

they must look to their artillery as the only effectual means for the reduction of these strong-holds. In this, they as well as the Moors were extremely deficient, although Spain appears to have furnished earlier examples of its use than any other country in Europe. Isabella, who seems to have had the particular control of this department, caused the most skilful engineers and artisans to be invited into the kingdom from France, Germany, and Italy. Forges were constructed in the camp, and all the requisite materials prepared for the manufacture of cannon, balls, and powder. Large quantities of the last were also imported from Sicily, Flanders, and Portugal. Commissaries were established over the various departments, with instructions to provide whatever might be necessary for the operatives ; and the whole was intrusted to the supervision of Don Francisco Ramirez, an hidalgo of Madrid, a person of much experience, and extensive military science, for that day. By these efforts, unremittingly pursued during the whole of the war, Isabella assembled a train of artillery, such as was probably not possessed at that time by any other European potentate. ¹³

Still the clumsy construction of the ordnance betrayed the infancy of the art. More than twenty pieces of artillery used at the siege of Baza, during this war, are still to be seen in that city, where they long served as columns in the public market-

Description
of the pieces.

¹³ Pulgar, *Reyes Católicos*, cap. 32, 41. — Zurita, *Anales*, tom. iv. lib. 20, cap. 59. — Lebrija, *Rerum Gestarum Decades*, ii. lib. 3, cap. 5.

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place. The largest of the lombards, as the heavy ordnance was called, are about twelve feet in length, consisting of iron bars two inches in breadth, held together by bolts and rings of the same metal. These were firmly attached to their carriages, incapable either of horizontal or vertical movement. It was this clumsiness of construction, which led Machiavelli, some thirty years after, to doubt the expediency of bringing cannon into field engagements; and he particularly recommends in his treatise on the Art of War, that the enemy's fire should be evaded, by intervals in the ranks being left open opposite to his cannon.¹⁴

The balls thrown from these engines were sometimes of iron, but more usually of marble. Several hundred of the latter have been picked up in the fields around Baza, many of which are fourteen inches in diameter, and weigh a hundred and seventy-five pounds. Yet this bulk, enormous as it appears, shows a considerable advance in the art since the beginning of the century, when the stone balls discharged, according to Zurita, at the siege of Balaguer, weighed not less than five hundred and fifty pounds. It was very long before the exact proportions requisite for obtaining the greatest effective force could be ascertained.¹⁵

The awkwardness with which their artillery was

¹⁴ Machiavelli, *Arte della Guerra*, lib. 3.

¹⁵ *Mem. de la Acad. de Hist.*, tom. vi. *Ilust.* 6.

According to Gibbon, the cannon used by Mahomet in the siege of

Constantinople, about thirty years before this time, threw stone balls, which weighed above 600 pounds. The measure of the bore was twelve palms. *Decline and Fall of the Roman Empire*, chap. 68.

Of the kinds
of ammuni-
tion.



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served, corresponded with the rudeness of its manufacture. It is noticed as a remarkable circumstance by the chronicler, that two batteries, at the siege of Albahar, discharged one hundred and forty balls in the course of a day.¹⁶ Besides this more usual kind of ammunition, the Spaniards threw from their engines large globular masses, composed of certain inflammable ingredients mixed with gunpowder, "which, scattering long trains of light," says an eyewitness, "in their passage through the air, filled the beholders with dismay, and, descending on the roofs of the edifices, frequently occasioned extensive conflagration."¹⁷

The transportation of their bulky engines was not the least of the difficulties which the Spaniards had to encounter in this war. The Moorish fortresses were frequently entrenched in the depths of some mountain labyrinth, whose rugged passes were scarcely accessible to cavalry. An immense body of pioneers, therefore, was constantly employed in constructing roads for the artillery across

Roads for
the artillery.

¹⁶ Mem. de la Acad. de Hist., tom. vi. Ilust. 6.

We get a more precise notion of the awkwardness with which the artillery was served in the infancy of the science, from a fact recorded in the Chronicle of John II., that, at the siege of Setenil, in 1407, five lombards were able to discharge only forty shot in the course of a day. We have witnessed an invention, in our time, that of our ingenious countryman, Jacob Perkins, by which a gun, with the aid of that miracle-worker, steam, is enabled to throw a thousand bullets in a single minute.

¹⁷ L. Marineo, Cosas Memorables, fol. 174. — Pulgar, Reyes Católicos, cap. 44.

Some writers, as the Abbé Mignot, (*Histoire des Rois Catholiques Ferdinand et Isabelle*, (Paris, 1766,) tom. i. p. 273,) have referred the invention of bombs to the siege of Ronda. I find no authority for this. Pulgar's words are, "They made many iron balls, large and small, some of which they cast in a mould, having reduced the iron to a state of fusion, so that it would run like any other metal."

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these sierras, by levelling the mountains, filling up the intervening valleys with rocks, or with cork trees and other timber that grew prolific in the wilderness, and throwing bridges across the torrents and precipitous *barrancos*. Pulgar had the curiosity to examine one of the causeways thus constructed, preparatory to the siege of Cambil, which, although six thousand pioneers were constantly employed in the work, was attended with such difficulty, that it advanced only three leagues in twelve days. It required, says the historian, the entire demolition of one of the most rugged parts of the sierra, which no one could have believed practicable by human industry.¹⁸

The Moorish garrisons, perched on their mountain fastnesses, which, like the eyry of some bird of prey, seemed almost inaccessible to man, beheld with astonishment the heavy trains of artillery, emerging from the passes, where the foot of the hunter had scarcely been known to venture. The walls which encompassed their cities, although lofty, were not of sufficient thickness to withstand long the assaults of these formidable engines. The Moors were deficient in heavy ordnance. The weapons on which they chiefly relied for annoying the enemy at a distance were the arquebus and cross-bow, with the last of which they were unerring marksmen, being trained to it from infancy. They adopted a custom, rarely met with in civilized

¹⁸ Pulgar, *Reyes Católicos*, cap. 51. — Bernaldez, *Reyes Católicos*, MS., cap. 82.

nations of any age, of poisoning their arrows; distilling for this purpose the juice of aconite, or wolfsbane, which grew rife in the *Sierra Nevada*, or Snowy Mountains, near Granada. A piece of linen or cotton cloth steeped in this decoction was wrapped round the point of the weapon, and the wound inflicted by it, however trivial in appearance, was sure to be mortal. Indeed a Spanish writer, not content with this, imputes such malignity to the virus, that a drop of it, as he asserts, mingling with the blood oozing from a wound, would ascend the stream into the vein, and diffuse its fatal influence over the whole system!¹⁹

Ferdinand, who appeared at the head of his armies throughout the whole of this war, pursued a sagacious policy in reference to the beleaguered cities. He was ever ready to meet the first overtures to surrender, in the most liberal spirit; granting protection of person, and such property as the besieged could transport with them, and assigning them a residence, if they preferred it, in his own dominions. Many, in consequence of this, migrated to Seville and other cities of Andalusia, where they were settled on estates which had been confiscated by the inquisitors; who looked forward, no doubt, with satisfaction to the time, when they should be permitted to thrust their sickle into the new crop of heresy, whose seeds were thus sown

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Terms to the
vanquished.

¹⁹ Mendoza, Guerra de Granada, (Valencia, 1776,) pp. 73, 74. — Zurita, Anales, tom. iv. lib. 20, cap. 59. — Mem. de la Acad. de Hist., tom. vi. p. 168.

According to Mendoza, a decoction of the quince furnished the most effectual antidote known against this poison.

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amid the ashes of the old one. Those who preferred to remain in the conquered Moorish territory, as Castilian subjects, were permitted the free enjoyment of personal rights and property, as well as of their religion; and, such was the fidelity with which Ferdinand redeemed his engagements during the war, by the punishment of the least infraction of them by his own people, that many, particularly of the Moorish peasantry, preferred abiding in their early homes to removing to Granada, or other places of the Moslem dominion. It was, perhaps a counterpart of the same policy, which led Ferdinand to chastise any attempt at revolt, on the part of his new Moorish subjects, the Mudejares, as they were called, with an unsparing rigor, which merits the reproach of cruelty. Such was the military execution inflicted on the rebellious town of Benemaquez, where he commanded one hundred and ten of the principal inhabitants to be hung above the walls, and, after consigning the rest of the population, men, women, and children, to slavery, caused the place to be razed to the ground. The humane policy, usually pursued by Ferdinand, seems to have had a more favorable effect on his enemies, who were exasperated, rather than intimidated, by this ferocious act of vengeance.²⁰

Supplies for
the army.

The magnitude of the other preparations corre-

²⁰ Abarca, Reyes de Aragon, tom. ii. fol. 304. — Lebrija, Rerum Gestarum Decades, ii. lib. 4, cap. 2. — Bernaldez, Reyes Católicos, MS., cap. 76. — Marmol, Rebellion de Moriscos, lib. 1, cap. 12.

Pulgar, who is by no means

bigoted for the age, seems to think the liberal terms granted by Ferdinand to the enemies of the faith stand in need of perpetual apology. See Reyes Católicos, cap. 44 et passim.

sponded with those for the ordnance department. The amount of forces assembled at Cordova, we find variously stated at ten or twelve thousand horse, and twenty, and even forty thousand foot, exclusive of foragers. On one occasion, the whole number, including men for the artillery service and the followers of the camp, is reckoned at eighty thousand. The same number of beasts of burden were employed in transporting the supplies required for this immense host, as well as for provisioning the conquered cities standing in the midst of a desolated country. The queen, who took this department under her special cognizance, moved along the frontier, stationing herself at points most contiguous to the scene of operations. There, by means of posts regularly established, she received hourly intelligence of the war. At the same time she transmitted the requisite munitions for the troops, by means of convoys sufficiently strong to secure them against the irruptions of the wily enemy.²¹

Isabella, solicitous for every thing that concerned the welfare of her people, sometimes visited the camp in person, encouraging the soldiers to endure the hardships of war, and relieving their necessities by liberal donations of clothes and money. She caused also a number of large tents, known as "the queen's hospitals," to be always reserved for the sick and wounded, and furnished them with

Isabella's
care of the
troops.

²¹ Bernaldez, *Reyes Católicos*, MS., cap. 75.—Pulgar, *Reyes Católicos*, cap. 21, 33, 42.—Lebrija, *Rerum Gestarum Decades*, ii. lib. 8, cap. 6.—Marmol, *Rebelion de Moriscos*, lib. 1, cap. 13.

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the requisite attendants and medicines, at her own charge. This is considered the earliest attempt at the formation of a regular camp hospital, on record.²²

Her perseverance in the war.

Isabella may be regarded as the soul of this war. She engaged in it with the most exalted views, less to acquire territory, than to reëstablish the empire of the Cross over the ancient domain of Christendom. On this point, she concentrated all the energies of her powerful mind, never suffering herself to be diverted by any subordinate interest from this one great and glorious object. When the king, in 1484, would have paused a while from the Granadine war, in order to prosecute his claims to Roussillon against the French, on the demise of Louis the Eleventh, Isabella strongly objected to it; but, finding her remonstrance ineffectual, she left her husband in Aragon, and repaired to Cordova, where she placed the cardinal of Spain at the head of the army, and prepared to open the campaign in the usual vigorous manner. Here, however, she was soon joined by Ferdinand, who, on a cooler revision of the subject, deemed it prudent to postpone his projected enterprise.

On another occasion, in the same year, when the nobles, fatigued with the service, had persuaded the king to retire earlier than usual, the queen, dissatisfied with the proceeding, addressed a letter to her husband, in which, after representing the disproportion of the results to the preparations, she

²² Mem. de la Acad. de Hist., tom. vi. Ilust. 6.

besought him to keep the field as long as the season should serve. The grandees, says Lebrija, mortified at being surpassed in zeal for the holy war by a woman, eagerly collected their forces, which had been partly disbanded, and returned across the borders to renew hostilities.²³

A circumstance, which had frequently frustrated the most magnificent military enterprises under former reigns, was the factions of these potent vassals, who, independent of each other, and almost of the crown, could rarely be brought to act in efficient concert for a length of time, and broke up the camp on the slightest personal jealousy. Ferdinand experienced something of this temper in the duke of Medina Celi, who, when he had received orders to detach a corps of his troops to the support of the count of Benavente, refused, replying to the messenger, "Tell your master, that I came here to serve him at the head of my household troops, and they go nowhere without me as their leader." The sovereigns managed this fiery spirit with the greatest address, and, instead of curbing it, endeavoured to direct it in the path of honorable emulation. The queen, who as their hereditary sovereign received a more deferential homage from her Castilian subjects than Ferdinand, frequently wrote to her nobles in the camp, complimenting some on their achievements, and others less fortunate on their intentions, thus cheering the hearts of all, says the chronicler, and stimulating

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Policy towards the nobles.

²³ Lebrija, *Rerum Gestarum Decades*, ii. lib. 3, cap. 6. — Pulgar, *Reyes Católicos*, cap. 31.

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them to deeds of heroism. On the most deserving she freely lavished those honors which cost little to the sovereign, but are most grateful to the subject. The marquis of Cadiz, who was preëminent above every other captain in this war for sagacity and conduct, was rewarded after his brilliant surprise of Zahara, with the gift of that city, and the titles of Marquis of Zahara and Duke of Cadiz. The warrior, however, was unwilling to resign the ancient title under which he had won his laurels, and ever after subscribed himself, Marquis Duke of Cadiz.²⁴ Still more emphatic honors were conferred on the count de Cabra, after the capture of the king of Granada. When he presented himself before the sovereigns, who were at Vitoria, the clergy and cavaliers of the city marched out to receive him, and he entered in solemn procession on the right hand of the grand cardinal of Spain. As he advanced up the hall of audience in the royal palace, the king and queen came forward to welcome him, and then seated him by themselves at table, declaring that "the conqueror of kings should sit with kings." These honors were followed by the more substantial gratuity of a hundred thousand maravedies annual rent; "a fat donative," says an old chronicler, "for so lean a treasury." The young alcaide de los donzeles experienced a similar reception on the ensuing day. Such acts of royal condescension were especially

²⁴ After another daring achievement, the sovereigns granted him and his heirs the royal suit worn by the monarchs of Castile on

Ladyday; a present, says Abarca, not to be estimated by its cost. Reyes de Aragon, tom. ii. fol. 303,