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**An universal military dictionary, or a copious explanation of the
technical terms ...**

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MILITARY DICTIONARY.

A B B

ABBATIS, in a military sense, is formed by cutting down many entire trees, the branches of which are turned towards the enemy, and as much as possible entangled one into another. They are made either before redoubts, or other works, to render the attacks difficult, or sometimes along the skirt of a wood, to prevent the enemy from getting possession of it. In this case the trunks serve as a breast-work, behind which the troops are posted, and for that reason should be disposed, so as that the parts may, if possible, flank each other.

ABSOLUTE Gravity, in philosophy, is the whole force by which a body, shell, or shot, is impelled towards the center. See **GRAVITY**.

ABSOLUTE Number, in Algebra, is the known quantity which possesses entirely one side of the equation. Thus, in the equation, $xx + 10x = 64$, the number 64, possessing entirely one side of the equation, is called the *absolute number*, and is equal to the square of the unknown root x , added to $10x$, or to 10 times x .

ACADEMY, in antiquity, the name of a villa situated about a mile from the city of Athens, where Plato and his followers assembled for conversing on philosophical subjects; and hence they acquired the name of Academics.

Military ACADEMY. We have in England two royal military academies, one at Woolwich, and one at Portsmouth. The first was established by his late Majesty king George II. by warrants bearing date the 30th day of April, and the 18th day of November, 1741, endowed, and supported, for the instructing of the people

A C C

belonging to the military branch of ordnance, in the several parts of mathematics necessary to qualify them for the service of the artillery, and the business of engineers. The lectures of the masters in theory were then duly attended by the practitioner-engineers, officers, serjeants, corporals, private men, and cadets. At present the gentlemen educated at this academy are the sons of the nobility and military officers. They are called gentlemen-cadets, and are not admitted under 13 years of age. They are taught writing, arithmetic, algebra, Latin, French, mathematics, mechanics, surveying, levelling, and fortification, together with the attack and defence; gunnery, mining, laboratory-works, geography, perspective, fencing, dancing, &c. The master-general of the ordnance is always captain of the company of gentlemen-cadets, and some officer of merit is always captain-lieutenant. There is, besides, a first lieutenant, and two second lieutenants. They are further under the immediate care of a lieutenant-governor, and an inspector, who are officers of great abilities and experience; and the professors and masters are men of known talents and capacity. That at Portsmouth was founded by George I. in 1722, for teaching those branches of the mathematics which more immediately relate to navigation.

ACCELERATED

Motion.

{ *on oblique or inclined planes.* See **MOTION**.
 { *of pendulums.* See **PENDULUMS**.
 { *of projectiles.* See **PROJECTILES**.

B

ACCENSI,

ACCENSI, in antiquity, were officers attending the Roman magistrates; their business was to summon the people to the public games, and to assist the prætor when he sat on the bench.

Accensi, in the Roman armies, were, according to Festus, supernumerary soldiers, whose duty it was to attend their leaders, and supply the places of those who were either killed or wounded. Livy mentions them as irregular troops, who were but little esteemed. Salmastius tells us, they were taken out of the fifth class of the poor citizens of Rome.

ACCESSIBLE, that which may be approached. We say, in a military stile, that place, or that fortress, is *accessible* from the sea, or land, i. e. which may be entered on those sides.

An accessible height or distance, in geometry, is that which may be measured by applying a rule, &c. to it; or rather, it is a height, the foot whereof may be approached, and from whence any distance may be measured on the ground.

Heights, both accessible, and inaccessible, may be taken with a quadrant. See **ALTITUDE**.

One of the objects of surveying, is the measuring both accessible and inaccessible distances.

ACCLIVITY, in a military sense, is the steepness or slope of any work, inclined to the horizon, reckoned upwards. Some writers on fortification use acclivity as synonymous to *talus*; though *talus* is commonly used to denote all manner of slopes, either in its ascending or descending state.

ACCOUTREMENTS, in a military sense, signifies habits, equipage, or furniture, of a soldier, such as buffs, belts, pouches, cartridge-boxes, &c.

ACLIDES, in Roman antiquity, a kind of missile weapon, with a thong fixed to it, whereby it might be drawn back again. Most authors describe the *aclides* as a sort of dart or javelin; but Scaliger makes it roundish or globular, with a wooden stem to poise it by.

ACTIAN games, in antiquity, were solemn games instituted, or at least restored, by Augustus, in memory of the famous victory, at Actium, over Mark Anthony.

ACTIAN years, in chronology, a series of years, commencing with the epocha of the battle of Actium, otherwise called the æra of Augustus.

ACTION, in the military art, is an engagement between two armies, or any smaller body of troops, or between different bodies belonging thereto. The word is likewise used to

signify some memorable act done by an officer, soldier, or even commander of a detachment or party.

ACTIVITY, in a military sense, denotes laboriousness, attention, labour, diligence and study.

ACUTE angle. See **ANGLE**.

ADJUTANT-GENERAL is an officer of distinction, who aids and assists the general in his laborious duty: he forms the several details of duty of the army, with the brigade-majors, and keeps an exact state of each brigade and regiment, with a roll of the lieutenant-generals, major-generals, colonels, lieutenant-colonels, and majors. He every day at head quarters receives orders from the general officer of the day, and distributes them to the majors of brigades, from whom he receives the number of men they are to furnish for the duty of the army, and informs them of any detail which may concern them. On marching days he accompanies the general to the ground of the camp. He makes a daily report of the situation of all the posts placed for the safety of the army, and of any changes made in their posts. In a day of battle the adjutant-general sees the infantry drawn up, after which he places himself by the general to receive any orders. In a siege he visits the several posts and guards of the trenches, and reports their situation, and how circumstanced: he gives and signs all orders for skirmishing parties (if time permits) and has a serjeant from each brigade to carry any orders which he may have to send.

ADJUTANT, an officer who eases the major of part of the burthen of his duty, and performs it all in his absence. He receives orders from the brigade-major, if in camp; and when in garrison, from the town-major: after he has carried them to his colonel or officer commanding the regiment, he then assembles the serjeant-major, drum-major, and fife-major, with a serjeant and corporal of each company, who write the orders to shew to their respective officers. If convoys, parties, detachments, or guards, are to be furnished, he gives the number which each company are to furnish, and hour and place for their assembling: he must keep an exact roster and roll of duties, and have a perfect knowledge of all manœuvres, &c. Each troop of guards has two adjutants, every regiment of foot has one, and each battalion of the royal artillery one. This post is always given to a subaltern.

ADVANCEMENT, in a military sense, signifies honour, promotion, or preferment, in the army, regiment, or company.

ADVANCED

ADVANCED { FOSSE. } See FORTIFICATION.
 { DITCH. }
 { GUARD. See GUARD.

AFFIDAVIT, in military law, signifies an oath taken before some person who is properly authorized to take it; as first, when a soldier is enlisted; secondly, by all officers appointed for a court-martial; thirdly, by the commissaries, or muster-masters.

AFFUT, the French name for a gun-carriage, and for which we have no proper name; the only distinction from all other carriages is, that it belongs to a gun. See CARRIAGE.

AGA, in the Turkish army, is the same as a general with us.

AGENT, to a regiment or battalion, signifies a person entrusted with all the money belonging to both officers and private men: he keeps exact accounts of the arrears of commissioned officers, in regard to subsistence, poundage, hospital, widows, and off-reckonings. He is generally appointed by the colonel of the regiment.

AGIADES, in the Turkish armies, are a kind of pioneers employed in fortifying the camp, &c. This word frequently occurs in history.

AID-DE-CAMP, an officer appointed to attend a general officer, in the field, in winter-quarters, and in garrison; he receives and carries their orders, as occasion requires. He is seldom under the degree of a captain, and all aids-de-camp have 10s. a day allowed for their duty. This employment is of greater importance than is generally believed: it is, however, often entrusted to young officers of little experience, and of as little capacity; but in most foreign services they give great attention to this article. Marshal de Puysegur mentions the loss of a battle through the incapacity of an aid-de-camp.

King's Aids-de-Camp, are frequently officers of note; and by this promotion they always rank as colonels.

AID-MAJOR. See ADJUTANT.

AIM-FRONTLET, a piece of wood hollowed out to fit the muzzle of a gun, to make it of an equal height with the breech, formerly made use of by the gunners, to level and direct their pieces. It is not used at present.

AIR-GUN, a pneumatic machine for exploding bullets, &c. with great violence.

The common air-gun is made of brass, and has two barrels: the inside barrel is of a small bore, from whence the bullets are exploded; and a large barrel on the outside of it. There is likewise a syringe fixed in the stock of the

gun, by which the air is injected into the cavity between the two barrels through a valve. The ball is put down into its place in the small barrel with the rammer, as in any other gun. Another valve, being opened by the trigger, permits the air to come behind the bullet, so as to drive it out with great force. If this valve be opened and shut suddenly, one charge of condensed air may be sufficient for several discharges of bullets; but if the whole air be discharged on one single bullet, it will drive it out with uncommon force. This discharge is effected by means of a lock placed here, as usual in other guns; for the trigger being pulled, the cock will go down and drive the lever, which will open the valve, and let in the air upon the bullet.

In the air-gun, and all other cases where the air is required to be condensed to a very great degree, it will be requisite to have the syringe of a small bore, viz. not exceeding half an inch in diameter; because the pressure against every square inch is about 15 pounds, and therefore against every circular inch about 12 pounds. If therefore the syringe be one inch in diameter, when one atmosphere is injected, there will be a resistance of 12 pounds against the piston; and when 10 are injected, there will be a force of 120 pounds to be overcome; whereas 10 atmospheres act against the circular half-inch piston (whose area is only $\frac{1}{4}$ part so big) with only a force equal to 30 pounds; or 40 atmospheres may be injected with such a syringe, as well as 10 with the other. In short, the facility of working will be inversely as the squares of the diameter of the syringe.

AIR-SHAFTS, in mining. See MINING.

AJUTANT. See ADJUTANT.

ALARM, is a sudden apprehension upon some report, which makes men run to their arms to stand upon their guard; it implies either the apprehension of being suddenly attacked, or the notice given of such an attack being actually made; generally signified by the firing of a cannon, the beat of a drum, &c.

Alarm-Post, in the field, is the ground appointed by the quarter-master general for each regiment to march to, in case of an alarm.

Alarm-Post, in a garrison, is the place allotted by the governor for the troops to draw up in, on any sudden alarm.

False-Alarms, are stratagems of war, frequently made use of to harass an enemy, by keeping them perpetually under arms. They are often conveyed by false reports, occasioned by a fearful or negligent sentinel. A vigilant

officer will sometimes make a false alarm, to try if his guards are strict upon duty.

ALARM-Bell, the bell rung upon any sudden emergency, as a fire, mutiny, approach of an enemy, or the like.

Knights of **ALCANTARA**, a Spanish military order, who gained great honour during the wars with the Moors.

ALIEN, in law, implies a person born in a foreign country, not within the king's dominions, in contradistinction to a denizen, or natural-born subject.

ALLEGIANCE, in law, implies the obedience which every subject ought to pay to his lawful sovereign.

Oath of **ALLEGIANCE**, is that taken by the subject, by which he acknowledges the king his lawful sovereign.

ALLIANCE, in a military sense, signifies a treaty entered into by sovereign princes and states, for their mutual safety and defence. In this sense alliances may be distinguished into such as are offensive, whereby the contracting parties oblige themselves jointly to attack some other power; and into such as are defensive, whereby the contracting powers bind themselves to stand by, and defend one another, in case of being attacked by any other power.

ALLOY, is the mixture of metals that enter into the composition of the metal proper for cannon and mortars.

ALMADIE, a kind of military canoe, or small vessel, about 24 feet long, made of the bark of a tree, and used by the negroes of Africa.

ALMADIE, is also the name of a long-boat used at Calcutta, near 80 feet long, and generally six or seven broad.

ALTITUDE, height, or distance from the ground, measured upwards, and may be both accessible and inaccessible.

ALTITUDE of motion, a term used by some writers, to express the measure of any motion, computed according to the line of direction of the moving force.

AMAZON, one of those women who inhabited the country so called. They are said to have composed a nation of themselves, exclusive of males, and to have derived their name from their cutting off one of their breasts, that it might not hinder or impede the exercise of their arms. This term has often by modern writers been used to signify a bold daring woman, whom the delicacy of her sex does not hinder from engaging in the most hazardous attempts. The last and former wars with France have furnished us with several in-

stances of females who have undergone the fatigue of a campaign with alacrity, and run the hazards of a battle with the greatest intrepidity.

AMBITION, in a military sense, signifies a desire of greater posts, or preferment. Every gentleman in the army, or navy, ought to have a spirit of ambition to arrive at the very summit of their profession.

AMBUSCADE, in military affairs, implies a body of men posted in some secret or concealed place, 'till they find an opportunity of falling upon the enemy by surprise: or, they are rather snares set for the enemy, either to surprise them when marching without precaution, or by posting yourself advantageously, and drawing them there by different stratagems, to attack them by superior force. An ambuscade is easily carried into execution in woods, buildings, and hollow places; but requires a more fertile imagination, and greater trouble, in a level country.

AMBUSH, a place of concealment for soldiers to surprise an enemy, by falling suddenly upon them.

AMENDE Honorable, in the French customs, is an infamous kind of punishment inflicted upon traitors, paricides, or sacrilegious persons, in the following manner: the offender being delivered into the hands of the hangman, his shirt is stripped off, a rope put about his neck, and a taper in his hand; then he is led into court, where he must beg pardon of God, the king, the court, and his country. Sometimes the punishment ends here; but sometimes it is only a prelude to death, or banishment to the galleys.

AMMUNITION, implies all sorts of warlike stores, and more particularly powder and ball, cannon, mortars, howitzers, cohorns, royals, shells, bullets, cartridges, grape-shot, tin, and case-shot; carcasses, grenades, pontoons, small-arms, swords, forage, stores, &c.

AMMUNITION bread, shoes, cloths, &c. such as are served out by the government, to the soldiers of an army, garrison, &c. The bread that is provided for, and distributed to the soldiers, is a loaf of six pounds every four days to each soldier.

AMMUNITION-waggon, is generally a four-wheel carriage with shafts; the sides are railed in with staves and raves, and lined with wicker-work, so as to carry bread and all sorts of tools. It is drawn by four horses, and loaded with 1200 pound weight. See **WAGGON**.

AMMUNITION-cart, a two-wheel carriage with shafts; the sides of which, as well as the fore

fore and hind parts, are inclosed with boards instead of wicker-work.

AMNESTY, in a military or political sense, is an act by which two belligerent powers at variance promise to forget and bury in oblivion all that is past.

AMNESTY is either general and unlimited, or particular and restrained, though most commonly universal, without conditions or exceptions; such as that which passed in Germany at the peace of Osnabrug in the year 1648.

AMNESTY, in a more limited sense, denotes a pardon granted by a prince to his rebellious subjects, usually with some exceptions; such as was granted by Charles II. at his restoration.

AMORCE, an old military word for fine-grained powder, such as is sometimes used for priming of great guns, mortars or howitzers; as also for small-arms, on account of its rapid inflammation.

AMPLITUDE of the range of a projectile. See PROJECTILE.

ANABASII, in antiquity, were expeditious couriers, who carried dispatches of great importance, in the Roman wars.

ANCYLE, in antiquity, a kind of shield which fell, as was pretended, from heaven, in the reign of Numa Pompilius; at which time, likewise, a voice was heard, declaring that Rome should be mistress of the world as long as she should preserve this holy buckler.

Authors are much divided about its shape: however, it was kept with great care in the temple of Mars, under the direction of twelve priests; and, lest any should attempt to steal it, eleven others were made so like it, as not to be distinguished from the sacred one. These *Ancylia* were carried in procession every year round the city of Rome.

St. ANDREW, or the *Thistle*, a military order of knighthood in Scotland. The occasion of instituting this order is variously related by different authors. John Lesley, bishop of Ross, reports, that the night before the battle betwixt Athelstane, king of England, or rather Northumberland, and Hungus, king of the Picts, a bright cross, in the fashion of that whereon St. Andrew suffered martyrdom, appeared in the air to Hungus; he having gained the victory, bore the figure of that cross at all times after in his ensigns and banners, from which time all succeeding kings of Scotland have religiously observed the same bearing. Others assert, that this extraordinary appearance was not to Hungus, but to the Scots, whom Achaius, king of Scotland, sent to his assistance. This victory is said to be obtained

in the year 819 (though, according to Buchanan, Achaius died nine years before) and that Hungus and Achaius went bare-footed in solemn procession to the kirk of St. Andrew, to return thanks to God and his apostle, promising that they and their posterity would ever use in their ensigns the cross of St. Andrew; which custom prevailed among the Picts, and continued among the Scots unto this day: and that both these kings instituted an order, which they named the order of St. Andrew.

Others, who allow that Achaius instituted this order, give the following account of its origin: Achaius having formed that famous league, offensive and defensive, with Charlemagne, against all other princes, found himself thereby so strong, that he took for his device the *Thistle* and the *Rue*, which he composed into a collar of his order, and for his motto, *Pour ma defense*; intimating thereby, that he feared not the powers of foreign princes, seeing he leaned on the succour and alliance of the French. And though from hence may be inferred, that these two plants, the *Thistle* and the *Rue*, were the united symbols of one order of knighthood, yet Meñenius divides them into two, making one whose badge was the *Thistle*, whence the knights were so called, and the motto, *Nemo me impune lacessit*; another vulgarly called *Sertum rutæ*, or the garland of rue; the collar of which was composed of two branches or sprigs thereof, or else of several of its leaves: however, at both these collars hung one and the same jewel, to wit, the figure of St. Andrew, bearing before him the cross of his martyrdom.

But though the thistle has been acknowledged for the badge and symbol of the kingdom of Scotland, even from the reign of Achaius, as the rose was of England, and the lily of France, the pomegranate of Spain, &c. yet there are some who refer the order of the thistle to later times, in the reign of Charles VII. of France, when the league of amity was renewed between that kingdom and Scotland, by which the former received great succour from the latter, in the time of an extraordinary distress. Others again place the foundation still later, even as low as the year 1500; but without any degree of certainty.

The chief and principal ensign of this order is a gold collar, composed of thistles, interlinked with annulets of gold, having pendent thereto the image of St. Andrew with his cross, and this motto, *Nemo me impune lacessit*.

Knights of St. ANDREW, is also an order instituted by Peter the Great, of Muscovy, in 1698; the badge

badge of which is a golden medal, on one side whereof is represented St. Andrew's cross; and on the other are these words, *Czar Pierre monarque de toute la Russie*. This medal, being fastened to a blue ribbon, is suspended from the right shoulder.

ANGLE, in geometry, is the inclination of two lines meeting one another in a point.

Thus if the line CB (*plate I. fig. 1.*) meet the line DB , in the point B , their inclination towards each other is called an angle.

Sometimes angles are denoted by a single letter placed at the point of intersection; as the angle B (*fig. 2.*) imports the angles formed by the lines AB, CB , at the point B . But when several lines meet at the same point, as at B (*fig. 3.*) each particular angle is denoted by three letters, whereof the middle letter shews the angular point, and the other two letters the lines which form that angle. Thus the angle formed by the lines AB, CB , at the point B , is called the angle ABC , or CBA .

The measure of an angle is the arch of a circle, described on the angular point, intercepted between the two lines which form the angle. Thus the measure of the angle ABC (*fig. 3.*) is the dotted arch intercepted between the two legs AB, CB ; and as many degrees, &c. as are contained in that arch, so many degrees, &c. the angle ABC is said to consist of.

Hence it will be easy to measure the quantity of any angle geometrically; for if you take the distance of the arch intercepted between the lines AB, CB , and apply it to a line of chords, whose radius is BE , you will have the number of degrees, &c. contained in the angle ABC . Or if you apply the center of a protractor to the angular point B , in such a manner that the leg AB lies directly under the limb of the protractor, the degree on the arch cut by the other leg BC will give the quantity of the angle required.

ANGLES are either *right, acute, or obtuse*.

A *Right* ANGLE, is that whose two legs are perpendicular to each other; and consequently the arch intercepted between them is exactly 90° . Thus the angle ABC (*fig. 2.*) is a right angle.

An *Acute* ANGLE, is that which is less than a right angle, or 90° . as the angle CBD , *fig. 1.*

An *Obtuse* ANGLE, is that which is greater than a right angle; as ABC , *fig. 1.*

Adjacent ANGLES, are such as have the same vertex, and one common side contained beyond the angular point. Thus the angle CBD , and CBA (*fig. 1.*) are adjacent angles. The sum

of these adjacent angles is always equal to two right angles (*13. Eucl. 1.*) and therefore, if one of them be acute, the other will be obtuse; and the contrary: whence, if either of them be given, the other is also given, it being the complement of the former to 180° .

Vertical ANGLES, are the opposite angles made by two lines cutting or crossing each other. Thus, if the right lines AB, CB (*fig. 4.*) cut or cross each other in the point E , then the angles AEC, DEB , and AED, CEB , are vertical angles. Hence, when two lines cut or cross each other, the vertical angles are equal (*15. Eucl. 1.*)

Alternate ANGLES, are those cut or obtuse angles made by two lines cutting or crossing each other, and formed by a right line cutting or crossing two parallel lines. Thus, if AB (*fig. 5.*) be parallel to CD , and the line GH cuts them in I and K , then are the angles AIK, DKI , and BIK, IKC , alternate angles. These alternate angles are always equal to each other (*18. Eucl. 1.*)

A *Reſilinear* ANGLE, is made by strait lines, to distinguish it from the spherical or curvilinear angle.

Spherical ANGLE, is an angle formed by the intersection of two great circles of the sphere. Thus let $ACDE$ (*fig. 6.*) represent a sphere, upon whose surface let two arches of great circles AB, CE , be drawn intersecting each other in D ; then will ADC, DCA, BDE , or DBE , be a spherical angle. All spherical angles are measured by an arch of a great circle described on the vertex as a pole, and intercepted between the legs which form the angle. Thus AC is the measure of the spherical angle ADC , which is equal to the distance between the poles of the circles AB, CE .

Mixed-lined ANGLE, is that comprehended between a right line and a curved line; as the angle ABC (*fig. 1.*)

Curved-line ANGLE, is that intercepted between two curved lines meeting each other in one point, in the same plane; as the angle BCA (*fig. 8.*) which is intercepted between the two curved lines AC and BC . If the right lines DC, EC , are equal to the radii of the curves BC and AC , the right-lined angle DCE will be equal to the curved-line angle ACB . For, because the angle $DCB = ECA$, therefore, if from each be taken the common angle DCA , there will remain the angle $DCE = ACB$.

ANGLE of *Incidence*, is that which the line of direction of a ray of light, &c. makes at the point where it first touches the body it strikes

strikes against, with a line erected perpendicular to the surface of that body. Thus, if a ray of light, &c. moves in the direction *AB* (fig. 3.) till it touches the surface *abcd*, in the point *B*, then will the angle intercepted between *AB*, the line of direction, and the perpendicular *BF*, be the angle of incidence.

ANGLE of Reflection, is the angle intercepted between the line of direction of a body rebounding, after it was struck against another body, and a perpendicular erected at the point of contact. Thus, if a body moving in the direction *AB* strike the surface *abcd* (fig. 3.) in the point *B*, and is reflected in the direction *BC*, the angle, contained between that line and the perpendicular *BF*, is called the angle of reflection. The angle of incidence is always equal to the angle of reflection; and upon this equality the whole science of catoptrics is founded.

ANGLE at the center, in fortification, is that which is formed in the center of the polygon or figure, by two lines proceeding from the center, and terminating at the two nearest angles of the polygon. See FORTIFICATION.

ANGLE of the curtain, } That which is made

ANGLE of the flank, } by, and contained between, the curtain and the flank.

ANGLE of the polygon, that which is made by the meeting of the two sides of the polygon, or figure in the center of the bastion. See FORTIFICATION.

ANGLE of the triangle, is half the angle of the polygon.

ANGLE of the bastion, or } That which is made

Flanked ANGLE, } by the two faces, being the utmost part of the bastion most exposed to the enemies batteries, frequently called the point of the bastion. See FORTIFICATION.

Diminished ANGLE, only used by some foreign engineers, and more especially the Dutch, is composed of the face of the bastion, and the exterior side of the polygon.

ANGLE of the shoulder, or } Is formed by one

ANGLE of the épaule, } face, and one flank of the bastion. See FORTIFICATION.

ANGLE of the tenaille, } Is made by two lines

ANGLE reentrant, } fichant, that is, the faces of the two bastions extended, 'till they meet in an angle towards the curtain, and is that which always carries its point towards the outworks. See FORTIFICATION.

ANGLE of the flank exterior, is that which is before the center of the curtain, formed by the prolongation of the faces of the bastion, or by both the fichant lines of defence, intersecting each other on planning a fortification.

ANGLE of the flank interior, is formed by the flanked line of defence and the curtain; being that point where the line of defence falls upon the curtain.

ANGLE of the line of defence, is that angle made by the flank, and the line of defence.

ANGLE of the face, is formed by the angle of the face, and the line of defence produced 'till they intersect each other.

ANGLE of the base interior, is the half of the figure, which the interior polygon makes with the radius, when they join each other in the center; intersecting the center of the gorges of each bastion.

ANGLE of the base exterior, is an angle formed by lines drawn from the center of the figure, to the angle of the exterior polygon, cutting the center of the gorges of each bastion.

ANGLE of the gorge, is that angle formed by the prolongation of the curtains, intersecting each other, in the center of the gorge, through which the capital line passes.

ANGLE of the ditch, is formed before the center of the curtain, by the outward line of the ditch.

Flanked ANGLE. See *ANGLE of the bastion*.

Salient ANGLE, } Is that angle which points
ANGLE fortant, } outwards, or towards the country. Such is the angle of the counterscarp before the point of a bastion.

Entering ANGLE, or } An angle pointing in-
ANGLE reentrant, } wards, as the salient angle does outwards. Such is the angle of the counterscarp before the curtain.

ANGLE of the counterscarp, made by two sides of the counterscarp, before the center of the curtain.

ANGLE of the circumference, is the mixed angle formed by an arch, drawn from one gorge to another.

Re-entering ANGLE. See *Entering ANGLE*.

ANGLE of the complement of the line of defence, is the angle formed by the intersection of the two complements with each other.

ANGLE of a battalion, made by the last men at the extremity of the ranks and files.

Front ANGLES, the two last men of the front rank.

Rear ANGLES, the two last men of the rear rank.

Dead ANGLE, is a re-entering angle, consequently not defended.

ANGULAR, in a general sense, denotes something relating to, or that hath angles.

ANGON, in ancient military history, was a kind of dart of a moderate length, having an iron bearded head and checks; much in use about the fifth century.

To **ANIMATE**, in a military sense, is to encourage the troops by the power of language. That art, that power, which can on singular and critical occasions so animate the spirit of man, as to cause it to give an elasticity, a strength, a velocity, to the corporeal matter of the being, which unanimated it would be incapable of doing; such art, such power, must be ever necessary to a leader of soldiers. He who is, in particular cases, to point out to others their duty, who is sometimes to dissipate their fears, rouse their courage, shew advantages, or lessen unfavourable appearances, should have the power to animate by speech: if he has not, he himself may meet with disgrace, where he might have found triumph; and his men be beat, where they might have conquered. Innumerable instances might be brought to prove the truth of this assertion. All addresses to animate soldiers have been reserved, and used as last resources for rare, trying, and critical situations; and in such sense alone is the power to animate by speech here treated of.

All officers know, that in any event of danger, the soldiers always look at their officers, their commanding one in particular, if they have confidence in him, to see how he feels himself, whether he is unperplexed, and seems to be easy; and from his looks they will often augur good or bad success; and from his appearance or actions often spring assurance and victory, dismay and defeat. Actions or appearances of officers should never lead to give soldiers room to doubt, or to form unfavourable conjectures: what they see from the enemy cannot be prevented; but they should neither see, hear, nor understand any bad omens from their own side: if they ever see too much, means, if possible, should be made use of, to make them distrust and forget their own sight, and see only through the medium of their commanding officer's words and inclinations. Animation, like electricity, is communicated, is catching; and the officer who is animated himself, will inspire others.

All history, particularly the ancient, presents numbers of examples of armies, of small parties, extricating themselves from dangerous and alarming situations, through the exhortations of their chiefs; and when any chief directs the method of escape, or shews the road to victory, by a few words; and with his person, if necessary, sets the example of actual execution; armies, and parts of armies, in general will escape, and will conquer. If soldiers

opinions are then to be changed by words, or by appearances, and from such change of opinion, victory will often ensue; hence to animate by speech at particular times, becomes a matter of the utmost importance.

ANNALS, a species of military history, wherein events are related in the chronological order they happened. It differs from a perfect history, in being only a meer relation of what passes every year, as a journal is of what passes every day.

ANNUNCIADA, an order of military knighthood in Savoy, first instituted by Amadeus I. in the year 1409; their collar was of 15 links, interwoven one with another, and the motto *F. E. R. T.* signifying *fortitudo ejus Rhodum tenuit*. Amadeus VIII. changed the image of St. Maurice, patron of Savoy, which hung at the collar, for that of the Virgin Mary; and instead of the motto above mentioned, substituted the words of the angel's salutation.

ANOLYMPIADES. See **OLYMPIAD**.

ANSPESEDE. See **LANCE CORPORAL**.

ANTEMURALE, in the ancient military art, denotes much the same with that the moderns call the outworks.

ANTESTATURE, in ancient fortification, signifies an intrenchment of palisades or sacks of earth, thrown up in order to dispute the remainder of a piece of ground.

ANTHONY, or *Knights of St. Anthony*, a military order instituted by Albert, duke of Bavaria, Holland, and Zeland, when he designed to make war against the Turks in 1382. The knights wore a collar of gold made in the form of a hermit's girdle, from which hung a stick like a crutch, with a little bell, as they are represented in St. Anthony's pictures.

APPAREILLE, are those slopes that lead to the platform of the bastion. See **FORTIFICATION**.

APPAREILLES, are easy ascents leading to the works, or platforms, of a fortification.

APPOINTE, a foot soldier, who, for his long service and extraordinary bravery, receives pay above the private sentinels, and expects to be advanced. This is in France only.

APPOINTMENT, in a military sense, is the pay of the army; likewise applied to warlike habiliments, accoutrements, &c.

APPROACHES. All the works are generally so called that are carried on towards a place that is besieged; such as the first, second, and third parallels, the trenches, epaulements with and without trenches, redouts, places of arms, saps,

saps, galleries, and lodgments. See these words more particularly at the word FORTIFICATION.

This is the most difficult part of a siege, and where most lives are lost. The ground is disputed inch by inch, and neither gained nor maintained without the loss of men. It is of the utmost importance to make your approaches with great caution, and to secure them as much as possible, that you may not throw away the lives of your soldiers. The besieged neglect nothing to hinder the approaches; the besiegers do every thing to carry them on; and on this depends the taking or defence of the place.

The trenches being carried to their glacis, you attack and make yourself master of their covered-way, make a lodgement on the counter-scarp, and a breach by the sap, or by mines with several chambers, which blow up their intrenchments and soughades, or small mines, if they have any.

You cover yourselves with gabions, fascines, barrels, or sacks; and if these are wanting, you sink a trench.

You open the counter-scarp by saps to make yourself master of it; but, before you open it, you must mine the flanks that defend it. The best attack of the place is the face of the bastion, when by its regularity it permits a regular approach and attacks according to art. If the place be irregular, you must not observe regular approaches, but proceed according to the irregularity of it; observing to humour the ground, which permits you to attack it in such a manner at one place, as would be useless or dangerous at another; so that the engineer who directs the attack ought exactly to know the part he would attack, its proportions, its force, and solidity, in the most geometrical manner.

APPROACHES, in a more confined sense, signify attacks.

Counter APPROACHES, are such trenches as are carried on by the besieged, against those of the besiegers.

APRON, in *gunnery*, a square plate of lead that covers the vent of a cannon, to keep the charge dry, and the vent clean and open.

Their dimensions are as follow, viz. for a 42, 32, and a 24 pounder, 15 inches by 13; for an 18, 12, and a 9 pounder, 12 inches by 10; for a 6, 5½, 3, and 1½ pounder, 10 inches by 8. They are tied fast by two strings of white marline, the length of which, for a 42 to a 12 pounder inclusive, is 18 feet, 9 feet each string; for a 9 to 1½ pounder, 12 feet, 6 feet for each.

AQUEDUCT, a channel to convey water from one place to another. The Romans had aqueducts which extended 100 miles. That of Louis XIV. near Maintenon, which carries the river Bute to Versailles, is 7000 toises long, &c.

ARAIGNEE, in *fortification*. See GALLERY.

ARCH, in *military architecture*, is a vault or concave building, in form of a curve, erected to support some heavy structure, or passage.

Triumphal ARCH, in *military history*, is a stately gate, generally of a semicircular form, adorned with sculpture, inscriptions, &c. erected in honour of those heroes who have deserved a triumph.

ARCHERY, is the art of shooting with a bow. Our ancestors were famous for being the best archers in Europe, and most of our victories in France were the purchase of the long-bow. The statutes made in 33 Hen. VIII. relative to this exercise, are worth perusal, and would afford noble hints towards rendering our militia invincible.

ARCHITECTURE, in a *military sense*, is the art of erecting all kinds of military edifices or buildings, whether for habitation or defence.

Military ARCHITECTURE, instructs us in the method of fortifying cities, sea-ports, camps, building powder magazines, barracks, &c. See FORTIFICATION.

Naval ARCHITECTURE, is the art of building the hull, or body of the ship, distinct from her machinery and furniture for sailing; and may properly be comprehended in three principal articles. 1. To give the ship such a figure, or outward form, as may be most suitable to the service for which she is intended. 2. To find the exact shape of the pieces of timber necessary to compose such a fabric. 3. To make convenient apartments for the artillery, ammunition, provisions and cargo; together with suitable accommodations for the officers and men.

ARCHITRAVE, the master beam, or chief supporter, in any part of a subterraneous fortification.

AREA, the superficial content of any rampart, or other work of a fortification.

ARM, in *geography*, denotes a branch of the sea, or of a river.

ARM is also used figuratively to denote power.

To ARM, to take arms, to be provided against an enemy, or casualty.

ARMADA, a Spanish term, signifying a fleet

fleet of men of war, applied particularly to that great one fitted out by the Spaniards, with an intention to conquer this island in 1588.

ARMADILLA, a Spanish term, signifying a small squadron.

ARMATURA, in *ancient military history*, signifies the fixed and established military exercise of the Romans, nearly in the sense we use the word Exercise.

ARMED, in a general sense, denotes something provided with, or carrying arms.

An ARMED body of men, denotes a military detachment, provided with arms and ammunition, ready for an engagement.

ARMED, in the *sea language*. A cross-bar-shot is said to be armed, when some rope-yarn, or the like, is rolled about the end of the iron bar which runneth through the shot.

ARMED ship, is a vessel taken into the government's service, and equipped by them, in time of war, with artillery, ammunition, and warlike instruments: it is commanded by an officer who has the rank of master and commander in the navy, and upon the same establishment with sloop of war, having a lieutenant, master, purser, surgeon, &c.

ARMILUSTRIUM, in *Roman antiquity*, a feast held among the Roman generals, in which they sacrificed, armed, to the sound of trumpets, and other warlike instruments.

ARMISTICE, a temporary truce, or cessation of arms for a very short space of time only.

ARMORY, a warehouse of arms, or a place where the military habiliments are kept, to be ready for use.

ARMOUR, denotes all such habiliments as serve to defend the body from wounds, especially darts, a sword, a lance, &c. A complete suit of armour formerly consisted of a helmet, a shield, a cuirasse, a coat of mail, a gantlet, &c. now almost universally laid aside.

ARMOUR-BEARER, he that carries the armour of another.

ARMOURER, a person who makes or deals in armour, or arms; also a person who keeps them clean.

ARMS, in general, all kinds of weapons, whether used for offence or defence. In a legal sense, arms may extend to any thing that a man wears for his own defence, or takes in his hand, and uses in anger, to strike, throw at, or wound another.

Bells of ARMS, a kind of tents in the shape of a cone, where the company's arms are lodged in the field. They are generally painted with the colour of the facing of the regiment, and the king's arms in front.

Pass of ARMS, a kind of combat, when an-

tiently one or more cavaliers undertook to defend a pass against all attacks.

Place of ARMS. See FORTIFICATION.

Stand of ARMS, a complete set of arms for one soldier.

ARMS, in *artillery*, are the two ends of an axletree. See AXLETREE, under the word CARRIAGE.

Fire-ARMS, are great guns, firelocks, carbines, guns and pistols; or any other machine discharged by inflamed powder.

ARMY, a large number of soldiers, consisting of artillery, foot, horse, dragoons, and hussars or light-horse, completely armed, and provided with engineers, a train of artillery, ammunition, provisions, commissariate, forage, &c. and under the command of one general, having lieutenant-generals, major-generals, brigadiers, colonels, lieutenant-colonels, majors, captains, and subalterns. An army is composed of brigades, regiments, battalions, and squadrons; and is generally divided into three or more corps, and formed into three lines; the first of which is called the front-line, a part of which forms the van-guard; the second, the main body; and the third, the rear-guard, or corps of reserve. The centre of each line is generally possessed by the foot; the cavalry form the right and left wings of each line; and sometimes a squadron of horse is posted in the intervals between the battalions. When an army is drawn up in order of battle, the horse are frequently placed at five feet from each other, and the foot at three. In each line the battalions are distant from each other about 180 feet, which is nearly equal to the extent of their front; and the same holds good of the squadrons, which are about 300 feet distant, the extent of their own front. These intervals are left for the squadrons and battalions of the second-line to range themselves against the intervals of the first, that both may more readily march thro' those spaces to the enemy. The front line is generally about 300 feet from the centre line; and the centre line as much from the rear, or corps of reserve; that there may be sufficient room to rally when the squadrons or battalions are broken.

A naval or sea ARMY, is a number of ships of war, equipped and manned with sailors, mariners, and marines, under the command of an admiral, with the requisite inferior officers under him.

Flying ARMY, a strong body of horse and foot, commanded for the most part by a lieutenant-general, which is always in motion, both to cover its own garrisons, and to keep the army

army in continual alarm. It is also used for the ground on which such a body of men encamps.

Wings of an ARMY. See WINGS.

ARREARS, in *the army*, is the difference between the full pay and subsistence of each officer, which is always paid once a year by the agent. See PAY.

ARROW. See FORTIFICATION.

ARSENAL, in a large and well-fortified town, is a large and spacious building, in which are deposited all kinds of arms, and other warlike implements; such as cannon, mortars, howitzers, small arms, and every other kind of warlike engines and instruments of death, which should be kept clean, and in good and serviceable repair, under the direction of a store-keeper and artificers.

ARTICLES OF WAR, are those known rules and regulations for the better government of the army in the kingdoms of Great-Britain and Ireland, dominions beyond the seas, and foreign parts: they are in number 27, besides those for the administration of justice, which are 23, and the additional articles for the entry of commissions, effects of the dead, artillery, and the American troops.

ARTILLERY, in a *general sense*, signifies all sorts of great guns or cannon, mortars, howitzers, petards, and the like; together with all the apparatus and stores thereto belonging, which are not only taken into the field, but likewise to sieges, and made use of both to attack and defend fortified places. See ORDNANCE.

ARTILLERY, in a *particular sense*, signifies the science of artillery or gunnery, which art includes geometry, trigonometry, conic sections, laws of motion, mechanics, and projectiles.

Train of ARTILLERY, an unlimited number of pieces of ordnance; such as 24 pounders, 18 pounders, 12, 9, 6, and 3 pounders; mortars from 13 to 8 inches diameter; besides royals and cohorns; howitzers of every denomination, mounted on their proper carriages and beds, &c. Besides, to the train belongs a sufficient quantity of horses, spare carriages, spare mortar-beds, block-carriages, limbers, waggons for ammunition and stores, shells, round and grape shot, bullets, powder, cartridges, portfires, intrenching-tools, artificers tools, miners tools, gins, capstans, forges, small stores, laboratory-stores, pontoons, pontoon-carriages, with their requisites; tumbrels, aprons of lead, budge-barrels, chevaux de frize, pallisades, platforms, chandeliers, blinds, drag-ropes, flints, harness, powder-measures, fuze-engines, fuzes, tents, &c. The train of artillery is, or should be, divided into brigades, to which belong not only the officers of the regiments of artillery,

but even the civil-list, such as comptrollers, commissaries of stores, clerks of stores, artificers of all denominations, conductors, store-keepers, waggon-masters, drivers, &c. The increase of artillery clearly demonstrates its great utility; for in the year 1500, an army of 50,000 men had only 40 pieces of cannon in the field; and in the year 1757, the same number of troops brought 200 pieces into the field, including mortars and howitzers.

Brigade of ARTILLERY, generally consists of 8 or 10 pieces of cannon, with all the machinery, and officers to conduct them, and all the apparatus thereto belonging.

ARTILLERY-Park, is that place appointed by the general of the army, to incamp the train of artillery, apparatus, ammunition, as well as the battalions of the artillery, appointed for its service and defence. The figure of the park of artillery, is that of a parallelogram, unless the situation of the ground renders another necessary.

The park of artillery is generally placed in the centre of the second line of incampment, and sometimes in the rear line, or corps of reserve. In both places the muzzles of the guns are in a line with the fronts of the sergeants tents of the regiments of artillery and infantry. Some generals chuse to place the park about 300 paces before the centre of the front line of the army. But let the situation be where it will, the manner of forming the park is almost every where the same, except that some artillery officers differ in the disposition of the carriages; others again divide the equipage as well as the guns into brigades, placing the first in the front line, the second in the next, and so on. However, the best, in my humble opinion, and the most approved method, is to divide the whole into brigades, placing the guns of the first to the right of the front line, and their ammunition behind them, in one or more lines; and the different brigades to be all numbered, with every waggon thereto belonging. Example, 1st brigade, front line, No. 1, 2, &c. 1st brigade, 2d line, No. 1, 2, &c. 2d brigade, front line, No. 1, 2, &c. and so of all the rest. This method will prevent confusion in forming and breaking up of the park, as also on a march: besides, according to the numbers, the stores therein contained are known.

Plate II. is the plan of such a park of artillery, as is customary in the Prussian army; consisting in 80 cannon, 20 mortars, 20 howitzers, 20 pontoons, 3 forges, and 433 waggons, with 2595 horses, and 649 drivers, ranged as follows.

First

First line, 20 six-pounders, 20 twelve pounders, 20 six-pounders; 60 in all.

Second line, 2 spare carriages, 18 waggons with balls and cartridges, 4 carriages, 32 waggons with balls, 4 carriages, 17 waggons with balls, 3 carriages; 80 in all.

Third line, 5 spare carriages, 33 waggons with balls, 3 ditto with port-fires and matches, 32 ditto with cartridges and grape-shot, 6 carriages; in all 79.

Fourth line, 20 howitzers, 40 waggons with shells, fuzes fixed, 20 mortars; in all 80.

Fifth line, 4 carriages, 12 powder carts, 2 waggons with howitzer grape-shot, 40 ditto with grenades, 18 ditto with musket-balls; in all 76.

Sixth line, 80 waggons with musket-cartridges.

Seventh line, 24 waggons with intrenching tools, 20 pontoons with the requisites for forming bridges, 2 waggons with extraordinaries for ditto, 20 ditto with musket-cartridges, 4 ditto with artificers tools, 3 forges, 7 spare waggons; in all 80. Each carriage takes up 6 feet, and they are placed at the same distance from each other in the lines, which makes room sufficient for loading or unloading them. The second line is 90 feet behind the first; all the rest are 60 feet from each other.

Under the term *Artillery-park*, is to be considered the method of incampment for the regiments of artillery, and every thing thereto belonging, which is as follows, viz.

Incampment of a regiment of ARTILLERY: they are always incamped, half on the right, and half on the left of the park. The company of bombardiers (when formed into companies, which is in almost every nation excepting England) always takes the right of the whole, and the lieutenant-colonels company the left; next to the bombardiers, the colonels, the majors, &c. so that the two youngest are next but one to the centre or park: the two companies next to the park, are the miners on the right, and the artificers on the left. See PLATE II.

In the rear of, and 36 feet from the park, are incamped the civil list, all in one line.

The breadth between the front tent-pole of one company, and that of another, called the streets, are 36 feet each.

From the front pole of officers tent of the quarter-guard, or guard of the army, to the centre of the bells of arms of ditto, is	24
To the parade of the quarter-guard	12
To the first line of the regimental parade	150

To the centre of the bells of arms	90
From thence to the front poles of serjeants tents	12
For pitching 12 tents of artillery, with their proper intervals, at 9 feet each	108
From the rear of companies tents, to the front of the subalterns tents	60
From the front of the subalterns, to that of the captains	72
From the front of the captains, to that of the field officers	72
From the front of the field officers, to that of the colonels	36
From the front of the colonels, to that of the staff officers	48
From the front of the staff officers, to the front row of batmans tents	54
From thence to the first row of pickets for horses	6
From thence to the second row	36
From thence to the second row of batmans tents	6
From thence to the front of the grand futtler's tent	42
From thence to the centre of the kitchens	60
From thence to the front of petit-futtler's tents	45
From thence to the centre of the bells of arms of the rear-guard	45

Total depth 978

The army-guard is in the front of the park, opposite the alarm-guns, in a line with the artillery quarter-guards that are placed on the right and left of the artillery companies.

The bells of arms front the poles of serjeants tents.

The colours are placed in the centre of the front line of guns, in the interval of the two alarm-guns, in a line with the bells of arms of the companies.

The lieutenant-colonels and majors tents front the centres of the second streets from the right and left of the regiment.

The colonel's tent is in a line with the colours and guard of the army, facing the same.

The staff-officers front the centres of the second streets, on the right and left of the angles of the park.

The batmans tents front towards their horses.

The rear-guard front outwards. The front-poles are in a line with the centre of their bells of arms, and each 18 feet distant. The parade of

of

of the rear-guard is 12 feet from the bells of arms.

In the rear of the rear-guard, and 80 feet distance from their parade, the artillery-horses and drivers tents are placed, in two or more lines, parallel with the line of guns, extending from the right and left of the whole.

It sometimes happens that a very large train of artillery is in the field, with two or more regiments: then the oldest takes the right of the park; the next oldest the left, and the youngest the centre: then the centre or grand street is 63 feet broad, opposite which the tent of the commanding-officer is placed. In the centre of this street, the colours are placed in a line with the bells of arms, and the artillery quarter-guard in the front of the colours, at the same distance as before mentioned. See PLATE II.

Regiment of ARTILLERY. The corps of artillery, with all its dependencies, is, as it were, the general instrument of the army, and without it nothing can be done. It is impossible to attack fortified places, or to defend them,

without artillery; and an army in the field, without, can never make head against one well provided with it. For this reason it is, that at all times sovereigns have taken great care to provide proper officers of learning and capacity to govern, repair and keep in order, this essential part of military force.

The strength of a regiment of artillery depends upon the choice of the prince, the quantity of troops he maintains, and more especially on the situation of the country, number of fortifications, and foreign establishments to be defended. It has always been a prevailing custom, to regulate the corps of artillery according to the French method; but, since the famous present king of Prussia has fixed his regiments of artillery on quite another plan, we chuse here first to explain our own method, and afterwards that of the king of Prussia, and to let the candid reader judge for himself, which method is the best.

English ARTILLERY, in the reign of Edward VI. and about the year 1548, consisted in the following establishment, viz.

		£.	s.	D.	£.	s.	D.	
Master of Artillery,	Sir Philip Hoby,	} Fee {	0	0	0	151	11	8
Lieutenant,	Sir Francis Fleming,		0	0	0	66	13	4
Surveyor,	Anthony Anthony,		0	0	0	36	10	0
Clerk, John Rogers,	. . . . .	} Fee	0	0	0	12	3	4
			} In room of a servant	0	0	0	12	3	4
Yeoman, Thomas Sheventon		} Fee		0	0	0	9	2	6
			} In room of a servant	0	0	0	18	5	0
Master Gunner, Christian Gold,	} Fee {		0	1	0	18	5	0
Gun-stock Maker, Symond Turner,	. . . . .		0	0	6	9	2	6
Gun-founders {	John Owen,		0	0	8	12	3	4
	Thomas Owen,		0	0	8	12	3	4
Gun-smith, John Anthony	. . . . .		0	0	6	9	2	6
Artificer, or Engineer, John Pudney,	. . . . .		0	0	4	6	1	8
Master Carpenter, John Johnson,	. . . . .		0	0	8	12	3	4
109 Gunners, { 15 } at { 12d } a day each.		0	15	0	273	15	0	
whereof { 12 } at { 8d } a day each.		0	8	0	146	0	0	
{ 80 } at { 6d } a day each.		2	0	0	730	0	0	
{ 2 } at { 4d } a day each.		0	0	8	12	3	4	
Total charges of the artillery for one year						1547	9	2

In the 109 gunners above mentioned, are included fees to the following persons, viz.

To the { Clerk, John Rogers,	} at {	8d	} a day.
Master-gunner,		12d	
Yeoman		12d	
To John Owen, Gun-founder,	} at {	12d	

So that only 105 effective gunners remain.

The establishment of artillery in the reign of queen Elizabeth, especially in the year 1597, is as follows, viz.

Allowances to officers within one quarter, ending the last of March, 1597, viz.							
To Sir George Carew, knight, lieutenant of her Majesty's ordnance, for his	£.						
allowance one quarter	=	=	=	=	=	=	xviii

To William Parkeringe, surveyor of her majesty's ordnance, for his like quarter's allowance	£.	s.	d.
	xviii		
To Stephen Riddlefden, clerk of her majesty's ordnance, for his like quarter's allowance,	xvii	xii	
To John Lee, keeper of her majesty's stores, ditto	x		
To George Hogge, and John Linewrayce, clerks of the deliveries, ditto	xiii	xi	iiii
To William Cudner, clerk to Sir George Carew, knight, ditto	iiii	xi	ii
Clerks daily attending in the said office, for three months, viz.			

Richard Palfreyman,	£.	v	} xxxv
Edward Parkeringe,	v		
William Scott,	v		
Richard Haynes	v		
Thomas Lemmon	v		
John Squire	v		
Richard Lentall,	v		

£. xxviii xvii vi

That is £518 17 6 for one quarter's salary.

These two last accounts are taken from a manuscript of the late Rev. William Gostling's, and very obligingly communicated to me by capt. William Gostling, of the royal artillery.

The establishment of artillery in the reign of James I. and in the year 1618, is as follows, viz.

- 1 General of artillery.
- 1 Lieutenant of artillery.
- 1 Comptroller.
- 1 Commissary.
- 10 Gentlemen } of artillery.
- 25 Conductors }
- 6 Engineers.
- 2 Comptrollers of fortifications.
- 1 Master gunner.
- 136 Gunners.
- 1 Master fire-worker.
- 2 Conductors of fire-works.
- 2 Battery-masters.
- 1 Petardier.
- 1 Master carpenter.
- 12 Carpenters.
- 2 Waggon } makers.
- 2 Gabion }
- 2 Harnefs }
- 1 Cooper.
- 2 Farriers.
- 1 Surgeon.
- 1 Surgeon's mate.
- 1 Captain of miners.
- 25 Miners.
- 1 Captain of pioneers.
- 25 Pioneers.
- 1 Trench } master.
- 1 Waggon }
- 1 Carriage }
- 1 Provost.

In 1628, and probably long before, the artillery had sundry privileges, from which the rest of the army were exempt, viz. of having the first rank and the best quarters; neither could any carriage or waggon presume to march before theirs, except that belonging to the treasurer.

In 1705, I find the first mention is made of the royal regiment of artillery, being before that time only called the train of artillery. It then consisted only of 4 companies, under the command of general Borgard. From that period it has gradually increased to 4 battalions, each battalion consisting of 10 companies, (2 of them invalids) commanded by a colonel commandant, a lieutenant-colonel and major, who have no companies. Each company in war time generally consists of 100 men, commanded by 1 captain, 1 captain lieutenant, 1 first, and 3 second lieutenants. In time of peace the companies are reduced to 50 men each.

When Frederick the second, king of Prussia, came to the crown, he found the army in a very good condition, excepting the corps of artillery and engineers, which consisted chiefly in mechanicks and artisans, scarcely looked on by the rest of the army and the officers without commissions. His majesty, knowing how necessary it was to have a good corps of artillery and engineers, and how impossible this was without having officers learned in every branch of the military mathematics; he immediately draughted all the illiterate officers into the garrison regiments, supplying their places with gentlemen of examined capacity; gave them all commissions, rank with the officers of the guards; and an extraordinary pay. This method of proceeding established the honour and

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and reputation of that royal and noble corps, on a very respectable footing; induced the nobility and men of rank (provided they had capacity) to engage in those corps sooner than elsewhere; which has brought it to that summit of high renown, they at this time enjoy.

The Prussian artillery consists in 12 battalions, 8 for the field, and 4 for garrison. Each battalion has 12 companies, namely, 1 company of bombardiers, 1 of miners, 1 of artificers, and 9 of artillery. The first, or bombardier companies, are composed of 1 captain, 2 lieutenants, 3 upper and 6 under fire-workers, 2 serjeants, 4 corporals, 2 drummers, and 60 bombardiers. The miners have the same commissioned officers, with 3 serjeants, 6 corporals, 2 drummers, 33 miners, and 33 sappers. The artificers have the same officers and non-commissioned officers as the miners, with 30 artificers and 36 pontoneers. All the artillery companies have 3 commissioned and 6 non-commissioned officers, 2 drummers, and 60 artillerists. The colonel, lieutenant-colonel, and major's companies, have each a captain-lieutenant; and each battalion has further, 1 chaplain, 1 auditor, 1 adjutant, 1 quarter-master, 1 doctor, 3 surgeons, 1 serjeant-major, 1 drum-major, 6 musicians, and 1 provost.

March of the ARTILLERY. The marches of the artillery are, of all the operations of war, the most delicate; because they must not only be directed on the object you have in view, but according to the movements the enemy make. Armies generally march in 3 columns, the centre column of which is the artillery: should the army march in more columns, the artillery and heavy baggage march nevertheless in one or more of the centre columns; the situation of the enemy determines this. If they are far from the enemy, the baggage and ammunition go before or behind, or are sent by a particular road; an army in such a case cannot march in too many columns. But should the march be towards the enemy, the baggage must absolutely be all in the rear, and the whole artillery form the centre column, except some brigades, one of which marches at the head of each column, with guns loaded and burning matches, preceded by a detachment for their safety.

Suppose the enemy's army in a condition to march towards the heads of your columns: the best disposition for the march is in 3 columns only; that of the centre for the artillery; for it is then easy to form them in order of battle. Hence it is equally commodious for

each brigade of artillery to plant themselves at the head of the troops, in the places marked for them, in such a manner that the whole disposition being understood, and well executed, they may form quickly in order of battle in an open country, and in the presence of any enemy, without risking any surprize; by which method the artillery will always be in a condition to act as soon as the troops, provided they march in brigades.

Is your march through a country full of defiles, some dragoons should march at the head of the columns, followed by a detachment of grenadiers, and a brigade of artillery; cannon being absolutely necessary to obstruct the enemy's forming into order of battle.

When you decamp in the face of the enemy, you must give most attention to your rear-guard. On such occasions, all the baggage, ammunition, provisions, and artillery, march before the troops; your best grenadiers, best cavalry, some good brigades of infantry, together with some brigades of artillery, form the rear-guard. Cannon is of infinite use for a rear-guard, when obliged to pass a defile, or a river; and should be placed at the entry of such defile, on an eminence, if there is one, or on any other place, from whence they can discover the ground through which the enemy must march to attack the rear-guard.

A detachment of pioneers, with tools, must always march at the head of the artillery, and of each column of equipage or baggage.

If the enemy is encamped on the right flanks of the march, the artillery, &c. should march to the left of the troops, and vice versa. Should the enemy appear in motion, the troops front that way, by wheeling to the right or left by divisions; and the artillery, which march in a line with the columns, pass through their intervals, and form at the head of the front line, which is formed of the column who flanked nearest the enemy, taking care at the same time that the baggage be well covered during the action.

Though we have said armies generally march in 3 columns, yet where the country will allow it, it is better to march in a greater number; and let that number be what it will, the artillery must form the centre columns.

Line of march of the ARTILLERY. 1. A guard of the army; its strength depends on the commander in chief.

2. The companies of miners (excepting a detachment from each, dispersed in various places, to mend the roads) with tumbrels of tools, drawn by 2 horses, assisted by pioneers.

3. The

3. The brigades of artillery's front guard, with four light 6 pounders loaded, and matches burning.
4. The kettle-drums by 4 horses, and 2 trumpeters on horse-back.
5. The flag-gun, drawn by 12 horses, and ten 12 pounders more, by 4 horses each.
6. Twenty waggons with stores for the said guns, and 1 spare one, by 4 horses each.
7. All the pontoons, with the waggons thereto belonging.
8. Eight 9 pounders, by 3 horses each.
9. Fifteen waggons with stores for said guns, by 4 horses each, and 2 spare ones.
10. Gins and capstans, with their proper workmen, 3 waggons, with 2 horses each.
11. A forge on 4 wheels, and 1 waggon, 4 horses each.
12. Twelve heavy 24 pounders, by 16 horses each.
13. Sixteen waggons with stores for ditto, and 2 spare ones, by 4 horses each.
14. A waggon with tools, and pioneers to mend the roads.
15. Nine light 24 pounders, by 8 horses each.
16. Twelve waggons with stores for ditto, and 2 spare ones, by 4 horses each.
17. A forge and waggon, by 4 } horses each
18. Nine 24 pounders, by 8 } horses each
19. Twelve waggons with stores for ditto, and 2 spare ones.
20. Twelve 12 pounders, by 8 horses each.
21. Sixteen waggons with stores for ditto, and 2 spare ones.
22. Sixteen 5.8 inch mortars, by 2 horses each.
23. Twenty-five waggons with stores for ditto, and 2 spare ones.
24. Ten 8 inch mortars, by 4 horses each.
25. Twenty waggons with stores for ditto, and 2 spare ones.
26. Six 10-inch howitzers, by 6 horses each.
27. Twenty waggons with stores for ditto, and 2 spare ones.
28. A waggon with tools, and men to mend the roads.
29. A forge and waggon, by 4 horses each.
30. Ten 8-inch mortars, by 4 horses each.
31. Twenty waggons with stores for ditto, and a spare one.
32. Sixteen 12-inch mortars, by 8 horses each.
33. Thirty waggons with stores for ditto, and 2 spare ones.
34. Eight 18-inch stone mortars, by 10 horses each.
35. Sixteen waggons with stores for ditto, and a spare one.

36. Eight 9-pounders, by 3 horses each.
 37. Sixteen waggons, with stores for ditto, and a spare one.
 38. Twenty 6-pounders, by 2 horses each.
 39. Twenty waggons, with stores for ditto, and a spare one
 40. Two sling-waggons, and 2 truck-carriages, 4 horses each.
 41. Twenty 3-pounders, by one horse each.
 42. Ten waggons, with stores for ditto, and a spare one.
 43. A waggon, with tools, &c.
 44. A forge and waggon, by 4 horses each.
 45. Twelve 2 and 1-pounders, by 1 horse each.
 46. Six waggons, with stores for ditto.
 47. Sixteen 6-pounders, by 2 horses each.
 48. Ten waggons, with stores for ditto.
 49. Twenty spare carriages, for various calibres.
 50. Eighteen ditto.
 51. Fifty spare limbers.
 52. Ten 18-pounders, by 6 horses each.
 53. Twenty waggons, with stores for ditto, and 2 spare ones.
 54. Twenty waggons, with ammunition and stores.
 55. Two 12-pounders, by 4 horses each.
 56. Four waggons, with stores for ditto.
 57. Fifty waggons, with stores.
 58. A waggon, with tools, and men to mend the roads.
 59. A forge and waggon, by 4 horses each.
 60. A hundred waggons, with stores, and 4 spare ones.
 61. Four 2 and 1-pounders, by 1 horse each.
 62. A hundred waggons, with stores, and 3 spare ones.
 63. Two hundred waggons, and 2 spare ones.
 64. Two hundred and fourteen waggons belonging to the artillery baggage; some with 4, 3, and 2 horses each.
 65. The artillery rear-guard.
 66. The rear-guard from the army.
- Officers of ARTILLERY.* The commander in chief of the artillery is one of the most laborious employments, both in war and peace, requiring the greatest ability, application, and experience. The officers in general should be great mathematicians and engineers, to know all the powers of artillery, the attack and defence of fortified places; together with every thing belonging to that very important corps.

ARTILLERY Company, a band of infantry, consisting of 600 men, making part of the militia, or city guard of London.

ASCENT. See GUNNERY.

ASSAULT, a furious effort to carry a fortified post, camp, or fortress, where the assailants do not screen themselves by any works. While an assault during a siege continues, the batteries cease, for fear of killing their own men. An assault is sometimes made by the regiments that guard the trenches of a siege, sustained by detachments from the army.

To give an ASSAULT, is to attack any post, &c.

To repulse an ASSAULT, to cause the assailants to retreat, to beat them back.

To carry by ASSAULT, to gain a post by storm, &c.

ASSEMBLEE, the second beating of a drum before a march; at which the army strike their tents, roll them up, and stand to arms. See DRUM.

ASTRAGAL. See CANNON.

ATTACK, a general assault, or onset, that is given to gain a post, or break a body of troops.

ATTACK of a siege, is a furious assault made by the besiegers by means of trenches, galleries, saps, breaches, or mines, &c. by storming

any part of the front attack. Sometimes two attacks are carried on at the same time, between which a communication must be made. See SIEGE.

False ATTACKS, are never carried on with that vigour and briskness that the others are; the design of them being to favour the true attack, by amusing the enemy, obliging the garrison to a greater duty in dividing their forces, that the true attack may be more successful.

Regular ATTACK, is that which is carried on in form, according to the rules of art. See SIEGE.

To ATTACK in front or flank, in fortification, is meant to attack the salient angle, or both sides of the bastion; but when meant to attack a body of men, is a phrase well known.

AVANT-FOSSE. See FORTIFICATION.

AVENUE, in fortification, is any kind of opening or inlet into a fort, bastion, or out-work.

AUGERS. See MINING.

AUGMENT, or *Augmentation*, in a military sense, implies advancement of posts, augmentation of troops, &c.

AXLE-TREE { of a carriage.
bar.
bolts.
hoops.
stays.

} See Carriages.

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BACULE, in fortification, implies a kind of port-cullis or gate, made like a pitfall, with a counterpoise, and supported by two strong pieces of timber. It is usually placed before the corps de garde, not far from the great gate of the place.

BAGGAGE, in military affairs, signifies the clothes, tents, utensils of divers sorts, and provisions, &c. belonging to an army.

BAGGAGE-Waggons. See WAGGONS.

BAGONET. See BAYONET.

BAGPIPE, the name of a well-known war-like instrument, of the wind kind, greatly used by the Scotch regiments, and sometimes by the Irish. Bagpipes are supposed to be introduced by the Danes; but I am of opinion they are much older, as there is in Rome a most beautiful bas-relievo, a Grecian sculpture of the highest antiquity, of a bag-piper playing on his instrument exactly like a modern highlander. The Greeks had their *Ασπιανλιν*, or instrument composed of a pipe and blown-up skin. The Romans, in all probability, borrowed it from them, who still use it under the names of *piva* and *cornu-musa*. The Bagpipe has been a favourite instrument of the Scots, and has two varieties: the one with long pipes, and sounded with the mouth; the other with short pipes,

played on with the fingers: the first is the loudest and most ear-piercing of all music, is the genuine highland pipe, and suited well the warlike genius of that people, roused their courage to battle, alarmed them when secure, and collected them when scattered; soled them in their long and painful marches, and in times of peace kept up the memory of the gallantry of their ancestors, by tunes composed after signal victories.

BAGS, in military employments, are used on many occasions: as,

Sand-BAGS, generally 16 inches diameter, and 30 high, filled with earth or sand to repair breaches, and the embrasures of batteries, when damaged by the enemies fire, or by the blast of the guns. Sometimes they are made less, and placed three together, upon the parapets, for the men to fire through.

Earth-BAGS, containing about a cubical foot of earth, used to raise a parapet in haste, or repair one that is beaten down. They are only used when the ground is rocky, and not affording earth to carry on the approaches.

BALL, in the military art, comprehends all sorts of balls and bullets for fire-arms, from the cannon to the pistol.

Cannon-BALLS are of iron; musket and pistol-