

wards that he was summoned to Rome by Sixtus IV., to decorate the walls of his new chapel in the Vatican. Among the great scenes in fresco painted on those walls by Domenico Ghirlandaio, Cosimo Rosselli, Signorelli, and Perugino, three subjects from the hand of Botticelli hold their place with the noblest. They represent the Life of Moses, the Destruction of Korah, Dathan, and Abiram, and the Temptation of Christ. In 1482, probably after his return from Rome, he received a commission to paint in the Sala dell' Udienza at Florence, together with Domenico Ghirlandaio. Many of the works already mentioned probably fall within the next ten years of Botticelli's manhood. The Boccaccio series belongs to 1487. In 1491 he was engaged, together with the brothers Ghirlandaio, upon some mosaic decorations in the cathedral of Florence which have unhappily perished. Soon after this time there came into his life a new influence which greatly changed it. It is well known how the genius of the Dominican Savonarola swept like a storm over the affairs of Italy, and what a revolution, after the passage of the French king through Florence, he brought about in the temper and policy of the republic,—driving out the merchant family who had been its untitled masters for half a century, establishing in place of their rule a new theocracy of which he was himself the oracle and minister, turning the hearts of old and young away from the world and from their lusts. Many of the first artists of the city became his most ardent followers, and among them Botticelli. What the actual effect of his conversion was upon him we have scanty means of judging, but it needs must have put an end to his painting of those old mythologies, over which in earlier days his imagination had been used to throw so singular a charm. Vasari, a devoted servant of the later Medici, and therefore a traducer of the greatest enemy that house had ever had, speaks of Savonarola's influence upon Botticelli as altogether disastrous, saying that he was "obstinate upon that side," "a partisan of the sect of Savonarola in such a fashion that, abandoning painting and having no income to live upon, he fell into the utmost disorder;" and again how, "playing the Piagnone (the name given to the followers of Savonarola), he fell out of the way of painting, and thereby at last found himself old and poor in such a sort that if Lorenzo Medici, as long as he lived, had not supported him, and afterwards his friends and many worthy men who felt an affection for his virtues, he would, we may say, have died of hunger." We have few materials by which we can test the accuracy of this account. We know that in 1496 the young Michelangelo sent through his hands a letter addressed to this Lorenzo de' Medici (Lorenzo the younger, that is,—the son of Giuliano); that in 1498 he was living with a brother in the quarter called Sta Lucia of Ognissanti; that in 1503 he was consulted along with other artists as to the best place for Michelangelo's colossal statue of David. But of more importance and significance than all this is a beautiful picture of a Nativity with mystical by-scenes, in the possession of Mr Fuller Maitland, which bears an inscription in base Greek by the master himself. The inscription seems to construe thus:—"This picture I, Alessandro, painted at the end of the year 1500, in the troubles of Italy, in the half-time after the time, during the fulfilment of the eleventh of John, in the second woe of the Apocalypse, in the losing of the devil for three and a half years. Afterwards he shall be chained according to the twelfth of John, and we shall see him trodden down as this picture." Hence it appears to be established that Botticelli, a year and a half after the downfall and execution of Savonarola, had his mind full of his instructions and prophecies; that he regarded the death of the Dominican reformer and his companions as the fulfilment of the Apocalyptic prophecies about the slaying of the

witnesses; that he thought of the tribulations among which he lived as the "second woe" of Rev. xi., and as coincident with the "time, times, and half a time" of that and other prophetic writings; and finally—such is the originality and excellence of the work—that his imagination had at this time lost none of its fire nor his hand of its cunning. We are quite without the means of deciding whether any proportion of the large existing mass of his undated works belong to the years following this; or whether we are really to think of him as failing in his wonted industry in his latter days, from regret and disappointment at his master's fate and at public affairs, from pre-occupation over mystical theology (which had always had an attraction for him, and, in the case of the picture painted early in his life for Matteo Palmieri, had brought upon him a charge of heresy), or, lastly, from another cause which Vasari alleges, but which we have designedly passed by till this place.

In the history of engraving there are no productions more precious, more interesting, or more problematical than a number of plates executed in a primitive style, with severe outlines and straight lines of shading, by artists of the Florentine school towards the close of the 15th century. The engravings in this manner include some two hundred and fifty pieces, covering the whole range of subjects that interested the mind of Italy at this most active and fanciful moment of the early Renaissance. The best known of these engravings are as follows:—three designs to the earliest book published in Florence with engraved illustrations, called *Il Monte Sancto di Dio* (1471); a set of nineteen designs to an edition of the *Divina Commedia* of Dante (1481); a set of twenty-four Prophets; a set of twelve Sibyls; several subjects of Saints; several of mythology, such as the Death of Paris, Theseus and Ariadne, the Judgment of Paris, Loves in a Vineyard, and the like; a famous series (long falsely ascribed to Mantegna, whose manner in engraving is easily distinguishable from this) of the Ranks and Professions of Men, the Virtues, the Arts and Sciences, the Muses, and the Planets (fifty in all); a series of fifteen setting forth the lives of Mary and of Christ; a subject of the deluge; another of the preaching of the Franciscan Fra Marco, and many more. Between the various examples of this large class there are considerable differences, but they are all unlike the work of any other school, and all manifestly Florentine of the 15th century. Conjectures the most confident and at the same time the most conflicting have been put forward as to their authorship. All such conjectures alike have been based on a few passages in Vasari's lives of Botticelli and of Marc Antonio. According to Vasari, the first Florentine who took impressions on paper from engravings was Maso Finiguerra, and he, says our author, was "followed by Baccio Baldini, who not having much power of designing, all that he did was with the invention and design of Sandro Botticelli." And again, Vasari says of Botticelli that, "from being a sophistical (i.e., thoughtful or ingenious) person, he commented a part of Dante, and made figures for the *Inferno*, and put them into print; upon which pursuit he spent a deal of time; so that not working" (i.e., at painting) "it was a cause of infinite disorders in his life. He put in print many more things of his own from designs which he had made, but in a bad manner." On the strength of those passages this whole class of early Florentine engravings has generally been put down by connoisseurs, as, for instance, Young Ottley, Bartsch, and Passavant, as the work of Sandro Botticelli and Baccio Baldini, jointly or apart,—each critic attributing separate subjects to the one or the other of the artists according to his private canon of internal evidence. But a scrupulous examination shows this internal evidence to be both very meagre and very contradictory. Nor can much be built upon the external

testimony of Vasari. The phrase "put into print" is ambiguous, and by it Vasari may mean us to understand either that Botticelli engraved the designs himself or else that he merely furnished them to be engraved by another hand. To him the chief part in the invention, to Baldini the chief part in the execution, is usually and with a fair measure of probability assigned. Vasari's information on the whole subject was evidently loose; a Triumph of Faith of Savonarola, which he extols as Botticelli's best engraving, does not at present exist at all. None of the designs bear the evidence of Botticelli's manner in a sufficiently definite form to be undeniable. On the other hand, many of them, by their poetry, their refinement, their singularity, are quite worthy of his hand, nor do they resemble any other contemporary style more than his. If he designed and executed, or in part executed, them, they are no slight addition to his fame, and a noble vindication of his industry during that old age of idleness, decay, and "disorder," which followed, if we are to believe Vasari, upon the splendid and inspired activity of his youth and manhood. But the question is one which criticism, it is to be feared, will never have the means of fully settling. (Vasari, ed. Lemonnier, vol. v. pp. 110-127; Crowe and Cavalcasse, *Hist. of Painting in Italy*, vol. ii. pp. 414-430; W. H. Pater, *Studies in the History of the Renaissance*; and see also *Ariadne Florentin*, No. vi., by John Ruskin; art. "Baccio Baldini," by E. Kolhoff in 2d ed. of Nagler's *Künstler-Lexikon*; and the *Academy* for February 1871.)

BÖTTIGER, KARL AUGUST, a distinguished German archaeologist, was born at Reichenbach in 1760. He was educated at the famous school of Pforta, and at the University of Leipzig. In 1784, after having passed a few years as private tutor in Dresden, he was made rector of the school at Guben, where he remained for six years. He was then transferred to a similar post at Bautzen, and in 1791, through the influence of Herder, obtained the appointment of rector of the gymnasium at Weimar. In that town he entered into a circle of literary men of the highest powers, including Wieland, Schiller, and Goethe, and distinguished himself by the great versatility of his talents. He published in 1803 a lively and learned work, *Sabina, oder Morgenseenen einer reichen Römerin*, giving a description of a wealthy Roman lady's toilette, and a work on ancient art, *Griechische Vasengemälde*. At the same time he assisted in editing the *Journal des Luxus und der Mode*, the *Deutsche Mercur*, and the *London and Paris*. In 1804 he was called to Dresden as superintendent of the studies of the court pages, and received the rank of privy councillor. In 1814 he was made director of studies at the court academy, and inspector of the Museum of Antiquities. He died at Dresden in 1835.

Of his numerous works, most of which are devoted to ancient art, the following seem most worthy of notice:—*Ideen zur Archäologie der Malerei*, 1811; *Kunstmythologie*, 1811; *Vorlesungen und Aufsätze zur Alterthumskunde*, 1817; *Amalthea*, 3 vols., 1821-25; *Ideen zur Kunstmythologie*, 2 vols., 1826-36. The *Opuscula et Carmina Latina* were published separately in 1837, with a collection of his smaller pieces, *Kleine Schriften*, 3 vols., 1837-8. A sketch of his biography has been written by his son, Karl Wilhelm Böttiger (1790-1862), for some time professor of history at Erlangen, who is well known as the author of several valuable histories (*History of Germany, History of Saxony, History of Bavaria, Universal History in biographies.*)

**BOTTLE.** The first bottles were probably made of the skins of animals. In the *Iliad* (iii. 247) the attendants are represented as bearing wine for use in a bottle made of goat's skin, ἀρκῶν ἐν αἰγέλοις. The ancient Egyptians used skins for this purpose, and from the language employed by Herodotus (ii. 121), it appears that a bottle was formed by sewing up the skin and leaving the projection of the leg and foot to serve as a vent, which was hence termed τροχέαιον. The aperture was closed with a plug or a string.

Skin bottles of various forms occur on Egyptian monuments. The Greeks and Romans also were accustomed to use bottles made of skins; and in the southern parts of Europe they are still used for the transport of wine. The



FIG. 1.—Roman Skin Bottles.

accompanying illustration is from specimens at Pompeii and Herculaneum. The first explicit reference to bottles of skin in Scripture occurs in Joshua (ix. 4), where it is said that the Gibeonites took "old sacks upon their asses, and wine-bottles old and rent and bound up." Skins are still most extensively used throughout Western Asia for the conveyance and storage of water. It is an error to represent the bottles of these ancient Hebrews as being made exclusively of skins. In Jer. xix. 1, the prophet speaks of "a potter's earthen vessel." The Egyptians possessed vases, bottles, &c., of hard stone, alabaster, glass, ivory, bone, porcelain, bronze, silver, and gold, and also, for the use of the people generally, of glazed pottery or common earthenware. As early as Thothmes III., assumed to be the Pharaoh of the Exodus (1490, B.C.), vases existed of a shape so elegant, and of workmanship so superior, as to show that the art was not, even then, in its infancy. In the annexed cut various specimens of these are represented.

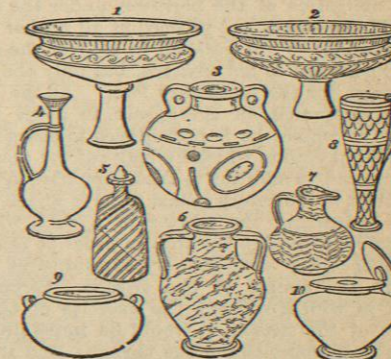


FIG. 2.—Egyptian Bottles and Vases.—1, 2. Gold. 3. Cut glass. 4. Earthenware. 5, 7. Porcelain. 6. Hard Stone. 8. Gold, with plates and bands. 9. Stone. 10. Alabaster, with lid.

The British Museum contains a fine collection of these articles. The process of making glass bottles is described under the heading GLASS.

**BOTTOMRY**, a maritime contract by which a ship (or bottom) is hypothecated in security for money borrowed for expenses incurred in the course of her voyage, under the condition that if she arrive at her destination the ship shall be liable for repayment of the loan, together with such premium thereon as may have been agreed for; but that if the ship be lost, the lender shall have no claim against the borrower either for the sum advanced or for the



premium. The freight may be pledged as well as the ship, and, if necessary, the cargo also. In some cases the personal obligation of the ship-master is also included. When money is borrowed on the security of the cargo alone, it is said to be taken up at *respondentia*; but it is now only in rare and exceptional cases that it could be competent to the ship-master to pledge the cargo, except under a general bottomry obligation, along with the ship and freight. In consideration of the risks assumed by the lender, the bottomry premium (sometimes termed *maritime interest*) is usually high, varying of course with the nature of the risk and the difficulty of procuring funds.

A bottomry contract may be written out in any form which sufficiently shows the conditions agreed on between the parties; but it is usually drawn up in the form of a *bond*. The document must show, either by express terms or from its general tenor, that the risk of loss is assumed by the lender,—this being the consideration for which the high premium is conceded. The lender may transfer the bond by endorsement, in the same manner as a bill of exchange or bill of lading, and the right to recover its value becomes vested in the indorsees.

According to the law of this country, a bottomry contract remains in force so long as the ship exists in the form of a ship, whatever amount of damage she may have sustained. Consequently, the "constructive total loss" which is recognized in marine insurance, when the ship is damaged to such an extent that she is not worth repairing, is not recognized in reference to bottomry, and will not absolve the borrower from his obligation. But if the ship go to pieces, the borrower is freed from all liability under the bottomry contract; and the lender is not entitled to receive any share of the proceeds of such of the ship's stores or materials as may have been saved from the wreck. Money advanced on bottomry is not liable in England for general average losses.

If the ship should deviate from the voyage for which the funds were advanced, her subsequent loss will not discharge the obligation of the borrower under the bottomry contract. If she should not proceed at all on her intended voyage, the lender is not entitled to recover the bottomry premium in addition to his advance, but only the ordinary rate of interest for the temporary loan. As the bottomry premium is presumed, in every case, to cover the risks incurred by the lender, he is not entitled to charge the borrower with the premium which he may pay for insurance of the sum advanced, in addition to that stipulated in the bond.

The contract of bottomry seems to have arisen from the custom of permitting the master of a ship, when in a foreign country, to pledge the ship in order to raise money for repairs, or other extraordinary expenditures rendered necessary in the course of the voyage. Circumstances often arise, in which, without the exercise of this power on the part of the master, it would be impossible to provide means for accomplishing the voyage; and it is better that the master should have authority to burden the ship, and, if necessary, the freight and cargo also, in security for the money which has become requisite, than that the adventure should be defeated by inability to proceed. But the right of the master to pledge the ship or goods must always be created by necessity; if exercised without necessity the contract will be void. Accordingly, the master of a British ship has no power to grant a bottomry bond at a British port, or at any foreign port where he might raise funds on the personal credit of the shipowners. Neither has he any power to pledge the ship or goods for private debts of his own, but only for such supplies as are indispensable for the purposes of the voyage. And in all cases he ought, if possible, to communicate with the owners of the ship, and with the proprietor of the cargo

before pledging their property. Facility of communication, by telegraph and otherwise, has of late years given additional stringency to this rule.

The bottomry lender must use reasonable diligence to ascertain that a real necessity exists for the loan; but he is not bound to see to the application of the money advanced. If the lender has originally advanced the funds on the personal credit of the owner he is not entitled to require a bottomry obligation. A bond procured from the shipmaster by improper compulsion would be void.

The power of the master to pledge the cargo depends upon there being some reasonable prospect of benefit to it by his so doing. He has no such power except in virtue of circumstances which may oblige him to assume the character of *agent for the cargo*, in the absence of any other party authorized to act on its behalf. Under ordinary circumstances he is not at liberty to pledge the cargo for repairs to the ship. If indeed the goods be of a perishable nature, and if it be impossible to get the ship repaired in sufficient time to obviate serious loss on them by delay, without including them under the bottomry contract, he has power to do so, because it may fairly be assumed, in the case supposed, that the cargo will be benefited by this procedure. The general principle is, that the master must act for the cargo, with a reasonable view to the interests of its proprietors, under the whole circumstances of the case. When he does this his proceedings will be sustained; but should he manifestly prejudice the interests of the cargo by including it under bottomry for the mere purpose of relieving the ship, or of earning the freight, the owners of the cargo will not be bound by the bottomry contract. Any bottomry or *respondentia* bond may be good in part or bad in part, according as the master may have acted *within* or *beyond* the scope of his legitimate authority in granting it. If two or more bottomry bonds have been granted at different stages of the voyage, and the value of the property be insufficient to discharge them all, the last dated bond has the priority of payment, as having furnished the means of preserving the ship, and thereby preventing the total loss of the security for the previous bonds.

When the sum due under a bottomry bond over ship, freight, and cargo is not paid at the stipulated time, proceedings may be taken by the bondholder for recovery of the freight and for the sale of the ship; and should the proceeds of these be insufficient to discharge the claim, a judicial sale of the cargo may be resorted to. As a general rule the value of the ship and freight must be exhausted before recourse can be taken against the cargo. A bottomry bond gives no remedy to the lenders against the owners of the ship or cargo personally. The whole liability under it may be met by the surrender of the property pledged, whether the value so surrendered covers the amount of the bond or not. But the owners of the ship, though not liable to the bondholder for more than the value of the ship and freight, may be further liable to the proprietors of the cargo for any sum in excess of the cargo's proper share of the expenses, taken by the bondholder out of the proceeds of the cargo to satisfy the bond after the ship and freight have been exhausted.

The bottomry premium must be ultimately paid by the parties for whose benefit the advances were obtained, as ascertained on the final adjustment of the average expenditures at the port of destination.

See the cases of the "*Gratitudine*," 2 Rob. A. R., 240, 272; the "*Lord Cochrane*," 8 Jur., 714; the "*Cynthia*," 20 L. T., 7, 54; the "*Bonaparte*," 14 Jur., 605; *Benson v. Duncan*, 14 Jur., 218; *Benson v. Chapman*, 5 C. B., 330; 8 C. B., 950; *Shee's Marshall On Insurance*, part ii.; *Arnould On Insurance*; *Pritchard's Admiralty Digest*. (J. W.)

BOTZEN, BOZEN, or BOLZANO (the ancient *Pons Drusi*), a town of Austria, the capital of the circle of Brixen in Tyrol, is situated at a height of 1120 feet near the confluence of the Talfer and the Eisack, 32 miles N.N.E. of Trent. The town is well built in the Italian style, and has a fine old Gothic church of the 14th and 15th centuries, a castle, several churches and convents, and a gymnasium. Situated at the intersection of roads from Italy, Germany, and Switzerland, it has an extensive transit trade, and its four large annual fairs date from 1024. It has also manufactures of linen, cotton, silk, hosiery, leather, and wax. It is protected from sudden inundations by a strong dike of masonry nearly two miles in length, and in some parts 24 feet thick. Botzen is mentioned as early as 378. In the 9th century it was the seat of a Bavarian courtship, but in 1027 it was presented to the prince-bishop of Trent by the Emperor Conrad II. For centuries after that date it continued to be an object of strife between the Germans and Italians, until at last, in 1531, the authority of the count of Tyrol was acknowledged on all hands. Since then the city has followed the fortunes of Tyrol.

BOUCHES-DU-RHONE, a department of France, situated along the south coast, and, as the name imports, at the mouth of the Rhone. It is bounded on the N. by Vaucluse, from which it is separated by the Durance; on the E. by Var, and W. by Gard; and its area is estimated at 1963 English square miles. The western portion consists of a low and marshy plain, known as the Camargue, which is remarkable for its unhealthiness; to the east of this is situated the remarkable stretch of country called the Crau, which is strewn with pebbles like the sea beach; and further east and north there are various ranges of mountains of moderate elevation belonging to the Alpine system. A few small tributaries of the Rhone and the Durance and a number of streams, such as the Arc, the Touloubre, and the Huveaune, which find their way directly to the sea, are the only rivers that properly belong to the department. The proportion of arable land is exceedingly small, though the quantity has been considerably increased by artificial irrigation. Wheat is cultivated with success in some parts of the Camargue, and, if labour were more easily obtainable, rice might also be grown. Horses and cattle are reared in a half wild condition, and large flocks of sheep are pastured during the winter on the herbage that springs up among the pebbles of the Crau. The numbers of domestic animals in the department were in 1872 as follows:—horses 20,665, cattle 2686, sheep 262,566, and goats 17,560. The only mineral furnished to any extent by the department is coal, in the mining of which between 1000 and 2000 workmen are engaged, but there are also quarries of limestone, sandstone, slate, gypsum, marl, and marble. The salt marshes, which cover an area of 2290 acres, employ more workmen than the coal-mines, and the amount of salt obtained exceeds in quantity the produce of any other department in France. There are extensive manufactures of soaps, perfumes and oils, soda, sulphur, sugar, woollen hosiery, and leather, and a variety of other articles. The foreign commerce of the department, which is principally carried on in the Mediterranean basin, is for the most part concentrated in the capital, Marseilles; the minor ports are Martigues, Cassis, and Ciotat. The department is divided into the three arrondissements of Marseilles, Aix, and Arles; the more important towns in which (in addition to their capitals) are respectively Aubagne, Ciotat, and Roquevaire; Martigues, Salon, and Istres; and Tarascon, Saint Remy, and Châteaurenard. Among the numerous men of mark belonging to Bouches-du-Rhone are D'Urfé, Massillon, Vanloo, Tournafort, Barthélemy, Vauvergues, Thiers, Mignet, Achard, and Reinaud. The population, which in 1872 amounted to 554,911, contains a large pro-

portion of foreigners, mostly of Italian nationality. The total alien element in 1872 was represented by 42,855, the Italian by 33,500.

BOUFARIK (the "Hanging Well"), a town of Algeria, in the province of Algiers and arrondissement of Blidah, about 21 miles from the city of Algiers near the railway thence to Blidah. It is a thoroughly French town, and only dates from 1835, when General Drouet d'Erlon established an entrenched camp on what was then a mere hillock in the midst of an almost uninhabitable marsh. Shortly after Marshal Clausel determined to build a regular city, which was at first called Medina Clausel in his honour. The draining of the site and neighbourhood was a costly undertaking, and was only accomplished by the sacrifice of many lives. The town is now one of the most flourishing in the country, is surrounded by vast orchards and farms, and affords a market to the pastoral Arabs of the Metidja. There are flax-dressing and spinning mills, and the manufacture of essences and perfumes is carried on to a considerable extent. The population, which is composed of very various elements, amounted in 1872 to 2588.

BOUFLERS, LOUIS FRANCOIS, DUC DE, commonly called the Chevalier Boufflers, a peer and marshal of France, and a general of distinguished reputation, was born January 10, 1644. Having early entered the army, he was raised in 1669 to the rank of colonel of dragoons. In the conquest of Lorraine he served under Marshal de Créqui. In Holland he served under Turenne, frequently distinguishing himself by his skill and bravery; and when that celebrated leader was killed by a cannon-shot in 1675, he commanded the rear-guard during the retreat of the French army. After performing various military services in Germany, in Flanders, and on the frontiers of Spain, he was created, in 1690, general of the army of the Moselle, and contributed materially to the victory of Fleurus. In the following year he acted as lieutenant-general, under the king in person; and during the investment of Mons, he was wounded in an attack on the town. He conducted the bombardment of Liège, which was defended by an enemy superior in numbers, and afterwards forced the allied generals to abandon Luxembourg. He was entrusted with the command against King William at the siege of Namur, and took part in the victory of Steinkirk. For these important services he was raised in 1693 to the rank of marshal of France, and in 1695 was made a duke. In 1694 he was appointed governor of French Flanders and of the town of Lille. By a skilful manœuvre he threw himself into Namur in 1695, and obstinately held out for four months during which the besiegers lost 20,000 men. In the conferences which terminated in the peace of Ryswick he had a principal share. During the following war, when Lille was again threatened with a siege by the duke of Marlborough and Prince Eugene, Boufflers was appointed to the command, and made an obstinate resistance of four months. He was rewarded and honoured by the king for his defence of Lille, as if he had been victorious. It was indeed a species of triumph; his enemy, appreciating his merits, allowed him to dictate his own terms of capitulation. When the affairs of France were threatened with the most urgent danger, Boufflers offered to serve under his junior, Villars, and was with him at the battle of Malplaquet. Here he again displayed his military skill, by conducting the retreat so as to lose neither cannon nor prisoners. He died at Fontainebleau in 1711.

BOUGAINVILLE, LOUIS ANTOINE DE, the first French circumnavigator, was born at Paris in 1729. He studied law, but soon abandoned the profession, and in 1753 entered the army in the corps of musketeers. At the age of twenty-five he published a treatise on the integral calculus, as a supplement to De l'Hôpital's treatise *Des infinitésimales*.



In 1755 he was sent to London as secretary to the French embassy, and was chosen a member of the Royal Society. In 1756 he went to Canada as captain of dragoons and aide-de-camp to the marquis of Montcalm; and having distinguished himself in the war against England, was rewarded with the rank of colonel and the cross of St Louis. He afterwards served in the Seven Years' War from 1761 to 1763. After the peace, when the French Government conceived the project of colonizing the Falkland Islands, Bougainville undertook the task at his own expense. But the settlement having excited the jealousy of the Spaniards, the French Government gave it up to them, on condition of their indemnifying Bougainville. He was then appointed to the command of the frigate "La Boudouse" and the transport "L'Étoile," on a voyage of discovery round the world. He set sail from Nantes in November 1766, taking with him Commerçon as naturalist, and Verron as astronomer. Having executed his commission of delivering up the Falkland Islands to the Spanish, Bougainville proceeded on his expedition, and touched at Buenos Ayres. Passing through the Straits of Magellan, he anchored at Otaheite, where the English navigator Wallis had touched eight months before. The expedition having crossed the Pacific Ocean, and the men now suffering from scurvy, the ships came to anchor off the Island of Borou, one of the Moluccas, where the governor of the Dutch settlement supplied their wants. It was the beginning of September, and the expedition took advantage of the easterly monsoon, which carried them to Batavia. Thence they proceeded to the Isle of France, where they left Commerçon and Verron. In 1769 the expedition arrived at St Malo, after a voyage of two years and four months, with the loss of only seven out of upwards of 200 men. Bougainville's account of the voyage (Paris, 1771, 4to) is written with simplicity and with some humour. The art of making astronomical observations at sea was then much less perfect than now, and, consequently, Bougainville's charts are found to be erroneous, particularly as to the longitudes. After an interval of several years, he again accepted a naval command and saw much active service between 1779 and 1782. In the memorable engagement of April 12, 1782, in which Rodney defeated the Count de Grasse, near Martinique, Bougainville, who commanded the "Auguste," succeeded in rallying eight ships of his own division, and bringing them safely into St Eustace. After the peace he returned to Paris, and solicited and obtained the place of associate of the Academy. He projected a voyage of discovery towards the north pole, but this did not meet with support from the French Government. Bougainville obtained the rank of vice-admiral in 1791; and in 1792, having escaped almost miraculously from the massacres of Paris, he retired to his estate in Normandy. He was chosen a member of the Institute at its formation; and then returning to Paris succeeded Borda as member of the Board of Longitude. In his old age Napoleon I. made him a senator, count of the empire, and member of the Legion of Honour. He died at Paris, August, 31, 1814. He was married and had three sons, who served in the French army. His *éloge*, composed by Delambre, appears in the *Memoirs of the Institute*.

BOUGIE, or BOUGIAH, a fortified seaport town of Algeria, in the province of Constantine and arrondissement of Sétif, between Cape Carbon and the Wady-Sahell. Among its more important buildings are the French church, the hospital, the barracks, the magazines, and the Abdel-Kader fort, now used as a prison. Trade is carried on in wax, grain, oranges, oil, and wine. A basin was constructed about 1870 in the anchorage below the town. The population in 1872 was 2820, of whom 1134 were natives. Bougie, Bugia, or Bugiah is a town of great antiquity. If it is

correctly identified with the *Saldā* of the Romans it probably owes its origin to the Carthaginians. Genseric, the king of the Vandals, surrounded it with walls and chose it as his capital for some time; and in the 10th century it became, under the Beni-Hammad, the greatest commercial city of the North African coast. The Italian merchants of the 12th and 13th centuries had numerous buildings of their own in the city, such as warehouses, baths, and churches. It became a haunt of pirates in the 15th century, and in the beginning of the 16th it was captured by the Spaniards, from whom it was taken by the Turks in 1555. It was a place of little importance when it fell into French possession about 1833.

BOUGUER, PIERRE, an eminent French mathematician, was born in 1698. His father, one of the best hydrographers of his time, was regius professor of hydrography at Croisic in Lower Brittany, and author of an excellent treatise on navigation. Young Bouguer was bred to mathematics from his infancy, and at an early age was appointed to succeed his father as professor of hydrography. In 1727 he gained the prize given by the Academy of Sciences for his paper "On the best manner of forming and distributing the Masts of Ships;" and two other prizes, one for his dissertation "On the best method of observing the Altitude of Stars at Sea," the other for his paper "On the best method of observing the Variation of the Compass at Sea." These are published in the *Prix de l'Académie des Sciences*. In 1729 he published *Essai d'optique sur la gradation de la lumière*, the object of which is to define the quantity of light lost by passing through a given extent of the atmosphere. He found the light of the sun to be 300 times more intense than that of the moon. He was soon after made professor of hydrography at Havre, and succeeded Maupertuis as associate geometer of the Academy of Sciences. He was afterwards promoted in the Academy to the place of pensioned astronomer, and went to reside in Paris. In 1735 Bouguer sailed with Godin and De la Condamine for Peru, in order to measure a degree of the meridian near the equator. Ten years were spent in this operation, a full account of which was published by Bouguer in 1749, *Figure de la Terre déterminée*. His later writings were nearly all upon the theory of navigation. He died in 1758.

The following is a list of his principal works:—*Traité d'optique sur la gradation de la lumière*, 1729 and 1760; *Entretiens sur la cause d'inclinaison des orbites des planètes*, 1734; *Traité de navigation*, &c., 1746, 4to; *La Figure de la terre déterminée*, &c., 1749, 4to; *Nouveaux traités de navigation, contenant la théorie et la pratique du pilotage*, 1753; *Solution des principaux problèmes sur la manœuvre des Vaisseaux*, 1757; *Opérations faites pour la vérification du degré du méridien entre Paris et Amiens*, par Mess. Bouguer, Camus, Cassini, et Pingré, 1757.

BOUHOURS, DOMINIQUE, a French critic, was born at Paris in 1628. He entered the Society of the Jesuits at the age of sixteen, and was appointed to read lectures on literature in the college of Clermont at Paris, and on rhetoric at Tours. He afterwards became preceptor to the two sons of the duke of Longueville. The duke died in Bouhours's arms; and the "account of the pious and Christian death" of this great personage was his first publication. He was sent to Dunkirk to the Romanist refugees from England, and in the midst of his missionary occupations published several books. Among these were *Les Entretiens d'Ariste et d'Eugène*, a work of a critical nature on the French language, printed five times at Paris, twice at Grenoble, and afterwards at Lyons, Brussels, Amsterdam, Leyden, &c. It involved him in numerous quarrels, particularly with Ménage, who, however, continued to live on friendly terms with the author. The fame and merit of this piece recommended Bouhours so effectually to the great Colbert, that he intrusted him with the education of

his son the marquis of Seignelay. He afterwards wrote several other works in French, the chief of which are, *La Manière de bien penser sur les ouvrages d'esprit*, 1687; *Remarks and Doubts upon the French Language*, 1694; *The Life of St Ignatius*, 1679; *The Art of Pleasing in Conversation*; *The Life of St Francis Xavier*, 1682. It was his practice to publish alternately a book on literature and a work on some subject of piety, which gave occasion to a wag, in a satirical epitaph, to remark of him, "qu'il servait le monde et le ciel par semestre." His *Pensées ingénieuses des Anciens et des Modernes*, though at once instructive and amusing, exposed him to censure as well as ridicule, on account of some strange misjudgments and omissions. He has classed Boileau with the least esteemed of the Italian satirical versifiers, and has omitted, in his *Thoughts on the Moderns*, all mention of Pascal,—a circumstance which is doubtless to be explained by his being a disciple of St Ignatius, who, it may be supposed, would willingly forget the author of the *Provincial Letters*. Bouhours died at Paris in 1702.

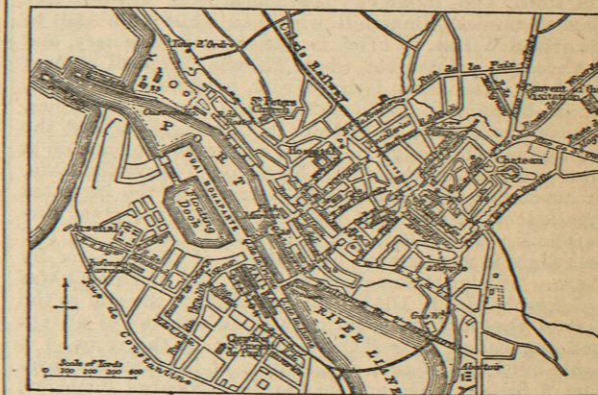
BOUILLON, GODFREY DE, one of the foremost leaders in the first crusade, was born at Baisy, near Gemappe in Belgium, about 1060. His father was Eustace II., count of Bouillon in the Ardennes; and through his mother Ida, daughter of Godfrey, duke of Lower Lorraine, he could claim descent from Charlemagne. In the contest between Henry IV., emperor of Germany, and Hildebrand, he espoused the imperial cause, and was the first to scale the walls of Rome when the emperor's forces besieged that city in 1084. In reward for his services Henry invested him with the titles of marquis of Antwerp and duke of Lorraine. It is said that while suffering from fever, having heard of the preparations for the first crusade, he vowed, were his health restored, to seek Palestine; "whereupon," says William of Malmesbury, "he shook disease from his limbs, and shone with renovated beauty." Having pawned his lordship of Bouillon to the church of Liège for 1300 marks, he gathered around him 80,000 infantry and 10,000 horsemen, whom he led with rare ability through Germany to the borders of Hungary, where he shamed his brother Baldwin by offering to go in his stead as a hostage to the Hungarians. On arriving in 1096 at Constantinople, he obtained the release of his fellow-crusader Hugh of Vermandois from the wily Greek emperor Alexius, and in the strife which that monarch's duplicity fomented evinced the sagacity and promptitude of a great general. After capturing Antioch and routing a vast Saracen host at Dorylaeum in Phrygia, the crusaders arrived, in 1099, at Jerusalem, which was taken after a siege of five weeks, Godfrey entering the breach among the foremost, but tarnishing his glory by ruthlessly ordering a massacre of the infidels. A Christian kingdom of Jerusalem was then founded, of which Godfrey was unanimously elected sovereign; but he refused to wear a crown of gold where his Lord had worn a crown of thorns, and accepted, instead of the kingly title, the humbler designation of defender and baron of the Holy Sepulchre. During the single year of his rule he repelled the Saracens with admirable courage and skill, routing the Fatimite caliph of Egypt at Ascalon, and with the assistance of others of the pilgrims, drew up from the various feudal statutes of Europe the elaborate system of mediæval jurisprudence known as the *Assises of Jerusalem*. Godfrey died in 1100, and was buried in the church of the Holy Sepulchre; and so impartial and temperate had been his rule, that Mahometans as well as Christians bewailed his loss. He combined the favourite virtues of his age; and his exploits, in the quaint words of Gregory de Vinsauf, "were as food in the mouths of their narrators." He was as accomplished as brave, and could speak the Latin and Teutonic languages with equal

ease. Tasso, in the *Gerusalemme Liberata*, makes Godfrey the equal of Tancred in the field and of Raymond in the council, and seems scarcely to have exaggerated his heroism and skill in war, his piety, wisdom, and purity of life.

BOULAINVILLIERS, HENRI DE, Lord of St Saire, an eminent French writer, descended from a very ancient and noble family, was born at St Saire in Normandy in 1658. He received his education at the college of Juilli, where he early discovered the uncommon abilities for which he was afterwards distinguished. His historical writings are numerous and important, but deformed by an extravagant admiration of the feudal system, which he regarded as the *chef d'œuvre* of the human mind. He misses no opportunity of regretting those "good old times," when the people were enslaved by a few petty tyrants alike ignorant and barbarous. His philosophical writings have now lost all their value. His pretended *refutation* of the system of Spinoza is a weak and imperfect exposition of that writer's opinions. He died at Paris in 1722.

His principal works (all published after his death) are—*Histoire de l'ancien gouvernement de la France*, &c., La Haye, 1727, 3 tom. 8vo; *État de la France, avec des mémoires sur l'ancien gouvernement*, &c., Lond., 1727, 3 tom. fol.; *Histoire de la Pairie de France*, &c., Lond., 1753; *La Vie de Mahomet* (a "Fable of Mahomet," as Mosheim calls it); *Histoire des Arabes*, Amst. (Paris), 1731, 2 vols. 12mo.

BOULOGNE SUR MER, a fortified seaport of France, and the chief town of an arrondissement in Pas-de-Calais,



Plan of Boulogne.

- |  |                         |
|--|-------------------------|
| 1. 2. 3. Etablissement, including Baths, Aquarium, and Skating Rink. | 11. Porte Gayolle.      |
| 4. Place Navarin.  | 12. Sous-Préfecture.    |
| 5. Rue Wissoy.   | 13. Collège.            |
| 6. Cathedral.  | 14. Muséum.             |
| 7. Palais de Justice.  | 15. St Nicholas Church. |
| 8. Mairie.   | 16. Market Place.       |
| 9. Convent (Annonciades).  | 17. Theatre.            |
| 10. Place Godefroi.  | 18. English Churches.   |
|  | 19. Place Fr.-Sauvage.  |

is situated on the shore of the English Channel at the mouth of the River Liane (anciently Elna), in 50° 44' N. lat. and 1° 36' E. long., 157 miles from Paris by railway and 28 from Folkestone, Kent. It consists of two parts, the High or Old Town and the Lower or New Town. The former, situated on the top of the hill, is of comparatively small extent, and forms almost a parallelogram, surrounded by ramparts of the 15th century, and entered by ancient gateways. In this part are the Palais de Justice, the Chateau, the cathedral, and the Hôtel de Ville,—the last built in 1774,—and the belfry tower of the 13th century is in the immediate neighbourhood. In the Chateau, now used as barracks, the Emperor Napoleon III. was confined after his famous attempt to effect a landing in 1840. At some distance north-west stands the cathedral church of Notre