Bolivar defeated the Spanish army after a daring crossing of the Andes. The battle took place during the final stage of the Latin American countries’ liberation struggle against Spanish colonial rule. The struggle began in 1810 and gained particularly in scope in 1816, when an independent republic was proclaimed on the territory of the former Viceroyalty of La Plata (subsequently the Argentine Republic). With the support of its troops, Chile was proclaimed independent in 1817 and Peru in 1821. The war for the independence resumed by Bolivar, led to the establishment in 1819-22 of the Republic of Greater Colombia. The liberation war of Mexico resumed in 1821. The 1824 campaign of Bolivar’s Colombian army in support of the Peruvian republicans dealt the final
blow to Spanish rule in Latin America. In 1826 remnants of the Spanish forces were driven out of Peru. The following independent republics were proclaimed on the territory of the former Spanish possessions: Mexico, the United States of Central America (subsequently split up into five republics—see Note 288), Greater Colombia (later divided into Venezuela, Colombia and Ecuador), Bolivia, Argentina, Paraguay, Peru and Chile.

220 Like the previous one, the article “Blücher” was the result of Marx's and Engels' joint work, as is seen in particular from Marx's letters to Engels of September 17 and 21, and Engels' letters to Marx of September 18, 21 and 22, 1857.

The bulk of the biographical material on Blücher was obtained by Marx. Extant are his excerpts from The English Cyclopaedia (Vol. V, London, 1856), Meyer's Conversations-Lexicon (Vol. 4, 1845) and Biographie universelle (Michaud) ancienne et moderne (Vol. 4, Paris, 1854), and from several works, in particular “Der Feldzug von 1813 bis zum Waffenstillstand und der Feldzug von 1814 in Frankreich” (in Hinterlassene Werke des Generals Carl von Clausewitz über Krieg und Kriegführung (vols. 7-8, Berlin, 1835-36) and Fr. Müffling's Passages from My Life: Together with Memoirs of the Campaign of 1813 and 1814 (London, 1853). Marx also did the final editing and polishing up of the text. Marx included in the respective passages extracts from Engels' letter of September 22, 1857 describing Blücher as a military leader and evaluating his activities in the major campaigns. This description, supplemented by factual material collected by Marx, forms the core of the article. Engels' participation in the work on the article is also proved by the inclusion of his extracts from the above-mentioned book by Müffling, which was Marx's main source. Marx's notebook has the following crossed-out entry concerning the dispatch of the article to New York on October 30, 1857: “Blücher (8½ columns Cyclopaedia) (Campaigns of 1813 and 1814).”

Marx informed Engels of the dispatch of the article to Dana in his letter of October 31, 1857 (see present edition, Vol. 40).

221 Prussia's intervention in Holland in 1787, supported and subsidised by the British Government, was undertaken to restore the power of the Stadtholder William V of Orange. The latter had been driven out of the country in 1784 as a result of the revolutionary movement directed against the bloc of the nobility and the trading oligarchy, and headed by the bourgeois party of “patriots”, advocates of an active struggle against Britain, their colonial rival. The armed forces of the Dutch bourgeoisie were unable to offer any serious resistance to the Prussian army, which restored the power of the Stadtholder and the oligarchic system.

222 Under the peace of Basle concluded separately by Prussia and the French Republic on April 5, 1795, Prussia acknowledged the cession of the left bank of the Rhine to France. The treaty was not only the result of the French victories but also of the deepening contradictions among members of the anti-French coalition, Prussia and Austria above all. Peace with Prussia meant the beginning of the coalition's disintegration; on July 22, 1795 a separate peace with France was also signed in Basle by Spain.

223 See Note 166.

224 On the battles of Auerstädt and Jena, mentioned below, see Note 166. p. 173

225 The Tugendbund (“Union of Virtue”)—one of the patriotic societies founded in Prussia after the defeat by Napoleonic France in 1806-07. It united
representatives of the liberal nobility and the bourgeois intelligentsia and aimed at spreading the idea of an anti-Napoleonic liberation war and supporting moderate liberal reforms. The Tugendbund was banned on Napoleon's demand on December 31, 1809 by Frederick William III, who also feared its activities. However, it continued to exist secretly until the end of the Napoleonic wars.

On the *peace of Tilsit* see Note 193. p. 174

226 On these two battles see notes 168 and 56 respectively. p. 174

227 See Note 203. p. 174

228 At the *battle of Dresden* on August 26-27, 1813 Napoleon's army routed the allied forces of Austria, Prussia and Russia (the Bohemian or chief army), commanded by the Austrian Field Marshal Schwarzenberg. p. 176

229 On the *battle of Leipzig* and its influence on the outcome of the 1813 campaign, see Note 31. The events that led up to the battle are described below in the text. p. 176

230 The *Confederation of the Rhine (Rheinbund)*—a union of sixteen states in Southern and Western Germany (Bavaria, Württemberg, Baden and others) established in July 1806 under the protection of Napoleon I, after he had defeated Austria in 1805. Later on twenty other states in Western, Central and Northern Germany joined the Confederation. It fell apart in 1813 after the defeat of Napoleon's army. p. 179

231 The peace negotiations at Châtillon (on the Seine) between representatives of the allied powers, members of the sixth anti-French coalition, and Napoleon I's representative took place from February 4 to March 19, 1814. The Allies' main condition for concluding peace was Napoleon's renunciation of all conquered territories and France's return to the 1792 borders. The negotiations were broken off because of Napoleon's categorical rejection of this condition. p. 180

232 The *Young Guard*—the name given to regiments of Napoleon's Imperial Guard formed in 1807 and later, as distinct from earlier formed regiments, which were called the Old Guard. Conditions of admission of officers and men to the Young Guard were not so strict as for the Old Guard, for which it provided reinforcements. p. 180

233 The first *peace of Paris* was concluded on May 30, 1814 between the main members of the sixth anti-French coalition (Russia, Austria, Britain and Prussia) and France after Napoleon's defeat. Under this treaty France was deprived of all territories conquered since 1792, except for several border fortresses and Western Savoy, which were taken away by the second peace of Paris. This was signed between the same countries on November 20, 1815, after the short-lived restoration of Napoleon's rule and his second deposition. The second peace treaty of Paris restored France to its frontiers as of January 1, 1790. p. 186

234 At the *battle of Ligny* (Belgium) on June 16, 1815 the Prussian army under Blücher, marching to join up with the Anglo-Dutch army of Wellington, was defeated by Napoleon. But Blücher's troops escaped from their pursuers commanded by Marshal Grouchy and reached the battlefield of Waterloo at the decisive moment on June 18 (see Note 30), thereby determining the outcome of the battle in favour of the Allies. p. 186
When ordering this article for *The New American Cyclopaedia* Charles Dana wrote to Marx on May 8, 1857: “Artillery should give the whole science and practice of that arm, and everything relating to it, with the single exception of what relates to the casting of guns, which will come under another head.”

As we see from Engels’ letter to Marx of July 11, 1857, he was going to start writing the article “Artillery”, as well as the article “Army”, immediately after finishing smaller articles beginning with A from Dana’s first requested batch. But busy with the “Army” and articles beginning with B, he did not begin “Artillery” till after October 19. On that day he wrote to Marx: “Now I set to writing ‘The History of Cannon’.” In subsequent letters (Engels to Marx, October 29 and November 15 and 17, and Marx to Engels, October 31, November 13, 1857 and January 23, 1858) the article in question was also called “The History of Cannon” or simply “Cannon”. Marx and Engels apparently did not expect that it could still be inserted in the respective volume of articles beginning with A. However, it was finished by the end of November and sent to New York on the 27th of that month, as can be seen from Marx’s notebook, and was therefore in time for inclusion in Volume II of the *Cyclopaedia* under its original title “Artillery”.

Some of the sources Engels used when writing the article are mentioned in the text. The article “Artillery” in *Encyclopaedia Britannica* (Vol. III, Edinburgh, 1853) and German encyclopaedic publications were of great help to him. Engels’ notes on the calibres of guns used in the Prussian artillery, presumably compiled from a military reference book, are extant. p. 188

A reference to the seventh-century Arab conquest of Mesopotamia, Persia, Syria, Palestine, Egypt and other countries, and the formation of the Arabian Caliphate. p. 189

This refers to *Epistolae fratris Rogerii Baconis, de secretis operibus artis et naturae et de nullitate magiae*. The date of its writing has not yet been exactly established, though in nineteenth-century literature on the history of the art of war it is often dated 1216 (Engels also gives this date). In later researches, however, this work is believed to date to the 1240s. The first edition of the book was published in Paris in 1542. p. 189

In 1118 the army of Alfonso I of Aragon besieged the city of Saragossa (Aragon), held by the Mohammedans from 712, and captured it. This was a stage in the reconquest of the territories on the Iberian Peninsula seized by the Arabs and African Berbers (Moors) during the Arab conquests in the early eighth century. The main role in this reconquest, which began in the eighth to ninth centuries, belonged to the Spanish kingdoms of Castile and Aragon, and to Portugal. In the second half of the twelfth century it was interrupted by the invasion of the peninsula by the Almohads, a Mohammedan sect that had united around itself mountain Berber tribes and subdued Algeria, Tunisia, Morocco and Mohammedan Southern Spain under its first Imam, Caliph Abd-el-Mumen. Early in the thirteenth century, Castile and Aragon, supported by the crusaders, defeated the Almohads and resumed the reconquest. In 1236 the Castilians captured Cordova, capital of the former Cordovan Caliphate (which had disintegrated in 1031), and by the end of the thirteenth century only the Emirate of Granada in the south remained in the possession of the Mohammedans. In 1492 it was conquered by the Spaniards. Later in the text Engels mentions some episodes from the history of the reconquest. p. 189
239 The siege of the Puy Guillaume castle (Western France) by the English took place at the beginning of the Hundred Years' War (1337-1453) between England and France (see Note 25).

The German knights in Prussia—knights of the Teutonic Order founded in 1190, during the third crusade. In the thirteenth century it conquered Eastern Prussia by subjugating and annihilating the local Lithuanian population and this land became the Order's base for aggression against Poland, Lithuania and Russian principalities. In 1237 the Teutonic Order united with the Livonian Order, another German Order, that had settled in the Baltic area. After the battle of Chudskoye Lake (Ice Battle) in 1242 and still more after that of Grünwald in 1410, the Order declined and subsequently retained only a small part of its possessions.

240 At the battle of Fornovo (Northern Italy) on July 6, 1495 the forces of the feudal states of Northern Italy attacked the army of Charles VIII of France returning from its expedition to Italy. The battle, which was won by the French, belongs to the initial stage of the Italian wars of 1494-1559 (see Note 26).

241 See Note 139.

242 The battle of Renty (Flanders) took place on August 13, 1554, during the war of Henry II of France, in alliance with the German Protestant princes, against Charles V, Holy Roman Emperor and King of Spain. The Spanish army forced the French to raise the siege of Renty and retreat to their frontiers.

243 See Note 20.

244 See Note 142.

245 The battles mentioned were fought between the army of Gustavus Adolphus of Sweden and the German imperial army during the Thirty Years' War (see Note 142). In December 1630 Gustavus Adolphus' army approached the fortress of Greifenhagen an der Oder and after storming it twice compelled its garrison to leave it. In April 1631 Gustavus Adolphus' troops took Frankfort on the Oder by storm.

246 At the battle of Malplaquet on September 11, 1709—one of the major battles in the War of the Spanish Succession (see Note 16)—the allied armies of Britain, Austria and the Netherlands under Prince Eugène of Savoy and the Duke of Marlborough defeated the French army under Marshal Villars.

247 See Note 85.

248 See Note 86.

249 On the battle of Friedland between the French and Russian armies on June 14, 1807, see this volume, p. 78.

On the battle of Wagram see Note 72.

250 At the battle of Pirmasens (Rhenish Palatinate) on September 14, 1793, during the war of the first European coalition against the French Republic, the Prussians defeated the French Moselle army.

251 On the bombardment of Sveaborg see Note 178.

252 Having undertaken to write about some military leaders and politicians in accordance with Dana's request for articles beginning with B (see Note 49), Marx
asked Engels' opinion of them, including Bugeaud (see his letters to Engels of September 17 and 21, 1857). In his letter of September 22, 1857 Engels described Bugeaud's military activities in Algeria. Marx took this into account when working on the article later, probably in November. The article was finished by the end of that month and sent off to New York on the 27th, together with Engels' "Artillery", as is seen from the entry in Marx's notebook.

Extant excerpts show that Marx used the following sources: M. Wagner, *The Tricolor on the Atlas; or, Algeria and the French Conquest* (London, Edinburgh and New York, 1854) and D. Stern, *Histoire de la révolution de 1848* (Vol. I, Paris, 1850). Marx possibly also used the data on Bugeaud's activities in Algeria contained in Engels' first version of the article "Algeria" and left out by the *Cyclopaedia* editors (see Note 74).

253 The *sieges* and *battle of Ordal* took place during the Peninsular war of 1808-14 (see Note 12).

254 The *Hundred Days* — the period of the short-lived restoration of Napoleon's empire, which lasted from the moment of his arrival in Paris from Elba on March 20, 1815 to his second deposition on June 22 following his defeat at Waterloo.

255 The French invasion of Spain was undertaken by decision of the Verona Congress of the Holy Alliance (an alliance of European monarchs founded in 1815 by Russia, Austria and Prussia) for the purpose of suppressing the second bourgeois revolution in Spain, 1820-23. French troops under the Duke of Angouléme entered Spain in 1823 and restored the absolutist regime of Ferdinand VII. They remained in the country until 1828.

256 In the official report of the debates in the Chamber of Deputies on January 25, 1834, published in *Le Moniteur universel* (No. 26, January 26, 1834), the editors omitted Dulong's remark on Bugeaud's statement. But on January 30 (Issue No. 30) they had to explain references made by other newspapers to the incident between the two generals and reports on the duel between them.

257 The Paris republican uprising against the July monarchy on April 13-14, 1834, like the revolutionary actions in some other French towns, was in response to the powerful proletarian uprising that had begun in Lyons. As in Lyons, the uprising in Paris was directed by the secret republican-democratic Society of the Friends of the Rights of Man and the Citizen. For two days the Paris workers, the main participants in the uprising, carried on bitter barricade fighting against government troops.

258 The *treaty of Tafna* between Bugeaud and Abd-el-Kader was signed on May 30, 1837, after the French resumed military operations against Abd-el-Kader in 1835, in violation of the peace treaty concluded a year earlier. The French were forced to conclude the new peace (the treaty of Tafna) since they had failed to achieve substantial results and required military forces to subdue the insurgent regions of Eastern Algeria. Under the treaty of Tafna France again recognised the independence of Abd-el-Kader's state in Western Algeria, except for Algiers, Oran, Arzew and other coastal towns. In 1839 the peace was again violated by the French, and the Algerian liberation struggle under Abd-el-Kader (see Note 80) was resumed.

259 By 1844 Bugeaud and other French generals had subdued Western Algeria by bribing the local feudal lords and terrorising the Algerian tribes. Taking
advantage of the Sultan of Morocco's refusal to extradite Abd-el-Kader who had crossed into Morocco. Bugeaud invaded that country. On August 14, 1844 he defeated the Moroccans in the battle of the Isly. Under the Tangiers treaty of September 10, 1844, Bugeaud made the Sultan drive Abd-el-Kader out of Morocco and disband the frontier detachments. But the threat of interference by Britain, worried by the prospect of French expansion in North Africa, prompted Bugeaud to withdraw his troops from Morocco. p. 213

The differences between Bugeaud and Guizot were caused by the former's intention to use the suppression of the Algerian revolt of 1845-47 for further conquests in North Africa (his expedition of May 1847 to Kabylia also served this purpose), and for a new invasion of Morocco. Though a supporter of an active colonial policy in general, on this occasion Guizot feared that Bugeaud's actions would aggravate the already sharp Anglo-French contradictions. p. 213

The posts in the Provisional Government of the French Republic set up on February 24, 1848 were held mainly by moderate republicans (Lamartine, Dupont de l'Eure and others). There were also three representatives of the Réforme social-democratic party—Ledru-Rollin, Flocon and Louis Blanc, and a worker, Albert (real name Martin). p. 213

Marx informed Engels of his intention to write an essay on Brune in his letter of September 17, 1857. But he apparently did not begin working on it before the end of November. There is no entry in Marx's notebook about its dispatch to New York. One can only assume that the word "etc." in the entry of January 8, 1858 about the dispatch to Dana of Marx's "Bolivar" and Engels' "Campaign", "Cannonade" and "Captain" refers to this essay. On February 1, 1858, in a letter to Engels, Marx mentioned it among the articles beginning with B already written and sent off to the United States.

Marx's excerpts on the subject from Fr. Chr. Schlosser's book Zur Beurtheilung Napoleon's und seiner neusten Tadler und Lobredner, Frankfurt am Main, 1835 (probably made long before Marx started writing the essay), and a rough draft (more detailed than the final version) of the essay based mainly on Schlosser's book and on relevant articles in the Biographie universelle (Michaud) ancienne et moderne (Vol. 6, Paris, 1854) and The English Cyclopaedia (Vol. V, London, 1856) are extant (see this volume, pp. 397-401). p. 215

The Club of the Cordeliers—a popular club founded in Paris in July 1790, during the French Revolution. It derived its name from the former convent of Franciscan Cordeliers where its members met. Its official name was the Société des amis des droits de l'homme et du citoyen (Society of the Friends of the Rights of Man and the Citizen). With the Jacobin Club it played an important part in France's political life. Originally it united representatives of various trends which later on made up the Right (Dantonist) and the Left (Hébertist) wing of the Jacobins. With the growth of the revolution the Left elements prevailed. During the revolutionary-democratic Jacobin dictatorship the club was the stronghold of the Hébertists, existing until March 1794. p. 215

The anti-monarchist demonstration of Paris artisans and workers in the Champ de Mars took place on July 17, 1791. It was directed by the leaders of the Club of the Cordeliers who drew up a petition to the Constituent Assembly demanding the abdication of the King. The demonstration was fired on by government troops and the National Guard of the city's bourgeois districts
commanded by La Fayette with the support of big bourgeois constitutional-monarchist circles.

On September 2-5, 1792 Paris was the scene of popular unrest caused by foreign intervention and internal counter-revolution. The people seized prisons and staged improvised trials of imprisoned counter-revolutionaries, many of whom were executed. This Red Terror was an act of revolutionary self-defence.

At the battle of Hondschoote on September 6-8, 1793, during the war of revolutionary France against the first European coalition, the French defeated the allied armies of Britain, Hanover, the Netherlands and Austria.

Counter-revolutionary insurrections in the Gironde, Calvados and many other departments of Western, Southwestern and Southeastern France were raised in the summer of 1793 by the Girondists (the party of the big commercial and industrial bourgeoisie) allied with the royalists. The Girondists revolted against the Jacobin government and the revolutionary masses on the pretext of defending the rights of the departments to autonomy and federation. In the autumn of 1793 the counter-revolutionary “federalist” movement was suppressed by troops of the French Republic.

The Committee of Public Safety (Le Comité de salut public)—the leading body of the revolutionary government of France, established in April 1793. During the Jacobin dictatorship (from June 2, 1793 to July 27, 1794) it headed the struggle against home and foreign counter-revolution and supervised the carrying out of revolutionary measures.

A reference to Dantonists who survived after the execution of Danton and his comrades-in-arms and who expressed the interests of the so-called new bourgeoisie which emerged during the revolution. With other counter-revolutionary forces they took an active part in the coup d’état of the 9th Thermidor (see Note 63).

On the 12th and 13th Vendémiaire (October 4-5), 1795 government troops under General Bonaparte suppressed a royalist revolt in Paris.

In May 1796 Babeuf and his closest associates, who sought to overthrow the existing regime by revolution and to establish the community of goods, were arrested. In the autumn of that year, the Babouvists made an attempt to release them and to raise a revolt in the Grenelle military camp under the slogan of overthrowing the Directory (see Note 184) and restoring the Jacobin Constitution of 1793. The revolt was put down by government troops.

At the end of August 1799, during the war of the French Republic against the second anti-French coalition, an Anglo-Russian corps under the Duke of York landed at Helder (Northern Holland) for the purpose of abolishing the Batavian Republic which was dependent on France, restoring the pre-revolutionary regime and seizing the Dutch fleet. But in October the allied troops were routed by the Franco-Dutch army commanded by Brune. On October 18 the Duke had to sign the Alkmar capitulation which, besides the return of French
and Dutch prisoners-of-war, provided for the withdrawal of the anti-French coalition troops from Holland.

274 See Note 68.

275 The *camp at Boulogne* was set up by Napoleon I in 1803-05 as a base for invading England across the Channel. Napoleon was compelled to abandon his plan by the defeat of the French fleet in the war with Britain and the formation in Europe of a new, third, anti-French coalition including Britain, Russia and Austria.

276 See Note 28.

277 A reference to the act of the French Senate deposing Napoleon and restoring the Bourbon dynasty. It was passed after the entry of the armies of the sixth anti-French coalition into Paris on March 31, 1814.

278 See Note 254.

279 See Note 30.

280 Marx wrote the article on Bolivar at a time when the history of the Latin American countries' war for independence (1810-26) had not yet been adequately studied. Books and memoirs by European adventurers who had taken part in the war out of mercenary motives were widely read at the time. Many of these authors, having failed to achieve their aims in Latin America, gave a distorted idea of the war of independence. Examples of such books are *Memoirs of Simon Bolivar* by Ducoudray Holstein, a Frenchman who was at one time Bolivar's chief of staff and had become his personal enemy, *A Narrative of the Expedition to the Rivers Orinoco and Apuré* by G. Hippisley, an English deserter from Bolivar's army, and *Memoirs of General Miller* by John Miller, which dealt unscrupulously with the notes of William Miller (John Miller's brother) who fought for the independence of Peru. Marx's excerpts from the first two books are extant. The third is mentioned in Marx's preparatory materials for the article and in the article itself. The authors of these books attributed numerous imaginary vices to Bolivar (perfidy, arrogance, cowardice) and greatly exaggerated his actual shortcomings (love of the spectacular and ambition). Bolivar's struggle against federalist and separatist elements and for the unification of Latin American republics was presented as a striving for dictatorship. There were also downright factual inaccuracies, such as Ducoudray Holstein's statement that in 1810 Bolivar refused to take part in the struggle for the independence of Venezuela, or the allegation that his participation in Miranda's arrest was motivated by personal considerations (in fact he was convinced of the latter's presumed betrayal).

In reality, as later objective researches confirmed, Simon Bolivar played an outstanding role in Latin America's struggle for independence, rallying for a time the patriotic elements among the landowning creoles (Latin Americans of Spanish descent), the bourgeoisie and the masses, including Indians and Negroes. His activity, contradictory though it was, helped to liberate several Latin American countries from the Spanish yoke, to establish republican forms of government, and to carry out progressive bourgeois reforms.

Marx had only the above-mentioned sources at his disposal. Hence his one-sided view of Bolivar's personality in this article, in his letter to Engels of February 14, 1858, and in *Herr Vogt* written later (see present edition, Vol. 17,
pp. 219, 328). His attitude to Bolivar was to a certain extent determined by the fact that the sources he used exaggerated Bolivar's striving for personal power, and over-emphasised the Bonapartist features of his policy, against which Marx and Engels waged a relentless struggle. Nevertheless, Marx pointed out the progressive aspects of Bolivar's activity, such as his liberation of Negro slaves, and on the whole appreciated the revolutionary anti-colonial struggle for national liberation in Latin America.

There is an entry in Marx's notebook on the dispatch of "Bolivar" to New York on January 8, 1858, together with some articles beginning with C by Engels. In his letter to Marx of January 25, Charles Dana acknowledged receipt of the article. At Dana's request Marx had also enclosed a list of sources used.

281 Emperor Napoleon I was proclaimed King of the Kingdom of Italy formed in Northern Italy in 1805 in place of the Italian Republic. His stepson Eugène Beauharnais was appointed Viceroy.

282 On April 19, 1810, the colonial regime was overthrown in the city of Caracas and a new government set up consisting of creole landowners, merchants and intellectuals. Under the influence of the radical Patriotic Society headed by Miranda and Bolivar, an independent Venezuelan Republic was proclaimed at a congress in Caracas on July 5, 1811. The Caracas events served as a signal for uprisings against the Spanish colonial authorities in other Latin American countries (on the general course of this struggle see Note 219). In New Granada, bordering on Venezuela, Spanish rule was overthrown in the capital city of Bogota, in the seaport city of Cartagena and in Quito, the main city of the province of Quito (now Ecuador). In this last, however, it was soon restored. When the Venezuelan Republic fell in July 1812, Cartagena became one of the strongholds of struggle for its restoration. The further struggle, in which the establishment of a second Venezuelan Republic (August 1813-July 1814) was a remarkable episode, ended in a temporary restoration of Spanish rule in the former colonies except La Plata. At this stage the liberation struggle was hampered by the narrow class policy of the creole landowners who would not satisfy the peasants' demands and preserved Negro slavery and the inequality of Indians.

283 The federal Republic of New Granada was established in 1813 as a result of anti-Spanish uprisings in various towns and provinces of the New Granada viceroyalty. It united the insurgent regions which were bound by a federal treaty and acknowledged the supremacy of the Congress of New Granada. The Republic fell in 1816 owing to superior Spanish forces and discord among the autonomous governments of the different regions.

284 A reference to the Republic of Haiti (Hayti) established as a result of the uprising of Negro slaves and mulattos on the island of Hispaniola (the western part belonged to France and the eastern part to Spain, which was obliged to cede it to France in 1795) and their liberation struggle against the French, British and Spanish colonialists which had lasted since 1790. In 1804 the island was proclaimed independent and its old Indian name—Haiti—restored.

285 A reference to the battles between the Venezuelan insurgent army and Spanish forces in New Granada. In the summer of 1819 Bolivar's army marched over the Andes to liberate New Granada. The Spaniards were defeated in a decisive
battle on the river Boyaca on August 7. Bolivar's victories led to the liberation of the most of New Granada and to the establishment in December 1819 of a united republic of Greater Colombia, which included Venezuela and New Granada and was joined by Quito (Ecuador) in 1822, after the Spaniards had been driven out. p. 228

The revolution on the Isle of Leon—an uprising against the absolutist regime in Spain, raised in January 1820 by army officers headed by Colonels Riego and Quiroga. Its aim was to restore the 1812 Constitution abrogated by the government of Ferdinand VII in 1814. The leaders of the uprising made use of the discontent among the soldiers of the expeditionary army concentrated in Cadiz (seaport on the Isle of Leon) to be sent against the Latin American patriots. These events sparked off a second bourgeois revolution in Spain (1820-23) which thwarted the government's plans to send large military contingents to suppress the liberation movement in its Latin American colonies. The revolution was put down by the forces of internal reaction and by French intervention (see Note 255). p. 228

Llaneros—inhabitants of the llanos, vast grassy plains in the north of South America, mostly free mestizo cattle-breeders. Boves, a Spanish agent, exploited their hostile attitude to the creole landowners to recruit mestizo troops to fight against the patriots of Venezuela and New Granada in 1813-14. But in 1816 the llaneros, under their new, mestizo leader Joseph Antonio Paez, joined the liberation army of Bolivar who promised to give them land. The llanero horsemen took part in many of Bolivar's operations, including the victorious battle of Carabobo mentioned in the text (June 24, 1821), which led to the almost complete expulsion of the Spaniards from Venezuela. p. 229

In 1821, a number of countries of Central America overthrew the rule of the Spanish colonialists, proclaimed their independence and were for a short time incorporated in Mexico, but in 1823 formed a federation—the United States of Central America. In 1839 the federation split into five republics—Guatemala, Honduras, Salvador, Nicaragua and Costa Rica. Panama, which was part of the New Granada viceroyalty, was incorporated in the Republic of Greater Colombia as a consequence of the 1821 uprising. p. 230

The "Bolivian Code"—a reference to the Constitution of the Republic of Bolivia adopted by the Bolivian inaugural congress on November 6, 1826.

The Code Napoléon—the code of French civil law promulgated in 1804—exerted a great influence on legislation in many European and a number of Latin American countries. p. 230

The Pan-American congress in Panama met from June 22 to July 25, 1826. It adopted a resolution on the "perpetual confederation" of Latin American republics, a mutual defence treaty and a military convention. But not one of the republics ratified the congress decisions. The plan for establishing a Latin American Confederation, as well as Bolivar's later, less extensive plan for an Andes Federation (comprising three republics governed by him—Peru, Bolivia and Greater Colombia), fell through because they lacked an economic basis, and because of divisions between and among the ruling landowners and bourgeoisie of the various states. The sharpening of these contradictions resulted in the overthrow of Bolivar's rule in Peru in 1827 and in Bolivia in 1828, and in the disintegration of Greater Colombia, from which Venezuela separated in 1829 and Ecuador in 1830. p. 231
These are the basic terms of the peace treaty between Peru and Colombia concluded in Guayaquil in September 1829.

The list of the sources attached by Marx to this article at Dana's request (see Note 280) contains the 1831 French edition of Ducoudray Holstein's book, whereas Marx's excerpts show that he used the two-volume English edition published in London in 1830. There is also an inaccuracy as regards the second book (published in two volumes in London in 1828-29). Its author is John Miller, but it was not he but his brother General William Miller who was in the service of the Republic of Peru and who is supposed to be telling the story.

Having finished his share of Dana's first request for articles beginning with B and the essay "Artillery", Engels began writing articles beginning with C, the first of which is "Campaign". Dana's C list has not come down to us. From Engels' letter to Marx of January 28, 1858 one can see that this list did not satisfy Engels, who asked his friend to send Dana the C list he himself had drawn up (see present edition, Vol. 40). By that time Engels had already written several articles beginning with C and begun collecting material for others, "Cavalry" in particular. On January 7, 1858 he sent Marx, in London, the three articles "Campaign", "Cannonade" and "Captain", which, according to Marx's entry in his notebook, were dispatched to New York on January 8, together with the article "Bolivar". A fortnight later, Engels sent some more articles beginning with C to Marx, who forwarded them to the United States on January 22. Meanwhile a new request for articles beginning with B had arrived from Dana and as it was urgent Engels had to put off his articles beginning with C.

In writing the article "Campaign" Engels made use of Clausewitz's Vom Kriege, which he told Marx he was studying in his letter of January 7, 1858.

On the battle of Marengo see Note 69.

At the battle of Hohenlinden (Bavaria) on December 3, 1800 the French army under Moreau defeated the army of Archduke John of Austria. The outcome of these two battles was of great importance for France's victory over the forces of the second European coalition.

On September 20, 1792 at Valmy (Northeastern France), the French revolutionary forces under Dumouriez and Kellermann halted the Austro-Prussian interventionists, under the Duke of Brunswick, and a detachment of French émigré nobles accompanying him. The interventionists were compelled to retreat and on October 5 were thrown back over the French border.

The "Carabine" belongs to the second group of short articles beginning with C Engels sent to Marx after the dispatch of the first three articles of this group on January 7, 1858 (see Note 293). On January 22 Marx made an entry in his notebook about the dispatch of the following seven articles he had received from Engels by then: "Carabine", "Carabineers", "Carcass", "Carronade", "Cartouch", "Cartridge" and "Case Shot". The second article was not published in The New American Cyclopaedia and the manuscript is not extant.

In The New American Cyclopaedia the article "Carabine" ends with the sentence: "Several improvements in breech-loading carabines have recently been made in the United States, and submitted for trial to an ordnance board at West
Note (July, 1858).” The date quoted shows that this was added by the editors.

p. 238

297 A reference to the American War of Independence (see Note 60).  p. 241

298 See Note 35.  p. 242.

299 The article “Berme” was written by Engels in compliance with Dana’s second request for articles beginning with B contained in his letter of January 8, 1858. On January 23, Marx forwarded Dana’s letter to Engels and asked him to return it. Reproducing the list of articles beginning with B in his letter to Engels of February 1, 1858, Marx wrote: “New B’s are: ‘Biddasso’ (battle of), ‘Blenheim’ (ditto), ‘Burmah’ (war in), ‘Bomarsund’ (siege), ‘Borodino’ (battle), ‘Brescia’ (assault), ‘Bridge-Head’, ‘Bülow’, ‘Buda’ (siege of), ‘Beresford’, ‘Berme’. When Dana says, ‘most of them I asked you before’, he is mistaken, and is confusing your list of B’s with his own” (see present edition, Vol. 40). Dana also requested for an article on Bengal Rebellion (i.e. on the Indian national liberation uprising of 1857), but Engels found it impossible to do it within the time stipulated (see his letter to Marx of January 25, 1858. The description of this uprising was included in the article “Hindoostan” published in The New American Cyclopaedia later). Engels started the other articles beginning with B and by January 29 he had three—“Berme”, “Blenheim” and “Borodino”—ready. Marx sent them off to New York the same day, as can be seen from his notebook. In February and March Engels continued to fulfil this order and at the same time resumed work on the articles beginning with C which he had been forced to interrupt.

p. 248

300 For this item Engels made excerpts from the article “Höchstädt” in Brockhaus’ Allgemeine Encyclopädie der Wissenschaften und Künste edited by I. S. Ersch and I. G. Gruber. These excerpts are extant.  p. 249

301 At the battle of Höchstädt on September 20, 1703 the allied French and Bavarian troops under Villars, Marshal of France, defeated the Austrian army. This battle and that of Blenheim were fought in the War of the Spanish Succession (see Note 16).  p. 250

302 In the article on the battle of Borodino (1812), which was a major event in Russia’s Patriotic War against Napoleon’s invasion, Engels gave an idea of the scale of the battle and of the stubbornness and staunchness displayed by the two belligerent armies, and presented a more objective picture than the authors of many West European works on military history, but he did not avoid inaccuracies in elucidating some of its aspects. Engels was influenced to a certain extent by the German historian Bernhardi’s book about General Toll, which he mentions at the end of the article and which contains a number of tendentious assertions emanating from Toll himself and from his biographer (Th. von Bernhardi, Denkwürdigkeiten aus dem Leben des ... Grafen von Toll, vols. 1-4, Leipzig, 1856. Engels’ notes from the second volume are extant). In the main the inaccuracies concern the evaluation of the results of the battle, which Engels was inclined to consider a victory for Napoleon’s army, according to the tradition in the West, and the role of Mikhail Kutuzov, Commander-in-Chief of the Russian army. Kutuzov was not passive during the battle but constantly influenced its course by countering and thwarting Napoleon’s plans. In particular, it was on his orders that the Russian cavalry made a successful raid into the rear of the French left wing. The outcome of the battle was highly
unfavourable for Napoleon: he failed to destroy the main forces of the Russian army and himself sustained heavy losses. This led to a turn in the course of the war in favour of Russia and to the defeat of Napoleon's army, despite the fact that the Russians had temporarily to leave Moscow.

Later researches led to substantial corrections concerning the correlation of forces and the losses sustained by the two armies. They showed that at the time of the battle the French had 135,000 men and 587 guns, and the Russians 120,000 men and 640 guns. French losses amounted to 58,000 killed and wounded, while the Russians lost about 44,000 men.

There is an entry in Marx's notebook on the dispatch of this article to New York on January 29, 1858.

303 See Note 55.

304 A reference to the raid of Uvarov's cavalry corps and Platov's Cossack corps sent by Kutuzov to outflank the advancing French troops. Their appearance on the flank and in the rear of the French made Napoleon hold back the attacks in the centre, thus enabling Kutuzov to regroup the Russian forces to repulse subsequent attacks.

305 The "Bridge-Head", "Buda" and other articles beginning with B were written by Engels in fulfilment of Dana's second request for B articles (see Note 299). The time of writing of these two articles can be established only approximately. On February 12, 1858 Marx wrote in his notebook: "French bank, etc. Buda, Bidassoa, Bridge-Head." This presumably means that, according to the accepted form of settling accounts with the editorial board of the New-York Daily Tribune (including accounts for the articles for The New American Cyclopaedia published under its aegis), Marx had drawn a bill on it on account of the fee for these articles, although it is known from other sources that the article "Bidassoa" was still not finished by the last week in February. However, we may assume that the other two articles were either ready or nearing completion by that time.

306 In this article Engels gives a short account of some results of his study of the 1848-49 revolutionary war in Hungary. He had already written about the course of this war in the Neue Rheinische Zeitung (see present edition, vols. 8 and 9) and in the early 1850s intended to devote a special work to it and to the military events of the Italian revolution. The sources Engels used—memoirs of the Hungarian generals Görgey and Klapka—are mentioned in the article itself. On when it was written see Note 305.

307 The printing establishment of the University of Pest was accommodated in the observatory building from 1810 to 1927.

308 A reference to the Itinerarium Antonini compiled about 300 B.C. and showing the most important routes of the Roman Empire, populated points along them, and the distance between them.

309 See Note 159.

310 Engels planned to write the articles "Camp" and "Catapult" in January 1858 but at first he did not have the necessary sources. On January 7 and 14 he asked Marx to go to the British Museum and collect the necessary material. Marx's letter to Engels of February 1 shows that Marx complied with this request a little later. No direct information is available about the progress of
work on these articles, nor is there any entry in Marx's notebook on their dispatch to New York. In a letter to Marx of February 18, 1858 Engels wrote that he had enclosed "a few small pieces for Dana". It can be assumed that this refers to the articles in question and probably to the article "Coehorn" on which Engels was working about the same time, as can be seen from the Marx-Engels correspondence.

311 Levites—members of the tribe of Levi who assisted the priests of the Hebrew temple.

Tabernacle—a tent used as a temple.

312 Augurs—Roman religious officials who foretold the future by observing the flight, cries and entrails of birds, etc., before all important state acts.

Gnomon—an ancient astronomical instrument.

313 A reference to the battle of Vercellae (Northern Italy) in 101 B.C., at which the Roman general Marius defeated the Germanic Cimbri tribe. This victory ended Rome's war against the Cimbri and Teutons (113-101 B.C.), who had invaded South Gaul and Italy several times.

314 The siege of Jerusalem by the Roman general Vespasian and later, after he became Emperor, by his son Titus, took place in A.D. 68-70, during the Judaean war (A.D. 66-73) caused by the Jewish uprising against Roman domination. After the capture of the city walls the besieged inhabitants continued fighting for a long time in the Temple of Jerusalem and in the streets.

315 Letters exchanged by Marx and Engels on January 14, 1858 show that originally it was Marx who intended to write this article. But owing to lack of time he could not obtain the necessary sources, whereas Engels had comprehensive material on Coehorn collected when studying problems of military history. Engels therefore undertook to write the article. No precise data is available when he wrote it. It might have been written with "Camp" and "Catapult" and finished by February 18 (see Note 310).

316 The unsuccessful siege of the French-held fortress of Maestricht in the Netherlands by the Dutch under William III of Orange in July and August 1676 and the battles of Senef, Cassel, St. Denis and Fleurus took place during the war of 1672-79 waged by France, in alliance with Britain (who withdrew in 1674) and Sweden, against the Netherlands and the Spanish and Austrian Habsburgs. The war, caused by commercial rivalry between France and the Netherlands, and by Louis XIV's desire to seize the South (Spanish) and North Netherlands, led to the territorial expansion of the French monarchy but failed to achieve its main purpose—the conquest of Holland.

317 The peace of Nimeguen, concluded by Louis XIV's government with Holland and Spain in 1678 and with the Austrian Habsburgs in 1679, ended the war between them and France started in 1672. By this peace France received the Franche Comté and several towns in the Spanish Netherlands. Holland recovered the fortress of Maestricht and the hereditary lands of the House of Orange but in return acknowledged the French colonial conquests in Guiana and Senegal.

318 The French captured the fortress of Bergen-op-Zoom in 1747, during the War of the Austrian Succession (see Note 38).
The campaigns from 1688 to 1691 took place during the war of 1688-97 between France and the so-called Augsburg League comprising Holland, Britain, Spain, the German Empire under the Austrian Habsburgs, Savoy, Sweden and a number of German and Italian princes. The war ended with the Treaty of Ryswick (1697), which confirmed the prewar boundaries with a few alterations. France had to acknowledge the revolution of 1688 in England which brought the Dutch Stadtholder William III of Orange to the throne.

319 See Note 16.

320 In a letter to Marx dated January 25, 1858 Engels wrote that he had “to do some preliminary research on 'Bidassoa'”. On February 12 Marx drew a bill on the editorial board of the New-York Daily Tribune on account of the fee for a few articles beginning with B, including “Bidassoa” (see Note 305). At that time Engels was still working on the article, and it was not received by Marx in London till about February 22-23 (see his letter to Engels of March 2, 1858, present edition, Vol. 40). There is no entry in Marx’s notebook on the dispatch of the article to New York.

The main source used by Engels when writing “Bidassoa” was Napier's History of the War in the Peninsula and in the South of France, from the Year 1807 to the Year 1814 (vols. I-VI, London, 1828-40).

321 At the battle of Vittoria on June 21, 1813, during the Peninsular war (1808-14), the allied British, Spanish and Portuguese army under Wellington defeated the army of Joseph Bonaparte, who then had to hand over the command to Marshal Soult.

322 This sketch was drawn by Engels on the basis of the description and the plans of the battles of the Bidassoa of August 31 and October 7, 1813 given in Napier's History of the War in the Peninsula and in the South of France (Vol. VI, London, 1840, “Explanatory Sketch No. 5”). The following names are written on it: “Urogne, Rhune, Sans Cullotes, Puerto, Bayonnette, Hogsback, Comissari, Croix de Bouquets, Biriatu, Bildox, Mandale, Vera, Salinas, Irun, San Marcial, Lesaca, Peña de Haya.” In the bottom right-hand corner is the inscription: “Battle-field on the Bidassoa.”

323 Engels enclosed the article “Brescia” in his letter to Marx dated February 24, 1858. But it was not sent to New York until March 9 together with his article “Burmah”. On that date Marx's notebook has the entry: “Burman War. Brescia (battle of).”

324 The Guelphs and the Ghibellines—political parties in Italy in the twelfth-fifteenth centuries, in the period of struggle between the Roman Popes and the German Emperors. The Guelphs, supporters of the Pope, belonged to the top urban merchants and artisans. The Ghibellines, supporters of the Emperor, represented mainly the feudal aristocracy.

325 The Republic of Venice existed from the fifth century and was abolished as a result of its occupation by General Bonaparte in 1797 and the division of its territory between France and Austria under the Treaty of Campo Formio (see Note 187).

326 In his letters of February 11, 18 and 24, 1858 Engels informed Marx of his work on “Burmah” and his difficulties in obtaining material on the history of
that country and particularly the Anglo-Burmese war of 1852. On March 4 he wrote telling Marx that he had almost finished the article but was compelled to make “sundry necessary additions from another source”. An entry in Marx’s notebook shows that “Burmah” was sent to New York on March 9 (see Note 323) though Marx did not inform Engels that he had received it until March 15.

Burma became a victim of Britain’s colonial policy in the first decades of the nineteenth century. In the first Anglo-Burmese war (1824-26) troops of the East India Company seized the Province of Assam bordering on Bengal, and the coastal districts of Aracan and Tenasserim which were ceded by Burma under the Yandabo peace treaty of February 24, 1826 imposed upon it by the British. Besides, Burma was forced to pay an indemnity of £1,000,000. The second Anglo-Burmese war (1852) resulted in the British capture of the Province of Pegu, where the guerrilla movement against the invaders lasted until 1860. In the 1860s Britain imposed a number of unequal treaties on Burma and in 1885, at the end of the third Anglo-Burmese war, it annexed the whole of the country.

Engels informed Marx of his work on “Bomarsund” on February 24 and March 4, 11, 16 and 17, 1858. In Marx’s notebook there is an entry on the dispatch of this article to New York on March 19, 1858.

As can be seen from Marx’s letter to Engels of February 22 and Engels’ letters to Marx of February 24 and March 4, 11, 16 and 17, 1858, they intended to write the article “Bülow” together. Engels, who as usual had undertaken to elucidate the military aspect of the biography, looked through several works on the history of the Napoleonic wars (including those of A.H. Jomini, G. Cathcart and W. Siborne) but did not find enough information there. On March 19 Marx told Engels to cease collecting material for the article, informing him that he would write it himself since he had sufficient material about the man for a brief biography. Marx’s excerpts from Meyer’s Conversations-Lexicon (Vol. 6, Hildburghausen, Amsterdam, Paris and Philadelphia, 1843) are extant (see this volume, pp. 402-03).

Here Marx and Engels mention some colonial expeditions in which Beresford took part.

In 1806 the British took advantage of the uprising of the Boer colonists against the Dutch colonial authorities and seized South African lands around the Cape of Good Hope (Cape Colony) under the pretext that Holland, being a
vassal of Napoleon, was taking part in his wars against Britain. Officially the Cape Colony was annexed to Britain after the end of the Napoleonic wars.

In the same year a British expedition was sent to take possession of Buenos Aires, which belonged to Spain, then an ally of Napoleonic France. Meeting with no serious resistance from the Spanish colonial authorities, Beresford's detachment seized Buenos Aires but was surrounded and compelled to surrender by the Argentine patriots. A new British expedition to the Rio de la Plata in 1807 also failed.

The Portuguese island of Madeira was seized by Beresford's troops at the end of 1807 under the pretext of defending it against the French. It remained in the hands of the British until 1814.

The *Convention of Cintra* (Portugal) was signed on August 30, 1808 by Dalrymple and Junot, commanders-in-chief of the British and French armies in Portugal. It was the result of the defeat of French troops by the Anglo-Portuguese army, and of the popular uprising in the Peninsula against Napoleon's rule. The French agreed to evacuate Portugal (where they had been since autumn 1807), and the British undertook to ship Junot's troops to France where they were included by Napoleon in the 200,000-strong army with which he invaded the Peninsula for the second time in November 1808.

At the battle of Coruña (Spain) on January 16, 1809, the retreating British army of General Sir John Moore repulsed attacks by Marshal Soults French army and on January 17 and 18, covered by Beresford's division, it embarked at Coruña for Britain.

At the battle of Salamanca on July 22, 1812, the allied armies of Britain, Spain and Portugal under Wellington repulsed the French army of Marshal Marmont, which suffered heavy losses. As the result of the battle of Vittoria on June 21, 1813 (see Note 321) the main French forces were pushed back to the Pyrenees and by the end of 1813 the war had been carried onto French territory. At Bayonne (Southwestern France), on December 9-13, 1813, Wellington's troops mounted an offensive against the entrenched camp of Marshal Soults army and pressed it hard.

In 1814, during a general offensive of the armies of the sixth anti-French coalition in France, Wellington's advancing army won victories over Soult's army (on February 27 at Orthes and on April 10 at Toulouse). On April 18, after Napoleon's abdication, Soult concluded an armistice with Wellington.

A reference to Beresford's participation in suppressing the national liberation uprising against the Portuguese colonialists that began in 1817 in the Northeastern Brazilian province of Pernambuco under the slogan of the struggle for an independent republic. The movement for separation from Portugal was subsequently led by local landowners and aristocrats, who succeeded in proclaiming Brazil an empire in 1822.

Beresford supported the feudal-clerical party of absolutists, headed by Prince Dom Miguel, which crushed the Portuguese bourgeois revolution of 1820-23 and restored absolutism. But Dom Miguel did not succeed in holding power and was forced to emigrate in 1824. In 1828 he seized the Portuguese throne, and this led to the resumption of the civil war, which lasted until 1834 (see Note 157).
Engels began working on “Cavalry” in January 1858 (see his letter to Marx of January 14). But the need to write articles beginning with B (see notes 293 and 299) constantly compelled him to interrupt this work. From Engels’ letters to Marx of March 26 and April 22, we see that he prepared more intensively for the article on “Cavalry” at the end of March. Besides the sources he had used for the “Army” (see Note 109), Engels collected a large amount of new material, in particular from Theodor Mommsen’s *Römische Geschichte* (about the actions of Hannibal’s cavalry in the second Punic war), from documents and works on military history reflecting the role of cavalry in modern wars (the Seven Years’ War, the Peninsular and other Napoleonic wars). Engels mentions some of the sources in the text.

The article was ready by June 22, 1858, when it was sent to New York, as is seen from an entry in Marx’s notebook.

The Carthaginian general Hannibal turned Italy into the main theatre of the second Punic war (218-201 B.C.). In 218 B.C. Hannibal made an expedition with his mercenary army from Spain to Northern Italy, across the Alps. At the battle of the Ticino in October 218 B.C. he defeated the advance guard of one of the two Consular armies sent against him, and in December he routed them both on the Trebia. Having penetrated into Central Italy, Hannibal completely defeated the Romans at Cannae in Apulia in August 216 B.C. (Engels describes these battles in detail later in the text). His successes, however, were brought to naught by Roman victories in Spain and Sicily and a landing of Roman troops in North Africa, which prompted the Carthaginian Senate to recall Hannibal from Italy. In 202 B.C. he was defeated at Zama. The war ended with the conclusion of a peace treaty which imposed harsh terms on Carthage.

The Punic wars (264-241, 218-201 and 149-146 B.C.)—wars between Rome and Carthage, the two largest slave-owning states of antiquity, for domination in the Western Mediterranean and the conquest of new territories and slaves. As a result of the first Punic war Carthage was compelled to cede Sicily and the adjoining islands to Rome; in the second it lost its fleet and all its other non-African territories including Spain and the Balearic Islands, and had to pay an enormous indemnity to Rome. Having broken the might of the Carthaginian state, the Romans put an end to it by the third war; the city of Carthage was destroyed.

A reference to the battle of the Casilinum (near the city of Capua, Southwestern Italy) in A.D. 554, in which the Byzantine general Narses defeated the Germanic tribes of the Franks and the Alemanni. Having repulsed the invasion of the Franks and Alemanni and destroyed the remnants of the Italian Kingdom of the Ostrogoths (493-554), whose main forces had already been smashed before in an encounter with the Franks, Narses’ army established the rule of the Eastern Roman Empire (Byzantium) for a short time in Italy.

At the battles of Merseburg (933) and Lech (955) the armies of the German kings Henry I the Fowler and Otto I, his successor, defeated the Hungarians who had invaded Germany.

See Note 4.
343 On April 9, 1241, at the battle of Wahlstatt near Liegnitz (Legnica) the allied forces of Polish and German feudal lords were defeated by the Mongol invaders (see Note 136).

344 At the battle of Novara (Northern Italy) on June 6, 1513, Swiss mercenary troops in the service of the Duke of Milan defeated the French army whose main force consisted of mounted knights. This led to the failure of Louis XII's Italian campaign in 1513, one of the numerous invasions of Italy during the Italian wars of 1494-1559 (see Note 26).

345 See Note 20.

346 See Note 142.

347 On the Civil War in England see Note 27.

At the end of the paragraph Engels mentions two major battles of this war—at Marston Moor (Yorkshire) on July 2, 1644 and Naseby (Northamptonshire) on June 14, 1645—where the parliamentary army defeated the army of Charles I. Cromwell's cavalry, the core of which consisted of detachments recruited from among the yeomen and artisans, played a decisive role in these battles. Their outcome, particularly of the battle of Naseby, decided the final victory of the parliamentary forces.

348 On the battle of Mollwitz see Note 145.

Silesian wars—part of the War of the Austrian Succession (see Note 38). The first Silesian war embraced military operations between Prussia and Austria in 1740-42, beginning with the invasion of Silesia by Frederick II and ending with the conclusion of the first separate peace treaty between him and Austrians. The second Silesian war was fought by Prussia against Austria allied with Saxony in 1744-45, from the resumption of the war in August 1744 to the conclusion of a new separate peace treaty by Frederick II.

349 See Note 85.

350 Engels mentions a number of battles fought during the War of the Austrian Succession (1740-48) and the Seven Years' War (1756-63), in which cavalry played an important role.

At the battle of Hohenfriedberg in Silesia (sometimes called the battle of Striegau) on June 4, 1745, the troops of Frederick II of Prussia defeated the allied armies of Austria and Saxony. At Kesselsdorf (Saxony) on December 15, 1745 the Prussians defeated the Saxons, which made it possible for Frederick II to sign the peace treaty with Austria and Saxony which put an end to the second Silesian war (see Note 348).

At the battle of Rossbach (Prussia) on November 5, 1757, Frederick II defeated the combined forces of the French and the German states hostile to Prussia.

On the battle of Leuthen (December 5, 1757) see Note 85.

At Zorndorf (Sarinovo) on August 25, 1758, Frederick II gave battle to the Russian army, as a result of which both sides sustained heavy losses. The battle was not decisive, however, and did not prevent a new Russian offensive the following year.

351 At the battle of Würzburg (Bavaria) on September 3, 1796, during the war of the French Republic against the first European coalition, Austrian troops under
Archduke Charles defeated the French army of General Jourdan and forced it to retreat beyond the Rhine.

See Note 275.

The Grand Duchy of Warsaw—a vassal state set up by Napoleon I in 1807 under the peace treaty of Tilsit (see Note 193) and comprising some of the Polish lands earlier annexed to Prussia. In 1809, after Austria's defeat, some of the Polish lands under its rule were also incorporated into the duchy. By decision of the Congress of Vienna (1814-15) the duchy was divided among Prussia, Austria and Russia.

On the Confederation of the Rhine see Note 230.

At Dannigkow (Möckern), in Saxony, on April 5, 1813 the Russo-Prussian troops under the Russian general Wittgenstein defeated a French army under the Viceroy of Italy, Prince Eugène Beauharnais. On the participation of the Prussian general Bülow in this battle see this volume, pp. 402-03.

See Note 168.

See Note 30.

See Note 150.

See Note 172.

In 451, on the Catalaunian Plains, near the site of the chief town of the Catalaunii, now occupied by Châlons-sur-Marne, the army of Huns, conquerors of Turk descent under Attila (and also men from many tributary tribes), was defeated by the army of the West Roman general Aetius, consisting of soldiers of different nationalities: Germans, Romans, Gauls, etc. Dissension among the victors prevented the utter defeat of the Huns.

The Sepoy mutiny—the Indian national liberation uprising of 1857-59 against British rule. It started in the spring of 1857 among the Sepoy units (see Note 48) of the Bengal army and spread to vast regions of Northern and Central India. Peasants and poor artisans from the towns took an active part in the uprising, but the leaders were, as a rule, local feudal lords. The uprising was defeated because of India's lack of unity and its religious and caste differences and the military and technical superiority of the British.

Mamelukes—Turkish, Georgian, Circassian and some other Caucasian slaves from among whom the ruling dynasty in Egypt began recruiting its guard in the twelfth century. In 1250 the Mameluke top commanders seized power and set up their own state supported by a strong army. Early in the sixteenth century the state was subjugated by the Ottoman Empire and incorporated in it. But with the decay of the Empire at the end of the seventeenth century, the Mameluke feudal aristocracy in fact restored its domination in Egypt and was only under the nominal control of the Turkish Sultan. Irregular horsemen made up the bulk of the Mameluke army.

On Napoleon's expedition to Egypt see Note 5.
At the *battle of Waterloo* on June 18, 1815 General d'Erlon's corps was ordered by Napoleon to attack the left wing of Wellington's allied army with his four divisions each formed in column. In the very first attack the corps suffered heavy losses.  

At *Garcia Hernandez* on July 23, 1812, during the Peninsular war (1808-14), dragoons of the German legion in Wellington's army attacked the rearguard of the French, retreating after the defeat at Salamanca (see Note 334), and broke and dispersed the infantry square.

On the *battle of Ligny* see Note 234.

After Engels had written his articles beginning with C, his work for *The New American Cyclopaedia* was interrupted. But on March 15, 1859, Charles Dana asked Marx to write articles “Fortification” and “Infantry”. They were in fact written by Engels.

On June 10, 1859 Marx acknowledged receipt of Engels' “Fortification”, which he described as “splendid”. He wrote: “I must say I feel some twinges of conscience about having made such demands on the little spare time you have.” Dana acknowledged receipt of the article in a letter to Marx of July 30.

Engels' excerpts from the article “Fortification” in the *Encyclopaedia Britannica* (Vol. IX, Edinburgh, 1855) survive. This was however far from Engels' only source for his article (some of them are mentioned in the text). “Fortification” was published in 1859 in Vol. VII of the *Cyclopaedia*. The editors added, with an explanatory note, a table of US fortifications.

During the *War of the Spanish Succession* (1701-14) (see Note 16) the French-held fortress of *Landau* (Palatinate) was recaptured by German imperial troops in 1702. In the following year the French retook it but in 1704 the Germans again laid siege to it and forced its capitulation after three months. In 1713 the French recaptured it.

The defence of Vienna against the Turkish army that besieged it in July 1683 ended in the rout of the Turks on September 12 by Austro-German-Polish forces. The Poles under John Sobieski, who came to the relief of Vienna, played a decisive role in this rout.

The *Maximilian towers*—32 towers of special construction by Archduke Maximilian d'Este of Austria, erected around Lintz in 1826-36. They were to serve as independent forts in defensive operations.

The entrenched *camp at Bunzelwitz* (Boleslawice)—a system of field-type fortifications whose construction was begun by order of Frederick II of Prussia in 1760, during the Seven Years' War (1756-63). In 1760-62 his army took up defensive positions several times in this camp against the Austrian and Russian armies.

The *lines at Torres Vedras* (near Lisbon) were built by order of Wellington in 1810 to protect the Anglo-Portuguese army against the French. Consisting of three rows of powerful fortifications, these lines played an important role in
the Peninsular war (1808-14). In 1810-11 they helped to halt the offensive of Marshal Masséna's army on Lisbon.

The French lines of Weissenburg (Alsace) were fortifications built in 1706, during the War of the Spanish Succession (1701-14), by the army of Marshal Villars as a defensive position against the German imperial forces. Subsequently the lines were improved by Louis de Cormontaigne. A particularly fierce battle for these fortifications developed between the French and the Austrians during the war of the French Republic against the first European coalition (1792-97).

On the Austrian entrenchments before Verona and their role in the military operations of the counter-revolutionary Austrian army against Piedmontese troops in 1848, see Engels' work Po and Rhine and his article “The Austrian Hold on Italy” (present edition, Vol. 16, pp. 211-55 and 183-89). p. 339

375 In late 1848 and early 1849, during an Austrian offensive, the entrenched camp and fortress of Komorn (Komárom), Northwestern Hungary, remained in the hands of the Hungarians in the rear of the Austrians. From January to April 1849 the fortress withstood a siege by the Austrians. After the siege was lifted on April 19, as a result of a successful Hungarian offensive and the restoration of the entrenched camp at Komorn, the Hungarians twice resisted superior Austrian forces—on July 2 and 11, 1849. Though in the end the Austrian enemy managed to take only part of the Komorn fieldworks, the general war situation prompted the Hungarian army to retreat from the fortress, whose defence was entrusted to General Klapka's corps. The garrison held out until September 27, 1849. p. 339

376 Marx received Dana's request for the "Infantry" and "Fortification" articles in the spring of 1859 (see Note 367). Engels undertook to write both. However, he could not begin work on "Infantry" until the end of August, after finishing "Fortification" and writing articles for the London Das Volk and the New-York Daily Tribune, as well as a review of Marx's book A Contribution to the Critique of Political Economy (see present edition, Vol. 16). In his letters to Marx of September 23-27 and of October 3 he informed him of the progress of work on "Infantry". Marx acknowledged receipt of the article on October 10, 1859.

In writing the article Engels made extensive use of W. Rüstow's Geschichte der Infanterie (vols. I-II, Gotha, 1857-58) and other sources, including a work by the Prussian Major Trotha on the influence of improved rifles on infantry tactics, etc. p. 340

377 The Dorians—one of the main groups of ancient Greek tribes which moved from the North to the Peloponnese and the southern islands of the Aegean Sea in the twelfth and eleventh centuries B.C. As compared to tribes which settled in Greece earlier (Achaeans, Ionians and Aeolians), the Dorians preserved more of the archaic patriarchal characteristics. But the break-up of the primitive communal system led to the emergence of a hereditary aristocracy among the Dorians too, and to the formation in the eighth-sixth centuries B.C. of slave-owning states, among which Sparta was the most powerful. p. 340

378 See Note 118. p. 340

379 See Note 33. p. 341

380 See Note 119. p. 341

381 See Note 115. p. 341
Notes

382 See Note 114.

383 *Condottieri*—leaders of mercenary troops in the service of various sovereigns and Popes in Italy in the fourteenth-sixteenth centuries.

384 The *Samnite wars* (343-341, c. 327-304 and 298-290 B.C.)—wars between the Romans and the Samnites (a group of Italic tribes in the Central Apennines) during Rome's struggle for domination over Central Italy. The victory over the Samnites was an important stage in uniting the various Italic tribes under Rome.

On the *Punic wars* see Note 339.

385 See Note 132.

386 At the *battle of Laupen* (near Berne) on June 21, 1339, Swiss infantry defeated an allied army of Austrian, German and Italian feudal lords. This was an important stage in the Swiss cantons' struggle for independence (see Note 137).

387 At the *battle of Pavia* on February 24, 1525 (see Note 26) the German Landsknechts in the service of Emperor Charles V and the Spanish infantry successfully fought the French mounted knights and Swiss mercenaries of Francis I of France.

388 A reference to the war of 1481-92 waged between the united Kingdom of Castile and Aragon (Spanish monarchy) and the Emirate of Granada, the final stage in the reconquest of the Peninsula from the Moors (see Note 238). The war ended with the Spaniards' capture of Granada.

389 See Note 20.

390 See Note 142.

391 See Note 16.

392 See Note 246.

393 See Note 166.

394 See Note 144.

395 See Note 60.

396 At *Lexington* and *Concord* (Massachusetts) on April 19, 1775, British regular forces were defeated by American insurgent skirmishers. These battles marked the beginning of the war of the British North-American colonies for independence.

397 See Note 275.

398 The war of France and the Kingdom of Sardinia (Piedmont) against Austria lasted from April 29 to July 8, 1859. It was unleashed by Napoleon III who, under the pretext of "liberating" Italy, sought to acquire new territories and strengthen his regime at home. The Italian big bourgeoisie and liberal nobility, on the other hand, hoped in the course of the war to unify Italy under the Savoy dynasty. ruling in Piedmont. Napoleon III, however, was worried by the scope of the Italian national liberation movement against the Austrian oppressors and, after several victories won by Franco-Piedmontese forces,
concluded a separate peace treaty with Austria in Villafranca on July 11, behind Sardinia's back. France received Savoy and Nice, Lombardy was annexed to Sardinia, and the Venetian Republic remained under Austrian rule.

During preliminary discussions Marx asked Dana to place the order for the article "Navy" with another author. Nevertheless, in his letter of September 8, 1860 Dana asked Marx to send him the article urgently. Marx passed the letter on to Engels on September 25, requesting him to write the article if at all possible. Engels began working on it early in October, as can be seen from his letter to Marx of October 1. On November 23 Marx acknowledged receipt of the draft copy (see present edition, Vol. 41).

Engels made use of various sources, including Howard Douglas' *Treatise on Naval Gunnery* (4th ed., London, 1855); the article "Navy" in the *Encyclopaedia Britannica* (Vol. XVI, 8th ed.); Prince de Joinville's works on the condition of France's steam fleet (see Note 402); W. James' *The Naval History of Great Britain, from the Declaration of War by France in 1793, to the Accession of George IV* (1st edition, 1822-24), and Zweytinger's *Die Seemacht Englands und Frankreichs militärisch-statistisch* (Leipzig, 1854).

During the first Punic war, 264-241 B.C. (see Note 339), the Romans, who initially had had no means for fighting the Carthaginian navy, built a comparatively large fleet which inflicted a number of defeats on the Carthaginian navy.

A reference to Napoleon's *camp at Boulogne* (see Note 275).

In 1844 Prince de Joinville published an article entitled "Notes sur l'état des forces navales de la France" in the *Revue des deux Mondes*. It came out the same year as a separate pamphlet on the same subject. The article evoked a lively response. It developed the idea that, by improving its steam fleet, France could attain the same naval might as Britain. In 1859 the *Revue* printed Joinville's article "Le marine à vapeur dans les guerres continentales", in which he argued that if France possessed a powerful steam fleet the impregnability of the British Isles in the event of an Anglo-French war would be called in question. Both articles were included in Joinville's book *Etudes sur la marine*, which appeared the same year. It is probable that Engels had this book in mind.

On the *bombardment of Sveaborg* see Note 178.

On October 17, 1855, during the Crimean war (1853-56), the small Russian fortress of *Kinburn*, defending the entrance to the Dnieper-Bug estuaries, was bombarded by the Anglo-French fleet. Three French iron-clad floating batteries took part in the bombardment.

Engels changed this viewpoint when studying the naval battles of the American Civil War (1861-65). In the articles "The American Civil War and Armoured and Ram Vessels" and "Artillery News from America" (see present edition, Vol. 19) he pointed to the use of armoured vessels with turret armament as a most important trend in the future development of navies and naval warfare.

See Note 35.
At this point *The New American Cyclopaedia* has a passage, added by the editors, containing information on the history of the US navy and its condition in 1861, when Volume XII of the *Cyclopaedia* was published. p. 375

A whole group of preparatory materials by Marx and Engels for their articles in *The New American Cyclopaedia* survives. These manuscripts are either summaries of or extracts from various sources, or preliminary rough drafts of articles which contain details omitted in the final version. This volume includes a selection of different types of such material showing the various stages in the work of Marx and Engels on their articles. By comparing them with the final text, the reader can obtain an idea of how Marx and Engels used the sources and prepared for writing the articles. p. 377

The summary of John W. Kaye’s *History of the War in Afghanistan* (vols. I-II, London, 1851) was made by Engels as a basis for his article “Afghanistan” (see this volume, pp. 40-48 and Note 40). Engels managed to summarise the contents of a two-volume work abounding in quotations from various sources and with the documents appended totalling 1,346 pages. As a rule, he presented a selection of the facts in very concise German, generally following the chronological order of the book. Only on rare occasions did he reproduce passages, phrases or words from Kaye’s book in English, French or other languages. (In the present edition the use of the English expressions is mentioned in footnotes while the French and other foreign words are given as in the original.) Since on the whole the text of the original summary is neither a translation into German nor a version of passages from Kaye’s book, but is largely an original work, it is given in ordinary and not small type, as is usually the case. Words abridged by Engels are printed in full; explanations by the editors are given in square brackets. p. 379

*Blue Books*—a series of parliamentary and foreign-policy documents. Here the reference is to the *Correspondence Relating to Persia and Afghanistan* (London, 1839), comprising the reports submitted to Parliament on the negotiations between Alexander Burnes, the British representative in Kabul, and the Emir of Afghanistan, Dost Mohammed. As a result of the negotiations the British Government, at Palmerston’s insistence, declared war on Afghanistan in 1838. The reports were submitted to Parliament in 1839 but, as subsequently transpired, the most important papers were not produced, which made it possible to claim that Dost Mohammed was the initiator of the Anglo-Afghan conflict. Marx wrote about the falsifications contained in this publication in the *New-York Daily Tribune* (see present edition, Vol. 12, pp. 606-07). p. 379

*Gurkhas*—general name given to a number of peoples in Nepal from whom the British colonial authorities in India recruited soldiers for special regiments in their army. p. 382

The Russian expedition to the Khanate of Khiva in November 1839 was undertaken under V. A. Perovsky, Military Governor of Orenburg. His 5,000-strong detachment, with artillery and a food convoy, proved unprepared for a winter march through the barren steppes and lost half its men through mass disease. Failing to reach Khiva, Perovsky was forced to return to Orenburg. p. 382

These excerpts were made by Marx when working on the article “Blum” for *The New American Cyclopaedia* (see this volume, pp. 80-82 and Note 95). They
are from the article of the same title published in *Meyer's Conversations-Lexicon*, second Supplement Volume, Hildburghausen, 1853, pp. 240-46. As can be seen from Marx's notes he compared the text of this article with that of "Robert Blum" in Fr. Steger's *Ergänzungs-Conversationslexicon*, Vol. 1, Leipzig, 1846, pp. 153-60. In the latter source Blum's biography, up to 1845, is set forth in greater detail, but in the main the texts of the two articles coincide. This gives grounds for assuming either that both articles were written by the same author or that Robert Blum's own autobiographical material was used in both cases. Marx chose *Meyer's Conversations-Lexicon*, where Blum's biography is given up to his death, as the main source for his own article on this revolutionary leader.

Direct quotations and summaries of the text from *Meyer's Conversations-Lexicon* are given in this volume in small type, in the case of direct quotations the text is printed in editorial quotation marks. Marx's own notes are in ordinary type.

414 These excerpts for the article "Bourrienne" (see this volume, pp. 83-84 and notes 95 and 103) are the result of Marx's primary work on three sources. The bulk of them were made from "Bourrienne" in the *Biographie universelle (Michaud) ancienne et moderne* (Vol. 5, Paris, 1854) and from the article bearing the same title in *The English Cyclopaedia* (Vol. V, Biography, London, 1856). Marx remarked that the two articles closely resembled each other textually. Marx made some additions and notes based on Fr. Chr. Schlosser's *Zur Beurtheilung Napoleon's und seiner neusten Tadler und Lobredner* (Frankfurt am Main, 1835).

Excerpts from the *Biographie universelle* are made mostly in French and those from *The English Cyclopaedia* in English, with German words inserted here and there. Marx's own remarks and the summary of some of Schlosser's propositions are written in German. They are given in ordinary type in this volume. The rest of the text is published in small type and in cases of direct quotations in editorial quotation marks. The use of English quotations and expressions is mentioned in footnotes.

415 See Note 269.

416 The *preliminaries of Léoben* (Styria) were signed by Napoleon Bonaparte and Austria's representative in April 1797 following the defeats of the Austrians by the French army of Italy. Their signing preceded the conclusion of the peace treaty of Campo Formio (see Note 187) mentioned later in the text.

417 See Note 69.

418 See Note 73.

419 The *Chambre introuvable*—a nickname given by Louis XVIII to the Chamber of Deputies in 1815-16, the majority of whose members were ultra-royalists.

420 The rough draft of the article "Brune" is written in English, with some French and German words inserted here and there and a few French quotations at the end. Some aspects of Brune's activity are given in more detail than in the final version. In the manuscript there is hardly any division into paragraphs, and in the present publication this has been done mostly by the editors.

421 The *10th of August 1792* is the day when the monarchy in France was overthrown as a result of a popular uprising in Paris.
Marx presumably refers to the following excerpt from Fr. Chr. Schlosser's Zur Beurtheilung Napoleon's und seiner neuesten Tadler und Lobredner (Frankfurt am Main, 1835):

"Brune. In the campaign of 1796-97 Napoleon fetters him to himself for political reasons.

"Lavallette says of this: 'Brune was one of the heads of the Cordeliers, he was, it was said, the man who had led the popular movement on the Champ de Mars (in 1791 after the flight of the King), which Bailli later dispersed by having martial law proclaimed. He was arrested, thrown into gaol, and the rumour spread that the supporters of the Court had attempted to get rid of him by odious means. At the beginning of the war Brune was employed in fairly insignificant posts, and, either because the Directory feared a man of his immense daring, or because he felt that his courage would be better employed in the army, he received a recommendation for an appointment in Italy. General Bonaparte, who foresaw that one day he would have a lot of trouble with the Jacobins, attributed to General Brune a share of the honour for the victory of Rivoli ("he did honour to General Brune for part of the success of the battle of Rivoli"), either because he had discovered talents in him, which he moreover displayed on several occasions, or because he wanted to tie to his person the heads of [...] a party to which belonged men of merit who had distinguished themselves by their energy. [...] He made Brune general of a division and a few years [later] [...] commander-in-chief of an army of whose generals he had been one of the least distinguished' (Lavallette in Schlosser)." Marx used here passages from Mémoires et Souvenirs du Comte Lavallette (Vol. 1, Paris, London, 1831, p. 196) quoted by Schlosser on pp. 58-59 of the first part of his book.

A reference to the buildings of the Dutch East India Company founded in 1602. The Company had a monopoly of trade with the eastern countries and played an important role in Holland's colonial expansion, particularly in the area of the Indian Ocean. It carried on a bitter competitive struggle against the British East India Company. In 1798 the Dutch East India Company was abolished and the whole of its property went over to the Batavian Republic, which was virtually a French protectorate.

These excerpts from the article "Bülow" in Das Grosse Conversations-Lexicon für die gebildeten Stände, herausgegeben von J. Meyer (Vol. 6, Hildburghausen, 1843, pp. 732-33) served as preparatory material for Marx's short article on Bülow for The New American Cyclopaedia (see this volume, p. 288 and Note 329). In the present edition the text quoted or summarised from the Conversations-Lexicon is in small type, with direct quotations in editorial quotation marks. Marx's own remarks and generalisations are in ordinary type (in some cases they contain information taken from other sources to supplement the text of the article).

La Belle Alliance—a village in Belgium about two and a half miles south of Waterloo which served as Napoleon's headquarters during the battle of Waterloo on June 18, 1815 (see Note 30). In German literature this battle is sometimes called the battle of Belle Alliance.

On the battle of Ligny, which preceded the battle of Waterloo, see Note 234.

The Battle of the Nations—the name given to the battle of Leipzig on October 16-19, 1813 (see Note 31).
This letter to the editor of the Darmstadt *Allgemeine Militär-Zeitung* obtained for Engels the opportunity to publish his military articles in this weekly.

The editor's reply survives, dated October 11, 1860, making it clear that Engels was allowed to contribute provided he abstained from a political appraisal of military events. It reads as follows:

"Darmstadt, October 11, 1860

Dear Sir,—Immediately upon our return from a long journey to Berlin, Danzig, etc., we found your kind letter of August 24 of this year, to which we hasten to reply.

"It would be very desirable for us and the *Allgemeine Militär-Zeitung* to receive literary contributions from you from time to time, but we would ask you above all to include in your accounts only facts (not mere political observations, etc.). To this end we beg to suggest that you should send us informal 'Letters from and about Great Britain' (say, one every six weeks) and to deal with one or several definite themes in each. Especially welcome would be accurate accounts of the results of shooting exercises, military establishments (*Woolwich Arsenal*, for example), military schools, etc., similar to those we published about France last year and the year before.

"It would be also desirable for us to know exactly your conditions as regards payments.

"With the highest regard

"Yours faithfully

"The Editorial Board of the *Allgemeine Militär-Zeitung*"

Engels contributed to this weekly from 1860 to 1864, during which time several military items were published, beginning with the one suggested in the above letter. Some of his reports for the *Allgemeine Militär-Zeitung* were not published and have come down to us in manuscript form. This volume contains Engels' articles published in the newspaper in 1860-62. His articles for 1863 and 1864 are included in Volume 19.

The review, in particular, appreciated Engels' view on the unsoundness of the theory according to which Germany should be master of Northern Italy in order to protect its own security.

Engels did not carry out this intention. He had described the Whitworth gun shortly before in a series of articles, "On Rifled Cannon", published in April and May 1860 in the *New-York Daily Tribune* (see present edition, Vol. 17).

On Engels' participation in the campaign of the revolutionary Baden-Palatinate army in the summer of 1849 see his work *The Campaign for the German Imperial Constitution* (present edition, Vol. 10, pp. 147-239) and his letter to Jenny Marx of July 25, 1849 (Vol. 38, pp. 202-04).

This article was written for the *Allgemeine Militär-Zeitung* and was first published there under the heading "Eine Musterung englischer freiwilliger Jäger (Correspondenz aus Manchester)". Engels translated it into English and it was published with some changes in *The Volunteer Journal, for Lancashire and Cheshire* as "A German Account of the Newton Review" and with an introductory note by the author himself. In the spring of 1861 it was included in the collection of Engels' articles *Essays Addressed to Volunteers* under the title given in this volume. An editorial note to it said: "Translated for *The Volunteer
Besides *The Volunteer Journal* Engels sent the translated article, with the introductory note, to other periodicals, many of which published it in abridged versions. On September 21, 1860 it appeared in *The Morning Herald, The Standard, The Sun* and *The Manchester Guardian*, and the next day in *The Morning Advertiser*. Extracts from the article were published in *The Times*, which described it as of “very high standing” and “very accurate” (September 24, 1860). Other newspapers also printed excerpts from it. In his letter to Ferdinand Lassalle of October 2, 1860 Marx wrote that the “entire London press” had reprinted and discussed the article (see present edition, Vol. 41). Its popularity made a strong impression on Marx’s and Engels’ friends and acquaintances. Sigismund Borkheim wrote to Marx on September 27, 1860:

“Let’s promote Engels to ‘General’! Moreover, no longer ago than last week I read a lengthy note about this, either in the *Observer* or the *London Review*, not knowing, of course, that Engels was the author of the article in the *Militär-Zeitung*.”

With the printing of the article in *The Volunteer Journal* (No. 2, September 14, 1860) Engels became a constant contributor to this progressive Manchester periodical. He had been invited to write for the journal already in August 1860, when it was being prepared for publication.

On August 11, 1860, Nodal, one of the editors, addressed the following request to Engels: “My dear Sir. If you see the volunteer parade today, I should be glad of a few words from your pen on their military appearance, possible efficiency, etc.” A few days later Engels received a letter from another editor, Isaac Hall: “Dear Engels, Sam Moore tells me that you don’t intend to write in the review because if you do you will have to pitch into them.—Never mind that—all the better—it will do us all good to be severely criticized. Yours truly Isaac Hall.”

Engels regularly published in it articles and essays on various military subjects. He also revised for it some articles written for the *New-York Daily Tribune*. In all, 18 works by Engels, including several series of articles, were printed in the journal during the time of its existence (August 1860-March 1862).

Engels’ first article published in *The Volunteer Journal* was unsigned, but beginning with the second article (“The French Light Infantry”) his articles were usually preceded by the editorial remarks: “By the Author of ‘A German Account of the Newton Review’”, and later: “By the Author of ‘The History of the Rifle’” or “By the Author of ‘Essays Addressed to Volunteers’.” Some of the articles were published anonymously. From the beginning of April 1862 (“Brighton and Wimbledon”) they were signed “F.E.”, except for the article “The War in America”, which was again preceded by the editorial: “By the Author of ‘Essays Addressed to Volunteers’.”

432 In *The Volunteer Journal* this article, with the introductory note, was published under the general title “A German Account of the Newton Review”.

433 The adjutant in a volunteer unit was a military instructor; he was a regular officer and was appointed by the General Staff on the recommendation of the district command.

434 The civic guard or civic militia, formed in Prussia after the March 1848 revolution, consisted of members of the bourgeoisie. Its main function was to
preserve order, and it was poorly organised and trained. It was disbanded during the offensive of the counter-revolutionary forces in November 1848.

In *The Volunteer Journal* the words “By the Author of ‘A German Account of the Newton Review’” were added to the headings of sections II and III published in Nos. 5 and 7 for 1860. In 1861 the article was included with some changes in the collection of Engels’ works *Essays Addressed to Volunteers*. In this volume the changes are mentioned in footnotes. The sections, merely numbered in Roman figures in *The Volunteer Journal*, were called chapters in the *Essays*.

The editors and many readers of the journal valued the essay highly. In September 1860, after the publication of the first section, Isaac Hall wrote to Engels: “My dear Engels, I have never had an opportunity of thanking you for your very good and very instructive article on French Light Infantry. It is highly appreciated by the proprietors and has been most favourably spoken of by many people. As we are all here this week will you kindly send the next contribution to Mr. Nodal at Jackson 62 Corporation Street. Won’t you come and have a look at us. Yours faithfully (in haste). Isaac Hall.”

*Brown Bess*—the flintlock, smooth-bore musket used in the British army in the eighteenth and early nineteenth centuries. The name derived from the brown walnut stock.

On the Algerian war of liberation under Abd-el-Kader see Note 80.

The substitution system was for a long time practised in the French army. It was a privilege of the propertied classes allowing their members to buy themselves free from military service by hiring substitutes. During the French Revolution this practice was banned but Napoleon I legalised it again. Under the 1853 law, substitutes were selected in the main by government bodies and the payment for them contributed to a special “army donation” fund. The substitution system was abolished in 1872.

The Crimean war of 1853-56, a war between Russia and a coalition of Britain, France, Turkey and the Kingdom of Sardinia (Piedmont), is dealt with in this volume in the articles “Bosquet” by Marx and Engels, “Brown” by Marx and “Bomarsund” by Engels. Some episodes are also mentioned in other articles written for *The New American Cyclopaedia*.

On the *Italian war of 1859* between France and the Kingdom of Sardinia (Piedmont) on the one hand and Austria on the other see Note 398.

On the *siege of Sevastopol* see Note 180.

At the *battle of Palestro* (May 20-31, 1859), *Magenta* (June 4) and *Solferino* (June 24), between the Franco-Sardinian and the Austrian troops during the Italian war of 1859 (see Note 398), the Austrian army was defeated. Engels made a thorough analysis of the course of these battles in his military essays “Strategy of the War”, “A Chapter of History”, “The Battle at Solferino”, and others (see present edition, Vol. 16, pp. 349-53, 372-79, 392-95).

Engels wrote this article at the request of Alfred Walmsley, one of the editors of *The Volunteer Journal*. His letter to Engels survives, as follows: “My dear Engels,—I enclose you a few remarks, I think from the *Times*, in reference to
Volunteer Artillery.—We very much desire a few lines on the subject, and as I find the Volunteer Artillery officers in Manchester have no very great literary abilities, I shall have to venture to ask you to give us a paragraph on the subject. As you are aware the Artillery in Manchester is progressing but slowly. And an article on the subject may do great good; though my opinion is that inland artillery corps are not so very much required. I am, dear Sir, Yours truly, Alfred Walmsey.”

Engels included the article in the collection Essays Addressed to Volunteers, abridging and changing the first paragraph.

Engels conceived the idea of a work on the history of the rifle in the summer of 1860. Originally, he intended to publish it in the New-York Daily Tribune (see his letter to Marx of August 1, 1860, present edition, Vol. 41). When he began contributing to The Volunteer Journal he carried out his intention by printing his “History of the Rifle” in a series of eight articles. Each article was marked: “By the Author of ‘A German Account of the Newton Review’.” In the spring of 1861 the series was reproduced in the collection Essays Addressed to Volunteers. Engels made slight changes in the text.

On December 20, 1860 Nodal, one of the editors of The Volunteer Journal, wrote to Engels telling him of the impression his articles had produced on Major Preston, a large manufacturer of rifles. Nodal wrote: “I have seen Major Preston today. He is an immense admirer of your ‘History of the Rifle’.”

Part of the seventh article was published in The Army and Navy Gazette, No. LVI, January 26, 1861, under the title “The Whitworth Rifle, from the Volunteer Journal”. (Nodal sent this issue to Engels together with his letter of January 28, 1861.)
that periodical. It was preceded by the editorial remark: "By the Author of "The History of the Rifle"." p. 465

452 See Note 398. p. 466

453 Besides the substitution system (see Note 438), it was a practice in the French army at regular call-ups to transfer some of the conscripts to the reserve by drawing lots. When the number of conscripts reached the necessary figure, transfer to the reserve by lots was virtually equal to being freed from military service. p. 467

454 Engels selected passages from Marshal Bugeaud's book *Aperçus sur quelques détails de la guerre* (Paris, 1832), translated them into English, and supplied them with a short introduction. The work was published in *The Volunteer Journal* without any indication of the compiler or author of the introduction. Engels' authorship is clear from his reference to this publication in the article "Waldenssee on the French Army" published later (see this volume, pp. 508-17).

   On Marshal Bugeaud as a military leader and politician see Marx's article "Bugeaud" (this volume, pp. 211-14). p. 469

455 See Note 166. p. 474

456 The initiative of publishing Engels' articles from *The Volunteer Journal* as a separate book belongs to the editors of that periodical. On December 20, 1860 Nodal wrote to Engels: "Has Mr. Hall informed you of our intention of republishing 4 of your essays, contributed to V. Journal? I send you the proofs of all but the German Zeitung article, which I will forward hereafter. If there is any alteration you would wish making, please mark, and return proofs at convenience. I propose altering the title page to Essays Addressed to Volunteers, etc. Would you like your name attached or any nom de plume, or will you give the credit entirely to the Journal, and publish anonymously? The Essays will be sold throughout England. Of course we will append an advertisement of the V. Journal, so as to make our little paper more widely known."

   Engels accepted the proposal and included five of his articles in the *Essays Addressed to Volunteers*. But he did not arrange them in chronological order. The collection contained "The History of the Rifle", "The French Light Infantry", "Volunteer Artillery", "Volunteer Engineers: Their Value and Sphere of Action" and "A Review of English Volunteer Riflemen". Some editorial alterations were made in the text. The short preface was signed "F. E." The collection was published in March 1861.

   On March 23, 1861, the London *United Service Gazette* carried a review of the *Essays*. Having examined the contents of some of the articles and emphasised in particular the merits of such works as "The History of the Rifle" and "Volunteer Artillery", the reviewer concluded: "We may say of the whole brochure that it is modestly and carefully written, with evident zeal and interest in the subject matter, and will be a most acceptable offering to every intelligent and thinking Volunteer." p. 476

457 In *The Volunteer Journal* this article was marked: "By the Author of 'Essays Addressed to Volunteers'." p. 479
458 See Note 433.

459 *The Volunteer Journal* gives the following editorial footnote to the heading: “By the Author of ‘Essays Addressed to Volunteers’, whose contributions to the *Journal* in future will be distinguished by the initials placed at the end of the present article.”

460 See Note 450.

461 A reference to the Indian national liberation uprising of 1857-59 (the Sepoy mutiny) brutally suppressed by British troops (see Note 359).

462 *Aldershot*—a town some 40 miles southwest of London; site of a large military training camp established in 1855, during the Crimean war.

463 See Note 450.

464 This work was published in instalments in four issues of *The Volunteer Journal* for 1861 (Nos. 42, 44, 46 and 62). The final instalment appeared with the following editorial footnote: “The conclusion of this paper has been unavoidably delayed.” The delays in publication were presumably due to Engels' delay in supplying the translations of passages from Waldersee's book, and his comments on them, and because he was busy writing another article for *The Volunteer Journal*, “A Military Criticism of the Newton Review”.

465 See Note 398.

466 On the battles of Magenta and Solferino see Note 441.

467 The Newton review described by Engels took place on August 3, 1861.

Though the article was signed “F. E.”, the editors of *The Volunteer Journal* inserted “By the Author of ‘A German Account of the Newton Review’, 1860” after the heading.

468 Engels refers to the military operations between the armies of the Union (the North) and the Confederacy (the South) during the first eight months of the American Civil War, started in April 1861 by the open revolt of the slave-owning South against the American Union. The main cause of the war was the struggle between two social systems—the capitalist system of wage labour in the North and the slave system in the South. The war, which had the character of a bourgeois-democratic revolution, passed through two stages: constitutional war for the preservation of the Union and revolutionary war for the abolition of slavery. The emancipation of Negro slaves proclaimed by the Lincoln Administration in September 1862 was a turning point in the war. Workers, farmers and the Negro population played a decisive role in the defeat of the slave-owners of the South and the termination of the war in April 1865 in favour of the North. The causes and nature of the events in America are analysed in articles published in the Vienna newspaper *Die Presse* (see present edition, Vol. 19).
At the beginning of the Civil War, Kentucky—one of the frontier states (those adjoining the 38th parallel separating the slave-owning South from the North)—declared its neutrality. The state itself was the scene of a bitter struggle between the supporters of the Union and of the Confederacy, whose troops invaded Kentucky in violation of its “neutrality”. In September 1861 the state's legislative assembly declared its adhesion to the Union despite the Governor's resistance.

The Federals or Unionists in the American Civil War were supporters of the North, opposed to the Secessionists or Confederates, supporters of the Confederacy of the Southern States.

A reference to the wars between Britain and the USA in 1812-14 and between the USA and Mexico in 1846-48 (see notes 35 and 210).

This is an abridged version of the series of articles about the American Civil War (see Note 468) which Engels wrote in the first half of March 1862 for the New-York Daily Tribune. For an idea of Engels' work on the series, see his letter to Marx of March 8, 1862 and Marx's reply of March 15 (present edition, Vol. 41). Engels, however, did not manage to publish the articles in the Tribune (by that time a break had occurred between Marx and its editors, among whom supporters of a compromise with the Southern plantation owners increased influence). Marx translated Engels' work into German, supplemented it with his own text, and sent it to the Vienna newspaper Die Presse where it was printed on March 26 and 27, 1862 under the heading “The Civil War in America” (see present edition, Vol. 19). The text of The Volunteer Journal version in this volume and that of Die Presse therefore largely coincide, though the latter is naturally more complete and informative, in particular as regards details of the capture of Nashville by the Northerners, news of which was received after the article for The Volunteer Journal had been written.

In The Volunteer Journal the article was published unsigned, but with the editorial remark: “By the Author of ‘Essays Addressed to Volunteers’.”

The Bull Run, a river near Manassas (southwest of Washington), was the scene of the first major battle in the Civil War. At this battle, on July 21, 1861, the Southerners defeated the Northerners, who were numerically superior but badly trained. However, the Southerners did not pursue the defeated enemy and thus failed to consolidate their victory.

At the battle of Balls Bluff (northwest of Washington) on October 21, 1861, the Southerners routed several regiments of General Stone's army which had crossed to the right bank of the Potomac and were left without reinforcements.
This article was most probably written by Engels immediately after the military review of Lancashire volunteers at Heaton Park on August 2, 1862. Judging by the text, Engels must have been present. It was presumably in this context that he informed Marx on August 8 of his resumed contact with the *Allgemeine Militär-Zeitung* editorial board after a two-year interval (see present edition, Vol. 41). The article was printed in two issues, with the comment "Correspondenz aus Manchester". Engels' initials were placed at the beginning of the text in square brackets, as was the practice of the newspaper.

A letter survives dated November 14, 1862, from the editorial board of the *Allgemeine Militär-Zeitung* to Engels, informing him of the dispatch of the issues containing his article and requesting him to send more contributions.

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Dokhturoff, Dmitri Sergeyevich (1756-1816)—Russian general, fought against Napoleon.—253
Dost Mohammed Khan (1793-1863)—Emir of Afghanistan (1826-39 and 1842-63).—44-45, 48, 379, 381-84, 389
Drake, Sir Francis (c. 1540-1596)—English admiral, took part in the destruction of the Spanish Armada (1588).—168
Dreyse, Johann Nikolaus von (1787-1867)—Prussian military inventor and manufacturer.—362, 450, 451
Drouet d’Erlon, Jean Baptiste, comte (1765-1844)—French general, later Marshal of France, fought in Napoleonic wars.—269, 270, 273, 313
Ducos, Roger (1747-1816)—leading figure in the French Revolution, member of the Directory (1797-99); took part in the Bonapartist coup (1799).—151
Ducoudray Holstein—French army officer, fought in the war of independence of the Spanish colonies in South America, author of a tendentious book on Bolivar.—222, 225, 226, 232-33
Dudley, Robert (1574-1649)—British naval officer and inventor.—366
Duguay-Trouin, René (1673-1736)—French corsair, fought in France’s wars against England and Holland, later general of the French army.—471
Dulong, François Charles (1792-1834)—French lawyer and liberal politician, member of the Chamber of Deputies from 1831.—212
Dumonceau, Jean Baptiste (1760-1821)—French general, held commanding posts in the Dutch army allied with France; Marshal of France from 1806.—399
Dumouriez, Charles François du Périer (1739-1823)—French general and politician, commanded the Northern army in 1792-93, betrayed the French Republic in March 1793.—12, 215, 397
Duncker, Franz (1822-1888)—Berlin publisher and politician.—407
Dupas, Pierre Louis (1761-1823)—French general, fought in Napoleonic wars.—153
Duplay, Maurice (1738-1820)—owner of a joiner's shop; took part in the French Revolution, Jacobin, supporter of Robespierre.—398
Dupont de l'Étang, Pierre Antoine, comte (1765-1840)—French general, fought in Napoleonic wars.—216, 400
Dupuy de Lôme, Stanislas Charles Henri Laurent (1816-1885)—French military shipbuilder.—370
Duquesne, Abraham, marquis (1610-1688)—French admiral, commanded operations against Algeria and Tripoli in 1680-83.—65
Dürer, Albrecht or Albert (1471-1528)—German painter and engraver; expert in fortification.—319, 325, 332

Edward, Prince of Wales (called “the Black Prince”) (1330-1376)—son of Edward III of England; a leader in
the Hundred Years' War between England and France.—349

Elizabeth I (1533-1603)—Queen of England and Ireland (1558-1603).—25, 104, 167

Elizabeth Maria of Bavaria-Birkenfeld, Princess (1784-1849)—daughter of Bavarian Prince Wilhelm von Birkenfeld, wife of Marshal Berthier.—58

Ellenborough, Edward Law, Earl of (1790-1871)—British Tory statesman, Governor-General of India (1842-44).—47

Elphinstone, George William Keith (1782-1842)—British general, fought in the Afghan campaign of 1838-42.—46, 385, 387-88

Elphinstone, Mountstuart (1779-1859)—British diplomat, East India Company official; ambassador to Kabul (1808-09), Governor of Bombay (1819-26).—43

Engelhardt, Anton Yevstafyevich (1795-1872)—Russian general, fought against revolutionary Hungary in 1848-49.—132

Engels, Frederick (1820-1895).—407-08, 476, 489, 494, 499, 503, 507, 517, 520, 524, 529, 541

England, Sir Richard (1793-1883)—British general, divisional commander in the Crimea in 1854-55.—17, 18

Epaminondas (c. 420-362 B.C.)—military leader and statesman of ancient Thebes.—35, 36, 92-93, 342-43, 358

d'Erlo—see Drouet d'Erlo, Jean Baptiste, comte

Ernest III (Ernest Anton Karl Ludwig) (1784-1844)—Duke of Saxe-Coburg (1806-26) and Saxe-Coburg-Gotha under the name of Ernest I (1826-44); fought against Napoleon.—179

Errard (Érard), Jean (1554-1610)—French military engineer and mathematician.—328

Espirtero, Baldomero, Duke (1793-1879)—Spanish general and politician, leader of the Progresista Party, Regent of Spain (1841-43), head of government (1854-56).—171

Eudes (Eudon, Odo) (665-735)—Duke of Aquitaine, took part in the Franks' struggle against the Arab invasion.—297

Eugène, Prince—see Beauharnais, Eugène de

Eugène, Prince of Savoy (François Eugène de Savoie-Carignan) (1663-1736)—Austrian general and statesman.—13, 249, 250

Euler, Leonhard (1707-1783)—mathematician, expert in mechanic and physicist of Swiss descent, worked at the St. Petersburg (1727-41 and 1766-83) and Berlin (1741-66) Academies of Sciences.—196

Evans, Sir George de Lacy (1787-1870)—British general and liberal politician, divisional commander in the Crimea in 1854.—17, 18

Exmouth, Edward Pellew, Viscount (1757-1833)—British admiral, fought against Algeria, Tunisia and Tripoli in 1816.—64

F

Farnese, Alexander, Prince and Duke of Parma (1545-1592)—Spanish general and statesman, Viceroy of the Netherlands (1578-92).—21, 167, 168

Fath Ali (Feth Ali, Fuiteh Ali) (1762-1834)—Shah of Persia (1797-1834).—43

Ferdinand IV (1285-1312)—King of Castile and Leon (1295-1312).—190

Ferdinand V (the Catholic) (1452-1516)—King of Aragon under the name of Ferdinand II (1479-1516); his marriage in 1469 to Isabella, future Queen of Castile, completed the unification of Spain.—62

Ferdinand VII (1784-1833)—King of
Spain (1808 and 1814-33).—171

Ferdinand, Karl Josef von Este, Archduke (1781-1850)—Austrian field marshal, fought against Napoleon.—151

Ferdinand Philippe Louis Charles Henri, duc d'Orléans (1810-1842)—eldest son of Louis Philippe of France; took part in the conquest of Algeria in 1835-40.—419

Fernández de Córdova, Gonsalvo (1453-1515)—Spanish general, fought in the war against the Kingdom of Granada (1481-92).—351

Fierro, Manuel—Spanish general, fought against the national liberation movement of the Spanish colonies in South America, Governor of Caracas in July-August 1813.—221

Fitzwilliam, Sir William (1526-1599)—Viceroy of Ireland (1572-75 and 1588-94).—169

Flamininus, Titus Quinctius (c. 228-174 B.C.)—Roman general and statesman, Consul (198 B.C.), led the Roman army in the second Macedonian war (200-197 B.C.).—100

Flórez, José Segundo (b. 1789)—Spanish historian and publicist.—171

Floriani, Pierre Paolo (1584-1638)—Italian military engineer.—324, 329

Floyd, John Buchanan (1807-1863)—American general and statesman, War Minister (1857-60), fought for the Confederacy in the Civil War.—126, 533

Foix, Gaston, duc (1489-1512)—French general, fought in the wars in Italy.—278, 279

Folard, Jean Charles (1669-1752)—French army officer, military author.—160

Forey, Elie Frédéric (1804-1872)—French general, later Marshal of France, Bonapartist, took part in the conquest of Algeria (1830s and 1840s) and in the Crimean campaign (1854-55).—17

Fouché, Joseph, duc d'Otranto (1759-1820)—prominent figure in the French Revolution and the Napoleonic Empire; Minister of Police (1799-1810); notorious for his unscrupulousness.—153

Foy, Maximilien Sébastien (1775-1825)—French general, fought in the Peninsular war (1808-14).—269, 270, 273

Francis I (1494-1547)—King of France (1515-1547).—107, 191, 352

Franz (16th cent.)—German military engineer.—325

Frederick II (the Great) (1712-1786)—King of Prussia (1740-1786).—36, 73, 111-14, 116, 172, 196, 197, 294, 301, 303, 304, 309, 314, 338, 357-59, 452, 514

Frederick VI (1768-1839)—Prince Regent of Denmark and Norway (1784-1808), King of Denmark and Norway (1808-14), then King of Denmark (1814-39).—153, 157

Frederick Charles (Friedrich Karl Nikolaus), Prince (1828-1885)—Prussian general, later field marshal-general.—452

Frederick Christian (1765-1814)—Duke of Schleswig-Holstein, elder brother of the Duke of Augustenburg.—153

Frederick William I (1688-1740)—King of Prussia (1713-40).—112, 301, 302

Frederick William III (1770-1840)—King of Prussia (1797-1840).—59, 156, 173, 174, 186, 403

Freire, Manuel (1765-1834)—Spanish general, fought in the liberation war against Napoleonic France (1808-14).—269, 273

Freitag, Adam (17th cent.)—Dutch military engineer.—328

Freites, Pedro María (d. 1817)—Venezuelan officer, fought in the war of independence of the Spanish colonies in South America.—226

Fremosa, Emanuel—participant in the expedition of the Spanish Armada in
1588; taken prisoner by the British.—168

Fréron, Louis Marie Stanislas (1754-1802)—prominent figure in the French Revolution, later a leader of the Thermidor coup (July 1794).—216, 398

Friant, Louis (1758-1829)—French general, fought in Napoleonic wars.—253, 254

Fröbel, Julius (1805-1893)—German radical journalist and publisher of progressive literature; deputy to the Frankfurt National Assembly (Left wing) in 1848.—393

Frundsberg, Georg von (1473-1528)—commander of German mercenaries, fought in the Italian wars (in the service of the German Emperor) and against the peasant insurrection in Germany in 1525-26.—107

Fulton, Robert (1765-1815)—American engineer and inventor; designed and built early steamboats.—369

Futteh Jung—son of Afghan Shah Soojah, ruled Afghanistan for several months in 1842.—48

Futteh Khan (d. 1818)—Vizier of Shah Mahmud of Afghanistan.—43

G

Galilei Galilei (1564-1642)—Italian physicist and astronomer, elaborated the principles of mechanics.—196

García de la Cuesta, Gregorio (1741-1811)—Spanish general, fought in the war against Napoleonic France (1808-14).—134

Gardane, Mathieu Claude, comte (1766-1817)—French general and diplomat, fought in Napoleonic wars; sent to Teheran on a special mission in 1807-08.—43

Gauthier, Jean Louis—French journalist, royalist.—215, 397

Genghis Khan (c. 1155-1227)—Mongol military leader and conqueror, founder of the Mongol Empire.—42

George II (1683-1760)—King of Great Britain and Ireland, Elector of Hanover (1727-60).—76, 77

George IV (1762-1830)—Prince Regent (1811-20), King of Great Britain and Ireland (1820-30).—186

Gérard, Étienne Maurice, comte (1773-1852)—French general, later Marshal of France, Orleanist; took part in Napoleonic wars and the campaign against Holland in 1832.—21, 253

Girón, Pedro Agustin, marqués de las Amarillas (1778-1842)—Spanish general, fought in the war against Napoleonic France (1808-14).—273

Gneisenau, August Wilhelm Anton, Count Neithardt von (1760-1831)—Prussian field marshal-general, an organiser of the liberation struggle against Napoleon's rule; helped draw up and carry out Prussian army reforms.—174, 183, 187

Goltz, Karl Heinrich Friedrich (1772-1822)—Prussian general and diplomat, fought in wars against the French Republic and Napoleonic France.—173

Gonsalvo de Córdova—see Fernández de Córdova, Gonsalvo

Gonzales—Spanish officer, fought against the national liberation movement of the Spanish colonies in South America.—222

Görgey (Görgi), Arthur (1818-1916)—military leader of the 1848-49 revolution in Hungary; commander-in-chief of the Hungarian army (April-June 1849), War Minister from May 1849; advocated agreement with the Habsburgs and, later, capitulation.—259-61

Grant, Ulysses Simpson (1822-1885)—American general and statesman, fought in the Civil War on the side of the Union, commander-in-chief from March 1864; War Minister
(1867-68), President of the United States (1869-77).—532, 533

**Grey and Ripon, George Frederick Samuel Robinson, Count of (1827-1909)**—British liberal statesman, Under-Secretary for War (1859-January 1861 and July 1861-63), Secretary for War (1865-66).—505

**Grey de Wilton, Charles William, Earl (1804-1870)**—British general, participant in the Volunteer movement.—536

**Gribeauval, Jean Baptiste Vaquette de (1715-1789)**—French general, inspector of the French artillery from 1764 to 1789 (with an interval).—116, 194, 198-99, 200

**Griffiths, Frederick Augustus (d. 1869)**—British army officer and military writer.—432

**Gritti, Andrea (c. 1455-1538)**—Venetian military leader and statesman, Doge of Venice (1523-38).—278

**Grosvenor, Hugh Lupus, Count (1825-1899)**—British liberal politician, took part in the Volunteer movement. —488

**Grouchy, Emmanuel, marquis de (1766-1847)**—French general, Marshal of France from 1815, fought in Napoleonic wars. —253

**Guizot, François Pierre Guillaume (1787-1874)**—French historian and statesman; virtually directed France's home and foreign policy from 1840 to the February 1848 revolution.—213

**Gustavus II Adolphus (1594-1632)**—King of Sweden (1611-32), general and military reformer.—109-11, 194, 195, 300, 354, 355, 358, 400

**Gustavus IV Adolphus (1778-1837)**—King of Sweden (1792-1809), deposed in 1809 by a military coup.—50, 152, 155, 217

**Gyulay, Ferenc, Count (1798-1868)**—Austrian general, War Minister (1849-50), commander-in-chief of the Austrian army in the war against France and Piedmont (1859).—180

**Gyulay, Ignatius, Count (1763-1831)**—Austrian general, fought against Napoleon.—514

**Hall, or Halle, Edward (c. 1498-1547)**—English chronicler and lawyer.—24

**Halleck, Henry Wager (1815-1872)**—American general, fought in the Civil War on the side of the Union, commander-in-chief (July 1862-March 1864).—532, 533

**Hamilcar Barca (Barcas) (c. 270-c. 228 B.C.)**—Carthaginian general and statesman, father of Hannibal.—294

**Hamilton, James (d. 1580)**—Scottish nobleman, supporter of Mary Stuart.—25

**Hannibal (c. 247-183 B.C.)**—Carthaginian general.—35, 96, 294-96

**Hardinge, Sir Henry, Viscount (1785-1856)**—British general, field marshal from 1855; fought in the Peninsular war (1808-14), Secretary at War (1828-30 and 1841-44), commander-in-chief of the British army (1852-56).—10, 290

**Hartmann, Georg (1489-1564)**—German physicist and expert in mechanics.—192

**Hartmann, Moritz (1821-1872)**—Austrian writer; deputy to the Frankfurt National Assembly (Left wing) in 1848-49.—393

**Hasdrubal (Asdrubal)**—Carthaginian general, fought in the second Punic war (218-201 B.C.).—296

**Haynau, Julius Jakob, Baron von (1786-1853)**—Austrian field marshal, brutally suppressed the 1848-49 revolutionary movement in Italy and Hungary.—279, 304
Heer, Christoph (d. 1701)—German mathematician and military engineer.—328

Heidemann, Christoph (17th cent.)—German military engineer, worked in Holland.—328

Henry IV (1553-1610)—King of France (1589-1610).—25, 108, 109

Henry VII (1457-1509)—King of England (1485-1509).—366

Henry VIII (1491-1547)—King of England (1509-47) and Ireland (from 1541).—24, 366

Hentzi, Heinrich (1785-1849)—Austrian general, commanded the Austrian garrison of the Buda fortress besieged by the Hungarian revolutionary army in 1849.—260-61

Herbillion, Émile (1794-1866)—French general, took part in the conquest of Algeria in the 1840s.—69

Herbert, Johann Anton (18th cent.)—military engineer in Württemberg.—333

Herlosohn, Karl Georg Reginald (1804-1849)—German writer.—392

Herodotus (c. 484-c. 425 B.C.)—Greek historian.—88, 159

Hesse, Elector of—see William I

Hippisley, Gustavus—British army officer, one of the expedition of British volunteers to South America (1817-18) to help the national liberation movement there; wrote A Narrative of the Expedition.—233

Hohenzollern-Hechingen, Friedrich Franz, Count (1757-1844)—Austrian general, later field marshal, took part in wars against Napoleonic France.—31, 32, 134

Homer—semi-legendary Greek epic poet.—89, 104

Hope, Thomas (c. 1770-1831)—English banker, antiquarian and author.—290

Howard, Charles, Baron, Earl of Nottingham (1536-1624)—British admiral, commander-in-chief of the British fleet which defeated the Spanish Armada in 1588.—167-68

Hoyer, Johann Gottfried (1767-1848)—Prussian general, military author and historian.—197

Hurtado de Mendoza—Venezuelan politician, took part in the national liberation movement in South America, supporter of Bolivar.—222

Hussein (c. 1773-1838)—last Dey of Algiers (1818-30).—64

I

Ibrahim—Dey of Algiers who refused, early in the 18th century, to submit to the Sultan of Turkey.—63-64

Ibrahim Pasha (1789-1848)—foster-son of the Viceroy of Egypt Mehemet Ali; Egyptian commander-in-chief during the wars against Turkey (1831-33 and 1839-41); virtual ruler of Egypt from 1847.—4

Inglis, Sir William (1764-1835)—British general, took part in the Peninsular war in 1809-14.—270

Iphicrates (c. 419-c. 353 B.C.)—Athenian general.—90, 93, 342, 343

J

Jägersfeld—Prussian army officer (second half of 18th cent.).—172

James—British army officer under Elizabeth I.—25

James, George Payne Rainsford (1799-1860)—English author of historical novels.—25

Jellachich (Jellacic) de Bužim, Franz (1746-1810)—Austrian general, lieutenant field marshal, Croat by birth, fought in wars against the French Republic and Napoleonic France.—27
Johann (John)—German engineer, helped fortify Jülich in the mid-16th cent.—325

Johann Nepomuk Maria Joseph (1801-1873)—Prince of Saxony, King of Saxony (1854-73).—392

John (Johann) (1782-1859)—Archduke of Austria, field marshal, fought against Napoleon; Imperial Regent from June 1848 to December 1849.—28, 33

Joinville, François Ferdinand Philippe Louis Marie, duc d’Orléans, prince de (1818-1900)—son of Louis Philippe; took part in the conquest of Algeria in the 1840s.—69, 370

Jomini, Antoine Henri, Baron (1779-1869)—Swiss-born general in the French and later in the Russian army; writer on strategy and military history.—150, 218

Joseph II (1741-1790)—Holy Roman Emperor (1765-90).—394

Josephus Flavius (c. 37-c. 95)—Jewish historian and general.—263, 266

Jourdan, Jean Baptiste (1762-1833)—French general, Marshal of France from 1804; fought in the war of the French Republic against the first European coalition.—149

Jourgniac Saint-Méard, François de (1745-1827)—French army officer and journalist, royalist.—215, 397

Juba I (d. 46 B.C.)—King of Numidia, fought with Pompey and his followers against Caesar (49-46 B.C.).—62

Jubbar Khan—relative of Emir Dost Mohammed Khan of Afghanistan.—383

Jugurtha (c. 160-104 B.C.)—King of Numidia, waged war against Rome in 111-106 B.C.—98

Justinian I (483-565)—Emperor of the Eastern Roman Empire (527-65).—297

K

Kamenski, Mikhail Fedotovich, Count (1738-1809)—Russian field marshal-general; in 1806 commander-in-chief in the war against Napoleonic France.—77

Kamran—son of Shah Mahmud of Afghanistan, ruler of Herat from 1829.—44, 382

Kapzewich, Pyotr Mikhailovich (1772-1840)—Russian general, fought in Napoleonic wars.—182

Kaye, Sir John William (1814-1876)—British colonial official and historian.—379, 385, 386, 387

Keane, John (1781-1844)—British general, fought in the Afghan campaign of 1838-42.—45, 380, 381

Kellermann, François Christophe (1735-1820)—French general, Marshal of France from 1804, fought in wars of the French Republic against European coalitions.—56, 236

Khair-ed-Deen (Cheireddin Barbarossa) (c. 1467-1546)—Turkish corsair, ruler of Algeria (1518-46).—62

Klapka, György (Georg) (1820-1892)—general of the Hungarian revolutionary army (1848-49); commandant of the Komorn fortress (June-September 1849).—259

Kléber, Jean Baptiste (1753-1800)—French general, fought in the war of the French Republic against the first European coalition.—149

Kleist (Kleist von Nollendorf), Friedrich Heinrich Ferdinand Emil, Count (1762-1823)—Prussian general, subsequently field marshal-general, fought against Napoleon.—179, 181-83

Kmety, György (George) (1810-1865)—general of the Hungarian revolutionary army in 1848-49, later served in the Turkish army, fought in the Crimean war (1853-56) under the name of Ismail Pasha.—260, 261
Knezich, Károly (c. 1808-1849)—general of the Hungarian revolutionary army in 1848-49.—261

Kohun-Dil-Khan—chief of an Afghan tribe.—381

Kolodjecki, Xawer (b. 1829)—participant in the Polish national liberation movement and the Hungarian revolution of 1848-49; made an attempt on the life of Józef Bem.—132

Kolowrat-Krakowsky, Johann Nepomuk, Count (1748-1816)—Austrian general, field marshal from 1809, fought in wars against the French Republic and Napoleonic France.—28

Korff, Fyodor Karlovich, Baron (1774-1826)—Russian general, fought against Napoleon.—253

Kossuth, Lajos (1802-1894)—leader of the Hungarian national liberation movement; head of the revolutionary government (1848-49).—259

Kotzebue, August Friedrich Ferdinand von (1761-1819)—German writer and journalist, extreme monarchist.—394

Kray von Krajova, Paul, Baron (1735-1804)—Austrian general of Hungarian descent, fought in wars against the French Republic and Napoleonic France.—149

Kreutz, Kiprian Antonovich, Count (1777-1850)—Russian general, fought against Napoleon.—254

Kutusoff (Kutuzov), Mikhail Illarionovich, Prince of Smolensk (1745-1813)—Russian military leader, field marshal, fought in wars against Turkey and Napoleonic France, commander-in-chief of the Russian army in 1812.—51, 251, 252, 255

Kutuzov

L

Lafayette (La Fayette), Marie Joseph Paul, marquis de (1757-1834)—French general; in 1775-79 fought in the American War of Independence; prominent figure in the French Revolution, a leader of the moderate constitutionalists (Feuillants).—56, 215

Laffitte, Jacques (1767-1844)—French banker and liberal politician, headed the government in the early period of the July monarchy (1830-31).—158

Lagerbjelke, Gustaf, Count (1777-1837)—Swedish diplomat, plenipotentiary in Paris in 1810-13.—154

Lallerstedt, Sven Gustaf (1816-1864)—Swedish writer and historian.—154-56, 158

Lamar (Lamar y Cortezar), José (1778-1830)—Peruvian general; fought in the war of independence of the Spanish colonies in South America; an opponent of Bolivar; President of Peru (1827-29).—170, 231

Lamalle, Maria Thérèse Louise de Savoie-Carignan, princesse de (1749-1792)—French noblewoman in attendance on Queen Marie Antoinette, killed during the popular unrest in Paris in September 1792.—401

Lamoricière, Christophe Léon Louis Juchault de (1806-1865)—French general and moderate republican politician; took part in the conquest of Algeria in the 1830s and 1840s and in the suppression of the June 1848 uprising in Paris.—213

Lancaster, Charles William (1820-1878)—English gunsmith, modernised the rifle.—435, 495, 497-99

Landsberg, Hermann (1670-1746)—German military engineer.—333

Lane—American army officer, military bridge builder.—161

Langeron, Louis Alexandre Andraudy, de (Alexander Fyodorovich), Count (1763-1831)—general of French descent in the service of Russia; fought against Napoleon.—175, 179, 181, 183

Lannes, Jean, duc de Montebello (1769-1809)—Marshal of France, fought in
Napoleonic wars.—31, 32, 33, 77, 78, 151

Lapie, Pierre (1779-1850)—French military engineer and topographer.—154

Lara, Juan Jacinto (1778-1859)—Venezuelan general, fought in the war of independence of the Spanish colonies in South America.—170

Larabit, Marie Denis (1792-1876)—French liberal, member of the Chamber of Deputies under the July monarchy; later a Bonapartist.—211

La Roche-Aymon, Antoine Charles Étienne Paul, comte de (1772-1849)—French general and military author.—306

Las Casas, Manuel Maria—Venezuelan army officer, fought in the war of independence of the Spanish colonies in South America, supporter of Bolivar.—220

Las Cases, Emmanuel Augustin Dieudonné (Marie Joseph), comte de (1766-1842)—French historian, accompanied Napoleon to St. Helena (1815-16); published Mémorial de Sainte-Hélène (1822-23).—217, 401

Latour-Maubourg, Marie Victor Nicolas (1768-1850)—French general, fought in Napoleonic wars.—254

Lauriston, Jacques Alexandre Bernard Law, marquis de (1768-1828)—French general, later Marshal of France, fought in Napoleonic wars.—51

Lecourbe, Claude (1759-1815)—French general, fought in the wars of the French Republic against European coalitions.—217

Leicester, Earl of (title of Dudley, Robert) (c. 1532-1588)—favourite of Queen Elizabeth of England, commanded the forces mustered for the defence of England against Spanish invasion (1588).—167

Leif, Ericsson (c. 975-c. 1020)—Norwegian navigator, reached the shores of North America at the beginning of the 11th cent.—365

Leopold I (1640-1705)—Holy Roman Emperor (1658-1705).—332

Leopold, Prince of Anhalt-Dessau (1676-1747)—Prussian field marshal, reorganised Prussian infantry.—357

Lepidus (Marcus Aemilius Lepidus) (89-12 B.C.)—Roman statesman, member of the second triumvirate (43-36 B.C.), played a secondary role to Octavian and Antonius; was stripped of his powers in 36 B.C.—155

L’Estocq (Lestocq), Anton Wilhelm von (1738-1815)—Prussian general, fought against Napoleon in 1806-07.—77, 402

Liechtenstein, Johann Joseph, Prince of (1760-1836)—Austrian general, field marshal from 1809, fought against Napoleon.—32

Liechtenstein, Wenzel, Prince of (1767-1842)—Austrian army officer, subsequently general, fought against Napoleon.—183

Longa, Francisco—Spanish army officer, subsequently general, took part in the war against Napoleonic France (1808-14).—270, 273

Lorenz, Josef (1814-1879)—Austrian army officer and military inventor.—362, 444, 446

Lottum, Friedrich Albrecht Charles, Count (1720-1797)—Prussian army officer, subsequently general, took part in the Seven Years’ War.—402

Louis XII (1462-1515)—King of France (1498-1515).—191

Louis XIV (1638-1715)—King of France (1643-1715).—63, 195, 250, 330

Louis XV (1710-1774)—King of France (1715-74).—116

Louis XVI (1754-1793)—King of France (1774-92), executed during the French Revolution.—56, 134, 394

Louis XVIII (1755-1824)—King of France (1814-15 and 1815-24).—59, 84, 217, 396, 401
Louis Napoleon—see Napoleon III

Louis Philippe (1773-1850)—Duke of Orleans, King of France (1830-48).—67, 68, 211-13, 419, 466

Lourmel, Frédéric Henri Lenormand de (1811-1854)—French general, fought in the Crimean war (1853-56).—423

Løwendal, Ulrich Frédéric Valdemar, comte de (1700-1755)—Danish-born general, Marshal from 1747; served in the Russian (1735-43) and the French (1743-55) army; fought in the War of the Austrian Succession (1740-48).—268

Luckner, Nikolaus, comte (1793-1794)—Marshal of France, took part in the war of the French Republic against the first European coalition.—56

Lüders, Alexander Nikolayevich, Count (1790-1874)—Russian general, commanded a corps in the war against revolutionary Hungary; fought in the Crimean war (1853-56).—133

Ludwig Ferdinand, Prince of Prussia (1772-1806).—402

M

McClellan, George Brinton (1826-1885)—American general, commander-in-chief of the Union army (November 1861-March 1863); advocated a compromise with the Confederacy.—526

Macdonald, Étienne Jacques Joseph Alexandre, duc de Tarente (1765-1840)—Marshal of France from 1809, fought in Napoleonic wars.—27, 130, 175, 181-84, 210

Machiavelli, Niccolò (1469-1527)—Italian politician, historian, military theorist and writer.—107, 191

Mack, Charles (1752-1828)—Austrian general, in 1805 fought against Napoleon.—58

McMurdo, Sir William Montagu Scott (1819-1894)—British army officer, later general; Inspector-General of the Volunteers (1860-65).—488, 490, 505, 535, 536, 558-39

Macnaghten, Sir William Hay (1793-1841)—British colonial officer and diplomat; one of the principal organizers of the Afghan campaign of 1838-42.—44, 45, 46, 379, 380-90

Maggi, Girolamo (c. 1523-1572)—Italian military engineer and writer.—324

Mago (d. 203 B.C.)—Carthaginian general, brother of Hannibal; fought in the second Punic war (218-201 B.C.).—296

Mahmood Shah—head of the Gujarat state (1458-1511).—142

Mahmud II (1785-1839)—Sultan of Turkey (1808-39).—64, 155

Mahmud (d. 1829)—Shah of Afghanistan (1800-03 and 1809-18), later ruler of Herat.—43, 44

Mahmud (Mahmoud) of Ghazni (971-1030)—head of the Ghazni empire, which included Khorasan, Sistan and Afghanistan (998-1030).—41, 42

Mahomed Akbar Khan—son of Emir Dost Mohammed Khan of Afghanistan.—389, 390

Maison, Nicolas Joseph, marquis de (1771-1840)—French general, later Marshal of France, fought in Napoleonic wars.—174

Malatesta, Sigismondo Pandolfo di Rimini (1417-1468)—Italian condottiere.—192

Malcolm, Sir John (1769-1833)—British colonial official and diplomat, later Governor of Bombay (1826-30).—43

Manton, Joseph (c. 1766-1835)—English gunsmith and inventor.—25

Marchi, Francesco da (1504-1577)—Italian military engineer.—324

Marcus Gracchus—Byzantine medieval alchemist.—189
Marggraff, Hermann (1809-1864)—German author and journalist.—392

Mariño, Santiago (1788-1854)—Venezuelan general, a leader in the war of independence of the Spanish colonies in South America.—221-22, 224, 226, 227

Marius (Gaius Marius) (c. 156-86 B.C.)—Roman general and statesman.—98, 344, 346, 347

Marlborough, John Churchill, Duke of (1650-1722)—British general, in 1702-11 commander-in-chief of the British forces in the War of the Spanish Succession.—249, 250, 268

Marmont, Auguste Frédéric Louis Viesse, duc de (1774-1852)—Marshal of France, fought in Napoleonic wars.—178, 179, 181-85

Marolois, Samuel—French mathematician in the Netherlands in the first half of the 17th cent.—328

Marxin (Marchin), Ferdinand, comte de (1656-1706)—Marshal of France and diplomat, fought in the War of the Spanish Succession.—249

Martens, Georg Friedrich (1756-1821)—German lawyer and diplomat; from 1776 published collections of international treaties.—217, 400

Martinez de Ricalde, Juan (d. 1588)—Spanish admiral, second in command of the Spanish Armada in 1588.—167, 168

Masséna, André, duc de Rivoli, prince de Essling (1756-1817)—Marshal of France, fought in wars of the French Republic and Napoleonic France.—19, 28, 57, 58, 153, 216, 217, 398, 399, 401, 473

Matthias Corvinus (Matthias I) (1443-1490)—King of Hungary (1458-90).—259

Maudin (17th cent.)—French military engineer.—323

Maurice (Moritz) of Nassau, Prince of Orange and Count of Nassau (1567-1625)—Stadtholder of the Netherlands (1585-1625); military leader in the war of independence.—108, 195, 299

Maximilian, Josef von Österreich-Este (1782-1863)—Archduke of Austria, general, invented a special type of fortification.—334

Maximilian I Joseph (1756-1825)—Elector (from 1799) and King of Bavaria (1806-25); fought in Napoleonic wars, joined the anti-French coalition in 1813.—58

Maximilian II (Maximilian II Maria Emanuel) (1662-1726)—Elector of Bavaria (1679-1726), fought in the War of the Spanish Succession.—249

Mayne, Sir Richard (1796-1868)—Chief Police Commissioner in London (from 1850).—505

Mecklenburg, Friedrich Ludwig, Duke of (1778-1819)—German prince, married to the sister of Alexander I of Russia.—83, 396

Medina Sidonia, Alonso Pérez de Guzmán, Duke of (1550-1615)—Spanish aristocrat, commanded the Spanish Armada in 1588.—167

Meer Musjedee—chief of an Afghan tribe.—389

Mehemet Ali (or Mohammed Ali) (1769-1849)—Egyptian ruler (1805-49), waged wars against the Sultan of Turkey (1831-33 and 1839-40).—4, 64

Mehrab Khan—chief of a tribe in South Afghanistan (Baluchistan).—381, 382

Melas, Michael, Baron von (1729-1806)—Austrian Baron von, fought in wars against the French Republic, commander-in-chief of the Austrian troops in Italy.—57

Melder, Gerard (b. 1693)—Dutch military engineer.—328

Melville, Robert (1723-1809)—British general and military inventor.—367
Memnon of Rhodes (d. 333 B.C.)—leader of the Greek mercenaries in the army of Darius III, King of Persia.—89

Menchikoff (Menshikov), Alexander Sergeyevich, Prince (1787-1869)—Russian general and statesman, commander-in-chief of the army and navy in the Crimea (1853-55).—14, 17


Meyer, Joseph (1796-1856)—German publisher; in 1826 founded the bibliographic institute which published several editions of the Meyer encyclopedia.—172, 174, 391, 392, 402

Miguel, Maria Evarist (Don or Don Miguel) (1802-1866)—head of the clerical-absolutist party and pretender to the Portuguese throne; King of Portugal (1828-34).—290

Miller, John—brother of the British general William Miller; published William Miller's memoirs.—220, 233

Miller, William (1795-1861)—British general, fought in the war of independence of the Spanish colonies in South America.—220, 233

Miltiades (c. 550 or 540-489 B.C.)—Athenian general and statesman.—89

Mindon—King of Burma (1853-78).—285

Minié, Claude Étienne (1804-1879)—French army officer, inventor of a new type of rifle.—18, 116-17, 208, 244, 362, 439-43, 454

Miranda, Francisco Antonio Gabriel (1750-1816)—Venezuelan general and politician, a leader in the war of independence of the Spanish colonies in South America.—219-20

Moerner (Mörner), Karl Otto, Baron (1781-1868)—Swedish army officer, contributed to the election of Bernadotte as heir to the Swedish throne.—153

Mohamed (Mohammed) Shah (1810-1848)—Shah of Persia (1834-48).—383

Mohammed (or Muhammad, Mahomet) (c. 570-632)—founder of Islam.—189

Mohammed Khan—member of the Afghan dynasty of the Barukzyes, ruler of Peshawar (1818-34).—44, 379

Mohun Lal (Mohan Lal)—Afghan interpreter for the British.—387

Money—British army officer, took part in the Volunteer movement.—522

Montalembert, Marc René, marquis de (1714-1800)—French general and military engineer, fortification specialist.—13, 54, 333-35

Montalvo, Francisco (1754-1822)—Spanish general, Viceroy of New Granada in 1812-16.—223

Montbrun, Louis Pierre, comte (1770-1812)—French general, fought in Napoleonic wars.—254

Monteith—British army officer, fought in the Afghan campaign of 1838-42.—386

Monteverde, Juan Domingo (1772-1832)—Spanish naval officer, fought against the national liberation movement of the Spanish colonies in South America.—220-22

Moore, Sir John (1761-1809)—British general, commanded the British troops in Portugal in 1808-09.—289

Morales, Tomás (1781-1844)—Spanish general, fought against the national liberation movement of the Spanish colonies in South America.—225

Morand, Charles Antoine Louis Alexis, comte (1771-1835)—French general, fought in Napoleonic wars.—253
Morillo, Pablo, conde de Cartagena y marqués de la Puerta (1778-1837)—Spanish general, took part in the liberation war against Napoleonic France (1808-14), commanded troops fighting against the national liberation movement of the Spanish colonies in South America (1815-20).—224, 227-29

Morla, Tomás de (1752-1820)—Spanish general, went over to the French occupation army, author of a work on artillery.—197

Mortier, Édouard Adolphe Casimir Joseph, duc de Trévise (1768-1835)—Marshal of France, fought in Napoleonic wars.—78, 181-84

Mosquera, José (1787-1877)—Colombian politician, fought in the war of independence of the Spanish colonies in South America, President of Colombia (1830).—232

Müffling, Friedrich Ferdinand Karl, Baron (1775-1851)—Prussian general, later field marshal-general, military writer; fought against Napoleon.—174, 183, 186

Murat, Joachim (1767-1815)—Marshal of France, fought in Napoleonic wars; King of Naples (1808-15).—152, 173, 254, 304, 312-13

Murray (Moray), James Stuart, Earl of (c. 1531-1570)—brother of Mary Stuart of Scotland; Regent of Scotland from 1567, fought against Mary and her allies.—25

N

Nadar Shah (Kuli Khan) (1688-1747)—Shah of Persia (1736-47).—42

Nansouty, Étienne Marie Antoine Champion, comte de (1768-1815)—French general, fought in Napoleonic wars.—254

Nao Nehal Singh—son and heir of Runjeet Singh, ruler of Punjab.—382-83

Napier, Sir Charles (1786-1860)—British admiral, commanded the British Baltic fleet (1854).—287

Napier, Sir Charles James (1782-1853)—British general, commanded the troops that conquered the Sind in 1842-43; ruler of the Sind (1843-47).—536

Napier, Sir William Francis Patrick (1785-1860)—British general and military historian, fought in the Peninsular war (1808-14).—304, 526

Napoleon, Prince—see Bonaparte, Prince


Napoleon III (Bonaparte) (1808-1873)—nephew of Napoleon I, President of the Second Republic (1848-51), Emperor of the French (1852-70).—117, 139, 201, 202, 213, 418, 423, 467-68, 509, 516

Narses (c. 472-568)—Byzantine general, Armenian by birth.—297

Neindorff—Prussian army officer and military inventor (mid-19th cent.).—442

Nemours, Louis Charles Philippe Raphaël, d'Orléans, duc de (1814-1896)—second son of Louis Philippe of France; took part in the conquest of Algeria in the 1830s and 1840s.—213

Nessler—French army officer and military inventor (mid-19th cent.).—443

Neubauer (17th cent.)—German military engineer.—328
Newton, Sir Isaac (1642-1727)—English physicist, astronomer and mathematician, founder of classical mechanics.—196

Ney, Michel, duc d'Elchingen, prince de la Moskova (1769-1815)—Marshal of France, fought in Napoleonic wars.—181, 183, 184, 199, 252, 254, 315, 403, 473

Nicholas I (1796-1855)—Emperor of Russia (1825-55).—109, 158, 299

Nicolls, Sir Jasper—British colonial official, commanded the British troops in India during the Anglo-Afghan war of 1838-42.—383, 385

Niebuhr, Carsten (1733-1815)—German traveller, Orientalist.—23

Noailles, Emmanuel Marie Louis, marquis de (1743-1822)—French diplomat, ambassador to Vienna (1783-92).—394

Nordmann, Joseph Armand (1759-1809)—Austrian general, fought against Napoleon.—28

Nott, Sir William (1782-1845)—British general, fought in the Afghan campaign of 1838-42.—45, 47-48, 382, 384

Olsuwieff, Zahar Dmitrievich (1773-1835)—Russian general, fought against Napoleon.—181, 182

Orange, Prince of—see William III

Orléans, duc d'—see Ferdinand Philippe Louis Charles Henri

Osten-Sacken, Fabian Wilhelm (Fabian Vilgelmovich) von, Prince (1752-1837)—Russian general, subsequently field marshal-general, fought against Napoleon.—175, 179, 181-83

Ostmann-Tolstoy, Alexander Ivanovich, Count (1770-1857)—Russian general, fought against Napoleon.—253, 254

Otho (Otto) I (Otho the Great) (912-973)—King of Germany (936-73) and Holy Roman Emperor (962-75).—278

Oudinot, Nicolas Charles, duc de Reggio (1767-1847)—French general, Marshal of France from 1809, fought in Napoleonic wars.—32, 181, 183, 184, 403

P

Paciotto, Francesco (1521-1591)—Italian military engineer.—324

Padilla, José (1778-1828)—Colombian general, fought in the war of independence of the Spanish colonies in South America.—229, 231

Páez, José Antonio (1790-1873)—Venezuelan general, a leader in the war of independence of the Spanish colonies in South America; opposed Bolivar in 1826-30; led the struggle for Venezuela's separation from Colombia; President of Venezuela from 1831 to 1863 (with intervals).—222, 227, 229, 230, 232

Pagan, Blaise François, comte de (1604-1665)—French military engineer.—326, 328-29

Pahlen, Pyotr Alexeyevich, Baron (1745-1826)—Russian general, military Governor of St. Petersburg (1798-
1801), an organiser of the plot against Emperor Paul I.—77

**Paixhans, Henri Joseph** (1783-1854)—French general, military engineer and inventor.—205, 368

**Palmerston, Henry John Temple, 3rd Viscount** (1784-1865)—British statesman; at first Tory and from 1830 Whig; Foreign Secretary (1830-34, 1835-41 and 1846-51), Home Secretary (1852-55), and Prime Minister (1855-58 and 1859-65).—158

**Papacino d'Antoni, Alessandro Vittorio** (1714-1786)—Sardinian military engineer.—196

**Paravey, Charles Hippolyte de** (1787-1871)—French engineer and orientalist.—188

**Parma, Prince of**—see **Farnese, Alexander**

**Parseval-Deschênes, Alexandre Ferdinand** (1790-1860)—French admiral, a squadron commander in the Baltic in 1854.—287

**Partouneau**—French general, fought in the war waged by France and Piedmont against Austria.—512

**Paskiewitch (Paskiwich), Ivan Fyodorovich, Prince** (1782-1856)—Russian general, later field marshal-general; fought against Napoleon; took part in suppressing the Polish insurrection of 1830-31 and the Hungarian revolution (1849).—253

**Paul I** (1754-1801)—Emperor of Russia (1796-1801).—77

**Pax (Paz) Salas, Pedro de** (16th cent.)—author of a report on the Spanish Armada.—166

**Pedro I** (1798-1834)—Emperor of Brazil (1822-31), King of Portugal under the name of Pedro IV (1826); abdicated in favour of his daughter, Maria II da Gloria.—131

**Pélissier, Aimable Jean Jacques, duc de Malakoff** (1794-1864)—French general, Marshal of France from 1855; took part in the conquest of Algeria in the 1830s-1850s; commander-in-chief in the Crimea (May 1855-July 1856).—69

**Pelletier, Jean Baptiste** (1777-1862)—French general, head of a number of artillery schools in France.—130

**Peña, Miguel** (1781-1833)—Venezuelan lawyer, fought in the war of independence of the Spanish colonies in South America.—220

**Pericles** (c. 490-429 B.C.)—Athenian statesman and military leader.—90, 93

**Pétion, Alexandre Sabès** (1770-1818)—West-Indian politician and general; President of the Republic of Haiti (1807-18).—224, 225

**Philip II** (1527-1598)—King of Spain (1556-98).—166

**Philip II of Macedon** (c. 382-336 B.C.)—King of Macedon (359-336 B. C.); father of Alexander the Great.—94, 95, 292

**Philip V** (c. 237-179 B.C.)—King of Macedon (221-179 B.C.).—100

**Philostratus** (c. 170-245)—Greek rhetorician, sophist philosopher and writer.—189

**Phull, Karl Ludwig August, Baron** (1757-1826)—Prussian general, chief of the general staff of the Prussian army in 1806; served in the Russian army in 1806-12.—51

**Piar, Manuel Carlos** (1782-1817)—Venezuelan and Colombian general, fought in the war of independence of the Spanish colonies in South America.—225-26

**Piccinino, Niccolo** (1386-1444)—Italian condottiere, commanded the Milan forces in wars between Italian city-states in 1426-43.—278

**Pichon, Louis André, baron** (1771-1850)—French politician, civilian commissary in Algiers in the early 1830s.—68
Pius VI (Giovanni Angelo Braschi) (1717-1799)—Pope (1775-99).—57

Plönnies, Wilhelm von (1828-1871)—Hessian army officer and military inventor.—443

Podewils, Philipp, Baron (1809-1885)—Bavarian army officer and military inventor.—443

Pollock, Sir George (1786-1872)—British general, subsequently field marshal, fought in the Afghan campaign of 1838-42.—47, 48

Polybius (c. 201-c. 120 B.C.)—Greek historian.—345

Poncharra, Charles Louis César du Port, marquis de (1787-1860)—French army officer and military inventor.—362, 419

Poniatowski, Joseph Anthony, Prince (1763-1813)—Polish politician and general, fought in Napoleonic wars in 1809-13.—252

Poniatowski, Stanislaus Augustus II (1732-1798)—King of Poland under the name of Stanislaus II Augustus (1764-95).—83, 394

Potemkin, Grigory Alexandrovich, Prince (1739-1791)—Russian statesman, field marshal-general, commander-in-chief in the Russo-Turkish war of 1787-91.—76

Pottinger, Eldred—British army officer, fought in the Afghan campaign of 1838-42.—388, 390

Prélat, Joseph (b. 1819)—Swiss gunsmith, modernised the Minié rifle in 1854.—441

Principe y Vidaud, Miguel Agustín (1811-1866)—Spanish liberal writer and historian.—171

Psammetichus I—Egyptian Pharaoh (663-610 B.C.), military leader.—86

Ptolemy (Claudius Ptolemaeus) (2nd cent.)—Greek mathematician, astronomer and geographer.—60

Ptolemy Lagi (Ptolemy I) (c. 360-283 B.C.)—general under Alexander of Macedon, ruler (from 323) and then King of Hellenistic Egypt (305-285 B.C.).—88, 293

Puchner, Anton, Baron (1779-1852)—Austrian general, fought against revolutionary Hungary in 1848-49.—132

Pugatcheff (Pugachov), Yemelian Ivanovich (c. 1742-1775)—leader of an anti-feudal peasant and Cossack uprising in Russia in 1773-75.—76

Puisaye, Joseph Geneviève, comte de (1755-1827)—French general, royalist, a leader of the counter-revolutionary Chouan revolt (1793-97).—215, 397

Pyrrhus (319-272 B.C.)—King of Epirus (307-302 and 296-272 B.C.), military leader.—99

Quirini, Angelo Maria (1680-1755)—Italian cardinal and writer.—278

R

Raglan, Lord Fitzroy James Henry Somerset, Baron (1788-1855)—British field marshal, commander-in-chief of the British army in the Crimea (1854-55).—7, 17

Rameses II (Sesostris)—Egyptian Pharaoh (1317-1251 B.C.), military leader.—85

Randon, Jacques Louis César Alexandre, comte de (1795-1871)—French general, Marshal of France from 1856; Governor-General of Algeria (1851-58).—69

Ranelagh, Thomas Heron John, Viscount (b. 1812)—British army officer, took part in the Volunteer movement.—484-87, 505

Raphael Sanzio (Raffaello Santi) (1483-1520)—Italian painter.—278
Rawlinson—British army officer.—386

Rayevski, Nikolai Nikolayevich (1771-1829)—Russian general, fought against Napoleon.—251-54

Reichstadt, Napoleon François-Joseph Charles, duc de (1811-1832)—son of Napoleon I and Marie Louise, a claimant to the French throne.—154

Reille, Honoré Charles Michel Joseph, comte (1775-1860)—French general, subsequently Marshal of France, fought in the Peninsular war (1808-14).—269, 270, 273

Reuss-Plauen, Heinrich, Prince of (1751-1825)—Austrian general, fought against Napoleon.—32

Ribas, Joseph Felix (1775-1814)—Venezuelan general, fought in the war of independence of the Spanish colonies in South America.—219-22, 224

Ricalde—see Martinez de Ricalde, Juan

Richard I (Coeur de Lion) (1157-1199)—King of England (1189-99).—4

Rimpler, George (1636-1683)—German military engineer.—332, 333

Ringelhardt—manager of a theatre in Cologne and, from 1832, in Leipzig.—80-81, 391-92

Robertson—385

Robespierre, Maximilien François Marie Isidore de (1758-1794)—Jacobin leader in the French Revolution, head of the revolutionary government (1793-94).—398

Robins, Benjamin (1707-1751)—English mathematician and military engineer.—196

Rodríguez Torrices, Manuel (1788-1815)—Colombian politician, fought in the war of independence of the Spanish colonies in South America.—220

Romana, Pedro Caro y Sureda, marqués de la (1761-1811)—Spanish general, commanded a Spanish corps on the shores of the North and Baltic seas (1807-08), fought Napoleon in the war of liberation (1808-14).—152

Romanzoff—see Rumyantsev, Pyotr Alexandrovich

Ronge, Johannes (1813-1887)—German clergyman, founder of the “German Catholics” movement; took part in the 1848-49 revolution.—392

Roscio, Juan German (1769-1821)—Venezuelan lawyer, fought in the war of independence of the Spanish colonies in South America, Vice President of Venezuela (1819-20) and the United States of Colombia (1820-21).—227-28

Rosenberg-Orsini, Franz Seraph, Prince (1761-1832)—Austrian general, fought against Napoleon.—32

Ross, Robert (1766-1814)—British general, took part in wars against France and the USA.—164

Rossetti, Domenico (17th cent.)—Italian military engineer.—324

Rouvray, Friedrich Gustav (1771-1839)—Saxon officer, author of works on artillery.—197

Ruhlîères, Joseph Marcelin (1787-1862)—French general and politician, took part in the conquest of Algeria in the 1830s.—213

Rumyantsev, Pyotr Alexandrovich, Count (Rioumantsof-Zadoonaiski, Rumiancov) (1725-1796)—Russian field marshal-general, commander in the Russo-Turkish war of 1768-74.—76

Runjeet Singh (1780-1839)—ruler of Punjab (1797-1839).—43, 44, 379, 380, 382

Rupert, Prince (1619-1682)—English general and admiral, royalist, cavalry commander during the English Revolution.—300
Sacken—see Osten-Sacken, Fabian Wilhelm von, Prince

Saint-Arnaud, Armand Jacques Leroy de Achille (1801-1854)—French general, Marshal of France from 1852, Bonapartist; took part in the conquest of Algeria in 1836-51; commander-in-chief of the French army in the Crimea in 1854.—17, 69, 213

Saint-Hilaire, Louis Vincent Joseph le Blond, comte de (1766-1809)—French general, fought in Napoleonic wars.—33

Saint-Priest, Guillaume Emmanuel Guignard, comte de (1776-1814)—French-born general in the service of Russia, fought against Napoleon.—183, 185

Saint Remy, Pierre Surirey de (c. 1650-1716)—French general, second in command of the French artillery from 1703.—195

Saladin (full name Salah-al-Din Yusuf ibn-Ayyub) (1138-1193)—Sultan of Egypt (1171-93), founder of the Ayyubid dynasty.—4

Sale, Sir Robert Henry (1782-1845)—British colonel, fought in the Afghan campaign of 1838-42.—47, 381, 384, 386, 388

Salles, Charles Marie, comte de (c. 1804-1858)—French general, took part in the conquest of Algeria in the 1830s-1850s.—213

Salust (Gaius Sallustius Crispus) (86-c. 35 B.C.)—Roman historian.—98

Sands—British colonel, fought in the war of independence of the Spanish colonies in South America.—230

San Michele (Sanmicheli), Michele (1484-1559)—Italian architect and military engineer.—322, 324

Santa Cruz, Don Alvarez de Bassano, Marquis de (1526-1588)—Spanish admiral, commanded the Spanish navy in 1576-88.—167

Santander, Francisco de Paula (1792-1840)—Colombian general, fought in the war of independence of the Spanish colonies in South America, Vice-President of the United States of Colombia (1821-28), participant in the conspiracy against Bolivar.—227, 228, 229, 231

Savary, Anne Jean Marie René, duc de Rovigo (1774-1833)—French general and politician, Minister of Police (1810-14), Governor-General of Algeria (1831-33).—68

Saxe, Hermann Maurice, comte de (1696-1750)—Marshal of France and military writer.—20

Saxe-Coburg, Duke of—see Ernest III (Ernest Anton Karl Ludwig)

Scarlett, Sir James Yorke (1799-1871)—British general, took part in the Crimean war, adjutant-general in 1860.—486

Scharnhorst, Gerhard Johann David von (1755-1813)—Prussian general, War Minister (1807-10) and Chief of Staff (1807-13); reorganised the Prussian army; an organiser of the liberation struggle against Napoleonic rule.—174, 197

Scheither, Johann Bernhard (17th cent.)—German military engineer.—328

Schilder, Kaspar Gd.—lighterman, Robert Blum's stepfather.—391

Schiller, Johann Christoph Friedrich von (1759-1805)—German poet, dramatist, historian and philosopher.—81

Schlosser, Friedrich Christoph (1776-1861)—German historian, democrat.—394, 398
Schmerling, Anton von (1805-1893)—Austrian politician, in 1848 deputy to the Frankfurt National Assembly (Right Centre), Imperial Minister and, from September to December 1848, Prime Minister.—393

Schmitz—owner of a lantern factory in Cologne.—80, 391

Schwarzenberg, Karl Philipp, Prince (1771-1820)—Austrian field marshal, fought against Napoleon, commander-in-chief of the allied armies of the European coalition in 1813-14.—180-81, 183, 184, 185

Schwedt, Heinrich Friedrich (1709-1788)—last margrave of Brandenburg-Schwedt (1771-88).—172

Schwiehelt—see Bennigsen, Amalie Oelgarde

Scipio (Publius Cornelius Scipio) (d. 211 B.C.)—Roman general, consul (218 B.C.) and proconsul in Spain (217-11 B.C.).—295

Sébastiani, Horace François Bastien, comte (1772-1851)—French general, later Marshal of France and diplomat; took part in Napoleonic wars.—181, 182

Seigneul—Swedish consul-general in Paris (early 19th cent.).—154

Seleucidae—royal dynasty of the Hellenistic state formed in Asia Minor after the collapse of Alexander of Macedon's empire; ruled from 312 to 64 B.C.—343

Selim I (1467-1520)—Sultan of Turkey (1512-20).—62

Selim Cutemi (d. 1515)—Emir of Metija (Algeria).—62

Serna y Hinojosa, José de la (1769-1833)—Spanish general, fought against the national liberation movement of the Spanish colonies in South America.—170, 171

Severus (Lucius Septimius Severus) (146-211)—Roman Emperor (193-211) and general.—102

Seyditz, Friedrich Wilhelm von (1721-1773)—Prussian general, cavalry commander in the Seven Years' War (1756-63).—112, 301, 302, 304, 316

Seymour—British admiral, commanded the squadron sent to pursue the Spanish Armada in 1588.—168

Sheir Afras Khan (d. 1800)—leader of the conspiracy against Zaman Shah of Afghanistan.—43

Shelton, John (d. 1845)—British general, fought in the Afghan campaign of 1838-42.—386, 388

Shrapnel, Henry (1761-1842)—British general and military inventor.—246

Sibley, Henry Hopkins (1816-1886)—American army officer, designed an army tent.—262

Sievers, Karl Karlovich, Count (1772-1856)—Russian general, fought against Napoleon.—254

Sieyès, Emmanuel Joseph, comte de (1748-1836)—French priest, participant in the French Revolution, moderate constitutionalist, member of the Directory (1799), helped organise the Bonapartist coup of 1799.—151

Siman Shah—Shah of Afghanistan (1793-1800).—43

Simpson, Sir James (1792-1868)—British general, served in the Bengal army during the Anglo-Afghan war of 1838-42; commander-in-chief of the British army in the Crimea (June-November 1855).—380

Smith, Sir William Sidney (1764-1840)—British admiral.—4

Solyman (or Saliman) I (“the Magnificent”) (c. 1496-1566)—Sultan of Turkey (1520-66).—62, 259

Somerset, Fitzroy Molyneux Henry—
British army officer, served in the engineers in the 1850s.—498

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