

brought into Italy by Demaratus about 600 years before the Christian era. The material of the Nolan vase is a pale yellow clay; the figures are painted in maroon, some of the accessories are marked with a crimson pigment, the inner markings and details being frequently picked out with the point of a graver. Nola has also enriched the cabinets of numismatists with an immense quantity of coins, most of which bear the epigraph ΝΩΛΑΙΩΝ, a sufficient proof that the city was founded by a Greek colony. In the 5th century Nola became celebrated for the discovery of church bells, which are said by Polydore Vergil and others to have been invented by Paulinus, bishop of the city. From this circumstance the church bell is supposed to have acquired the names of *Nola* and *Campana* in low Latin, the latter derived of course from the province of Campania, in which the city is situated. We must not omit to record that Nola was the birth-place of Giordano Bruno, the Dominican philosopher, who fled to England after he had become dissatisfied with his own church, and afterwards to Helmstadt, where he was protected by the Duke of Brunswick. On his return to Italy he was arrested at Padua, and burnt at the stake at Rome, in 1600, on the charge of heresy and atheism. Two of his works, including his very rare Satire on Mythology, entitled "Spaccio della Bestia Trionfante," were dedicated to Sir Philip Sidney.

VESUVIUS.

The ascent of Vesuvius is usually commenced from Resina, the village which adjoins Portici on the east; but on some occasions, when the lava takes the course of the Bosco Reale, as it did in the great eruption of 1850, the ascent from Torre dell' Annunziata is preferred, as affording a finer view of the current. Resina is about 5 miles from Naples. The traveller may proceed to it either by the railway or by a private carriage. The latter is the best mode, as the railway station at

Resina is inconveniently situated at a distance from the town, and is infested by self-called guides, pretended mineral dealers, and padroni of horses and mules, who are most importunate in their offers of services, which are too frequently both dear and worthless. A carriage with two horses will convey the traveller from Naples to Resina, for 6 carlini, in less than an hour. At Resina there are several guides who let horses and chairs for the ascent; but, to avoid imposition, the traveller should endeavour to secure the services of Vincenzo Gozzolino, the only guide who has any scientific knowledge of the mountain, and who has had the advantage of attending Baron Humboldt, M. Von Buch, M. Abich, Dr. Daubeny, Professor Forbes, and most of the other geologists of our time. In fact, his qualifications are so well known that there are numerous imposters ready to personify him, and the only way to avoid this deception is to go direct to his residence in the main street of Resina, or to write before-hand to secure him. His charges are 12 carlini for himself; 4 carlini for each horse or donkey, 20 carlini for a carriage to convey the party to the Hermitage of S. Salvatore, to which there is an excellent road of recent construction, and 30 carlini for a portantina with 12 bearers to ascend the cone,—the latter however is required only for delicate ladies and invalids. A great coat or cloak, and a warm neckerchief, to put on as soon as the ascent is made, a strong walking stick, and stout boots, may be mentioned as the *desiderata* of the excursion. It is no longer necessary to take provisions from Naples on ordinary occasions, as supplies may always be had at the Hermitage, or from the people of Resina who follow parties with baskets of bread, eggs, wine, and fruit, on the chance of finding customers. It is different, however, during an eruption, when hundreds of people besiege the Hermitage, clamorous for refreshment. At such a time each party should take its supplies from Naples. When a stream of lava is rolling slowly down the mountain, the kettle is boiled on

Passaparola e Soggo lino

its surface and the eggs are cooked in its crevices. Coins also are usually dropped into the lava, which is then detached from the mass and preserved as a reminiscence.

The drive from Resina to the Hermitage occupies about 2 hours. From that point we proceed on horses or donkeys for about half an hour further to the depression between Monte Somma and Vesuvius, known as the "Atrio del Cavallo," whence the ascent of the cone must be performed on foot. This ascent over the loose scorix generally occupies about an hour, varying of course with the state of the cone. At times it is necessary for the guides to assist the traveller, which they do by strapping a long leathern belt round his waist, and pulling him up the steep incline by main force.

VESUVIUS, the *το ορον Οβερβιον* of Strabo, the *Vesēvūs* of the Romans, though one of the smallest, has been for many centuries one of the most active volcanos in the world. It is situated in the great plain of Campania, about midway between the Sebeto and the Sarno, and is surrounded on all sides, except the west and south, by mountains of Apennine limestone. On the west it is open to the plain of Naples, on the south its base is washed by the Mediterranean. It is about 30 miles in its extreme circumference. Within this circuit the mountain rises by a gentle elevation to what is called the first plain, which is about half a mile above the level of the sea and about 5 miles in diameter. This plain is the basis of Monte Somma, or as it was called in the last century, Monte Vecchio. Punta Nasone, the highest point of Monte Somma, according to Baron Humboldt's barometric measurement, is 3747 feet above the sea. Monte Somma extends for about 2 miles in an irregular semicircle round the north and east of what is now called Vesuvius, the two mountains being separated by the deep semicircular valley called the Atrio del Cavallo. The height of Vesuvius itself varies with the condition of the cone after the eruptions have ceased; during the last

20 years it has varied from 4200 to 3400 feet.

For more than 300 years Vesuvius has been the only crater among the volcanic group of the Bay of Naples which has been in active eruption. That group includes Ischia, Procida, the Solfatara district, Monte Nuovo, and Vesuvius; in connection with which we may mention the extinct inland craters of Rocca Monfina, Monte Vulture, and the Pool of Amsanctus which lies in a direct line between Monte Vulture and Vesuvius. Before the Christian era, Ischia and the Solfatara appear to have been the most recent safety valves for the whole district of Southern Italy; for although Ætna is known to have been in eruption nearly 500 years before the birth of Christ, Ischia and the Solfatara are the only Italian craters which are mentioned as having been active within the period of recorded history, until Vesuvius re-kindled its long dormant fires in the reign of Titus. Having mentioned Ætna, we may here remark, in reference to the volcanic group of the island of Sicily, that Stromboli, the most northern of the Lipari islands, is the only permanently active volcano in Europe, and has been so from a period so far beyond historical record that the Greek poets called it "the lighthouse of the Tyrrhene Sea." It lies about 70 miles north of Ætna, about 120 miles S. E. of Vesuvius, and about the same distance S. W. of the extinct volcano of Monte Vulture, between which and Ætna it lies almost in a direct line. Volcano, the most southern of the Liparis, is a semi-extinct crater, which has not been in eruption within the historic period, but is still active in the production of boracic acid, selenium, and sulphur. As Vesuvius belongs to the class of intermittent volcanos, we shall not further allude to Stromboli; but we shall have constant occasion to refer to Ætna, as illustrating the alternate action of the group of the Two Sicilies.

To understand thoroughly the geological structure of Vesuvius, and to comprehend the varied phenomena of

its eruptions, there is no mode so effectual as to trace the changes it has undergone at each eruption, and in the intervals of its activity. Those who would study the subject on the spot will still find many of the ancient lavas, the dates of which are perfectly ascertained; and those who are fortunate enough to visit Naples while an eruption is in progress will compare, with lively interest, the phenomena they may witness with the details of those which former observers have recorded. In fact, these details are the best and surest exponents of the geology of the mountain. We shall proceed therefore to collect into a connected narrative, as briefly as the subject will allow, such details of the successive eruptions as have been recorded by the ancient historians, and by the contemporary observers of later times. By this means we shall be able to take a general view of the volcanic action of the whole district, and so obviate the necessity of repetition hereafter.

Before the time of Titus, Vesuvius showed no signs of activity during the historic period, though several writers of the Augustan age, as we shall have occasion to show, were aware of its volcanic origin. There is no doubt, however, that it was active both before and after the Phœnician colonisation, for there is scarcely an ancient site in its vicinity which does not bear a Phœnician name having reference to fire. It appears indeed that that wonderful people, in all their colonies in Southern Italy, as in our own county of Cornwall, conferred upon the rivers, the mountains, the headlands, and the cities which they founded, names appropriately expressive of some local peculiarity. Thus the name of Vesuvius itself was derived from the Syriac *בן שיביר* *Vo Seseer*, the place of flame; or, more literally, "in it, flame;" the name of Herculaneum from *הרה קליא* *Horoh Kalie*, "pregnant with fire;" that of Pompeii from *פום פיה* *Pum Peeah*, "the mouth of a burning furnace;" that of Summanus, one of the surnames of Jupiter, perpetuated by

the present Monte Somma, from *סומ* *Somman*, "the obscure," or "the shady;" and that of Stabia, from *שטפ* *Seteph* or *Sheteph*, "the overflow," or the "undated," a root from which, in Martorelli's opinion, the Italians have also obtained the words "stufa" and "stufajolo." From this early period, down to the establishment of the Roman domination in Campania Felix, the mountain appears to have been known as the *Mons Summanus*, and to have been crowned by a temple appropriately dedicated to Jupiter Tonans. In the "Syntagma Inscriptionum" of Reinesius, and in the Benedictine "Explication des divers Monumens" will be found inscriptions to "Jupiter Summanus;" that given by Reinesius commences "Jovi. O. M. Summano. Exsuperantissimo;" and Zedler, in his great Lexicon, mentions that an inscription was found in the last century at Capua, with the words "Jovi *Vesuvio* sacrum, D. D." The classical scholar will be reminded by these facts of a beautiful passage in the "De Divinatione" of Cicero (L. 10), which our space will not allow us to quote.

The ancient geographers recognised the volcanic character of Vesuvius from the analogy of its structure to that of *Ætna*, which several of them had examined. Their descriptions, therefore, though brief and often incidental, supply us with some instructive facts which will materially aid us in tracing the history of the mountain. Diodorus Siculus, who wrote in the reign of Julius Cæsar, was the first writer who described Vesuvius as volcanic. Born at Agryium, on the very flanks of *Ætna*, he must from his earliest youth have been acquainted with the phenomena of volcanos, especially as that mountain was twice active during the period in which he flourished. On examining Vesuvius, therefore, he found, as he tells us, many signs that it had been active in ancient times. Vitruvius, who lived in the reign of Augustus, mentions that a tradition was current in his day that the mountain had emitted flames. Strabo, who wrote a

few years later, describes it as having a truncated cone, for the most part flat, but with a barren and ashy aspect, "having cavernous hollows in its cineritious rocks, which look as if they had been acted on by fire." From these observations he inferred that the mountain had formerly been a volcano, with "craters of fire" which had become extinct from a failure of their materials. Seneca, who wrote in the time of Nero, almost repeated this opinion in the remark that Vesuvius in former times had given out more than its own volume of matter, and had furnished the channel, not the food, of the internal fire; "in ipso monte non alimentum habet sed viam." Plutarch, in his Life of Crassus, written in the time of Trajan, describes Spartacus and his gladiators as having encamped in the crater and succeeded in escaping over the flanks of the mountain when they were besieged there by the Roman army under Clodius. In this description he incidentally supplies us with an interesting account of the condition of the mountain at that period. He states that the rocky concave basin on the summit, which Strabo had described as nearly flat at the bottom, was completely filled with wild vines, and that it was accessible only by one very steep and narrow passage on the side opposite to Naples. When Spartacus and his followers had entered this pass and encamped in the plain of the crater, Clodius besieged him in his retreat by occupying the pass and cutting off, as he supposed, the only means of escape. The gladiators, however, made ladders of the vine boughs, "like ship-ladders, of such a length and so strong that they reached from the top of the hill to the very bottom. With these they all descended except one, who remained to throw down their armour to his companions and then descended himself, last of all. The Romans having no suspicion of this movement, were assailed in the rear by the gladiators who had marched round the mountain, and were put to flight with the loss of their whole camp."

From these facts it is certain, inde-

pendently of geological evidence, that Monte Somma, which now forms the northern peak of the mountain, was a part of the wall of the original crater, and that the semicircular valley, called the Atrio del Cavallo, which intervenes between it and the present cone of Vesuvius, is the remains of the pass by which Spartacus penetrated into the interior. In fact, the most cursory examination of the crest of rocks comprising Monte Somma is sufficient to show that it is the segment of a circle: and it has been proved by careful measurements that this circle, if continued round the mountain, would include the whole of Vesuvius within its area, and give a centre which corresponds exactly with the site of its cone. Monte Somma, therefore, and the mountain of which it formed a part, was the Vesuvius described by the ancient geographers from the reign of Cæsar to that of Trajan. At that time, as we have already remarked, its flanks were covered with luxuriant vegetation, and Pompeii and Herculaneum were flourishing cities at its base, though they were built on streams of lava which had flowed from the mountain at some former, but unrecorded period.

"Talem dives arat Capua, et vicina Vesevo
Ora iugo, et vacuis Clantius non æquus
Acerris. VING. Geogr. li. 234.

In the 63rd year of our era, during the reign of Nero, the mountain began for the first time to give signs that the volcanic fire was returning to its ancient channel. On the 5th February the whole plain of the Sarno was convulsed by an earthquake which did great damage to all the cities in its neighbourhood, and, as Seneca records, threw down a considerable part of Pompeii and Herculaneum. In the following year another earthquake occurred, which injured Naples and threw down the theatre which Nero, who had been acting on its boards, had left only a few minutes before. These earthquakes, which were the precursors of the greatest event in the history of the mountain, continued at intervals for 16 years.

1. The 1st eruption occurred on the

24th August in the year 79, during the reign of Titus. It is memorable not only as the eruption which destroyed Pompeii and Herculaneum, and caused the death of Pliny the naturalist at Stabiae, but also as having had the good fortune to have his nephew, the younger Pliny, for its historian. In his two well-known letters to Tacitus, describing the death of his uncle, Pliny says, that about one in the afternoon his mother called the attention of his uncle, who was then stationed with the Roman fleet at Misenum, to a cloud (of vapour) which appeared over the plain of Naples, of a very unusual size as well as shape. "It was not," he says, "at that distance discernible from what mountain this cloud issued, but it was found afterwards that it had ascended from Vesuvius. I cannot give a more exact description of its figure than by likening it to that of a pine tree, for it shot up a great height in the form of a trunk, which extended itself at the top into the form of branches; occasioned, I imagine, either by a sudden gust of air which impelled it, the force of which decreased as it advanced upwards, or the cloud itself being pressed back again by its own weight, expanded in this manner; it appeared sometimes bright, and sometimes dark and spotted, as it became more or less impregnated with earth and cinders. This extraordinary phenomenon excited my uncle's philosophical curiosity to take a nearer view of it." He then proceeds to describe his uncle's embarkation in one of his light vessels, with Rectina the wife of Bassus, who had a villa at the foot of Vesuvius, and had no means of reaching it but by sea. As he approached the coast, "the cinders, which grew thicker and hotter the nearer he approached, fell into the ships, together with pumice-stones and black pieces of burning rock: they were likewise in danger not only of being aground by the sudden retreat of the sea, but also from the vast fragments which rolled down the mountain and obstructed all the shore." Finding it impossible to land under these circum-

stances, he proceeded to Stabiae, where he perished during the night in the house of his friend Pomponianus, as we have already mentioned in our account of Castellammare. (P. 222.) In the second letter, Pliny describes more minutely the phenomena which attended the eruption:—"There had been, for many days before, some shocks of an earthquake, which the less surprised us as they are extremely frequent in Campania; but they were so particularly violent that night, that they not only shook everything about us, but seemed indeed to threaten total destruction. . . . Though it was now morning, the light was exceedingly faint and languid; the buildings all around us tottered, and though we stood upon open ground, yet, as the place was narrow and confined, there was no remaining there without danger: we therefore resolved to quit the town. The people followed us in the utmost consternation; and as to a mind distracted with terror, every suggestion seems more prudent than its own, they pressed in great crowds about us in our way out. Having got to a convenient distance from the houses, we stood still, in the midst of a most dangerous and dreadful scene. The chariots which we had ordered to be drawn out, were so agitated backwards and forwards, though upon the most level ground, that we could not keep them steady, even by supporting them with large stones. The sea seemed to roll back upon itself, and to be driven from its banks by the convulsive motion of the earth; it is certain at least that the shore was considerably enlarged, and that several sea animals were left upon it. On the other side, a black and dreadful cloud, bursting with an igneous serpentine vapour, darted out a long train of fire, resembling flashes of lightning, but much larger. . . . Soon afterwards the cloud seemed to descend and cover the whole ocean; as indeed it entirely hid the island of Capreae and the promontory of Misenum. My mother strongly conjured me to make my escape, which, as I was young, I might

easily do: as for herself, she said, her age and corpulency rendered all attempts of that sort impossible. However she would willingly meet death, if she could have the satisfaction of seeing that she was not the occasion of mine. But I absolutely refused to leave her, and taking her hand I led her on: she complied with great reluctance, and not without many reproaches to herself for retarding my flight. The ashes now began to fall upon us, though in no great quantity. I turned my head, and observed behind us a thick smoke, which came rolling after us like a torrent. I proposed, while we had yet light, to turn out of the high road, lest she should be pressed to death in the dark by the crowd that followed us. We had scarce stepped out of the path, when darkness overspread us, not like that of a cloudy night, or when there is no moon, but of a room when it is shut up and all the lights are extinct. Nothing there was to be heard but the shrieks of women, the screams of children, and the cries of men; some calling for their children, others for their parents, others for their husbands, and only distinguishing each other by their voices; one lamenting his own fate, another that of his family; some wishing to die from the very fear of dying; some lifting their hands to the gods; but the greater part imagining that the last and eternal night was come which was to destroy the gods and the world together. Among these were some who augmented the real terrors by imaginary ones, and made the frightened multitude falsely believe that Misenum was actually in flames. At length a glimmering light appeared, which we imagined to be rather the forerunner of an approaching burst of flames, as in truth it was, than the return of day. However, the fire fell at a distance from us. Then again we were immersed in thick darkness, and a heavy shower of ashes rained upon us, which we were obliged every now and then to shake off, otherwise we should have been crushed and buried in the heap. . . . At last this dread-

ful darkness was dissipated by degrees, like a cloud of smoke; the real day returned, and even the sun appeared, though very faintly, and as when an eclipse is coming on. Every object which presented itself to our eyes, which were extremely weakened, seemed changed, being covered over with white ashes, as with a deep snow. We returned to Misenum, where we refreshed ourselves as well as we could, and passed an anxious night between hope and fear—though indeed with a much larger share of the latter, for the earthquake still continued, while several enthusiasts ran up and down, heightening their own and their friends' calamities by terrible predictions." This description is not only interesting in itself, but is valuable as affording the evidence of an eye-witness as to the nature of the eruption. On this point the statement of Pliny is entirely confirmed by scientific observations on the materials which cover the buried cities. It appears from all these testimonies that no lava flowed from the crater on this occasion, the ejections consisting solely of ashes, red-hot stones, and loose fragments of volcanic materials. Many of the stones which have been found at Pompeii are not less than 8 lbs. in weight, while those which fell upon Stabie, about 5 miles further distant from the mountain, weigh only a few ounces. In addition to these fragmentary matters, the crater sent out enormous volumes of steam, which fell upon the country around in torrents of heated water, charged with the dry light ashes which were suspended in the air. This water, as it reached the soil, carried with it in its course the cinders which had fallen, and thus deluged Pompeii and Herculaneum, as we shall hereafter see, with a soft, pasty, volcanic mud or alluvium, which penetrated into places which neither scorice nor stones could have reached, and did far more damage than any other product of the eruption.

"Hic est pampineis viridis modo Vesuvius umbræ,
Presserat hic madidos nobilis una lacus;
Hæc juga, quàm Nisæ colles, plus Bacchus amavit,

Hoc nuper Satyri monte dedere choros ;
 Hæc Veneris sedes, Lacedæmone gratior illi ;
 Hic locus Herculeo nomine clarus erat :
 Cuncta jacent flamma, et tristi mersa favilla,
 Nec Superi vellent hoc licuisse sibi.”

MARTIAL, *Epig.* iv. xlv.

The effect of this eruption was to destroy the entire side of the mountain nearest to the sea, leaving, as the only remnants of the ancient crater, the little ridge on the southern flank now called La Pedamentina, and that portion of the northern wall which, under the modern name of Monte Somma, encircles about one-half of the new cone which the eruption had thrown up from the central plain, described by Strabo and by Plutarch. That cone is of course the present Vesuvius. There is reason to believe that the eruption left it much higher than it has ever been since, and, in fact, that it has been diminishing more or less down to our own time. It has, however, continued to be, with two or three exceptions, the exclusive channel of eruption, while Monte Somma, as we now see it, in all probability presents the same external features which were seen by Pliny.

2. After this great expenditure of strength, Vesuvius remained inactive for 124 years, the 2nd eruption having occurred in the year 203, during the reign of Septimius Severus. This eruption is described by Dion Cassius and by Galen, the former of whom availed himself of its occurrence to compile from the traditions of the inhabitants his well-known record of the destruction of Pompeii. From the details given of this eruption it appears that it was of the same character as the first, consisting of scorixæ and lapilli. It is important to remark that *Ætna*, which had been in eruption 39 years before the first outbreak of Vesuvius, remained dormant until 48 years after the second; in other words, from A. D. 40 to A. D. 251, being an interval of 201 years; while *Ischia*, which was in eruption 170 years before the first eruption of Vesuvius, was dormant until A. D. 1302, an interval of 1393 years.

3. In the year 472, after having

been tranquil for 269 years, Vesuvius was again in action. This eruption is described by Ammianus and by Procopius, who says that it covered Europe with ashes, which fell even at Constantinople and at Tripoli. It is also supposed to be the eruption which destroyed the villages which the poorer inhabitants of Heroulaneum and Pompeii erected on the site of those cities after their destruction in 79.

4. The 4th eruption occurred in 512, being 40 years after the third. It is supposed to be the catastrophe described by Theodoric, king of the Goths, in his letter to Faustus, which Cassiodorus has preserved in his "*Epistolæ Variæ*," and in which the king commissions Faustus to ascertain the damage sustained by the people of Naples and Nola, and to make a proportionate reduction in the tribute payable by those cities. It is also mentioned by Sigonius and by Procopius, who says that the ashes, as in the eruption of 472, were carried as far as Tripoli.

5. After a pause of 173 years, the mountain was again in eruption in 685. We are not aware that it is described by any contemporary writer. It figures, however, conspicuously in the legends of S. Januarius, and is mentioned by Platina and other authors of the 15th and 16th century, but they do not give the authority for their statement.

6. The long interval of 308 years elapsed between the 5th and the 6th eruptions; but in the meantime *Ætna*, which had been slumbering for more than five centuries and a half, burst into activity. The eruption of *Ætna* occurred in 812; and 181 years later, in the year 993, Vesuvius was in action. This eruption is mentioned by the Benedictine Rodolph Glaber, whose Chronicle will be found in the collections of Baronius, Duchesne, and Pithou.

7. After the lapse of only 43 years, the 7th eruption occurred in 1036. It is remarkable as having been accompanied by what is supposed to have been the first ejection of lava from the cone formed in 79. There is, however, a passage in Procopius which is con-

sidered to be clearly a description of lava; and if this fact be admitted, the 4th eruption must be regarded as that which produced the first flow of lava from the crater. This 7th eruption is described in a well-known chronicle by an anonymous monk of Monte Casimo, who says that the lava issued from the sides as well as from the summit of the mountain, and reached the sea. It is also worthy of remark that the monks had taken advantage of the volcanic phenomena to represent the mountain as peopled with devils, who announced the approaching death of the Prince of Capua and other enemies of the Church.

8. In 1049, 18 years later, an eruption occurred which is incidentally mentioned in the "Chronicon Cassinense" of Cardinal Leo Marsicano, Bishop of Ostia (Leo Ostiensis).

9. After a pause of 90 years, the volcano was again in action in 1139. This eruption is mentioned in the chronicle of the anonymous monk of Monte Casimo already quoted, and in the curious chronicle of the 12th century written by Falco of Benevento, the secretary of Innocent II., and included by Muratori in his collection. From this period to the commencement of the 17th century, Vesuvius was only six times in action. 167 years elapsed before the occurrence of the first of these six eruptions, in 1306, making the 10th in point of time; but in this interval *Ætna*, which had again been dormant for 357 years, was three times in eruption, and the volcanic fires of the Neapolitan district again returned to their ancient channel in Ischia and the Phlegrean Fields. In the latter the *Solfatara* poured out a stream of lava in 1198, the year in which the Emperor Frederick II. succeeded to the throne of Naples, on the death of his father Henry VI.; and in 1302, during the reign of Charles II. of Anjou, *Ischia*, which had been at rest for at least 14 centuries, discharged into the sea a lava stream of great size from a new vent in the N. E. point of the island, but without producing any cone. From that period to the present, Ischia has

enjoyed uninterrupted rest; but the adjacent coast, as we shall see hereafter, was destined to become, two centuries later, the scene of one of the most memorable events in the whole history of European volcanos.

10. The 10th eruption occurred in 1306, 4 years after that of Ischia, the interval between it and the 9th being, as we have already said, 167 years. It is described by Leandro Alberti, the Dominican, in his "Descrizione di Tutta l'Italia," printed at Bologna in 1550. After this eruption it remained dormant for another long period of 194 years; but in this interval the whole of the central and northern provinces of the kingdom, for many miles on either side of that line of volcanic action which we have already mentioned as extending from Ischia to Monte Vulture, were convulsed by one of the most violent earthquakes on record. It occurred on the 5th December, 1456, in the reign of Alfonso I. of Aragon. Many churches, towers, and houses were thrown down at Naples and upwards of 20,000 persons buried in the ruins; while from Aversa and Benevento to Campobasso and Ascoli on the north, and from Avellino and Nocera to Brindisi on the south of the line, every town was more or less affected; the total loss of life amounting, it is said, to the almost incredible number of 100,000 souls. During these two centuries of inaction in Vesuvius, *Ætna* exhibited unusual activity, six eruptions of that mountain being recorded, two of which occurred in the 14th and four in the 15th century.

11. The next eruption, which occurred in 1500, is described by Ambrosio Leone of Nola, from personal observation. It appears to have been a slight eruption, leaving, however, a crater 5 miles in circumference, and 1000 paces deep. Thirty-six years afterwards, in 1536, the volcanic district west of Naples was disturbed by earthquakes, which continued with alarming frequency for two years, during which Vesuvius showed no sign of activity whatever, while *Ætna* was in erup-

tion from 1535 to 1597. On the 29th September, 1538, after the earthquakes had convulsed the Phlegrean Fields for a day and a night, a new mountain, called *Monte Nuovo*, was thrown up in 48 hours near Pozzuoli, partly on the ancient site of the Lucrine Lake, and partly on that of the little town of Tripergola, which was buried under it. We shall not stop to describe the phenomena which accompanied this event, as they will be more properly noticed in our general account of the western district; it will be sufficient in this place to record the fact as illustrating the connection and alternate action of the volcanic group of the Two Sicilies. By this upheaval of *Monte Nuovo*, the eruptive forces of the Phlegrean Fields appear to have exhausted themselves. For more than three centuries no explosion has occurred in any part of the district, which now presents no other indications of its origin than the exhalation of gases and warm vapour from various vents hereafter to be described. The internal fires of Vesuvius appear also to have been temporarily extinguished by the same effort; for no less than 131 years elapsed from the date of the eleventh eruption before they showed any sign of having returned to their old channel. During this period of tranquillity the mountain became so covered with vegetation, that at the commencement of the 17th century Braccini found the sides of the crater, which was 5 miles in circumference, completely overgrown with brushwood and forest trees, amidst which wild boars made their coverts. At the bottom was a plain upon which cattle grazed; and in the middle of this plain, as Magliocco tells us, was a narrow ravine or fissure in the floor of the crater, through which a winding path led down for about a mile among rocks and stones to another and a larger plain, which was covered with ashes and had three small pools of warm brackish water in different parts of its surface. *Ætna*, on the contrary, exhibited, throughout the whole period, extraordinary activity; it was twice

in action between the upheaval of *Monte Nuovo* and the close of the 16th century; and six small eruptions occurred in rapid succession at the commencement of the 17th century before Vesuvius gave any visible manifestation of returning life.

12. This long inaction, the last we shall have to record, terminated suddenly on the 16th December, 1631. On that day an eruption occurred, remarkable not only as one of the greatest of modern times, but as the first since the days of Pliny which had the good fortune to obtain a contemporary historian. Giulio Cesare Braccini whom we have already mentioned, and Lanelli of Naples each made it the subject of a separate work,—the former under the title “*Dell’ incendio fattosi nel Vesuvio à 16^o di Decembri, 1631:*” the latter under the title “*Incendio del Vesuvio,*” both works appearing at Naples in 1632. In the same year Pietro Castelli published at Rome his account of the eruption, under the title of “*Incendio del Monte Vesuvio.*” Vincenzo Crucio also, in the same city and about the same time, investigated the physical condition of the mountain and the causes of its internal fire, leaving, in his “*Vesuvius Ardens,*” a striking proof of the active spirit of inquiry which had been excited by the novel phenomena of this eruption. Two years later a further proof of this was afforded by the appearance of the “*Vesuviani Incendii Historiæ,*” by the Jesuit philosopher, Salvatore Varo. In the very interesting and intelligent work of Braccini, we find a description of the mountain before, during, and after the eruption. After describing what we have already stated respecting the vegetation which had clothed the mountain during the previous century, he proceeds to say that about midsummer the plain of the Sarno was convulsed by an earthquake, which occurred so repeatedly during the six following months that many persons from Naples ascended the mountain to ascertain whether any change had taken place in the interior. They found the crater so completely filled

with volcanic matter that it was no longer concave but perfectly level with its margin, while noises like the roaring of a stormy sea were heard beneath the surface, on which they could walk with impunity. This state of things continued to the 16th of December, when, at early dawn, the cone poured out from its S. W. flank a column of vapour so loaded with ashes as to have the appearance of black smoke, and which, like that observed by Pliny in 79, assumed the form of a pine tree, followed by discharges of stones and flashes of volcanic fire. The column of vapour was carried over very nearly 100 miles of country, and was charged with such an abundance of electricity, that several men and animals were killed by the *ferilli* or flashes of volcanic lightning which continually darted from it in its course. These were succeeded by a tremendous earthquake, during which the sea retired to a distance of half a mile from the shore, and then returned with such violence that it covered the land thirty paces beyond its former limit. At the same moment the summit of the cone poured out seven streams of lava, one of which took the direction of Torre dell' Annunziata, where it formed the beds which are now visible on the west of the town, another destroyed two thirds of Torre del Greco; another destroyed Resina, which had arisen on the site of Herculaneum; another destroyed the village of Granatello and part of Portici, where it flowed into the sea and formed the bed on which the Royal Palace and La Favorita, the villa of the Prince of Salerno, were subsequently built. Not less than 4000 persons are said to have perished in this catastrophe. The ashes were carried by the wind to the shores of the Adriatic, to the Greek islands, and to Constantinople; and the eruption was followed by discharges of vapour and hot water which fell in the form of torrents of rain upon the slopes of the mountain, killed great numbers of persons at Portici and Torre del Greco, and inundated the country as far as Nola and the hills

which intervene between it and Avelino. The eruption did not entirely cease till February 1632, when it was ascertained by measurement that the cone had lost so much of its height, that it was 1530 feet lower than Monte Somma. Twelve months after Vesuvius had become tranquil, *Ætna*, which had been dormant for 9 years, burst into activity; and was again active in 1645 and in 1654.

13. In July 1660, after a rest of 29 years, Vesuvius was again in eruption. From the "Giornale del Incendio" published by Giuseppe Carpano at Rome in the same year, it appears that the crater did not throw out any lava on this occasion, the discharge being confined to showers of ashes, which cleared out the crater to an immense depth and left its walls so precipitous that the interior was inaccessible. From the margin, however, three small orifices could be seen in action at the bottom of the gulf, corresponding precisely in their position with the three pools which had been observed by Braccini 30 years before. In 1676 also, according to Ignazio Sorrentino, the crater threw up a perpendicular column of lava like that which made the great eruption of 1779 remarkable. Although unimportant as compared with the eruptions which had preceded them, these were the precursors of a rapid series of eruptions, which have continued, at intervals of a few years, down to our own time. In 1669, *Ætna*, which had been dormant for more than a century, was the scene of another great eruption, by which the Monte Rossi was formed and Catania overwhelmed by the lava which it emitted. It was again in action in 1682, the year in which Vesuvius exhibited for the first time that tendency of the volcanic force to prolong its action from one eruption to another, which has been so often witnessed in recent times, and which has silently effected in the intervals of the eruptions such important changes within the interior of the crater.

14. The next eruption, which took place on the 12th August, 1682, entirely

changed the internal as well as the external aspect of the mountain. In the interior, it filled up a considerable portion of the great gulf we have described, and from the centre threw up a small cone having on its summit a little crater which discharged ashes. So rapidly did this cone increase, that in 1685 it was visible from Naples, but the large crater in which it stood could then be entered to the bottom. In 1689, a succession of small discharges had very nearly filled up the large crater, which was two miles in circumference; and the central cone, enlarged by its crust of lava and ashes, had increased so considerably in bulk that the two cones when seen from a distance presented the appearance of one large and unbroken mountain. The summit however was lower, by about 1200 feet, than Monte Somma, showing that it had gained 330 feet in height since 1632.

15. This eruption commenced on the 12th March, 1694. *Ætna* began to discharge ashes in the same month and continued to do so till December, and it had been twice previously in action in the interval between the present and the last eruption of Vesuvius. In the beginning of April, several streams of lava flowed slowly for five entire days from the summit of Vesuvius; some took the direction of S. Giorgio a Cremano, a little hamlet north-west of Portici, and others took that of Torre del Greco which had again risen from the destruction caused by the eruption of 1631; but both streams were arrested before they reached the towns. The historian of this eruption was an Irishman, the learned Dr. Bernard Connor, physician to John Sobieski, King of Poland. He wrote two descriptions of it: the first was published at Rome in 1694; the second account appeared at Oxford, in 1698, entitled "*Dissertationes Medicæ Physiæ de antris Lethiferis; de Montis Vesuvii Incendio,*" &c. In the latter work he tells us that the people of Torre del Greco were so frightened at the approach of the lava current that they removed themselves and their

goods, and that on the fifth day the viceroy (the Duke de Medina Celi) ordered a deep trench to be cut a mile from the sea, in order to intercept it. This expedient was successful; the lava ran into the trench, and after a lapse of eight days consolidated in it. Dr. Connor adds, that the current varied from 20 to 150 paces in breadth, from 15 to 80 paces in depth, and was 4 miles in length.

16. In September, 1696, an eruption occurred, by which a considerable portion of the cone was blown away on the side nearest Torre del Greco; at the same time a stream of lava issued from the breach, dividing shortly afterwards into two branches, which lost themselves in the ravines of the mountain.

17. The next eruption, which like the former was very feeble, was described from personal observation by Antonio Bulifon, the Annalist, in his "*Compendio Istorico del Monte.*" It occurred in May, 1698, when a stream of lava flowed from the summit of the cone towards Resina. From this time throughout the whole of the 18th century the eruptions were very frequent, seldom occurring at longer intervals than ten years, and sometimes as often as twice within a few months. Twenty-one eruptions are recorded during the century, and the number might be increased if we included the minor explosions within the crater itself.

18. On the 2nd July, 1701, an eruption occurred which lasted till the 15th of the month. Two streams of lava flowed from the cone, one of which destroyed the vineyards of Prince Ottajano, in the village of that name; the other flowed towards Viulo, but without reaching it. *Ætna* was in action in March of the following year, and then remained dormant for 21 years.

19. The next eruption commenced on the 20th May, 1707, and continued till the August of that year. It had been preceded by such frequent recurrences of earthquakes, accompanied by such numerous but feeble explosions

of ashes, and was followed by so many others in quick succession, that the local writers sometimes describe the eruption as having begun in 1704 and ended in 1708. Signor Valetta, who witnessed all the phenomena of this eruption, has described them in an interesting Latin letter, which he addressed to the Royal Society of London. From his account, confirmed by those of Sorrentino and of the Prince of Casano, we learn that the eruptions which immediately preceded the great one of 1707 had been so frequent and continual that they were almost innumerable: hardly a month passed, much less a year, without one of more or less violence. The volcanic action appears to have reached its climax in the latter end of July, when internal bellowings were heard in the very centre of the mountain, but without the appearance either of smoke or flame. These were followed by emissions of smoke and volcanic fire, which at night illuminated all Campania, accompanied by such terrible noises that "the reports of the largest guns could scarcely be compared with them." The crater then ejected such enormous quantities of ashes that the whole country, as far as Castellammare, Nola, and Acerra, and even the sea, was covered with them. These clouds of ashes were accompanied, on the third or fourth day, by loud peals of thunder and flashes of forked lightning proceeding from the mouth of the crater, a phenomenon which, Sig. Valetta remarks, had not been observed for several ages before. A prodigious shower of stones was next emitted, which destroyed both men and cattle. After this a stream of lava flowed from the lip of the crater, descended slowly down the declivity of the mountain, and almost reached the sea. On the 2nd of August, at 4 in the afternoon, the crater again ejected over Naples a shower of ashes of such density that the rays of the sun were intercepted, and the city was involved in darkness like that of midnight, recalling to the mind of the scholar the eventful night described by Pliny in 79. It was impossible to recognise

either persons or objects in the streets, and those who ventured abroad without torches were obliged to return home. Every part of the city was filled with the shrieks of women; the magistrates and clergy carried the relics of St. Januarius in procession to the Porta Capuana; and the churches were crowded with people who desired to spend a night of so much terror in devotion and prayer. At length, about 2 hours after sunset, the wind shifted and the ashes were driven seaward, but the following day was somewhat dark by reason of the remains of the cloud of ashes which were still suspended in the air. The city and suburbs were for many days covered with ashes in all directions. On the fifteenth day the eruption ceased.

20. The 20th eruption, like the preceding one, has been made to include several others, though nothing can be more distinct in their characters and effects than those which occurred at intervals from 1712 to 1730. The eruption of 1712 commenced on the 18th of February, and continued with out a day's intermission to the 8th of November, when a pause of five months occurred. In the April following, a stream of lava of great size flowed from the cone towards Viulo, following the exact course of the stream of 1701, which it of course covered.

21. After a pause of 5 years the mountain was again in action on the 7th June, 1717, and was not entirely tranquil until the 18th of that month. This eruption was preceded, for about two months, by those internal movements which are the sure precursors of an eruption on a large scale. Dr. Berkeley, Bishop of Cloyne, who was residing at Naples at the time, made observations on the state of the mountain from the 17th April to the 18th June, which he communicated to the Royal Society in the same year. These observations are extremely curious, as they anticipated, by more than a century, the interesting details which the German geologist, Hoffman, has published on the operation of the subter-

raanean forces in the craters of volcanos, founded upon his elaborate explorations of Stromboli in 1831 and 1832. It appears, from Bishop Berkeley's paper, that in the month of April the crater was of large size and full of smoke, while it emitted from its inmost depths a variety of sounds, sometimes resembling the roaring of the sea and sometimes the reverberation of thunder and the discharge of cannon. When the smoke was cleared away by the wind, the floor of the crater was seen to be flat, having two small orifices, almost contiguous, in its surface. One of these, about 3 yards in diameter, glowed with red flame and threw up red-hot stones which fell back again into the gulf. In the following month these lapilli had accumulated so much around the orifice as to form a cone in the middle of the crater, which was a mile in circumference and 100 yards deep. This new cone had two mouths, corresponding in position with the orifices before observed. One mouth, at the summit, threw up every 3 or 4 minutes with "a dreadful bellowing" a vast number of red-hot stones to the height of 300 feet above the margin of the crater, and as these stones fell back perpendicularly, they of course increased the bulk of the cone. The other mouth was lower in the side of the cone and was filled with lava, "red-hot liquid matter like that in the furnace of a glass-house, which raged and wrought like the waves of the sea, causing a short abrupt noise," which has been noticed by many subsequent observers. This matter sometimes overflowed and ran down the convex surface of the cone. On the 7th June, about 2 hours before night, the eruption began with an earthquake which shook the windows and in some parts the houses of Naples. A stream of lava was emitted from the mouth in the southern flank of the cone, while the other mouth at the summit sent forth occasional showers of ashes, the sky above the stream of lava being filled with a quantity of "ruddy smoke," which we now know to be aqueous vapour loaded with fine ashes and sand, and highly

charged with electricity producing those flashes of forked lightning and peals of thunder which are mentioned by so many writers. Upon this cloud the reflection of the molten lava within the crater and in the stream itself, before it consolidated, produced that appearance of fire, which was long supposed to be real flame. On the 10th Bishop Berkeley examined the lava-current which had then descended to within 4 or 5 miles from Torre del Greco. In his progress he was covered with the falling ashes, and he describes the mountain as resounding with loud and horrible noises, and throwing up vast quantities of red-hot stones which resembled rockets in their fall. He calculated that the height to which these stones were projected was 1000 feet perpendicular above the orifice from which they issued. The lava was rolling down like "a vast torrent of liquid fire, and with irresistible fury bearing down and consuming vines, olives, fig-trees, houses, in short everything that stood in its way. This mighty flood divided into different channels, according to the inequalities of the mountain. The largest stream seemed half a mile broad at least, and 5 miles long." On the following night the mountain appeared from Naples to throw up incessantly a vast body of fire and great stones. On the 12th, in the morning, the atmosphere was so charged with ashes and smoke that it caused a kind of eclipse, and some of the ashes reached Naples. At night, the crater again threw up flames, as on the 11th. On the 13th, a pillar of black smoke was seen rising perpendicularly from the crater to a prodigious height. On the 14th, a thick black cloud concealed the mountain from the view, and the streets and houses of Naples on the next morning were covered with ashes. At night, this cloud reflected the fires of the volcano so as to produce again the appearance of flames issuing from the crater, and on the 18th, after the cloud had discharged its electricity in several flashes of lightning, the mountain became perfectly tranquil. The lava of this eruption is said to be that

which is still visible in the "Fosso Bianco."

22. The next eruption occurred in May and June, 1720. It was an eruption of ashes without lava, the effect of which, as in former instances, was to clear the crater of fragmentary matter preparatory to the formation of a new cone. Three years afterwards *Ætna* was again in action.

23. On the 26th July, 1728, an eruption took place which was remarkable for the production of a new cone within the crater of the old one, the summit of the inner cone being as high as the lip of the old crater.

24. The 24th eruption, which was a very small one compared with that which followed it, took place on the 14th March, 1730. The weather, according to the account of Dr. Cyrillus, had been so severe for some days that the neighbouring mountains were covered with snow. On the evening of the 14th the crater appeared to emit fire to a vast height, and threw out huge stones to almost half the perpendicular height of the mountain. "Pumice-stones red hot, of 2 or more ounces weight, were driven several miles like a shower of hail, and frightened away the birds. In about an hour's time the height of the flame was somewhat lessened; and through the middle of the thick smoke, flashes of lightning were often seen." On the four following days the ashes were carried by the wind to a great distance, sometimes over the sea, sometimes over the mountains on the north, and sometimes over Naples which was covered with them on the last day of the eruption. Five years later, after another pause of nearly 20 years, there was an eruption of *Ætna*, the two mountains during the whole of the 18th century appearing to alternate in their action, sometimes at intervals of five, sometimes of three, and sometimes of only one year, while on three occasions they were in operation together.

25. Two years after this eruption of *Ætna*, Vesuvius was again in full activity on the 20th May, 1737. The

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mountain had been disturbed from the beginning of the month, sometimes emitting large quantities of smoke, and at others stones and ashes. On the 17th the declivities of the mountain were covered with such a mass of white ashes that from Naples it had the appearance of being clothed in snow, as if in winter. On the 19th some slight earthquakes and volumes of black smoke from the crater gave notice of the great explosion which took place on the following day. The first shock occurred about 9 in the morning and was felt at a distance of 12 miles, showing how great an effort was making by the subterranean forces to remove the accumulated matter which confined the elastic vapours of the volcano. Vast clouds of smoke intermixed with ashes rose to a great height from the crater until an hour after sunset, when the flanks of the cone opened a little above the first plain, and poured out from this new vent a stream of lava of such vast bulk, that before it reached the edge of the plain, it had become very nearly a mile wide and had advanced 4 miles in 8 hours, its solid contents being estimated at 33,587,058 cubic feet. The Prince of Cassano, who made minute observations on this lava-current, and afterwards analysed the ejected matter at the request of the Academy of Sciences of Naples, tells us that about midnight the current had "reached the end of the plain and the foot of the low hills situate to the south. But as these hills are rugged with rocks, the greater part of the torrent ran down the declivities between these rocks and into two valleys; falling successively into the other plain which forms the basis of the mountain; and after uniting there, it divided into four lesser torrents, one of which stopped in the middle of the road, a mile and a half distant from Torre del Greco; the second flowed into a large valley (where it destroyed part of the monastery of the Carmelites and closed up the high road to Salerno); the third ended under Torre del Greco near the

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sea (where as we may still see, it became prismatic); and the fourth ended at a small distance from the new mouth. The matter of the second torrent ran like melted lead; in 8 hours it advanced 4 miles. The trees which the torrent found in its way took fire on the first touch, and fell under the weight of the matter. The torrent which ran behind the convent of the Carmelites, after setting the little door of the church on fire, entered not only by it, but also through the windows of the vestry and into two other chambers. In the refectory, it burnt the windows; and even the glass vessels that stood on the tables were melted into a paste by the violent heat of the fire. Sixteen days afterwards the matter continued hot and was very hard, but it was broken by repeated blows." Simultaneously with this eruption from the flanks of the mountain, the crater at the summit poured out a stream of lava which separated into numerous branches, and ran down the sides of the mountain in different directions. One took a course towards the Hermitage; another flowed towards Somma, where it destroyed a convent of nuns; another, and the most destructive, took the direction of Ottajano where it did immense damage to the farms. The ashes which accompanied this eruption were scarcely less destructive. We are told by an English traveller, who visited the spot at the time, and embodied the results of his observations in a paper which was read before the Royal Society in the same year, that "all the trees, vines and hedges bent under the weight of these ashes; several arms and even bodies of trees were broken with the weight; so that in some narrow roads we had difficulty to pass. Within a mile or two of the Prince of Ottajano's palace, one can scarcely form to oneself a sight of greater desolation; ten successive northern winters could not have left it in a worse condition; not a leaf on a tree, vine, or hedge was to be seen all the way we went, and some miles further, as we were informed." These statements are confirmed by the learned

Dr. Serao, who published a work descriptive of this eruption. The Prince of Cassano also describes the ashes on the ground at Ottajano as 4 palms high, and adds, that many houses were crushed by their weight. Twenty days after this eruption, the Prince observed that cold damp vapours, called "moffette" issued from the fissures and cavities, not of the new lava current but of the older ones of the plain. "They issued out of the fissures with the appearance of a cold wind, and rose about 3 palms high; then they moved along the surface of the ground, and, after a progress of some paces, disappeared. Animals which happened to graze where they passed were all killed by it; and likewise a Teresian friar, who inadvertently breathed the vapour of one of these dampas." From this description it is probable that this vapour was carbonic acid gas, mixed with sulphuretted hydrogen. On the 21st the eruption ceased, and on the next day all the lava streams had consolidated at their surface. The Prince of Cassano noticed in this eruption that peculiar structure of the lava-current which Sir William Hamilton and Dr. Clarke described more fully about half a century later. We mean the remarkable difference between the surface of the current and the more solid mass beneath it. The extraordinary cohesion of running lava, which surpasses that of all other liquid matter, causes the surface to flow more rapidly than that portion which has to pass over the inequalities of the ground. The surface, therefore, as it loses the state of perfect solution, is cracked, by the evolution of vapours from the mass and by the action of the external air, into innumerable fragments or scorix which sometimes bridge over the stream of lava below, at others fall down its sides and form a sort of channel through which it runs, or roll over the advancing stream and pave, as it were, the road over which it passes. This will explain the reason why the surface of a current generally presents the appearance of a river of ashes. After this scene of energetic action

Vesuvius made the longest pause which has occurred in the history of the volcano since 1631, having remained entirely dormant for 14 years. In the meantime *Ætna*, after an intermission of 12 years, suddenly burst into eruption in 1747, and remained in action, with occasional intervals, till Vesuvius recovered its activity.

26. The next eruption commenced on the 25th October, 1751, and continued for 25 days. The lava issued from the side of the mountain in the *Atrio del Cavallo* and in the space of 6 hours ran 4 miles into the plain, where it covered a large tract of cultivated country and destroyed many villas, farm houses, and vineyards. We have two accounts of its progress, one from the observations of Mr. John Parker, an English painter at Rome, whose description was published in the "*Philosophical Transactions*." He found that the stream varied in breadth from 60 yards to half a mile, and was about 5 miles in breadth at the point where it consolidated. He says that it filled up a ravine 60 feet deep, and raised within it a hill of scoriæ 50 feet in height. He noticed what has been remarked by many subsequent observers, that as the stream rolled slowly along it presented the appearance of the scoriæ of an iron-foundry, caused of course by the cooling of the mass, which then cracks at its surface into innumerable fragments, producing that rattling noise which so many have noticed and described. Both these accounts of eye-witnesses confirm the popular opinion of the general impenetrability of the surface. One account says that although it was red hot "no weighty body would sink in it, nor did a sharp heavy iron instrument, thrown at it with great force, make the least impression on it." Mr. Parker says that "while the lava ran red hot, a man threw a mass of the cool lava from a height upon it, which, far from sinking into it, rebounded like a ball. The motion was as slow as the common walk of a man." After this ejection of lava from the flanks of the mountain, the central cone, which had

been in action during the eruption of 1737, sunk down with about a third of the bottom of the crater, leaving an immense gulf to be filled up by the next explosion.

27. Three years only elapsed before this was accomplished by an eruption which occurred on the 3rd December, 1754. From the notes made upon the spot by Mr. Isaac Jamineau, the British Consul at Naples at that time, it appears to have been preceded for many months by a succession of small explosions within the crater, which at length become filled with an accumulation of scoriæ. In April, fire was seen issuing from one end of a crescent which was doubtless the remains of the old cone which sunk down in 1751. In September this crescent had become a small cone in the centre of the great crater. In October the bottom of the crater had been raised 30 feet by the accumulating scoriæ, beneath which the lava was seen in motion. In November the crater was filled with boiling lava to within 25 feet of its lip. In the night of the 2nd December, the eastern side of the crater opened, and poured out, in the direction of *Bosco del Mauro*, a stream of lava which was 60 feet broad at the upper part and upwards of 100 yards broad as it traversed the plain. At the same moment another stream was ejected from the S. E. side of the crater, which separated into numerous sluggish streams; all of these flowed towards *Bosco-tre-Case*, and were in motion for 49 days. After a pause of 5 years, *Ætna* was in action in March of the following year, 1755, a year remarkable for the great earthquake of Lisbon, and for others which were felt, with more or less severity, in Turkey, in Barbary, in Spain, in Switzerland, in Piedmont, in Holland, in England, in Scotland, in Madeira, and in various parts of North America.

28. The next eruption occurred on the 24th January, 1758. Signor Paderni, who was at the time superintending the excavations at *Herculaneum*, tells us that the mountain during the whole day and night

threatened again to swallow up the country. The little cone which Mr. Jamineau had noticed four years before, had increased so much at the commencement of this year, that it had risen above the crater. The present eruption entirely destroyed this cone and threw out, by violent explosions, immense quantities of lapilli, lava, ashes and fire. During the night vapours charged with ashes and illuminated by the fires of the crater, producing when seen from a distance the appearance of flames, burst out with greater vehemence; the explosions were so frequent and so violent that the houses of Portici shook continually; many of the inhabitants fled to Naples for safety, and "the boldest persons trembled." The crater continued in violent action during the next day, and exhausted itself by a few subsequent discharges of ashes. *Ætna* was in eruption in the following year, after another pause of 5 years.

29. On the 24th December, 1760, an eruption took place which was one of the most remarkable on record, having proceeded not from the crater but from several cones which opened suddenly at the base of the mountain, only one mile above the *Camaldoli* and about midway between the crater and the sea, lower down, in fact, than had ever been known before. For four days previously there had been several violent earthquakes, one of which affected the whole country for 15 miles; and no less than five occurred on the 23rd before the central crater had emitted a particle of vapour. Sir Francis Eyles Stiles, who was residing at Naples at the time, communicated two papers to the Royal Society on the subject of this eruption. He states that on the 23rd at noon when the earthquakes had ceased, "the mountain threw up on a sudden a vast quantity of black smoke, which rose to a very considerable height; and before it had diffused itself made a splendid and glorious appearance, as the sun, which was then shining, gilded the superior part of it; but soon after it dispersed

and covered all the mountain, and a great portion of the sky in that quarter. The ashes that fell from it resembled the falling of a heavy shower, seen at a distance." At the same time two large columns of smoke were seen rising from the S. E. declivities of the mountain now called *Le Piane*, followed by violent explosions which were felt at Naples. These explosions proceeded from fifteen small conical craters, pouring out vast quantities of ashes. In the afternoon of the 24th two of these craters threw out, with a dreadful noise, torrents of burning lava, which uniting shortly afterwards flowed down towards the sea in one vast current, destroying plantations, hamlets and farms, and spreading terror on all sides. The current was at last arrested, about 200 paces from the shore, by some rising ground which it was unable to pass over, but which caused it to spread, according to Mr. Mackinlay's statement, to the breadth of 400 yards and to become 17 palms in depth. During the eruption Sir Eyles Stiles visited the mountain to get a nearer view of this lava-current. Midway between *Torre del Greco* and *Torre dell' Annunziata*, he was stopped by the lava which had already crossed the road and was making towards the sea, although the vents from which it issued were a mile and a half distant. The Abate Bottis, who drew up an account of this eruption from personal observation, by order of the Cardinal Archbishop of Naples, ascertained that the stones projected by these small craters attained such a height that they took 8 seconds in falling to the ground; that a stone estimated to weigh 260 lbs. was thrown 90 paces and a lighter one 390 paces. He found that the ashes which the craters had expelled had fallen at Nola, Nocera, Sarno, and other places 12 miles distant, and that from various parts of the plain which the lava had traversed noxious gases were evolved for many months, which caused great alarm. These exhalations or *moffette* killed men and animals, and infected the water as well as the air. One of the craters was again in action in July,

1761, but it emitted only smoke and flame. Three of the craters were sufficiently large to be visible from Naples during the eruption. They still exist under the name of *Bocche* or *Voccole*, but have never since been active; the smallest has a cavity 40 feet deep. The outlines of some of the others may also be traced at the foot of the mountain.

30. The eruption of the 28th March, 1766, has been described from personal observation by Sir William Hamilton, and by Dr. Morgan of Philadelphia, who published his account of it in the "Transactions of the American Society." During the preceding 6 months the crater had been filled with very white aqueous vapour, from the midst of which columns of black smoke, or rather vapour blackened by the cinders with which it was charged, were occasionally shot up to a considerable height. While the mountain was in this state, Sir William Hamilton visited it, and found that the walls of the crater were incrustated with "salts and minerals of various colours" and that the fissures of the sides were pouring out "sulphureous steams," one of which in the course of a month threw up "a little hillock of sulphur, nearly 6 feet high, with a light blue flame constantly issuing from its top." From this description it appears that the crater was discharging large quantities of hydro-sulphuric acid gas, which the atmosphere was rapidly decomposing into its bases, hydrogen and sulphur, a process which is more frequently seen in the semi-extinct volcanos. From November, 1765, to the end of March, when the eruption of which all these were the indications occurred, the smoke continued to increase and to become more and more charged with ashes which did serious injury to the vineyards in the neighbourhood: during the night it was illuminated by the reflection of the molten-lava which was rapidly rising to the lip of the crater. A few days before the eruption the smoke shot up in the form of a pine tree, precisely as Pliny observed it in 79, and as Braccini observed it in 1631.

In the evening of the 24th March, after a slight earthquake and a discharge of ashes and lapilli, the lava overflowed the lip of the crater. The current as it flowed divided into two branches, which ran down the mountain side in the direction of Portici, but soon lost themselves in a ravine. Sir William Hamilton estimated the rate of this current at a mile an hour. He ascended the cone during the eruption, and observed the lava boiling in the interior like the liquid metal in a glass-house, precisely as Bishop Berkeley had described it in 1712, while large scorix or cinders were floating and rolling on its surface. On the 31st he observed that a little cone had been formed by the accumulated stones and scorix in the centre of the crater, from which beautiful girandoles of red hot stones, "far surpassing the most astonishing artificial fire-works," were thrown up every minute to an immense height. This cone increased so rapidly that in April it was visible from Naples. On the 10th of April the flank of the mountain opened opposite Torre dell' Annunziata, about a mile below the lip of the crater, and poured out with great violence an immense stream of lava, which flowed with such unusual velocity that Sir William Hamilton estimated it as being quite as rapid for the first mile as the Severn is at the passage near Bristol. This stream subsequently divided into three branches, which ignited the cinders of former eruptions in their course, so that as they descended to the plain they presented the appearance of a magnificent sheet of fire 4 miles long and in some places 2 miles broad. In two places, the lava, whose surface, as usual, was covered with scorix, entirely disappeared in some subterranean fissures, and emerged again at a lower level perfectly free from scorix. On reaching the plain the stream became a mass of scorix rolling over each other, forming a kind of rampart 10 or 12 feet high, and advancing slowly at a rate of about 30 feet in an hour. After this the crater discharged considerable quantities of ashes and pumice, which

did great damage to the vineyards in the neighbourhood. The mountain was not entirely tranquil until December. — On the 27th April, about a fortnight after the great eruption of Vesuvius, *Ætna*, which had been inactive for 3 years, discharged two streams of lava from a new mouth about 12 miles distant from its summit, and then took another rest of 14 years.

31. The next eruption occurred on the 19th October, 1767. After the last eruption, a plain, resembling the Solfatara, formed within the crater at a depth of only 20 feet below the rim. In the centre of this plain was a small cone which, from the beginning of the present year, threw up such an abundance of ashes and lapilli that in May its summit was visible above the lip of the old crater. In August, it began to discharge lava, which gradually filled up the valley between it and the old crater, and in September overflowed the lip and ran down the mountain in small streams in various directions. At the same time the central cone projected masses of red hot stones to a height estimated by Padre Torre at 100 feet. These streams of lava suddenly ceased on the 18th of October. On the following day the ancient precursor of a great eruption appeared at 7 in the morning, in the form of a dense column of black smoke, which assumed the form of a pine tree, and was ultimately carried by the wind to Capri. In less than an hour, the flank of the mountain opened, about 300 feet below the margin of the old crater, on the side towards Ottajano. From this point the violent rush and extreme liquidity of the lava, which is now known to be its invariable characteristic when it issues from a lateral vent, was observed by Sir William Hamilton, who thus described the phenomenon in a letter to the Earl of Morton, then President of the Royal Society: — “I passed the Hermitage and proceeded as far as the valley between the mountain of Somma and that of Vesuvius, which is called Atrio del Cavallo. I was making my observations on the lava, which had

already, from the spot where it first broke out, reached the valley, when, on a sudden, about noon, I heard a violent noise within the mountain, and at about a quarter of a mile off the place where I stood the mountain split; and, with much noise, from this new mouth a fountain of liquid fire shot up many feet high, and then a torrent rolled on directly towards us. The earth shook, at the same time that a volley of pumice-stones fell thick upon us; in an instant, clouds of black smoke and ashes caused almost a total darkness; the explosions from the top of the mountain were much louder than any thunder I ever heard, and the smell of sulphur was very offensive. . . . About 2 in the afternoon another lava forced its way out of the same place from whence came the lava last year, so that the conflagration was soon as great on one side of the mountain as on the other.” The first stream ran into the Atrio del Cavallo between Vesuvius and Monte Somma; and when it ceased on the fifth day, it was found by Sir William Hamilton and Lord Stormont to be more than 6 miles long, 2 miles broad at its extreme point near the Hermitage, and from 60 to 70 feet deep. Sir William Hamilton wrote to Dr. Maty in October, 1768, a year afterwards, that it had not then cooled, and that a stick inserted in its crevices took fire immediately. It filled up the Fosso Grande, which in one place was 200 feet deep and 100 feet broad, and had surrounded the little chapel of San Vito, just before it ceased to flow. The other current flowed with great rapidity towards Portici, which it would doubtless have destroyed, if it had not changed its course when only a mile and a half distant from the village, and proceeded to S. Giorgio a Cremano, which it actually reached. The Royal Palace of Portici, however, suffered considerably from the shock of the violent explosions which accompanied this eruption. The doors and windows were burst open, and even at Naples the concussion was felt in the same manner. So great, indeed, was the

terror of the populace that religious ceremonies were performed in all the churches; the prisoners, taking advantage of the confusion, attempted to escape from the prisons; and the mob set fire to the gate of the *Arcevescovado* because the Archbishop refused to bring out the relics of S. Januarius, which he was obliged to do on the 22nd. On the 25th the day after the lava ceased to flow, vast columns of vapour loaded with black ashes issued from the crater. This vapour was so highly charged with electricity that flashes of forked lightning continually shot from it, followed by peals of thunder. The ashes of this eruption fell in such abundance at Naples, that people were obliged to use umbrellas in the streets, and the decks of ships 60 miles distant were covered with them.

32. On the 14th March, 1770, a new vent opened in the flanks of the mountain 300 feet below the crater, on the side of *Pompeii*, and poured out a stream of lava 2 miles long and 2700 paces broad, accompanied by the discharge of volleys of stones of great size which were projected to an extraordinary height. On the 10th August, a stream of lava was thrown out from the crater, which destroyed all the vineyards at *Torre del Greco*. In December another stream descended into the *Atrio del Cavallo*, where it overran the great current of 1767; it was however much narrower, not exceeding 12 or 14 feet at its broadest part. The crater continued to be disturbed at intervals till the 14th May, 1771, when columns of black smoke, attended by a loud explosion, preceded a flow of lava from the flank, at the same spot from which the second streams of 1766 and 1767 had been emitted. This current took a course towards *Resina*, destroying all the vineyards in its way, but stopping short of the town at a distance of 5 miles from the point of issue. The king and queen, accompanied by Sir W. Hamilton, went out to see its progress over the plain, and arrived just in time to witness its fall into a deep trench, 60 feet deep, producing the effect of a

cascade of fire. On the 27th another stream flowed towards the *Bosco del Mauro*. In the following month, John Howard, the philanthropist, ascended the crater and made some interesting observations on the heat of the mountain. For some time he found no sensible heat, but on gaining the summit the thermometer, on being plunged into the ground, rose rapidly from 122° to 172°, and in two places in the crevices of the hard lava it rose to 218°. He then descended a short distance into the crater, and by two observations, carefully made, found the heat in the internal fissures to be 240°. The surface of the lava, at the same time, was merely warm and even so tolerable as to allow him to lie down on it. Shortly after the eruptions we have described, a small cone formed in the centre of the crater, and continued to enlarge itself by the accumulation of ashes till 1773, when it threw out a small stream which flowed into the ravine called the *Canale dell' Arena*.

93. In the next eruption, which occurred on the 3rd January, 1776, two streams of lava were thrown out simultaneously,—one from the summit of the cone, the other from a new vent in the N.W. flank of the mountain. Both streams flowed for 3 days, and united in the ravine of the *Canalæroni*. Sir W. Hamilton describes them as having formed channels as regular as if cut by art, from 2 to 6 feet wide, and from 7 to 8 feet deep. The scoriæ on their surface frequently formed arches or galleries over the stream, the sides and top of which were worn perfectly smooth by the passage of the red-hot lava, forming large hollow cylinders, from whose inner surface stalactites of salt were subsequently formed.

34. The year 1779 was remarkable for one of the most extraordinary eruptions on record, whether we consider its phenomena or its effects. It commenced on the 8th, and terminated on the 11th August. The mountain had been more or less disturbed for 4 months previously. In May, a cone,

15 feet high, had discharged a stream of lava from the N. W. flank, a quarter of a mile below the crater; this stream took the channels of 1776 and flowed into the valley in a stream 50 feet broad; while the little central cone, already mentioned, was filling the crater itself with lava and scorix. The stream from the flank was crossed by Sir W. Hamilton and Mr. Bowdler while it was slowly moving onwards, with no other difficulty or inconvenience than the violence of the heat on their feet and legs. On the 29th of July the flank of the central cone burst, and discharged a stream of lava into the Canale dell' Arena, which flowed down to the Canteroni. On the 3rd August, the flank of the great crater opened on the north, about two-thirds of the distance from its summit, and poured out another stream of lava towards the Piano della Ginestra. On the 5th of August, Sir W. Hamilton, who was hourly watching the approach of the eruption which he knew by experience to be impending, observed the crater emit vast clouds of pure white vapour in rapid succession, resembling, as they collected above the cone, "bales of whitish cotton." In the midst of this, a shower of stones and scorix was thrown up to a height of 2000 feet. A stream of lava next burst forth from the middle of the cone, and ran down for about 4 miles towards Portici, stopping just before it reached the cultivated ground. So great a quantity of ashes fell at Ottajano and Somma that they darkened the air, and rendered objects imperceptible at a distance of 10 feet. With these ashes were filaments of vitrified matter like spun-glass, resembling those which fell on the Isle of Bourbon in 1766. The birds were suffocated by the smoke, and the leaves of the trees were scorched and covered with saline matter. The heat was intolerable at Somma and Ottajano, and was sensibly felt at Palma, at Sarno, and at Lauro. In the evening of the 8th a dense smoke was seen to issue from the cone, followed by a discharge of scorix and stones of immense size. At 9 p.m. an explosion

occurred which shook Portici, Torre del Greco and Torre dell' Annunziata to their foundations, shattering the windows and cracking the walls of the houses, and driving the inhabitants in terror into the streets. "In an instant," says Sir W. Hamilton, in a letter to Sir Joseph Banks, "a fountain of liquid transparent fire began to rise, and gradually increasing, arrived at so amazing a height as to strike every beholder with the most awful astonishment. The height of this stupendous column of fire could not be less than three times that of Vesuvius itself, which rises perpendicularly near 3700 feet above the level of the sea. Puffs of smoke, as black as can possibly be imagined, succeeded each other hastily, and accompanied the red-hot, transparent, and liquid lava, interrupting its splendid brightness here and there by patches of the darkest hue. Within these puffs of smoke, at the very moment of their emission from the crater, could be perceived a bright, but pale electrical fire, briskly playing about in zig-zag lines." The light emitted by the column of fire was so vivid that the whole country was illuminated for 10 miles round, and Mr. Morris, who was residing at Sorrento, found it sufficiently strong to enable him to read the titlepage of a book. The fall of the column was partly perpendicular, and partly on the country around Ottajano. That which fell perpendicularly covered part of Monte Somma, the entire cone of Vesuvius, and the Atrio del Cavallo, burying, in the latter, the channels of the former eruption and filling up the valley to the depth of 250 feet. That which fell upon the country destroyed woods and vineyards, broke in the roof and windows of the palace of the Prince of Ottajano, of the king's hunting-lodge at Caccia Bella, and of nearly every house in Ottajano, which was then inhabited by 12,000 souls. Some of the stones which fell upon the town were found by the monks to weigh upwards of 100 lbs., and the depth of ashes in the streets, when visited by Sir W. Hamilton and Count Lamberg a few days afterwards, was

4 feet. Another hour of such an eruption would have made the town a second Pompeii. After the fall of this column, the black cloud increased considerably and advanced towards Naples, so highly charged with electricity that it was feared that the forked lightning which was constantly darting from it would destroy the city. One or two flashes were seen to strike Monte Somma, as it passed, and to ignite the grass and brushwood on its surface.

The whole city was in a state of agitation; the theatres were closed; religious solemnities were performed in all the churches, and the relics of S. Januarius were carried in procession. On the 9th, after again emitting enormous volumes of white and black vapour, another explosion occurred more violent even than that of the previous day; but as there was little wind, the column was almost perpendicular and the greater part of its bulk fell back into the crater, the remainder flowing down the Atrio del Cavallo for about 3 miles. Some of the large stones which were thrown off by this column as it rose, burst like rockets into a thousand fragments, which assumed a spherical form as they fell. Others were found to inclose fragments of trachytic lava, corresponding in character with the older lava of Monte Somma. On the 11th there were some violent explosions with another discharge of lava, accompanied by the formation of mountains of "white cotton-like clouds, piled," says Sir W. Hamilton, "one over another to an extraordinary height, and forming such a colossal mass over Vesuvius as cannot possibly be described or scarcely imagined." In the evening the eruption ceased, but the rain which fell was so impregnated with volcanic dust and salts that the vegetation of the whole district was greatly damaged. The ashes of this eruption fell at Benevento, Monte Mileto, Foggia, and Manfredonia, a distance of 100 miles, which they traversed in the space of 2 hours.

— In May, 1780, after a pause of 14 years, *Ætna* was in eruption, as it was again in April, 1781. In 1783 the

two Calabrias were desolated by the tremendous earthquakes which destroyed Scylla and ruined many other cities and villages, with the loss of 40,000 persons.

35. On the 12th October, 1784, an eruption commenced which continued, with little intermission, to the 20th December, 1785, being an interval of 5 years from the previous eruption. The lava flowed from the rim of the crater, and from some fissures in the flank opposite Monte Somma, dividing into three or four streams which ran in regular channels towards the village of S. Sebastiano, but stopped before they had reached the cultivated grounds. Meanwhile a more important change was going on within the crater, which in 1783 was an inaccessible precipitous gulf, 250 feet deep. A new cone was formed by the present series of eruptions, and so rapid was its increase that before the close of 1785 it had risen considerably above the rim of the old crater. On the 12th November, a month before the eruption ceased, more than 100 shocks of an earthquake were felt in the neighbourhood of the mountain.

36. The next eruption occurred on the 31st October, 1786, and lasted to the end of November. The new cone threw up suddenly vast quantities of scorix, followed by a stream of lava which descended for six days into the plain, destroying several vineyards 4 miles distant from the crater.

37. In July, 1787, the crater discharged a small stream of lava into the Atrio del Cavallo, which ran till the 21st of December. In July of the same year *Ætna*, which had been inactive for 5 years, threw out clouds of ashes and lapilli, some of which fell at Malta and Gozo. In was also in action in March, 1792.

38. The 38th eruption, the most important which has been recorded since those of 79 and 1631, commenced in February 1793, and continued with scarcely any intermission till Midsummer, 1794. It appears to have attained its crisis on the 15th June in the latter year, for which reason it is frequently

described as the eruption of '94. Twice during the interval of six years which had elapsed since the last eruption, the crater had thrown out small streams of lava from its summit (in July, 1788, and in September, 1789), but they were very feeble efforts and never passed beyond the valleys of the mountain. In fact, from the first appearance of the new cone in 1784, the principal effect of the internal action for 10 years appears to have been the enlargement of the cone and the consequent obstruction of the old crater by thick deposits of solid matter. In February, 1793, Dr. E. D. Clarke traced the lava to its source and found it issuing from an arched chasm in the side of the cone "with the velocity of a flood," having "all the translucency of honey," and flowing in regular channels "cut finer than art can imitate, and glowing with all the transparency of the sun." In August of the same year he observed the crater throwing out girandoles of fire: "millions of red-hot stones were shot into the air full half the height of the cone itself, and then bending, fell all round in a fine arch." In September similar columns of lucid fire ascended from the crater, and as they fell in magnificent parabolic girandoles, covered nearly half the cone with fire. At the beginning of 1794 the crater was nearly filled with the accumulations of these explosions; and as the summer approached, the mountain gave frequent indications that a great eruption was impending. The most significant of these was the tremendous earthquake which occurred on the 12th June, and which was evidently an effort of the volcano to clear itself of the matter which closed the channels of its internal fires. The whole Terra di Lavoro, from Monte Tifate to the sea, and even the country beyond it as far as Benevento and Ariano, was convulsed by this earthquake. The Palace of Caserta was severely shaken, and many of the public buildings of Naples still bear marks of the violence and intensity of the shocks. Between Vesuvius and the coast the surface of

the ground was seen to undulate like a sea, from east to west. At the same time the water of the springs and wells was considerably diminished, a sure sign, in the opinion of the people of the district, that a great eruption was at hand. Subterranean noises were heard at Resina, and smoke was seen to issue at various points between Torre del Greco and the mountain, showing that the earthquake had produced a fissure about 3000 feet long, down the S. W. flank. In the night of the 15th another earthquake, or rather a succession of short smart shocks, rent the houses of Naples and of all the towns in the vicinity. These were immediately followed by the appearance of a small mouth in the ancient trachytic strata below the base of the great crater, at the place now called Pedamentina, and not much more than 1600 feet above the level of the sea. This mouth, after a loud explosion, discharged a stream of lava and immense volumes of black smoke. A few minutes later, another mouth opened lower down, followed by others in quick succession and at distinct points, but all in a perfectly straight line towards the coast between Resina and Torre del Greco. Fifteen of them were counted by Sir W. Hamilton, who believes that others existed but were concealed by the smoke. The explosions from these mouths or *Vescole*, some of which are still visible near Resina, resembled the reports of heavy artillery and were accompanied by a hollow subterranean murmur like the roaring of the sea in a storm. Each mouth was distinctly seen from Naples to pour out in parabolic lines a separate stream of lava. These streams united as they approached the plain and rolled on steadily towards the sea. At the same time the smoke collected above them into an enormous mass of clouds, which overspread the whole mountain and was ultimately carried by the wind towards Naples, discharging in its course incessant flashes of forked lightning, one of which struck the Palace of the Marquis of Berio at San Giorgio, and suggested grave appre-

bensions for the safety of the capital. The lava, as it approached the sea, at first threatened Resina; it then altered its course and advanced towards Torre del Greco, in a vast broad stream, over the old current of 1631. It passed right through the centre of the town, buried the cathedral, several churches, and the greater part of the houses under a mass of stone varying from 12 to 40 feet in thickness, and advanced 380 feet into the sea in a mass 1204 feet wide and 15 feet high, presenting as it cooled a tendency to assume the columnar structure of basalt. This stream, which may still be examined at Torre del Greco, was so unusually fluid that only 6 hours elapsed from the time when it left the crater till it entered the sea, a distance of rather more than 4 miles. As it passed through the town it illustrated in a very remarkable manner, by its effect on metallic substances, the intense heat of liquid lava even when it has been exposed for 6 hours to the atmosphere, and has reached a distance of 4 miles from the point of eruption; iron was swelled to three or four times its original volume, and its internal structure entirely changed; silver was rapidly melted; glass was converted into a stony milk-white mass; and other metals underwent changes such as we can produce only by the most intense artificial heat. Breislak, who witnessed and described the eruption, calculated by careful measurements that the bulk of the whole stream of lava was 46,098,766 cubic feet, and that the bulk of that portion of it which entered the sea was 13 millions of cubic feet. During these lateral eruptions the central cone of Vesuvius had been entirely inactive. On the morning of the 16th, however, it opened near the summit on the side of Ottajano, and discharged with great velocity a stream of lava which destroyed a wood on the eastern side of the mountain, but stopped before it reached the cultivated plain. The ashes which accompanied this discharge fell at Taranto, and at places in Calabria 140 miles distant. When

the smoke cleared away, it was seen that the south-eastern side of the crater towards Bosco-tre-Case had fallen in, reducing the height of the margin on that side (which Saussure in 1773 had found to be exactly equal to that of Rocco del Palo, the north-western margin) by 426 feet. The sea at Torre del Greco, on the 17th, when Sir W. Hamilton examined the lava in a boat, was in a boiling state at the distance of 100 yards from the new promontory, and no boat could remain near it on account of the melting of the pitch on her bottom. For nearly a month after this eruption the crater poured out enormous quantities of aqueous vapour, loaded with fine white ashes almost in the form of powder. This vapour becoming condensed in the atmosphere descended in torrents of heavy rain, deluging the whole country with volcanic mud, and producing in the end more damage than the lava had effected, particularly to the vineyards of Somma, to the cultivated land in the vicinity, and to the cattle which were destroyed by thousands. Many of the ravines, like the Fosso Grande on the declivities of Monte Somma, were nearly filled with this mud, which hardened as it cooled, forming a white pumiceous tufa which may still be examined *in situ*. Of the loss of life caused by the lava at Torre del Greco no accurate estimate was ever formed; but it is believed to have been confined to the sick and aged, whom there was no time to remove from their houses, and who were therefore left to perish in their beds. Of the 18,000 inhabitants the greater part were known to have escaped to Castellammare; others escaped to Naples, and some, whose retreat was cut off before it was possible to quit their homes, saved themselves on the tops of the houses, and on the next morning escaped by walking over the scoriaceous surface of the moving lava. Among the vineyards overwhelmed by the lava was the celebrated one which produced the *Lachryma Christi*, and which is said to have comprised 3000 acres. After this catastrophe, King

Ferdinand made great efforts to induce the inhabitants of Torre del Greco to rebuild their town on a safer spot, but they refused to abandon the old site and began immediately to build another town on the still smoking material which covered their former habitations. This was the last eruption of Vesuvius in the 18th century, though some very interesting changes were effected before the century entirely closed. Several minor cones formed in the inner circumference of the crater, and, by a succession of small explosions, completely filled the crater with lava and scorix, giving to its surface the aspect of a rough rocky plain intersected by deep fissures from which volumes of vapour were continually evolved. This state of things lasted, with very few changes, till 1822; the eruptions which occurred in the first 20 years of the present century having been altogether unimportant compared with those of the last. In fact, with two or three exceptions, the eruptions of the last 50 years have happily been more remarkable for the changes which they have made in the height and structure of the crater, and for the extended knowledge which modern science has derived from them in regard to their mineral and chemical products, than for the effects they have produced on the surrounding country. After the eruption of 1794 Vesuvius remained for 10 years in comparative repose. *Ætna*, however, was four times in action in the same period,—in 1798, 1799, 1800, and 1802.

39. The next eruption commenced on the 12th August, 1804, and continued at intervals to the 3rd December. For some days previously it had given warning of its approach by the diminution of the water of the springs and wells. It began with a violent explosion of stones and scorix, followed by a discharge of lava from an opening in the western side of the crater. On the 29th August another stream of lava was thrown out from an opening in the southern flank of the mountain not much above the plain. This stream separated into several branches,

which ran down with great rapidity into the cultivated tract between Camaldoli and the Casino del Cardinale. Like all lavas which issue from lateral vents it was extremely fluid, much more so indeed than any Vesuvian lava of which we have any previous record. It ran the first $\frac{1}{4}$ of a mile in 4 minutes, and in 5 hours it reached the sea, near Torre Scamata.

40. Another eruption occurred on the 12th August, 1805. It had been preceded by a very severe earthquake, called the "Tremuoto di S. Anna" from having occurred on the 26th July, the festival of St. Anne, the Virgin's mother. The lava overflowed the rim of the crater on the S. E. side, and was seen by Baron Humboldt, M. Von Buch and M. Gay-Lussac, who were on the mountain at the time, to shoot suddenly from the margin to the base of the cone in a single instant. It descended with great velocity into the plain in three streams more remarkable for their velocity than their size; but when they reached the level plain above Torre del Greco the velocity decreased, and they advanced at the rate of only 18 inches in a minute; one of them crossed the high road on the east of Torre del Greco, where it may still be seen; the other stopped short about midway between that town and Torredell' Annunziata. The crater continued more or less active till the 27th January, 1806, when, after a loud explosion, the cone poured out vast quantities of smoke in spiral wreaths. On the 31st May, there was another explosion of the same kind.

41. On the 4th September, 1809, a new mouth opened on the S. E. side of the crater and discharged a stream of lava which separated into two branches shortly after it left the mouth; these branches united afterwards and flowed into the Atrio del Cavallo, having formed a regular island in their course. On the 5th there was an eruption of ashes and lapilli, most of which fell back into the crater, where they of course augmented the existing obstruction to the free action of the volcano. In con-

sequence of this repeated accumulation of matter within the crater, to an extent far greater than the small eruptions could relieve, scarcely a year passed without an explosion or an earthquake down to 1822. Although they were mostly confined to the crater itself and were rather explosions than eruptions, they were watched by many geologists with great interest, not only on account of their rapid succession, but as affording a very instructive opportunity for studying the phenomena of an intermittent volcano. During the remainder of 1809 the mountain was more or less disturbed, and continued so for about 4 years without any important change. In September, 1810, there was some activity within the channel of the crater, the glare of the internal fire being strongly reflected by the mass of vapour which hung continually over the mouth. In December, 1811, a smart earthquake gave renewed indication that the mountain was making another effort to clear its channel. While Vesuvius was in this state, *Ætna* was twice in action,—in March, 1809, and in October, 1811.

42. The long-threatened eruption took place on the 12th June, 1812. At 9 in the morning loud explosions were heard, followed by large volumes of dark smoke and showers of scorise and fine ashes, which lasted for an hour and then ceased. At 11, the explosions were heard again, and shortly afterwards the crater poured out an immense quantity of smoke, which completely covered the horizon and glowed like fire with the reflection of the molten lava which filled, but did not overflow the crater. This was followed by showers of scorise, renewed at intervals until the 14th, when the crater was covered by an immense column of smoke.

43. The next eruption occurred on the 24th and 25th December, 1813. On the first day, there was an earthquake which was felt at Naples and other places in the neighbourhood. On the 25th, a violent discharge of ashes was immediately followed by an eruption of lava, which divided into

two branches and flowed over the older streams in the direction of Torre del Greco. About 10 at night one of the currents ceased, while the other continued running during the night and part of the next day towards Boscore-Case and Bosco Reale. On the morning of the 26th an explosion, resembling the report of a park of artillery, shook the houses of Naples but without doing any damage. A column of vapour and ashes was next emitted from the crater, by which the horizon was obscured. As the second stream of lava was still in motion, the inhabitants of Torre dell' Annunziata and the neighbourhood were at one time apprehensive that they might share the fate of Torre del Greco in 1794. The king went in person to watch the progress of the lava and to reassure the people, as the current had taken a course which secured them from danger. Among the scientific men who visited the mountain during the eruption was M. Menard de Groye, who published a description of it.

44. After a pause of 4 years the mountain was again in action on the 22nd of December, 1817. Two small cones had formed in the crater during the 4 years which had elapsed since the last eruption; and as the crater had for many years been nearly full with the accumulated matter of former explosions, their summits were visible above the rim of the crater. From the 22nd to the 26th of December in this year, these cones poured out streams of lava, one of which took the direction of the Camaldoli, the other that of Bosco del Mauro, but without reaching either, although they were still in motion at the beginning of 1818. The latter may still be traced between Bosco del Mauro and Torcigno, on the S. E. side of the mountain. The crater continued to be more or less disturbed during 1818 and 1819. In the latter year, and again in 1820, it was visited by Sir Humphry Davy, who published an account of his observations in the "Philosophical Transactions." *Ætna* was in action in May, 1819.

45. In April, 1820, the mountain exhibited rather a series of eruptions from many vents than a single great eruption. It commenced by a discharge of lava from a new mouth in the southern flank of the mountain above the Pedamentina, followed by the appearance of 6 others on the N. W. flank, at the base of the great cone; these 6 mouths were in a direct line clearly indicating the course of a long fissure. From each of them a stream of lava issued, which united and flowed into the Fosso della Vetrana, where it may still be examined. The Crown Prince of Denmark, who was in Naples at the time, made repeated visits to the mountain during the eruptions, and embodied his observations in a very interesting paper which he read before the Naples Academy of Sciences. These lateral mouths continued to emit lava during the month of May, and even later, as did also the two little cones within the great crater, one of which, in October, was higher than the Punta del Palo, and ultimately increased so much that the two cones became incorporated as one central cone.

46. The next and more important eruption occurred on the 22nd of October, 1822. Early in the year the water in the wells had diminished, and the mountain had begun to give signs of energetic action. A new mouth had opened near the 6 lateral mouths of the last eruption; and on the 23rd and 24th February it poured out several streams into the Atrio del Cavallo, accompanied by tremendous explosions in which vast quantities of sand and ashes were projected to an immense height, with enormous masses of red-hot stones, which fell back again into the crater, considerably augmenting the size of the cone, and producing an effect so grand that 4000 persons ascended the mountain on the 23rd, and 10,000 on the 24th, for the purpose of witnessing it. The great eruption occurred on the 22nd October. The people had been prepared for it by the water again sinking in the wells for 2 days previously. About noon the crater sent

out volumes of dark smoke, which were followed by loud explosions and rumbling noises within the mountain, which were heard throughout the whole district. About 5 A. M. on the next morning, the great cone of scoriae which Lord Minto had previously ascertained by barometrical measurement to be 4156 feet above the level of the sea, and 185 feet higher than the Rocca del Palo, the highest northern margin of the crater, suddenly fell in with a loud crash. At the same time, the crater, after several shocks and explosions of great violence, threw out two streams of lava, one of which overran the old lavas in the direction of Bosco-tre-Case, the other ran down the west side of the mountain towards La Favorita and Resina, but stopped short at Il Monte. It was at first half a mile in breadth, but it afterwards spread to the breadth of a mile. Another stream subsequently issued from a new cone, and followed the same course; and a fourth issued from one of the old *vesocole* of 1794, and ran in the direction of Torre del Greco. These lavas were not cool when Sir Charles Lyell examined them 6 years afterwards, but were still evolving much heat and vapour from fissures in their surface. The ashes and stones thrown out on this occasion were so large and numerous that they entirely closed the high road from Resina to Torre dell' Annunziata. For 4 days they fell in one continued shower, and they did not cease entirely for 12 days. The atmosphere was so filled with fragmentary ashes and black augitic sand that the day was converted into dark night, and the inhabitants could not venture to leave their houses without a lantern. This darkness prevailed as far even as Amalfi, where the ashes and sand fell to a depth of several inches. Their depth on the declivities of the mountain was ascertained by Monticelli to be 3 feet; their depth on the plain was from 16 to 20 inches. At Pompeii, Professor J. D. Forbes found the deposit to be several feet deep in places where it had drifted; in the more exposed parts

it varied from 2 to 3 inches, as may still be seen near the Amphitheatre. To add to the destruction which such showers of sand and ashes invariably occasion, the vapour from the crater, which rose to the height of nearly 10,000 feet above the level of the sea, discharging from every part incessant flashes of forked lightning, was subsequently condensed into showers of heated water which fell in torrents, and literally deluged the villages of S. Sebastiano and Massa, filling the houses with alluvium, and suffocating several persons who lingered too long in their homes. The rain was observed by Mr. Scrope to form, as it descended, small pisolitic globules by the attraction and aggregation of the more minute particles of fine volcanic sand, many of which may be examined *in situ* at Pompeii in thin layers mixed with a loose brown tufa. The larger stones were in many instances propelled to an extraordinary distance. One mass of augitic lava, many tons in weight, was thrown into the gardens of Prince Ottajano, 3 miles distant. Some large lumps of chloride of sodium, or common salt, were also ejected. On the 26th, a cloud of exceedingly fine ashes issued from a fissure in the margin of the crater, and descended, or appeared to descend, the side of the mountain, causing great alarm among the inhabitants of the plain, who supposed it to be a stream of boiling water, until Monticelli ascertained its real character, and satisfied the people that they had been misled by an optical delusion. By this eruption, the enormous mass of lava and scoriæ which for more than a quarter of a century had filled the interior of the great crater was entirely expelled, leaving an irregular gulf, 3 miles in circumference, and, according to the local writers, 2000 feet in depth, the sides of which were inaccessible on account of their steepness and their constant evolution of steam combined with hydrosulphuric and hydrochloric gas. But if the depth were really 2000 feet from the highest point of the existing summit, it must have ra-

pidly decreased by the dilapidation of the sides, for Mr. Babbage, on examining the crater soon after the eruption, ascertained that its bottom was 938 feet below the highest part of the rim, and 459 feet below the lowest part; and Mr. Scrope made a similar calculation of the depth. By this destruction of the cone the height of the mountain was reduced at once from 4200 to 3400 feet, and it was still further diminished in the course of a few months by the continued decomposition of the rim and sides of the crater. In this state the crater remained almost without change till 1827, when it began again to fill up from one or two small cones, which threw up large quantities of scoriæ, and in a short time had increased so much in bulk as to form again one central cone.

47. On the 14th March, 1828, an eruption took place from a rent in the side of the crater on the eastern side, and about 15 feet in circumference. It commenced with the appearance of a vast quantity of smoke, followed by a discharge of stones and of some lava. On the 20th the opening had increased to 60 feet, and the ejected matter had formed a regular cone around it to the height of 50 feet, from which volleys of stones were discharged at intervals of 10 minutes. On the 22nd, two other openings much larger than the first made their appearance in the sides of the crater. After numerous explosions, one more violent than the rest threw the three apertures into one, and from the huge mouth thus formed an immense column of black smoke ascended, assuming the well-known form of a pine tree. A stream of lava subsequently issued, which ran round the base of the crater into the Atrio del Cavallo. Immense showers of stones were thrown out from this orifice, most of which fell back into the crater, and raised its bottom so considerably that when it was measured in 1830, the bottom was found to be only 160 feet below the lowest part of the rim and 640 feet below the highest, so that in 2 years it had been raised nearly 300 feet. In the

midst of this bottom was seen the central cone formed by the last eruption; it was a small black cone, in incessant action, precisely as Sir Charles Lyell observed it in November, 1828, when the ejections were so frequent as to render the crater inaccessible. The eruption terminated by several shocks of an earthquake, which did considerable damage at Ischia, and are said to have been felt at Reggio and at Palma in Calabria.

48. The next eruption commenced on the 18th September, 1831. In the 3 years' interval which had elapsed since the last eruption, the small black cone in the centre of the great crater had been so rapidly increasing, that when this eruption occurred it was more than 150 feet above the circumference of the crater, which was filled to the brim with the accumulated scorix, forming a level surface around the cone. M. Von Buch had long before asserted that, when a crater is in this state an eruption is not far distant; and so it proved on this occasion. The cone on the 18th Sept. discharged a stream of lava which ran rapidly down the mountain in the direction of Bosco Reale, but stopped short before it reached it. On the evening of the 25th December, another stream was poured out from the cone in the direction of Resina, flowing in the broad channel formed by the great current of 1822, in which it stopped before it reached the cultivated ground. But other streams succeeded it at intervals of a few weeks, and the eruption did not finally cease till February, 1832, when it was found that the crater had been cleared of a large quantity of the accumulated scorix, and that the greater part of the tall cone had been carried away. In 1833, M. Abich found that the flat surface of the crater was rent by a fissure, along which were several small cones emitting vapour; and two other cones of larger size were soon afterwards formed in other parts of the surface. In the beginning of August, the water in the wells at Resina began to diminish rapidly. On the

12th large crevices opened in the entire circumference of the crater. On the 13th three streams of lava descended from these crevices in the direction of Torre del Greco, dividing, as they advanced, into numerous streams. They were followed at an interval of 2 hours by two streams which flowed rapidly towards the Canteroni. A violent explosion was subsequently heard within the mountain, followed by the appearance of a tall column of vapour, the lower portion of which was reddened by the reflection of the volcanic fire. But all these were only the precursors of the great event which was nigh at hand.

49. In August, 1834, the long threatened eruption occurred which entirely changed the aspect of the mountain. It commenced with a series of violent explosions which shook the country far and wide. Two streams of lava were next thrown out, one from the lip of the crater, the other from the base of the old cone, accompanied by flames which M. Abich assures us were those of hydrogen. One stream took a westerly course and lost itself in the Atrio del Cavallo; the other flowed down the S. E. declivities of the mountain in the direction of the Bosco Reale, advancing with great rapidity in a vast current nearly half a mile broad, and from 18 to 30 feet deep, which did not stop until the 8th day when it had reached a distance of 9 miles from the point of issue. Nothing could stop its progress. It engulfed the entire village of Caposecco, sparing out of 500 houses only 4 which were standing on the outskirts. It swept through the richest vineyards, destroyed about 300 acres of cultivated land, and injured or overwhelmed nearly 800 houses. Pompeii was at one time in imminent danger of being buried a second time under a more impenetrable material than that which now covers it; and so intense were the apprehensions excited for its fate that the King, the Queen, the whole Court, and thousands of persons from Naples, thronged the scene of desolation to watch the pro-

gress of the lava, and to render aid to the unfortunate peasants who were flying to Castellammare for shelter, with all the furniture and effects which they had time to save. So great was the heat evolved by this stream of lava that it was felt sensibly at Sorrento. While this scene was going on upon the plain, another of a very remarkable character was proceeding within the crater. The cones observed by M. Abich in 1839 and all the remains of the old cone were swallowed up; the plain which formed the floor of the crater sunk down into two abysses, so deep that it was impossible to see their bottom, and divided from each other by a narrow ridge of lava. The structure of the central cone was thus thrown open, and was found by M. Abich to have been formed not by upheaval but by successive deposits of scoriæ which had fallen back into the crater during previous eruptions. In the following year there was a violent conflagration within the crater which lasted for 2 hours.

50. The next eruption began in March, 1838, and continued at intervals to January 1839, when it reached its climax. On the 6th March, in the former year, several streams of lava were poured out from the great crater, which descended slowly and in long narrow lines into the valleys of the mountain, accompanied by the discharge of enormous masses of red-hot stone, like rockets, into the air, and by repeated explosions within the crater, which shook the mountain to its very base. At night, for a considerable period, the vapour and smoke which were continually collecting over the crater reflected the internal fire with so much intensity that a great flow of lava was expected daily. It was not however until January, 1839, that the long threatened eruption took place. Two streams of lava were ejected from the lip of the crater, one of which took the direction of the Fosso Grande, which it entirely traversed; the other ran down the mountain towards Ottajano, near the great stream of 1794. At the same time the crater threw

out upon Torre del Greco and Torre dell' Annunziata, such an extraordinary quantity of lapilli and small black sand composed of regular crystals of angite and tourmaline, that the roofs of houses, the fields, and the roads were covered with them, in some places to the depth of several feet. So great was the difficulty of removing so extensive a deposit, that 3 months afterwards we found every flat surface in the neighbourhood of these towns still covered with it. The crater was completely changed by this eruption; the interior assumed the form of a vast funnel 300 feet deep, the sides of which were so much inclined, that it was accessible to the very bottom, in the centre of which was a small mouth which was continually emitting vapour. In this state it remained till 1841, when a small cone began to form over the mouth in the centre, and to pour out lava and volleys of red hot-stones in such abundance and with so little intermission that in 4 years its bulk was sufficiently increased to make its summit visible from Naples, while the old crater was almost filled to the brim with the ejected matter.—Between this and the next eruption, in 1845, *Ætna* was in action, after a long period of rest.

51. On the 22nd April, 1845, Vesuvius was again active, and continued so during the greater part of the year. A small narrow mouth opened at the base of the central cone, now enlarged to a considerable bulk, and threw out a small stream of lava which excited great interest among the geologists who attended the Scientific Congress at Naples in that year, on account of the very beautiful crystals of *leucite* which it contained, a mineral which had previously been supposed to be confined to the ancient lavas of Monte Somma.

52. Another eruption occurred on the 13th November, 1847. Ten small streams of lava overflowed the great crater on the E. and S.E. sides, and ran down towards Ottajano, Bosco Reale, and Torre del Greco, but stopped at a short distance from the woods

which surround these towns. A new but very small mouth at the same time formed on the flanks of the mountain, which for some time threw up stones and scorix with a great noise, accompanied by immense quantities of sulphurous vapour. From this time to the great eruption of 1850, the mountain was seldom tranquil for more than a month or two at a time, and for nearly 3 years it may be said to have been in continual action. In December, 1849, scarcely a week passed without an eruption, small indeed in quantity, but very interesting to the mineralogist on account of the crystals of leucite which were again found in the ejected lava.

53. The next eruption, which was one of the most important of the present century, commenced on the 6th February, 1850, and continued very nearly to the end of the month. The crater, as we have seen, was very nearly full to its brim when the eruption of 1845 occurred, and the subsequent discharges of lava, frequent as they were, failed to relieve the crater of the continual accession of new materials which were emitted from the central cone. At the beginning of 1850 this cone was about 70 feet higher than the rim of the old crater. It was composed entirely of scorix, and had at its summit a funnel-like crater of about 3 miles in circumference and 100 feet deep. In the month of February, the usual noises and rumblings within the mountain and the appearance of columns of vapour from the cone gave indications that a great eruption was at hand. On the 7th the S. E. side of the cone opened and poured out such a mass of lava into the valley or depression which separated the cone from the rim of the old crater, that the latter gave way to an immense extent, and in a few days was nearly levelled with the Atrio del Cavallo. The lava descended the declivity in three streams, two of which advanced upon Ottajano, where they destroyed part of the villa and a large tract of the estate belonging to the Prince of Ottajano; the third took the direction of the Bosco Reale.

It continued to flow during the two following days, accompanied by tremendous explosions, which shook the country for miles round. On the 9th the lava was advancing with a front of about a mile and a half broad and 12 feet deep upon Bosco Reale, which it reached and enveloped shortly before 9 at night. The wood, containing some magnificent specimens of oak, ilex and ash trees was entirely consumed, and though thousands of people were on the spot who by a little energy might have cut down and carted away the most valuable timber before the lava had had time to reach the spot, not a single effort was made to save it. So also with the farming stock and utensils of the *Masseria*, the growing crops, the doors and bells of the Franciscan church which was embosomed in the wood, all of which were left to share the fate of the trees. The farmhouse itself was also overwhelmed, though from its solidity of construction it was the only object which gave even a temporary check to the advancing current. The only thing which it was thought desirable to remove was the powder from the magazine at Torre dell' Annunziata, as the town was at one time in danger not only from the lava but from the continual fall of red-hot stones. With regard to the trees, the larger ones, as soon as they were enveloped in the flowing lava, poured out jets of hissing steam from every knot and branch, and then exploded with a loud noise, leaping into the air to a height of from 10 to 20 feet. As they were consuming, they threw up a stream of bright clear flame, like that which Sir William Hamilton had observed when trees were destroyed in one of the eruptions of the last century. The lava ran on until it nearly reached the sea, and was estimated to have covered a surface of 14 square miles. Of the destruction which it caused, the traveller who visits the spot will require no written description. We shall only add that during the whole of this eventful night the mountain was enveloped in a prolonged shower of red-hot scorix

and stones of a considerable size, producing a magnificent effect, but entailing imminent danger on the many hundred persons who ascended the crater to witness it. A young Polish officer was struck by a mass of large size, which caused a compound fracture of the thigh, lacerating the artery in such a manner that he bled to death on the spot. An American officer was struck on the arm by a stone, which stripped the flesh down to the elbow, producing alarming hæmorrhage, which endangered his life for many days. A soldier of one of the numerous detachments which the government sent out to keep order, and two other persons of the country, were killed, while many others sustained contusions more or less severe. The result of this eruption was an entire change in the aspect of the mountain. The walls of the old crater, as we have seen, were broken down; and the central cone was reduced considerably in height and form. Its summit, when the eruption ceased, was about two miles in circumference; its crater was 150 feet in depth, and accessible to the bottom. Two years after this eruption, on the 20th August, 1852, *Etna* which had been for 9 years in a state of repose, burst suddenly into action. After three violent shocks of an earthquake, two new craters were formed in the Val del Bove, near the lateral cone called the *Pietra Musara*, from which clouds of minute ashes were ejected over the lands on the S. E. of the mountain, and were carried by the wind in columns towards the sea. These showers of ashes were followed by an eruption of lava which descended rapidly down the valley in three streams. One of these, flowing through the narrow valley of *Calanna*, took the direction of *Zafferana*, advancing upon that town through the rich and highly cultivated lands which form the lower border of the woody region, in a stream 2 miles wide and 9 feet deep; the second flowed towards *Milo*, and the third towards *Giarre*. The latter streams stopped in a few days, but that which took the direction of *Zafferana* con-

tinued to flow until it had nearly reached the town, producing the most serious apprehensions for its safety. On the 8th November a new crater opened which poured out a fresh stream of lava which reached the *Val del Sciano* and again threatened *Zafferana*. This was one of the most formidable eruptions of modern times, and it is said to be more than 500 years since the lava flowed in that direction.

Summary. — It may be useful to the traveller to have a brief summary to the principal facts established by the eruptions we have described:—1. When the crater is nearly full, or its surface is little depressed below the rim, an eruption may be considered near at hand. The periods of rest occur when the crater has been thoroughly cleared out by a violent explosion, or by a series of small eruptions. 2. When the mouth of the crater is so small or so narrowed by accumulated matter as to be unequal to the free discharge of the lava collected in its central channel, lateral openings are formed, which, being nearer the source of heat, discharge the lava in a state of much greater liquidity than the great crater, and often in parabolic curves. For this reason the lava currents from lateral vents are always the most rapid in their movements. 3. The cohesion of a lava current, which exceeds that of any other substance known, causes it to move slowly in the form of a tall ridge or embankment, the surface of which gradually loses its state of fluidity as it becomes cooled by the external air, and aided probably by the escape of heated vapour from the interior of the mass, cracks into innumerable fragments or *scoriae*, some of which form a deep layer on the surface, while others roll down the sides and make a regular channel for the advancing current. As these *scoriae* are bad conductors of heat, they enable the central portion of the mass to retain its fluidity for several days, and to preserve its heat for months and even years; at the same time they make it possible to cross the current as it flows.

4. The earthquakes which precede and accompany an eruption are caused by the effort of the elastic vapour to clear the internal channel when it is obstructed by masses of solid matter. When the channel is not obstructed, the eruption is seldom preceded by an earthquake. 5. The smoke from the crater is aqueous vapour, more or less dark as it happens to be charged with ashes or volcanic dust. When this vapour condenses in the atmosphere it descends in the form of warm rain, which assumes the consistency of mud when the vapour is loaded with ashes in excess, and when the ground on which it falls is covered with fine fragmentary matter. 6. The fire which is seen above the crater during an eruption is not flame, but the reflection of the molten lava within the crater upon the clouds of vapour which accumulate above it. 7. The lightning which is seen playing and darting from the edges of these clouds, and which is known by the local name of *ferilli*, is not, as was once supposed, the explosion of inflammable gases, but the development of the electricity which is now known to be produced by the rapid condensation of vapour into water, and by the conversion of water into steam at high temperatures and under pressure. 8. The diminution of the water in the springs and wells, and the sudden retiring of the sea, are popularly regarded as infallible indications of an approaching eruption. Numerous theories have been adduced in explanation of these phenomena, but as our purpose is simply to record facts, we abstain from entering into a question which has been so long the subject of conflicting opinions.

Geological Structure.—After the details we have given of the changes which have been effected in the mountain during 1800 years, it will not be necessary to describe its geological structure at any length. *Monte Somma* being the representative of the ancient volcano, we may repeat what we stated at the commencement of this article, that the semicircular crest of rocks which enclose Vesuvius on the north, and the little ridge of *Peda-*

mentina on the south, agreeing as they do in geological character, are the remains of the walls of the original crater destroyed by the eruption of 79, and that the cone which was then formed became a distinct mountain under the name of Vesuvius. The lower beds of *Monte Somma*, like the lower strata of the plain around it, are of enormous thickness, and consist of a compact whitish pumiceous tufa, supposed by M. Von Buch to have been formed under the sea before the mountain was upheaved. This tufa contains some shells of species still existing in the Mediterranean, and numerous erratic blocks of limestone altogether different from that of the district, some of which have been rendered so crystalline by the action of heat, that they may almost be called marble. They contain marine shells of the supercretaceous group, and some of them have been found with serpulæ of great delicacy attached to them. Upon these beds of tufa, which constitute more than half the height of *Monte Somma*, rest numerous concentric layers of leucitic lava, which are supposed to be the lavas of the ancient eruptions of the mountain. They incline regularly outwards at an angle of 26°, and alternate with beds of scoriæ to the very summit, the whole being intersected by numerous dikes of compact lava, many of which intersect each other. The best place for examining these strata and dikes is the *Fosso Grande*, a ravine in the flanks of *Somma* on the left of the road to the *Hermitage*, where they have been exposed by the action of torrents. From that point the traveller will be able to notice the remarkable regularity with which each concentric layer rests on the one below it, a circumstance which is adduced by recent geologists as a proof that they have all been deposited in succession by a cone of eruption, and not thrown up by a crater of elevation, as M. Von Buch supposed, in which case it is contended that they would have been cracked and interrupted by frequent faults. In the *Fosso Grande* may also be examined

the enormous beds of hard white tufa, which were formed by the volcanic mud in the eruption of 1794. In connection with Monte Somma we may record the remarkable discovery of Professor Ehrenberg, who found in the pumice which covers Pompeii the siliceous casts of fresh-water infusoria; even in fragments which had evidently been subjected to great heat. Sir C. Lyell explains this fact by suggesting that the infusoria had been left behind when the water which was charged with them was evaporated from the pumiceous rocks, implying, therefore, that the fires had been fed by fresh-water lakes; while Dr. Daubeny considers that the tufa had been formed under fresh-water charged with the infusoria, and that the pumice had been produced from this tufa by volcanic heat, which was insufficient to destroy the casts of the animalcules.

A deep semicircular valley, which has frequently been mentioned in the preceding pages under the name of the *Atrio del Cavallo*, separates Monte Somma from Vesuvius. It was no doubt a portion of the original floor of the ancient crater, but it is now covered by accumulated streams of modern lavas.

Vesuvius, the cone of the eruption of 79, has been ascertained at various times, when portions of its sides have been rent or broken down, to be composed of distinct concentric beds of trachytic lava, scorix, and tufa, which dip outwards in all directions from the axis of the cone, at an angle varying from 30° to 40° at their upper part, but become horizontal as they approach the precipitous escarpment of Monte Somma. The lowest of these beds are intersected by vertical dikes of augitic lava from 400 to 500 feet high, which, from their hard compact structure and the depth at which they occur, are evidently more ancient than any eruption of which we have record. They are best examined on the N. side near the Punta del Palo. This point, the highest margin of the crater, has been the subject of frequent measurements in connection with the south-eastern margin opposite *Bosco-tre-Case*, which

has been the lowest point of the crater since it was broken down by the great eruption of 1794. When Saussure measured these margins barometrically in 1773, he found that their height was equal—3894 feet above the level of the sea. In 1794, Poli, by barometric measurement, calculated the height of Punta del Palo at 3875 feet, while Breislak calculated it at 3920 feet. In the same year the south-eastern margin, after the eruption, was found to be 426 feet lower than Punta del Palo. In 1805, Baron Humboldt, on whose authority we give these figures, measured both points barometrically in conjunction with M. Gay Lussac and M. Von Buch, and ascertained their relative heights to be 3856 and 3414 feet above the level of the sea. In 1810, Brioschi, by trigonometrical measurement, calculated the height of Punta del Palo at 4079 feet; in 1816 Visconti, by trigonometrical measurement, calculated it at 3971 feet. In 1822, Lord Minto, by frequent barometric measurements, calculated the height of the same point at 3971 feet, while Mr. Poulett Scrope calculated it at 3802, Monticelli and Covelli at 3990, and Baron Humboldt at 4022 feet—the height of the south-eastern margin in the same year, according to Baron Humboldt's measurement, being 3491, a difference of 531 feet. It would appear, therefore, that the Punta del Palo has been gradually increasing in height since Saussure's measurement in 1773; and Baron Humboldt, after noticing the remarkable correspondence of the various results obtained by so many observers with differently constructed instruments and with different formulæ, observes that "one is almost involuntarily led to hazard the bold conjecture that the northern margin of the crater has been gradually upheaved by subterranean forces."

Minerals.—The catalogue of Vesuvian minerals, which was formerly so voluminous, has been reduced to 40 by the accurate observations of Professor Scacchi, who found that many of the new ones, which were named in honour

of men of science, were identical with others which had long been known. By far the greater part are found in the trachytic lava of Monte Somma, or in the erratic masses of limestone and conglomerate, which were ejected by the ancient eruptions of that mountain. Vesuvius produces only augite (the most abundant of the whole), hornblende, mica, sodalite, bæisakite, sulphur, magnetic iron, and leucite (ejected). Somma produces, in addition to these, sarcolite, giobertite (carbonate of magnesia), fluorine, apatite (phosphate of lime), quartz crystals, lapis lazuli, and mellilite (varieties of which have been called at various times humboldtite, somervillite, and zurlite), all of which are rare; aragonite, monticellite (silicate of magnesia and lime), sommitte or nepheline (davite and cavolinite); anorthite (christianite and biotite); comptonite, haiiyne, sircon, atacamite (chloride of copper), mica crystals, olivine, felspar, sal ammoniac, idocrase (Vesuvian, the pyramidal garnet, the most beautiful variety found in the European continent, occurring always in erratic blocks and never in lava), meionite, pyroxene (epidot), titaniferous iron, limonite (hydrate of iron), and others of more common occurrence which it is unnecessary to specify.

It remains only to add that the present king erected, in 1844, a Meteorological Observatory near the Hermitage, for the purpose of collecting precise scientific information on the phenomena of the volcano. It is built in the form of a tower, on a hill 2080 feet above the sea. The upper floor contains apartments for the accommodation of the royal family when they visit the mountain. It is under the direction of Signor Melloni, whose scientific attainments will doubtless make it celebrated by observations of great value to future geologists.

No account of Vesuvius would be complete which failed to notice the red and white wine produced by the vineyards which luxuriate in the soil formed by its decomposed scorice. This wine, which has become celebrated under the

somewhat profane name of *Lachryms Christi*, is now so well known in England that it is unnecessary to describe its qualities; we shall therefore content ourselves with quoting Chiabrera's eulogy of its merits, observing merely that the white kind appears to surpass the red in retaining the peculiar delicacy of flavour which distinguishes it from all the other wines of Campania:—

“ Chi fu de' contadini li si fadiscreto,
Ch' a sbigottir la gente
Diede nome dolente
Al vin, che sovra gli altri li cuor fa lieto ?
Lacrima dunque appellarassi un raso,
Parto di nobilissima vendemmia ?”

HERCULANEUM.

After a visit to Vesuvius, the traveller will no doubt take an early opportunity of exploring the cities which were its victims.

The entrance to Herculaneum is at Resina, at the corner of the main street and the Vico di Mare. The fee is 6 carlini to the two custodi, who provide torches. The excavations called the Scavo Nuovo, are at a little distance from the theatre, but are under the control of the same custodi.

We have already mentioned in our account of Vesuvius that Herculaneum, Pompeii, and Stabie, were destroyed by the eruption of 79,—Herculaneum by the volcanic mud or alluvium which followed the eruption, Pompeii and Stabie by the showers of ashes ejected from the crater. Stabie, which has been sufficiently noticed in our account of Castellammare, was the first of the three cities which was re-discovered; but it was so partially disinterred that it has altogether ceased to present any object of interest to the traveller beyond the site on which it stood. Herculaneum was discovered by the accidental opening of a well in 1706, about 50 years before any regular excavations were made at Pompeii.

The three cities were situated at nearly equal distances from each other,—Herculaneum on the site now occupied by Portici and Resina, about 4 miles from Naples; Pompeii, on the right bank of the Sarno, between 4

and 5 miles from Herculaneum; and Stabiae on the rising ground on the northern flank of Monte S. Angelo, between 3 and 4 miles from Pompeii.

Herculaneum, originally a Phœnician city, derived its name, as we have stated in our account of Vesuvius, from two Syriac words, signifying "pregnant with fire." The antiquaries of the last century expended a vast amount of learning in endeavouring to connect its history with that of Hercules, whom Dionysius of Halicarnassus mentions as its founder, but there is now no doubt that it dates from the earliest period of the Phœnician colonisation. The city was subsequently occupied by the Pelasgi and the Oscans, under whom it became one of the 12 cities of the Tyrrhene confederation. With those cities it became involved in the Samnite War. It was besieged by Spurius Carvilius the Consul, and captured B. C. 294, after it had twice repulsed him with heavy loss. It was subsequently restored to liberty, and admitted to an alliance with Rome. In the year 80 B. C. it joined the other cities in the Social or Marsic Wars against Rome, and was again besieged and taken; but the inhabitants were soon afterwards admitted to the rights of citizenship, with the privilege of being governed by their own laws under the Demarchs and Archons, of whom mention is made in many of the inscriptions which have been discovered. Several distinguished Romans subsequently had villas in the city or its suburbs; Servilia, the sister of Cato of Utica and the mother of Brutus, resided here in a villa given to her by her lover Julius Cæsar; Tiberius confined his niece Agrippina in another villa, which was destroyed by her son Caligula, in order to obliterate every trace of the cruelties she had suffered.

The city is described by Strabo as situated on a promontory which ran out into the sea and was "remarkably exposed to the S. W. wind, which made it unusually healthy;" and L. Sisenna, the historian, who flourished B. C. 91, describes it as built upon a hill between two rivers, and surrounded by

low walls. Its port was called Retina, a name which is still preserved in the modern Resina; while the "Herculis Porticum," which Petronius mentions as the portico of a temple dedicated to Hercules at the western extremity of the city, is commemorated in the present town of Portici. The name of Herculaneum lingered on the spot till the middle of the 5th century, when the eruption of 472 destroyed the cluster of villages which the poorer citizens erected on the ancient site after the destruction of the city in 79. The promontory mentioned by Strabo was ascertained, during the excavations of the last century, to be about 95 feet within the present line of coast, the intervening space being entirely filled with volcanic matter.

In the year 69 A. D., Herculaneum, like the other cities of the plain, was seriously injured by the earthquake mentioned in our account of Vesuvius. Seneca, indeed, leads us to suppose that some part of it was overthrown by the catastrophe:—"One part of Herculaneum was destroyed, and what remains is not safe." In 79, before it was possible to repair this damage, it was overwhelmed by the torrents of volcanic mud mixed with ashes, for which the eruption of that year was remarkable. This mud, formed of the trachytic matter of Monte Somma, filled the houses and public buildings nearly to their roofs, and hardened as it cooled into a coarse tufa, upon which, in subsequent eruptions, showers of ashes, volcanic alluviums, and streams of lava, were deposited to a depth varying from 70 to 112 feet. Sir William Hamilton calculated that these accumulations were the work of six distinct eruptions. In the course of his investigations he found that they are divided by thin strata of good soil, in which Lippi has discovered large numbers of land shells, which are supposed to have burrowed into them to hibernate during the intervals of the successive deposits.

As we have described the phenomena of the eruption of 79 in our account of Vesuvius, it is unnecessary

to repeat the details in this place. It will be enough to state that nothing has been found to support the popular opinion that the destruction of the city was attended by any great loss of life. On the contrary, the discovery of only two skeletons in the earlier excavations, one of which, from the cast made by his extended arm upon the tufa, would appear to have perished in the attempt to save a bag of gold, is a convincing proof that the inhabitants had time to escape; while the very rare occurrence of portable articles of value, such as money and plate, is an additional proof that they were able to remove nearly all the valuables which they could carry. We have already said that the poorer classes of citizens returned to this spot after the catastrophe, and built some small villages which preserved the name of their ancient home down to the 5th century. During the existence of these villages, the Romans are supposed by Winkelmann to have made an attempt to excavate the ruins. He quotes a dedicatory inscription, containing the words "*signa translata ex abditiis locis ad celebritatem thermarum severianarum,*" &c., as a proof that the objects to which it referred were taken from one of the buried cities; but the Abate Fea is of opinion that the term "*abditia loca*" is of too frequent occurrence in inscriptions to be regarded as a confirmation of this idea. From the 5th to the beginning of the last century, the existence of Herculaneum was entirely forgotten. Portici and Resina had been built upon the volcanic matter in which it was entombed, and no one among the many thousands who, for 13 centuries, enjoyed their villeggiatura on the delightful shores of Granatello, ever dreamed that he was dwelling upon a city as venerable, and once as conspicuous, as Naples.

The discovery of that city is due to one of those fortuitous circumstances which have so often brought to light the hidden treasures of classical Italy. In 1706, the Prince d'Elbœuf, of the house of Lorraine, was building a casino at Portici, near the mole of Granatello, which he was anxious to

decorate with all the antiques he could procure. Hearing that a person in the town, in deepening a well, had discovered some fragments of mosaics, he not only purchased them, but bought likewise the right to search for more. This well, which is now believed to be ancient, at least in its lower part, was about 90 feet deep. Near the bottom was an opening, like those which were sometimes formed by the early Christians in the catacombs, and still more like those which they formed in the wells of Malta for purposes of concealment. From this hole a passage led into what were considered the foundations of houses and streets, but which we now know to be the walls of the Proscenium of the Great Theatre. For 5 years the Prince continued his excavations, without appearing to have any precise knowledge of the history or the name of the site he was exploring, and brought to the surface numerous statues and fragments of ancient sculpture, some of which he sent to France, while he reserved others for the decoration of his villa. At length, on the discovery of one of the female statues of the Balbus family, Count Daun, the Austrian viceroy, thought it necessary to interfere. He claimed, in the name of the State, the restitution of all that the Prince d'Elbœuf had discovered, and peremptorily prohibited the removal of any other fragments. Some of the statues which the Prince restored, Count Daun sent to Prince Eugene, with whom he had served under Marlborough, and who had been his commander at the siege of Turin. Prince Eugene had them placed in his garden at Vienna, and, at his death they were purchased by Frederick Augustus, King of Poland and Elector of Saxony, for his palace at Dresden, where they are still preserved. The war of the Quadruple Alliance soon called Count Daun into more active service, and the viceroys who succeeded him held office for too short a period to give any thought to the discovery of antiquities. For 30 years, therefore, nothing more was done, and the excavations were again for a time forgotten.

In 1736, two years after the accession of Carlo Borbone (Charles III.), his majesty determined to build a palace at Portici. In the progress of the building, Colonel Alcobier, a colonel of engineers, who had the direction of the works, represented to the king the existence of the well from which, in former times, so many antiquities had been obtained. His majesty immediately ordered the excavations to be resumed, but unluckily appointed the colonel to superintend them. This officer, zealous as he was, was quite ignorant of antiquities, of which, indeed, we have a proof in the fact that on finding an inscription in bronze letters, he had the letters detached from the marble without copying the inscription, in order to send them to the king. He next explored and defined the great theatre, and found the bronze chariot with its four horses and containing a figure of bronze gilt, which is supposed to have stood over the entrance of the building. This quadriga had evidently been thrown down by an earthquake. for it was lying broken on the ground; but instead of collecting the parts for the purpose of being restored, Colonel Alcobier had them carted off to Naples, and thrown, like rubbish, into the Castel Nuovo, where they lay until the continued pilfering of the fragments induced the Government to have the remainder melted down into busts of the king and queen! He removed the pictures from the walls without preserving any trace of the beautiful arabesque frames in which many of them were fixed, and allowed those which did not appear so well preserved as the others to be destroyed. Fortunately for the interests of art, this system was not of long continuance. The colonel of engineers was removed to a more congenial post, and was succeeded by a Swiss, Carl Weber, a man of taste and a scholar, to whom, says Winckelmann, "the world is indebted for all the discoveries which have since been made." He arranged all the objects as they were found in the Royal Palace of Portici, and Couart the sculptor was

S. Ital.

employed under his direction, to repair and restore the sculptures which required reparation. At this time so little was known of the true character of the site, that Mr. William Sloane, who was in Naples in 1740, in communicating an account of the excavations to the Royal Society, of which his relative Sir Hans Sloane was then president, described it as being considered by some to be a city called "Aretina in the time of the Romans, and by others Port Hercules, where the Romans usually embarked for Africa, and which it is was thought was overwhelmed by an eruption of Vesuvius, not sunk by earthquakes, as Cuma, Baia, and Tripergola." In the same year, Mr. Knapton descended the well and explored the theatre and the parts adjacent. He found in the interior of the theatre "great quantities of timber, beams, and rafters, broken and entire, lying some one way, some another, and all converted into perfect charcoal, except where it had been moistened with water, where it was like rotten wood." The whole place was filled with fragments. The buildings were all of brick, covered with thin plates of marble; the columns were of the same material, coated with stucco; and the walls were decorated with paintings. Mr. Knapton mentions also two columns of oriental alabaster, which had been got out of the well and sold for 50,000 ducats. As the well, which up to this time had formed the only means of access, was found both difficult and dangerous for the removal of such large objects, a new entrance was opened in 1750, in the form of a long narrow passage sloping gradually down into the theatre, at a point where it is about 65 feet below the level of the street. This passage is cut through the solid lava, and is still the only way by which the traveller can descend to examine the building.

About this time the king was induced to bring the Abbe Bajardi from Parma, and confer upon him an annual pension of 5000 ducats, in order that he might write a complete account of the researches which his majesty intended

to prosecute in the buried cities of the district. The result of this arrangement, after the labour of five years, was the production of Bajardi's well-known, but ludicrous, work in 5 large quarto volumes, in which he attributed the origin of the cities to Hercules, and indulged at such length in his favourite theory, that he began with the history of the demigod *ab ovo*, and had scarcely brought him to the 24th year of his age at the close of the 5th volume. The king, weary of this learned pedantry, insisted that the abbé should write a history, not of Hercules, but of Herculaneum; the reproof, however, produced only a dry catalogue of the antiquities, unenlivened either by historical research or artistic criticism.

The excavations commenced by Carlo Borbone were continued for nearly 50 years, but with so few hands, so little system, and in so desultory a manner, that it is more surprising that so much was brought to light than that so much was left for future explorers to overcome. At the same time it must be admitted that the difficulties of excavating such a site were as considerable as the expense was serious to an exchequer drained by the costs of frequent wars. In the first place, the buildings were filled with a material which there were no means of removing in any quantity to the surface; the hard tufa and the harder lava presented a perpetual obstacle to the progress of the workmen; and these impediments were increased by the existence of the two towns on the overlying strata, which made it dangerous to excavate without taking immediate measures to support the soil above by an extensive series of substructions: For these reasons, as soon as one portion was excavated, it was immediately filled up with the soil and rubbish from the site which was next explored: shafts or cunicoli were sunk from the surface in every direction, from the palace to the fort of Grana-tello, and from that point along the coast almost to the eastern boundary of Resina, in order to ascertain the limits of the city; while, for the secu-

rity of the houses above, it was found necessary to build up some of the most interesting edifices as soon as they had been rifled of their treasures. Of these excavations nothing is visible but the theatre, one-third of which lies under the main street of Resina, and the Scavo Nuovo: but as the present king has recently resumed the works, there will soon probably be many more objects to engage our attention.

The Theatre, when first discovered and cleared, must have been a very instructive object. It is now so encumbered with the walls and buttresses which have been built to sustain the soil above it, that it is little better than a labyrinth; and although some of its details are very interesting as illustrating the architecture of a Roman theatre, the traveller will obtain a much better idea of the general arrangement of such a structure from that which he will meet with at Pompeii than from the most laborious exploration of these ruins. It will be sufficient, therefore, to say that the area consists of 18 rows of travertine seats, about a foot high by $3\frac{1}{2}$ feet wide, divided into six compartments or *caeci* by seven lines of stairs, called by the Romans *vomitoria*. These stairs led directly from the semicircular inclosure of the orchestra to a broad corridor, above which was a portico with three other rows of seats. The orchestra is about one-third larger than that of San Carlo, which is the largest modern theatre in Europe. At the back of the stage the volcanic matter which filled the building still exhibits the cast of a mask of the human face, formed, no doubt, while the mask was hanging against the wall. Sir W. Hamilton says that, when it was discovered, it was as clear as if it had been taken in plaster of Paris, and that the mask itself was perfectly uninjured. Over the architraves of the side-entrances to the orchestra, two inscriptions were found; one recording the erection of the theatre at the cost of Lucius Annius Mammianus Rufus, Judge and Censor; the other recording the name of the architect, Numitius

the son of Publius. In a passage at the back of the stage is the well which will always be regarded with curiosity as the origin of the excavations. The ground about it is generally very slippery, so that it must be approached with caution. At the right end of the Proscenium is a rectangular base, which evidently bore a statue. It has the following inscription:—“*Ap. Claudio. C. F. Pulchro. Cos. Imp. Herculanenses. Post. Mort.*” At the left end is another with the inscription “*M. Nonio Balbo Præt. et Procons.*” The roof and upper part of the building was supported, at equal distances, by large square pilasters, built of compact red brick with marble cornices, the surface being lined with marble slabs or decorated with paintings, many of which may now be seen in the Museo Borbonico. Statues of Drusus and Antonia, and of the Nine Muses, were found in other parts of the building. In the galleries, stalactites are continually forming by the percolation of water charged with carbonate of lime. It is calculated that the theatre would contain 8000 persons.

Although there is nothing beyond this theatre to be seen at this end of the city, it may be interesting to state briefly the principal discoveries which were made. On the S. side of the theatre was a temple, standing with it in a public square in which the two equestrian statues of the Balbi were found. From this temple a broad straight street, paved, like Pompeii, with blocks of lava, bordered with foot-pavements and lined with porticos, led, almost due east, to another temple, standing also in a public square. In the middle of the street on the north side was a basilica, 228 feet long and 132 feet broad, surrounded by a portico of 42 columns, and decorated with paintings. Over the entrance was an inscription recording that M. Nonius, the Proconsul, erected it, with the gates and the city walls, at his own cost. On the south of the street of the basilica were several squares of buildings arranged on a regular plan and with perfectly-straight streets, like the modern city of Turin. On the

east of these was a large temple; and on the west, divided by what appeared to be the course of a small stream, was a large villa—a very noble structure, surrounded by a garden, with an oblong square court before its western front, surrounded by a portico supported by fluted columns of brick stuccoed. In the angles were termini and busts; in front of each terminus was a fountain; and in the middle of the court was a larger fountain decorated with statues. Some beautiful mosaics and sculptures were found in this villa; and in one of the rooms was discovered the Library of Papyri of which we have given an account in our description of the Museo Borbonico. The cabinet which contained the papyri had been converted into charcoal by the action of fire. The papyri themselves so closely resembled the same material that many of them were mistaken for it, and were either broken to pieces or thrown away; and the remainder would have shared the same destruction, if their regularity had not induced a more minute examination which led to the detection of written characters. Some of the richest treasures in the Naples Museum were discovered in this villa. It would be tedious to give a complete list; but we may mention the statues of Æschines, Agrippina, the Sleeping Faun, the Six Actresses, the Mercury, the group of the Satyr and the Goat; the busts of Plato, Scipio Africanus, Augustus, Seneca, Demosthenes, &c.; and some interesting specimens of furniture, linen, and food.

The *Scavo Nuovo* was commenced near the sea in 1828, and continued till 1838. The principal objects discovered were some Roman tombs, apparently constructed subsequently to the eruption of 79, and a country villa of great extent, called the Casa di Argo, from a painting of Io guarded by Argo which was found in the dining-room. This villa also supplied the museum with some valuable specimens of eatables. Near it was found an inn, in which a skeleton was noticed. But the interest of this excava-

tion was materially diminished by the discovery that the site had been examined by the Prince d'Elbœuf more than a century before.

During the whole of these excavations nothing was found which gave any certain knowledge of the size of the city; and the explorers do not appear to have reached any one of the gates or any portion of the walls. It was ascertained that the city was built on a stream of trachytic lava which must have been coeval with the ancient eruptions of Monte Somma; and that the houses, as far as they were explored, were generally of one story.

The traveller who is desirous of returning to Naples after leaving Herculaneum may vary his route homeward by passing down the Vico di Mare to *Granatello*, with its little Fort and Mole, beautifully situated on the shores of the bay, and commanding the most charming scenery. *Le Mortelle*, behind the Fort, is a public promenade, which wants nothing but an English landscape-gardener to make it delightful in itself, and an agreeable ornament to the Royal Palace in its rear. The ancient line of the Herculanean coast has been ascertained to be exactly midway between the northern boundary of the Mortelle and the southern extremity of the Palace. The geologist will be much interested by a walk along the coast from the Mole of Granatello to Torre dell' Annunziata. There is scarcely a spot in the whole distance of 9 miles, which does not afford instructive evidence of the mode in which the lava-currents have entered the sea. The little promontories and cliffs are all composed of lava, which in many places exhibits a columnar structure.

POMPEII.

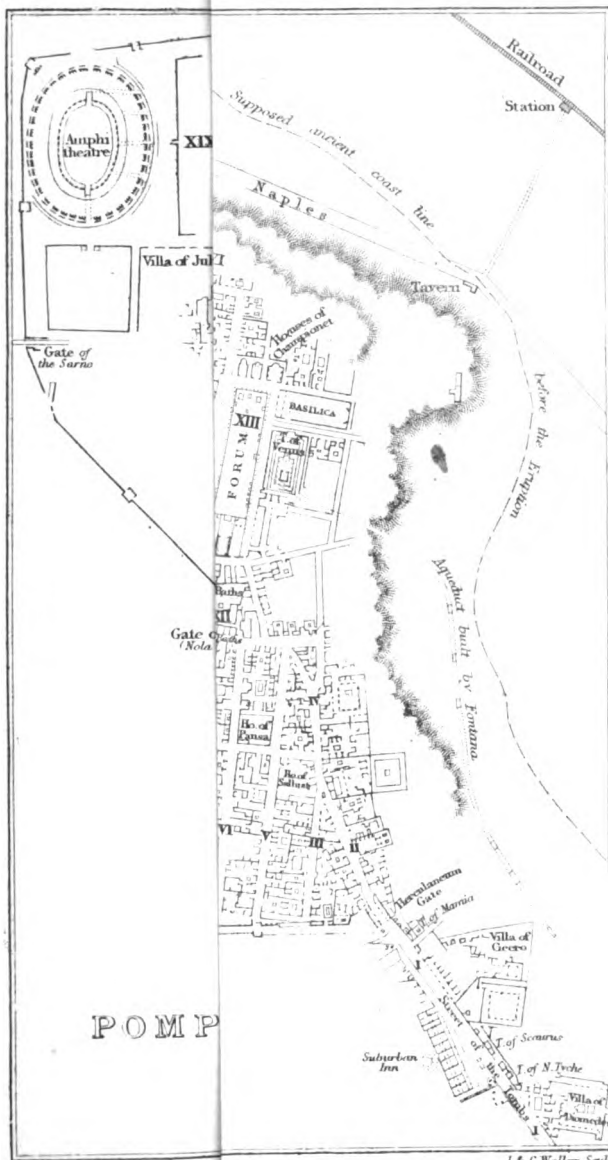
The railroad from Naples to Castellammare has a branch from Torre dell' Annunziata to Nocera, which passes close under Pompeii, and skirts the whole of its eastern wall. This branch line has a station at Pompeii, but as its trains run less frequently than those to Castellammare, the traveller has the

choice of two routes:—1. By the first he will leave the branch at the Pompeii station, which is near the quarter of the Forum, and is about equi-distant from the two main entrances to the city. The best plan, if this route be followed, is to walk or ride from the station to the old road, which will enable him to enter the city by the Street of the Tombs, quit it by the modern entrance at the barracks, and then proceed to the amphitheatre.—2. By the second, the traveller will leave the railway at Torre dell' Annunziata, and there hire a carriage to convey him to the Street of the Tombs, to wait for him at the barracks' entrance, convey him to the amphitheatre, and thence back to Torre, all which must be arranged by bargain before starting. Six carlini is a fair price for this service; but nothing should be paid until the journey be completed. A few coppers should be taken for the sweepers of the mosaics, &c.

Inn:—Hôtel Bellevue, a new inn, close to the railway, kept by S. Prospero, a very civil and obliging landlord.

Guides: All appointed by the government, and easily recognised by their uniform. They are generally intelligent men, but the traveller, who does not comprehend the Neapolitan idiom, should engage one who can speak French. Jacobo, one of the best guides, can speak French, and a little English also, and understands all that is worth seeing. The fee is 1 piastre for a party, and 6 carlini for a single person, which ought to include all the pictures and other objects which are kept locked; but there are separate custodi for the Temple of Venus, the Temple of Quirinus, and the House of the Augustals, each of whom expects 1 carlino. As a general rule, the traveller will find that the smaller his party the better; and that Pompeii will be more appreciated on a second visit than on a first.

Situation and History.—Pompeii is situated on a hill of trachytic lava, formed by the ancient eruptions of Monte Somma. This hill appears to have formed a peninsula, surrounded



on two sides by the sea, which almost washed the walls of the city on the west and south, and bounded on the east by the river Sarno, which was formerly navigable for a short distance above its mouth. The position of the city, therefore, must have given it considerable importance as a military and commercial port, and also as one of the most agreeable watering-places on the southern coast of ancient Italy. Although Seneca calls it "a celebrated city," we know little of its history beyond the facts that it was of Phœnician origin (p. 278.), that it was subsequently occupied by the Oscans, the Etruscans, and the Samnites, and that it was one of the twelve cities of the Tyrrhene confederation. In the Social War it was besieged by Sylla after he had conquered and destroyed Stabizæ, and was only saved from the same fate by the diversion made by Cluentius, who compelled the Roman general to give him battle in the neighbourhood of Nola. After this, the proceedings of Publius Sulpicius, the tribune, compelled Sylla to raise the siege, and return with his army to Rome to quell the sedition which had been excited by the intrigues of Marius. Pompeii afterwards made her peace with Rome, was admitted to the rank of a municipium, and, like Herculaneum, was allowed to retain the privilege of being governed by her own laws. Sylla, however, appears to have subsequently dismantled the fortifications, in order to prevent the possibility of any future resistance; and still further to secure this object, he established a military colony in the suburbs, to keep the citizens in check,—a proceeding which gave rise to frequent disturbances, followed by appeals to the Roman senate in which Cicero took a conspicuous share. Under Augustus, the city received another colony, consisting chiefly of disbanded veterans, who were located with the colony of Sylla in the suburb outside the walls, beyond what is now called the Herculaneum Gate. After this second immigration, the suburb became known as Augusta Felix. Under Nero (A.D. 55), Pompeii became a

Roman colony. Long, however, before this event, in fact from the time when it became a municipium, it was one of the favourite resorts of the aristocracy of Rome. Cossinius, the Roman general, made it his head-quarters in the Servile War, and was nearly surprised and captured by Spartacus while he was bathing on the beach. Cicero had a villa in the Augustan suburb, in which he composed his "Offices" and entertained Augustus, Balbus, Hirtius, and Panza as his guests. Claudius took refuge within its walls from the tyranny of Tiberius, and his son Drusus lost his life here by suffocation while swallowing a pear. During the same reign, Phædrus resided here as a refugee from the persecutions of Sejanus; and Seneca himself tells us that all his early youth was passed at Pompeii. The only other fact of interest in the history of the city is recorded by Tacitus, who states that in the year 59 a quarrel, occasioned by some provincial sarcasms, took place in the amphitheatre between the people of Nuceria (Nocera) and those of Pompeii, which ended in a sanguinary fight (atrox cædes) in which the former were beaten with great loss. Smarting under their defeat, they went to law, and finally appealed to Nero who gave judgment against the Pompeians. He sentenced Regulus and the other ring-leaders to be banished, and ordered all public spectacles and theatrical amusements to be suspended in the city for the space of ten years, a sentence of unusual severity, which, instead of lessening, appears to have increased the hostility of the provincials, as there is still extant in the Street of Mercury a rude drawing, in which the victory of the citizens is commemorated in a manner by no means flattering to the defeated party.

Destruction.—While labouring under this interdict, and about four years after it had been pronounced, the city was startled by a more terrible visitation. This was the earthquake of Feb. 5. 63, the first indication that the internal fires of Vesuvius were returning to their ancient channel. Tacitus says a

that it threw down the greater part of the city. Seneca tells us that it ruined the city, and did considerable damage to the places in its neighbourhood, swallowed up 600 sheep, and deprived many people of their reason. So great was the terror which it inspired that the Pompeians abandoned the city for a time. They returned, however, in the course of a few months, and began to repair the damage it had caused. Another earthquake in the following year appears to have done still greater mischief, for we still find many of the floors out of their level, the columns bear evidence of having been violently dislocated, and the walls of the public buildings still show marks of having been split or overthrown. The citizens were in the act of repairing these damages and of rebuilding the shattered edifices, when the great eruption of Aug. 24. 79, occurred. The details of that awful night, as recorded by Pliny the younger, who was a witness of the eruption, will be found in our account of Vesuvius. To that account we have only to add here that, while Herculaneum was inundated and destroyed by a deluge of volcanic alluvium, which afterwards hardened into tufa, Pompeii was overwhelmed by showers of red-hot stones, scorix, and pumice, no lava having ever reached it. The roofs of the houses, being mostly of wood, were burnt by the heated matter, or broken down by the weight of the accumulated ashes. Compared with the estimated population, the number of skeletons hitherto discovered is extremely small, a fact which proves that the inhabitants generally succeeded in escaping; and as the lowest of the different strata which now cover the ruins are found to have been broken in many places, there is no doubt that when the eruption ceased, many of the citizens revisited the site and removed such property as could be reached from the upper parts of their houses. In some instances, indeed, the houses have been found disturbed in a much rougher manner than their owners would have been likely to adopt; in one remarkable case which we shall

have occasion to notice, we shall find that the site of the public Treasury was not forgotten, and that considerable ingenuity was exercised to obtain access to its stores. For these explorations, lawful as well as furtive, facilities were afforded by the partial reoccupation of the site, for there appears to be no doubt that many of the lower classes, like those of the sister city of Herculaneum, built villages upon the ruins after Vesuvius had relapsed into inactivity, and that these villages continued to be occupied by their descendants for about four centuries. They are supposed to have been destroyed by the eruption of 472, after which the site was abandoned for ever. Subsequent eruptions deposited successive layers of volcanic matter upon the accumulations of the first, and we may now see at least seven distinct strata of scorix, tufa, and lapilli, varying in thickness according to the violence of the eruption which produced them, and covered by about 2 feet of very rich and productive earth, formed by the decomposition of the surface. The name, however, appears never to have been lost like that of Herculaneum, for the term "Campus Pompeius" occurs frequently in the chronicles and ecclesiastical documents of the middle ages. With such a record perpetuated in the living language of the country, and with the upper wall of the Great Theatre still visible above the surface (for there is abundant proof that it was never buried), it seems almost incredible that Pompeii should have remained undiscovered and forgotten down to the middle of the last century. Still more extraordinary is the fact that so ingenious an architect as Domenico Fontana, when employed by the Count of Sarno in 1592 to form an aqueduct for conveying the water of the Sarno to Torre dell' Annunziata, could have carried his subterranean channel under the most interesting portion of the city, traversing the Forum and three Temples, and sinking his air-shafts or *spiracoli* over more than a mile of its surface, without having his curiosity excited by the foundations of ancient

buildings which were continually impeding the progress of his work. At that period, indeed, no one seems to have had an idea of the treasures which had thus been undermined. In fact, another century elapsed before Macrini, observing numerous traces of houses and walls in the more exposed portions of the surface, conjectured that they might possibly mark the site of the long-lost city of Pompeii. Whatever may have been thought of this suggestion by the scholars and antiquaries of the period, the Spanish Viceroy was the last persons to expend any portion of the public revenue in testing its probability, and the problem was destined to remain unsolved for another 60 years.

Discovery.—It was not till 1748, when a countryman, in sinking a well, discovered a painted chamber containing statues and other objects of antiquity, that anything like a real interest in the locality was excited. Carlo Borbone, the first resident sovereign whom Naples had seen for many generations, was then upon the throne, and the recent excavations at Herculaneum had awakened a desire for further explorations. That sagacious prince, therefore, ordered the excavations to be prosecuted on a systematic plan. In 1755 the amphitheatre was cleared, and from that time to the present the works have gone on, with more or less activity, the greatest progress having been made by the French during the first sixteen years of the present century. Since the fall of Murat, the excavations have been of a very desultory character, sometimes abandoned for several years together, and sometimes resumed for a few months or weeks; so that, after 104 years' labour, not more than a fourth part of the city has yet been exhumed. For some years past, few excavations have been made except when some royal or distinguished personage has happened to be in Naples. The sum of 6000 ducats, about 1000*l.* per annum, is allowed for repairs, excavations, and incidental expenses, an amount altogether inadequate to do more than is at present

accomplished, and this sum, it is understood, is generously advanced from the private purse of his present Majesty. If we may regard the results of the last 100 years as an index of the future, or in other words, if we may reduce them to an arithmetical calculation, it will follow that, as it has taken 104 years to excavate one quarter of the city, 312 years, at the same rate of progress, must elapse before the whole site will be cleared. The part now excavated contains 2 forums, 9 temples, 2 basilicæ, 3 piazzæ, an amphitheatre, 2 theatres, a prison, double baths, nearly 100 houses and shops, several villas, a considerable portion of the walls, 6 gates, of which only 2 are tolerably perfect, and about a dozen tombs.

Walls and Towers.—The walls have been traced throughout their whole extent, though a portion only, which was excavated in 1814, is open to our examination. They are about 2 miles in circuit, and are elliptical in form, presenting scarcely any angles except in the neighbourhood of the Amphitheatre and at the central gate of the north side. On the west, there are no traces of the wall, though it is supposed that the villas which we meet with in that direction are built on its foundations. In all probability the rapid slope of the ground towards the sea rendered the protection of a wall unnecessary on that side; or if it ever existed, it may have been destroyed in the siege of Sylla, and not rebuilt after Pompeii become a Roman colony. The area which was thus enclosed by the sea on the one side and the walls on the other is estimated at 160 acres, of course exclusive of the suburbs. The greatest length of this area is $\frac{3}{4}$ of a mile; the greatest breadth is somewhat less than $\frac{1}{2}$ a mile. The walls were of great solidity and breadth and had a double parapet; the outer one being 25 feet high, the inner varying from 30 to 40 feet, according to the inequalities of the ground. The breadth between them was about 14 feet, which would easily allow three chariots to pass abreast. They had 12 square towers,

of several stories, placed at irregular intervals in their circuit, the least distance between them being in the neighbourhood of the gates, where, of course, protection was most required. The face of the outer wall inclines slightly inwards; the inner one was strengthened by an agger, and was furnished with broad flights of steps to afford convenient access on the city side. The construction of the walls bespeaks their origin, and confirms what we have said in regard to the history of the city. They are built of large blocks of lava, in horizontal courses, and without cement; but the joints, especially in the lower part, resemble the Pelasgic rather than the Etruscan style of military architecture, being sometimes vertical, sometimes inclined, and occasionally dovetailed. For the most part they are beautifully fitted, though the workmanship is much ruder than that met with in the cities of Etruria. Many of the stones are inscribed either with Pelasgic or Oscan characters. In the upper courses, the architecture is much more recent, resembling the regular isodomon of the Greeks, and the stone used is travertine instead of lava. These upper courses, however, have been frequently broken and rudely repaired; showing the effect of breaches from the battering-rams of an enemy and the hurried manner in which those breaches were filled up. Both the outer and the inner parapets had battlements and embrasures, so that from a distance the city must have appeared to have a double line of fortifications. The *Towers*, as we have already stated, were square, and apparently of many stories. They covered the entire breadth of the wall, were pierced by archways to allow a free passage to the troops, and had little sallyports at their base to afford an exit in time of siege. They are evidently more recent than the walls, being constructed of small pieces of tufa stuccoed at the sides, and are all more or less ruined, especially on the outer side, as if they had been purposely dismantled, for neither earthquakes nor sieges can account for so extensive and systematic a demolition.

This appears to have been done by Sylla at the close of the Social War. *The Gates*, whose position has been ascertained, are six in number; five of these are on the northern side of the ellipse, and one on the southern. Beginning with the N.W. they occur in the following order:—1. The *Herculaneum Gate*, on the *Via Domitiana*; 2. The gate leading to *Vesuvius*; 3. A gate partially excavated, leading in the same direction; 4. *Gate of Isis*, leading to *Nola*; 5. *Gate of the Sarno*; 6. A gate leading to *Stabia* and *Nuceria*. In addition to these there was probably a water gate, or at least some landing place or steps on the western side, which future excavations may bring to light. All the gates are mere ruins, except those of *Herculaneum* and *Isis*, which we shall describe more fully in their proper order.

The Streets are extremely narrow, which was no doubt the case in most of the ancient towns of Southern Italy, where it must have been an important object to exclude the sun as much as possible. In those of *Pompeii* it is clear that not more than one carriage, narrow as the ancient chariots were, could pass at a time in any but the principal thoroughfares. The pavement is composed of large irregular blocks of lava, closely fitted together, like that of the *Appian* generally; and it is usually bordered by a curb, elevated in some places a foot or more above the carriage way. The ruts of chariot wheels are everywhere visible, crossing and recrossing each other in the broader streets, but worn into one deep rut in the smaller ones. In the larger thoroughfares a raised stepping-stone is frequently seen in the centre of the street, for the convenience of foot passengers in times of rain; stones for mounting horses also are placed at the side of the pavement, in accordance with the law of *Caius Gracchus* "de viis muniendis," and holes are found in the curb opposite the principal houses and shops for fastening the halter. When the width allows it, there is a narrow pathway in front of the houses, paved with a

coarse mosaic of brickwork, and occasionally stuccoed. Here and there, where the angles of the pavement have been broken, they have been repaired with pieces of iron. At the entrance of many of the streets, lists have been found containing the names of those inhabitants who were entitled to vote at the elections of the *ædiles* or *duumviri*. Of the streets which have been traced, 5 may be considered as the principal thoroughfares of the city. The first led from the Herculaneum Gate to the Forum, and is broken by several junctions with minor streets, forming *trivia*, or places where three ways meet: the second, of which only one portion called the street of the Dried Fruits has yet been excavated, appears to have traversed the city in a straight line from the gate of the Sarno to the sea, dividing it into two equal parts; the third ran parallel to the former from the Gate of Nola to the sea, through the Street of the Baths: the fourth led in a straight line from the Gate of Vesuvius to the quarter of the Theatres; the fifth led from the N. wall of the city to the Forum and is the largest which has yet been opened: it is now known as the Street of Mercury in the upper part, and the Street of Fortune in the lower.

From the existence of stepping-stones in the pavement, it has been supposed that some at least of the surface water ran through the streets into the sea; but there is reason to believe that the principal thoroughfares were supplied with *sewers*, and that there was a regular system of house drainage. Mazois gives a drawing of a sewer beneath one of the streets, whose locality he unfortunately does not mention; he states also that he saw a drain leading to a sewer, closed by an iron grating, by which one of the fountains of the Forum discharged its surplus waters. The nature of the pavement renders it very improbable that the subterranean sewerage of Pompeii will ever be completely ascertained.

Public Buildings.—The public edifices and monuments of Pompeii are true interpreters of its history. The

more ancient are Greek, the more recent Roman. The basements of many of the Temples date evidently from the Greek colonisation, and one at least of the Temples still retains the peculiar features of Grecian architecture, and appears to have undergone very little change. In general, however, the older Temples have been supplanted by others of the Roman period, which show that corruption of style which is everywhere characteristic of Roman architecture. The forms as usual have been retained, but the principles of Greek art have been corrupted or rejected altogether. Examples of this may be met with in all the buildings of the Doric style throughout the city. Long tapering columns are found in the place of the massive well-proportioned columns of Grecian Doric. Instead of 20 flutings, the Greek standard of the time of Pericles, each column is channelled with an indefinite number; and while the Greek column always stands flat upon the floor without a base, the Roman column, as we see it at Pompeii, is elevated on a pedestal. The Ionic capital also, which in Greek architecture was invariably marked by its severe simplicity, is here loaded with ornaments and geometric mouldings, and in some instances is different in its essential features from all other examples of Ionic, even of Roman times. The Corinthian likewise differs from that of Greece in the debased character of the foliage.

Domestic Architecture.—If the eruption which overwhelmed Pompeii had not been preceded by two destructive earthquakes, we should have found it a more perfect example of a Roman city of the third class. But these earthquakes must have effected almost as extensive changes in its external features as those which were produced in the London of the middle ages by the Great Fire. Hence we find in every quarter of the city marks of hasty renovation and repair, generally with the commonest materials. Hence it is that so many of the larger buildings exhibit a monotonous uniformity, that there are so few of an archaic

character, and that the decorations retain so much brightness of colour. The private houses, with few exceptions, are small and low, deficient in everything which an Englishman understands by the words *comfort and home*; and displaying neither magnificence of outline nor effect in elevation. Only one has been discovered with a portico, and that may be more appropriately described as an ornamental doorway. Even the Villa of Diomedes has no better entrance than a mere porch formed by a column on each side. The domestic architecture, in short, is entirely that of a people accustomed to pass the greater portion of their day in the open air. As all the principal houses are on one plan, we shall avoid repetition in our notices of the different buildings, by giving in this place a brief description of the arrangement of an interior, which will serve as a type of the whole. The ground floor of the larger houses, like that of the modern palaces of Naples, was generally occupied by shops, which are proved by numerous inscriptions to have been an important source of profit to the owner; and we have a curious illustration of the commercial character of the city in the fact that some of the richest mansions had their private shops communicating with the interior, in which the proprietor evidently sold the agricultural produce of his farms. These shops were always open to the streets, like those we see in the older quarters of Italian towns at the present day. Where there were no shops, the external walls of the ground floor were always blank, stuccoed, and painted, often with the brightest colours. The upper floor alone had windows, and very few houses had a third floor. The internal arrangement varied of course according to the rank and circumstances of the occupant, but as a general rule, all houses of the first and second class may be said to have been divided into two parts, in accordance with the constitution of ancient Rome and the double life of her citizens,—the first being public, and the second private. 1. The public part,

being intended for the reception of the clients of a patrician, comprised several suites of apartments. On the side next the street there was generally an open space called the *area*, surrounded either wholly or in part by a *portico*. Within this portico was the porch, or *prothyrum*, and the *vestibule*, containing one or more rooms used as waiting rooms or as the porter's lodge. The vestibule opened on the hall, or *atrium*, the principal apartment of this division, where the proprietor gave audience to his clients. It was always a large room, covered with a flat roof open in the centre, and with a cistern called the *impluvium* in the floor to catch the rain which descended through the aperture. The walls and roof were often decorated with great splendour, and the pavement was always of marble or mosaics. Beyond this there was occasionally a small court, or *cavædium*; but as it is frequently wanting, the *cavædium* and the *atrium* have been supposed by some to be identical. Open to the *atrium* was a chamber called the *tablinum*, supposed to have been a depository for family records and public documents, and in some of the larger houses to have served also as a dining room. At the sides were smaller apartments called *alæ*, and frequently rooms for the reception of strangers, called *hospitia*. 2. The communication between the public part and the private was effected by corridors or passages called *fauces*, and sometimes by the *tablinum* also. On entering the private division there was a spacious court, called the *peristyle*, entirely open to the air in the middle, but surrounded by a covered *colonnade* supported by columns, which answered the double purpose of a passage between the different apartments, and of a sheltered promenade in wet weather. The centre of the floor was usually a garden of shrubs and flowers, decorated with statues and fountains. One of the rooms entered from the *peristyle* was the dining room, or *triclinium*, so called from the broad seats which projected from the wall and surrounded the table on three sides and enabled

the luxurious Romans to recline on couches at their meals. The wealth and magnificence of the owner was generally lavished on the decorations and furniture of this apartment, although it was never very spacious, the largest yet discovered being only 20 feet square. Next were the sitting-rooms, or *œci*, noble saloons supported by columns and frequently opening on the garden. In these the ladies of the Pompeian families passed their time, and therefore we need not add that they were richly decorated. Another large room was the parlour, or *exedra*, supposed to be a reception room for the visitors of the family. The library, or *bibliotheca*, was generally a small apartment, as little space was required for the papyrus rolls. The picture gallery, or *pinacotheca*, also opened on the peristyle. The baths were usually in one angle, as was also the *lararium*, or place for the household gods. The bedrooms, or *cubicula*, which were extremely small and inconvenient, were arranged together in two divisions; the first comprising those for the men, called the *andronitis*, was always separated from that of the females, which was called the *gynaconitis* or *gynaecium*. In some of the larger mansions the *andronitis* appears to have been situated on one side of the atrium in the public division. In others, as in the House of Sallust, the female apartments occupy a distinct quarter of the mansion, called the *venereum*, and corresponding in many particulars to the harem of the East. It had there its separate court, portico, peristyle, and triclinium, a separate stove, water closet, and staircase leading to the terrace above, a flower garden and fountain in the centre of the court, and the bedrooms on one side, protected by a lodge for a slave whose duty it was to prevent intrusion. The second floor appears to have been occupied as store rooms and as the apartments for servants. Many of these rooms had windows, some of which were evidently glazed. The roof was flat and was converted into a terrace, planted with vines and flowers so as to form a shady

promenade, or *pergula*. All these upper parts were generally built of wood, which, with the flat roofs, affording a regular lodgment for the heated ashes of the eruption, will at once explain the reason why scarcely any trace of them has been preserved. In the rear of the mansion was an open space or flower garden, called the *xystrus*, which was usually planted with shrubs and flowers, decorated with fountains and statues, and sometimes furnished with a summer-house, containing a stone triclinium, a table, and a fountain, and covered with a trellis for vines or creeping plants. None of the houses have any vestige of a chimney, although coals have been found in apartments both of Pompeii and Herculaneum; we may presume, however, that the stoves were generally heated with wood or charcoal, and were placed in the open spaces of the atria and peristyles. In some houses the arrangement must have been more complicated, for small tubes have been found which were evidently used to carry off the products of combustion. It is unnecessary to describe the arrangement of the smaller houses, since they present the principal features of the larger ones on a smaller scale, and therefore explain themselves. We may remark, however, as a curious fact, that no houses have yet been discovered which we can regard as the dwellings of the poor, and it remains to be proved by future excavations, whether the lower orders were located in a separate quarter of the city, or whether Pompeii was really free from any pauper population. Stables and coachhouses are also wanting, even in the larger mansions and the villas, the only apartments at all approaching to the character of stables being three or four rooms in the barracks for the troops, and a small chamber in the baker's house in which were found the bones of an ass, which was used, as we know from a bas-relief, to work his corn-mill. Even the inns form no exception to this remark, for the skeletons of horses which were found in them were lying in the yards, and not in any apartment to which the

term stable could be applied. Another deficiency is the absence of any thing in the nature of an hospital, although the instruments in the Museum prove that surgery had attained a high degree of perfection in the city; this negative evidence confirms the impression that the sufferings of humanity were little cared for until Christianity had taught mankind that mercy is inseparable from civilisation.

The Shops were very small and mean in appearance, and were all of one character, having the business part in front and one or two little chambers behind. A few only of the better class appeared to have had any second floor, and of that there is no other evidence than the occasional occurrence of a ruined staircase. The shop was open to the street, like those of modern Italy, and was closed at night by sliding shutters. In front it had a broad counter of masonry, with 3 little steps at the end next the wall for the display of the goods, and a small oven in the opposite end, where the articles sold were for consumption as food or drink. When first excavated, many of the shops had the names of their owners written over them, mostly in red paint. Others had signs in terra cotta, to denote the trade which was carried on within them. Thus a goat indicated a milkshop or dairy; two men carrying an amphora signified a wine shop; two men fighting denoted a gladiatorial school; a painting of a man whipping a boy hoisted on another's back, marked the residence of a schoolmaster; and finally, the immortal *chequers*, the ancient ornament of the throne of Osiris, the immemorial symbol of good and evil, the emblem of the priests of Bacchus in Etruria, occupied its prescriptive station on the doorposts of the publican.

Present State.—It is almost superfluous to add that the names now borne by many of the houses are derived from the paintings which they contained when they were first exhumed, or from the royal personages in whose honour they were excavated. The most important paintings and all the principal objects of interest and

value have been removed to Naples, and will be found noticed in our account of the Museo Borbonico. So strong has hitherto been the impression that Pompeii is destined to be again destroyed, that this removal has been regarded as an act of prudence; but unfortunately the same impression has caused the buildings themselves to be abandoned to gradual decay. Hence many of the decorations and wall paintings, which were described by the earlier writers on Pompeii, have been irretrievably lost. Of late, however, at the suggestion of the present King, Cavaliere Bonucci has adopted an excellent practice of supplying the place of the objects removed by coloured casts, and of allowing the pictures to remain *in situ* under the protection of glazed frames; for experience has proved that, without a covering of glass, they perish with great rapidity on being exposed to atmospheric changes. The traveller will at once appreciate the interest and vitality given to the smallest spot of such a site even by the representations of the objects it contained; and it is hoped that his Majesty may one day allow one of the principal houses to be roofed and restored with all the furniture belonging to it, and thus have the satisfaction of creating a museum of Roman antiquity and art, more real and more instructive than any which now exists in Europe.

After these preliminary remarks, we will proceed to describe concisely the principal buildings as they occur in our passage through the city, confining our observations to such objects as are still to be seen, and abstaining, as far as may be, from encumbering our narrative with descriptions of those which have disappeared. We shall trouble the reader with as few technical details as possible, leaving him to draw his own inferences from the information already given. Our remarks, therefore, will be designed rather for the assistance of the general traveller, than for the use of the professional student. The architect and the antiquary, who require more detailed information than the brief indications

which we can give in the space at our disposal, will find everything they can desire in the great works of Mazois, Gell, and Donaldson; and those who may wish to connect the various objects with the inner life and manners of the people, will consult with advantage the interesting volume on Pompeii, published by the Society for the Diffusion of Useful Knowledge, and written jointly by Mr. W. B. Clarke and Mr. A. Malkin. The figures which follow the names in our lists signify the year in which the object was excavated.

I. *Street of the Tombs* (1811-14). Approaching Pompeii by the road from Torre dell'Annunziata, we enter it by a branch of the Appian Way, which was here called the Via Domitiana. Before it reaches the gate it traverses the suburb called Augusta Felix, the colony of Augustus, which appears to have been the aristocratic quarter of the city. Everything in this suburb is Roman. On either side the street is bordered by tombs of every variety of form and taste, recalling to our imagination the ancient glories of the Appian as it once emerged from the Eternal City upon the Campagna. At the commencement of the street on the right hand is the

Villa of Diomedes (1771-4).—This is the most extensive, the most elaborate, and the most highly decorated private residence which has yet been discovered. It is also peculiarly interesting as the only perfect specimen of a suburban villa which has come down to us. It is called the Villa of Diomedes on the very slender ground of the tomb of M. Arrius Diomedes having been found near it. As we have already described the general arrangement of the Pompeii houses, we shall not weary the traveller with the details of each separate apartment, but shall simply notice the leading features of the building. A flight of six steps between the remains of the two columns which formed the entrance-porch, leads us from the foot-pavement of the Street of the Tombs into the peristyle,—an open space, like the cloister of a convent, surrounded on all sides by

porticos supported by 14 columns. This peristyle is remarkable for its architectural beauty. The lower third of the columns is not fluted; but the entire surface is coated with stucco, as are the capitals and the decorations of the area generally. In the centre is an open court containing an impluvium, by which the cistern of the villa was supplied with water. On the right of the peristyle a flight of stairs leads to the upper apartments. Those on the left comprised the baths, the dining and sleeping rooms, a gallery overlooking the garden, the reception room, and the loggie, which commanded a view of the sea. All of these, or nearly all, are decorated with the most graceful arabesques and other ornaments, which it would be tedious to describe, and, if described, would scarcely be intelligible without the aid of drawings. One of the bath rooms was lighted by a window which contained, when first discovered, four panes of glass 6 inches square. The centre bed-room, elegantly decorated, is a bow room, opening on a garden and lighted by windows and bulls' eyes above. That it was a sleeping room was proved by the discovery of several vases for perfumes and cosmetics in one corner of it. On one side of the loggie were the bedrooms for the women, from which a secret stair communicated with the state apartments. On the left side of the peristyle were apartments for servants, which have been occupied in recent years by the detachment of troops who are stationed here to guard the city. In the north angle of the peristyle, close to the road, is a staircase leading to a court on a lower level caused by the rapid slope of the ground towards the sea. This court contained the kitchens and other domestic offices. A long corridor runs from one side of this court to the portico surrounding the garden, for the use, it is supposed, of the servants; on the other side is a staircase for the use of the family. In the centre of the garden are the ruins of a fountain; and beyond it are the columns of a summer-house, which appear to have sup-

ported a trellis. In the outer wall of the portico, behind this summer-house, is the garden gate, which opened upon a flight of steps leading to the sea shore. On the south side of the portico, and outside its wall at a lower level, is a long inclosure approached by a handsome flight of steps: it is supposed to have formed a winter promenade. Beneath the portico, and consequently below the level of the garden, are long galleries or crypts, which were evidently the cellars of the villa, as several amphoræ were found in them leaning against the wall, with their pointed ends stuck in the ground in order to keep them in an upright position, and now fixed there by the volcanic alluvium which has penetrated all the lower portions of the building. On the night of the eruption the owner of this splendid property appears to have lost the love of kindred in the love of life; for his skeleton was found, with that of an attendant, near the garden gate, the one still holding in his bony grasp the key of the villa, the other carrying a purse containing 100 gold and silver coins, and some silver vases. While he was thus endeavouring to escape to the sea shore, the members of his family whom he had abandoned to their fate took refuge in these cellars, where 17 of their skeletons were found near the door, as if they had tried to retrace their steps after having found that the place afforded no shelter from the fiery tempest. From the gold necklaces and bracelets on the necks and arms of nearly all these skeletons, it appears that they were mostly females. Two were the skeletons of children, whose skulls still retained some portions of beautiful blonde hair. After they had perished, probably from suffocation, the floor of the cellar was inundated with a fine alluvium, which hardened upon the bodies and took casts, not only of their forms, but even of the most delicate texture of the linen which they wore and of the jewels which adorned their persons. One cast of a young girl, part of which still exists, possessed exceeding elegance of form; the neck and breast especially

were perfect models of female beauty.

“How sadly echoing to the stranger’s tread
These walls respond, like voices from the
dead.
And sadder traces — darker scenes are there,
Tales of the tomb and records of despair;
In Death’s chill grasp unconscious arms
enfold
The fatal burthen of their cherished gold.
Here wasted relics, as in mockery dwell
Beside some treasure lov’d in life too well;
There, faithful hearts have moulder’d side by
side,
And hands are clasped that death could not
divide.”

HAWKER.

Cenotaph of the Arrian family (1811). — Opposite the villa to which it gives a doubtful name, is the cenotaph of Marcus Arrius Diomedes, the freedman of Livia. It is a solid building of rubble work covered with stucco, with a façade 12 feet high, in which two pilasters support a pediment, giving it the appearance of a small temple. One word, or rather one letter, is wanting in the inscription, and many dissertations have been written on its probable signification; but it is now supposed to have been the initial of Livia. It will then read thus, “Marcus Arrius Diomedes, freedman of Livia, magistrate of the suburb of Augusta Felix, to the memory of himself and family.” The fasces under the inscription show that he was a chief magistrate; they are reversed, to denote death. Outside the low wall of the enclosure are two funeral cippi, the backs of which are carved in imitation of human hair. One of them bears the name of the eldest son Marcus Arrius, the other bears that of Arria, a daughter who died in her 8th year. On the front of the wall is an inscription to another daughter of the same name. Close to the platform which forms the sub-basement for the tombs of the Arrian family is the cippus of a child, *Velasius Gratus*, in a small, plain, semicircular niche; it bears an inscription recording his death at the age of 12. Near it are the *Tombs of Salvius*, who died at the age of 5, and of *Servilia*; both in a ruined state.

Tomb of Ceius and Labeo, an oblong tomb, ornamented with pilasters which

supported a rich entablature and statues, as was proved by the fragments which were found about it. According to the inscription, it was erected to Lucius Ceius, and Lucius Labeo, twice quinquennial duumvir of justice, by Menomachus, their freedman.

Tomb of the Libella, a solid and very elegant tomb, built of blocks of travertine resembling the pedestal of a column, 16 feet high, with a moulding and cornice, and a long inscription, recording its erection on a site given by the public, by Alleia Decimilla, public priestess of Ceres, to her husband and son, Marcus Alleius Lucius Libella the father, ædile, duumvir, and quinquennial præfect, and M. Alleius Libella the son, decurion, who lived 17 years.—Near this are a small square enclosure, and another tomb, both of them either half finished or ruined.

Subterranean Tomb.—At the junction of the two roads is a closed tomb to which this name has been given; it is built of small pieces of tufa, somewhat in the style of "opus reticulatum." The upper part has been greatly damaged by the trees and vines which grew above it before the site was excavated. It is remarkable for its marble door, in a single slab about 4 feet high, unlike anything yet discovered at Pompeii; it worked upon bronze pivots, and was closed by a ring of the same material, with an iron bolt, of which we still see the fragments rusted in the marble. The interior is a small arched sepulchral chamber, about 6 feet square, lighted by a window. At the back, in a square niche, was found a large vase of oriental alabaster, containing ashes and bones, and a gold ring in which was set a very beautiful intaglio of a stag. Other vases were found on a ledge running round three sides of the chamber, in columbaria beneath this ledge, and in the side walls above it. No inscription of any kind was discovered.

The Ustrina, beyond this tomb, is a small square enclosure for burning the dead bodies. It stands in the street near the junction of the two roads.

This completes the monuments on the left hand; we now cross the street to the

Sepulchral Triclinium, near the entrance to the villa of Diomedes. This is a small irregular enclosure, entered by a low door and open at the top, the internal walls painted with animals and flowers. It was used for the Silicernium, or funeral feast, and still retains the stone triclinium for the mourners. The circular pedestal in the centre, which was probably used to support the table, bore an inscription recording its erection to Vibrius Saturninus by his freedman Callistus.

Tomb of Nævoleia Tyche and Munatius Faustus.—This is one of the most interesting tombs which have been preserved to us from ancient times. It is a family altar-tomb consisting of a square enclosure, the front of which, except a narrow passage at one side, is occupied by the sepulchral chamber. The back is an open court, surrounded by a high wall; from this court the chamber is entered. The tomb stands upon two steps, and bears on its front a bas-relief, an inscription, and a remarkably fine and expressive female head, supposed to be the portrait of Nævoleia. The bas-relief appears to represent the dedication of the tomb and the sacrifices which accompanied the ceremony. On one side are the male and female members of her family bearing the vessels containing the offerings; on the other are eight magistrates of the city in their robes. In the centre are a cippus and an altar on which a boy is depositing his offering. On each side of the tomb are bas-reliefs by no means inferior to this in interest. One of them represents the bisellium or the seat of honour in the Forum and the Theatre, which indicated the municipal rank of the individual, and is supposed to have been given only to that class of priests who bore the title of Augustals. The relief on the other side is a very curious representation of a ship entering port. The ship itself has a raised deck, a figure head of Minerva, and a swan's neck at the

stern, supporting a flag-staff. It has a single mast, and a long yard, which carries a square sail, and is formed of two spars lashed together. A square striped flag is flying at the mast head. Two boys are lying out on the yard, furling the sail; another is going aloft by the shrouds; another, who has apparently been up to clear the sail, is coming down the fore stay hand over hand; a man is clewing up the sail, and finally, the master, supposed to be Munatius himself, sits at the helm and directs their movements with his right hand. This interesting sculpture, which would make a beautiful subject for a seal, is supposed to have a double meaning, first as a memorial of the commercial pursuits of Munatius; and secondly as illustrative of the last scene of the voyage of life, when the soul enters into a safe and peaceful haven,—a signification which would make it an appropriate and touching ornament of a Christian sepulchre. The inscription records the erection of the tomb by *Nævoleia Tyche* in her lifetime for herself, for *Caius Munatius Faustus*, Augustal, and magistrate of the suburb, to whom the Decurions, with the consent of the people, granted the bisellium on account of his merits, and for their freedmen and freedwomen. In the interior of the chamber, on the bench surrounding it, and in the niches in the wall, were found several cinerary urns, some lamps, and large glass vessels containing ashes and protected by leaden coverings. The ashes were found on examination to be still saturated with moisture, which was proved by analysis to be the libations of oil and wine. In a small niche in the wall of the enclosure is a cippus bearing the name of *Caius Munatius Atimetus*, who died at the age of 57.

Tomb of the Nistacidian Family, surrounded by a low wall and containing three cippi, bearing the names of *Nistacidius Helenus*, *Nistacidia Scapis*, and *Nistacidius Januarius*. The centre one had a small earthen vase sunk in the earth in front of it, for the purpose, it is supposed, of receiving the libations of the family,

Cenotaph of Calventius Quietus, an imposing monument, in a court 21 feet square, built in the form of a solid altar-tomb, elevated upon 3 steps and a lofty pedestal. It is constructed entirely of white marble except the basement and the outer wall which are of masonry stuccoed. On this wall are small square pinnacles, called acroteria, covered with mythological reliefs in stucco, representing Fame and Victory, the funeral pile, the history of Theseus, and the story of *Cædipus* and the Sphinx. The cenotaph itself is decorated with an elegant cornice and mouldings, with garlands of oak leaves and branches of palms, and rams' heads richly carved. In front, within a handsome border, is the bisellium, and an inscription recording that this honour was conferred on *Caius Calventius Quietus*, Augustal, by decree of the Decurions and with the consent of the people, as an acknowledgment of his munificence.

The Round Tomb, a circular tower with a vaulted roof, decorated externally with pilasters, standing on a large square basement, ornamented like that of *Calventius*, with little pinnacles or acroteria, which are decorated with bas-reliefs. One of these represents a female figure with a patera and garland in her hand in the act of offering some fruits upon an altar; another represents a young mother in a richly flowing Greek dress, like that which is still worn by the peasantry of *Isola* (p. 47.), depositing a funeral fillet on the skeleton of a child. *Mazois* supposes this touching composition to refer to the discovery of a child which had perished in the earthquake; it lies on a heap of stones or ruins, with the left arm thrown back over the head as if in sleep. A narrow staircase leads up to the circular chamber, which contains three niches with sepulchral vases, and is lighted by a small aperture above the cornice. The walls and vaulted roof are painted with arabesques, peacocks, dolphins, and swans. As only one of the vases was found to contain ashes, and the two slabs of marble in the wall bear

no inscriptions, it is supposed that this tomb was built by the parents of the child shortly before the destruction of the city, and that the catastrophe prevented their being reunited in death in the spot they had intended to be their last home.

Tomb of Aricius Scaurus, a very handsome monument which has been illustrated with great learning by the Count de Clarac, Mazois, Millin, and other antiquaries. In consists of a funeral pillar or square cippus upon three steps, supported on a square basement, with an attached doorway at the side decorated with fluted pilasters, and leading by a narrow passage, like that in the Tomb of Nævoleis, to the open court at the back of the sepulchral chamber. The basement and the steps of the cippus are ornamented with stucco reliefs, representing gladiatorial combats and hunting scenes. They have all been engraved by Mazois and will be studied with great interest by every one who wishes to possess complete and authentic information on the games of the Roman amphitheatres. In fact so much was thought of them by the ancients themselves, that many of the subjects have been restored, though in a style far inferior to the originals, and occasionally with an evident attempt to modernise the armour and costumes. The sculptures of the steps and those of the lower frieze of the basement represent the hunting scenes and the combats of the gladiators with wild animals; those of the upper frieze of the basement represent the deadly combats of the gladiators themselves. Beginning with the lower one, we have two hares with a dog on the scent; a stag on the point of being run down by dogs, a wild boar at full speed with a dog fastened on his off leg; another wild boar killed by the spear of a huntsman; and a bull transfixed from chest to back by the spear of a gladiator. In the upper frieze we have a still more interesting series, representing not only the actual combats of the gladiators, but the touching manner in which the one who was defeated implored his life

from the spectators, and the entire submission with which he resigned himself to the sword of his conqueror when the verdict of the people was against him. Many of the figures bear the names of the combatants written over them in black letters, with numerals to denote the number of combats in which they had been victorious,—a curious record, as showing that no amount of previous success was allowed to weigh in favour of the unfortunates whom the people condemned to die. The 1st combat is between two horsemen, both of whom have their spear arms protected by banded armour, which occurs also on the thigh of the one who bears the name of Nobilior, whose number shows that he has been eleven times successful. He wears also a boot laced with thongs, like that worn by the peasants of Calabria at this day. His adversary wears a shoe perfectly resembling a modern slipper. Their helmets have the vizors down, and would scarcely appear out of place in a collection of mediæval armour. The 2nd group represents the termination of a combat on foot; the two gladiators, whose dress indicates that they are of different nations, stand awaiting the decree of the spectators, the unsuccessful one in front, wounded in the breast, holds up the forefinger of his left hand to implore his life; the victor stands close behind to strike the fatal blow if the petition be refused. Like the equestrian group just mentioned they both wear helmets with vizors down. The 3rd is also a foot combat between two gladiators, who are believed from their dress to be a Thracian and a Gaul; the former is covered with armour in every part likely to be exposed, and the helmets of both have the vizors down. The Gaul is kneeling on his right knee and imploring pity in the usual manner but without success, although he had been a conqueror fifteen times, the Greek letter Θ above his head signifying that he was put to death. The 4th is a combat between two *secutores* and two *retiarii*, well known as the combat of the net, the latter being armed with

tridents and a net which it is their object to throw over the head of their antagonists. In this instance one of the swordmen has been wounded in three places, and the sentence of death having been pronounced in spite of his six previous victories, he kneels and bends forward to receive the death wound which his own comrade is obliged to inflict, as the trident of the conqueror is not calculated for such a service. The 5th group represents a Thracian and a Gaul, whose dresses correspond with those of the 3rd group. In this instance, the latter is victorious, and from his attitude we may infer that his adversary has appealed in vain to the mercy of the people. The 6th and 7th groups occupy the frieze over the door. One of them represents the master of the ring, or the lanista, checking the ardour of the victor, who seems anxious to despatch his antagonist without waiting for the decree of the spectators, which is supposed from this circumstance to have been favourable. The lanista appears, from the inscription in large letters over the central group, to have been called Caius Ampliatus, a member of a family which is supposed, from an inscription found in the Basilica, to have been the contractors for supplying gladiators for the public games. The next and last group represents a vanquished Gaul falling dead to the ground. The reliefs on the steps of the cippus are on a smaller scale. They represent a combat of a naked gladiator with a lion and a panther; another naked gladiator preparing to spring from the attack of a wild boar; a wolf transfixed with a spear; a stag brought down by two wolves; a man in gladiatorial armour attacking a panther and a bull fastened together by a rope, while another is urging the bull forward with a spear; and lastly a bear fight, in which the man holds the veil which Pliny tells us was introduced in the reign of Claudius, (a. c. 41-54) — the undoubted prototype of the Spanish matador. The inscription records the erection of the Tomb by Scaurus the father to his son

Aricius Scaurus, of the Menenian tribe, Duumvir, by command of the Decurions who granted the site of the monument, 2000 sesterces (16*l.*) for his funeral, and decreed that his equestrian statue should be placed in the Forum.

Tomb of Tyche Venerea.—Beyond the Tomb of Scaurus is a sepulchral enclosure with a cippus bearing the name of Juno Tyche Julia Augusta Venerea, and an unfinished monument with a columbarium of 14 niches.

Suburban Inn.—On the opposite side of the road are the remains of a portico and shops of a very ordinary character, supposed to have been a kind of suburban inn for the country people who brought the produce of their farms for sale. This supposition rests only on the discovery of some fragments of a cart, the skeleton of an ass with a bronze bit, a part of a wheel, and some provisions. Four skeletons were found among the ruins, with some gold and bronze coins which they were carrying with them.

House of the Columns.—A small villa behind the S. E. angle of the inn, containing a fountain and four columns, from which it obtains its name.

Great Court and Villa of Cicero (1764).—Crossing again to the right side of the street, we find an inclosure leading to a vast court with a portico. It was formerly supposed to have been an Etruscan cemetery, or an Ustrina for the funeral pile; but it is now, with more probability, regarded as one of the courts of the adjoining villa, which has been dignified by the name of Cicero. He tells us, indeed, in many of his letters, that he had a villa in the neighbourhood of Pompeii; but there is no proof that it was this one. It is certain, however, that this villa must have been the property of a man of taste as well as wealth; for some of the finest paintings and mosaics in the Museo Borbonico were found among its ruins, including the celebrated paintings of the Eight Danzatrici and the mosaics which bear the name of Dioscorides of Samos. An inscription found in a niche of the baths described them as the Hot and

Cold Baths of M. Crassus Frugijs. We have nothing to add in regard to the arrangement of the villa, as it was again filled up with earth as soon as its treasures were removed. Its situation must have been admirable, surpassing even that of the Villa of Diomedes. In front, facing the street there was a row of shops, and a portico.

The Hemicycle (1811), on the opposite side of the street, is a deep semi-circular seat or exedra, with a vaulted roof ornamented in front by pilasters in two rows, the upper ones springing out of the capitals of the lower. The walls and vault were gaily painted in arabesques and panels. Near it were found the skeletons of a mother and three children, one of them an infant, all closely folded in each other's arms, and covered with gold ornaments elaborately worked, and enriched with pendant pearls of great value.

Tomb of the Glass Amphora (1763), near the Hemicycle, remarkable for an amphora of blue glass with white figures which was found in it.

Tomb of the Garland (1806), on a lofty basement, with Corinthian pilasters sustaining festoons of flowers.

House of the Mosaic Columns (1837), a confused mass of ruins, so called, with the remains of a tomb in which a beautiful glass urn containing ashes was discovered. A road here branched off to Nola on the left, skirting the walls without entering the city.

Cenotaph of Terentius Felix (1763).—Between the Nola road and the Gate is a square basement with an inscription recording the name of T. Terentius Felix Major, of the Menenian tribe, Ædile, &c. A cippus, some glass cinerary urns covered with lead, some lacrymatories, and other funeral objects were found near it.

Status.—Close to the gate is a base supposed to have formed the pedestal of a statue, as many fragments of bronze were found about its base. This completes the list of objects on the left hand.

The open Hemicycles, and the Tomb of Porcius (1763).—Returning to the angle of the shops in front of the Villa

of Cicero, we find the opening of a street which led from the main road to the sea. At the corner a marble statue was found, with an inscription recording that Titus Suadius Clemens, the Tribune, acting on the authority of the Emperor Vespasian, restored to the Republic of Pompeii all the public places possessed by private individuals. At the opposite angle was a bracket with a painting of a huge serpent, supposed to be for the reception of votive offerings; this curious relic was unfortunately destroyed by accident in 1813. The first of the open Hemicycles adjoins this angle. As its back was protected from the sun, it is not covered like the other on the opposite side. It is 17 feet in diameter; and the bench bears an inscription recording that the Decurions had decreed a place of burial to Mamia, daughter of Porcius, the public priestess. At the foot of the step is another inscription on an upright stone, recording another decree of the Decurions granting to M. Porcius a piece of ground 25 feet square. This is supposed to be the ground now covered by the tomb between the first and second hemicycle. The latter differs in no essential particular from that which we have described, except that the inscription has been removed to Naples. It bore the name of Aulus Veius the Duumvir, for which reason the hemicycle has sometimes been described as his monument. The *Tomb of Porcius*, as it is called on the authority of the inscription, presents nothing to require notice. We pass on, therefore, to a more interesting object, the tomb of his daughter:—

Tomb of Mamia the Priestess (1763), a large and very handsome tomb, of which a restoration will be found in Mazois. It stands in a court, which is entered by a flight of steps from an enclosure called, from the number of masks found there, the Tomb of the Comedians. It is a square tomb, built of stuccoed masonry, with four columns in front, supposed to have been Corinthian; but the absence of the capitals makes it doubtful. The walls of the interior were painted with arabesques,

and had 11 niches, the largest of which contained a large urn of terra cotta, covered with lead. In the circuit of the chamber were pedestals supporting statues of inferior merit, which have been removed to Naples. In the centre is a pedestal which probably contained the principal urn. Several cippi were found in the enclosure outside this chamber, bearing the names of the Istacidia and other families. In another enclosure, behind, were found large quantities of bones of sheep and oxen, which are supposed to be the remains of the offerings to the dead. The site was formerly described, most absurdly, as a Cemetery for Animals.

Tomb of Marcus Cerrinius (1763), formerly supposed to be an *Ædicula*, and popularly called the *Sentry Box*. This is a small vaulted niche just outside the city gate, which, when first opened, was found decorated internally with paintings. In a small recess at the back was a small base which sustained either a figure or an urn; over it was found the following inscription, "M. Cerrinius Restitutus Augustalis. Loco D. D. D." The same inscription was repeated on an altar which stood in the centre of the niche, but which was unfortunately removed to make some repairs in another building. A very beautiful tripod supported by satyrs, which was also found here, stood probably on this altar. From these circumstances it is supposed that the niche was a sepulchral monument and *Sacellum*. Mazois, who does not appear to have been aware of the inscriptions, imagined that it was an *ædicula* or small shrine to the tutelary genius of the roads. The popular idea that it was a sentry-box, which in truth it very much resembles in its present state, arose from the discovery of a soldier's skeleton within it. The facts we have just mentioned are quite at variance with this idea; and, moreover, there is no such building as a sentry-box at any of the other gates, or on any part of the walls which are at present visible; but as this skeleton was fully armed, with his helmet on his head and his hand still grasping

his lance, there is no doubt that he was on duty at the adjoining gate. From its proximity to the mountain, this quarter must have been the first which felt the effects of the eruption; and when the fiery storm thickened around him, the hero, faithful to his trust, must have taken shelter in this building, rather than follow his fellow citizens who were escaping by the other gates; he may therefore be literally said to have died at his post.

Herculanæum Gate (1770).—This gate, small as it seems according to modern notions, was the most important entrance to the city. The arch has entirely disappeared; but enough of the other parts remains to show that it had a central entrance 14½ feet wide, and two side entrances for foot passengers, each of which was 4 feet 6 inches wide, and 10 feet high. The height of the central opening cannot be ascertained in the absence of the arch, but it can hardly have been less than 20 feet. The architecture of the gate is entirely Roman. It is a double gate, built of brick and lava in alternate layers. The outer side was defended by a portcullis, lowered by grooves which still exist in the piers; the inner side was closed by folding doors, working upon pivots in holes which are still visible in the pavement. Between the portcullis and the inner door there was a large open space, not a mere machicolation in the crown of the arch, but a complete division from the pavement upwards, making the gate a double one, so that in the event of the portcullis being carried the besieged could throw down molten lead and other missiles on their assailants, before they had time to force the inner door. The whole building was covered with white stucco, on which were found written in red or black letters, announcements of gladiatorial games and official ordinances. A marble sun-dial was found outside the gate, in the angle formed by the left entrance and the wall.

II. *Street of Herculanæum*.—On entering the gate, we find that the street before us rises rapidly, and, trending to

the S.E., proceeds by two or three curves direct to the Forum. The houses on the right, as we have already remarked, appear to have supplanted the sea wall, and to have extended in some instances to the beach: but as they were filled up when first examined, it is impossible to form any adequate opinion of their character or extent. On the left, the houses are arranged in square or longitudinal blocks, isolated by the transverse streets which communicate with the main thoroughfares, and forming what the Romans called "islands of houses,"—an arrangement which the traveller who has visited Turin will readily comprehend. Immediately on the inside of the gate, on the left hand, are the *Steps* leading to the walls.

House of the Triclinium (1787).—Close to the steps is a private house which is worth notice as a specimen of the second class of houses. It is altogether on the smallest scale, consisting of a passage, a sitting room, a servant's room at the foot of the stairs, a kitchen, a *lararium*, or domestic chapel, containing an interesting representation of a bed on which the goddess is reposing, and a court which was evidently covered with trellis work, as the holes for the beams are still visible; in one corner is a very large stone triclinium, from which the house derives its name. Above, there was apparently one bedroom and a terrace.

Inn of Albinus (1770).—The first house on the right close to the gate. The chequers found on the doorposts sufficiently explain the character of this house. The entrance is by a broad carriage doorway, leading into a spacious apartment which was evidently an inn yard, as two skeletons of horses, fragments of bits and bridles, rings for fastening animals, and portions of chariot wheels, were found in it. The house contains several apartments for the accommodation of strangers, a kitchen, a long cellar, and a liquor shop. On a pilaster of the latter is carved a phallus, as an amulet against the evil eye.

Thermopolium (1769).—A house for

the sale of hot drinks, nearly opposite to the inn, corresponding to the modern coffee-house, with numerous apartments in the rear which served probably as drinking rooms, as one of the walls contained announcements of the public festivals of the day. The shop itself contained a furnace, steps for arranging the glasses, and a marble counter, which still exhibits the stains of the liquor and the marks of the glasses. The figure of Mercury was painted on various parts of the house. Some of the walls were covered with proper names, scratched by the customers upon the plastering which covered other names of previous scribblers, a practice which thus appears to be less modern and less British than is usually imagined.

House of the Vestals (1769).—A double house, comprising a vestibule, an atrium with the usual apartments on each side, a triclinium, formerly richly paved with mosaics and decorated with luxurious pictures by no means in accordance with the name given to it. The pavement of several of the rooms was formed of beautiful mosaics which have been removed to Naples; one, however still remains at the threshold of the second house, to welcome the visiter with the word *Salve*. The walls of several of the bedrooms and cabinets were richly painted with arabesques and other decorations. In one of them a quantity of female ornaments and the skeleton of a dog were found. At the extremity of the house is a semicircular room called the *sacrarium*, containing an altar on which those who gave the building the name it bears, supposed that the sacred fire was kept burning. When first excavated, the kitchen and offices were found filled with fruits, corn, and amphoræ of wine.

House of the Surgeon (1771).—A single atrium with two long apartments at the sides and a garden behind; the former painted with architectural designs, arabesques, grotesques, and compartments containing figures. Forty of the surgical instruments now in the Museum at Naples and described at

p. 185. were found here. Some of them, as we have there remarked, might be used by the surgeon of the present day. With all his skill, however, this Pompeii doctor would not have justified Dr. Johnson's eulogy on the liberality of Physicians, for the weights which were found in his establishment were inscribed with the significant words *eme* and *habebis*, "Buy and you shall have," or in other words "No trust."

Custom House or Telonium (1788).—A large doorway leading into a spacious court, which was found filled with steelyards, scales, and weights of lead and marble. Behind it is an unpaved court, in which the skeletons of two horses with three bronze bells on the neck of each were found.

Soap Factory (1786).—A small shop, which contained heaps of lime of excellent quality and other materials for soap-boiling, the vats, the evaporating pans, and the moulds.

Cooks' Shops (1786).—Two houses, near the corner of the street, which, on account of the arrangement of the counters, were formerly called *Thermopolia*, a name once given to all the shops which had materials for heating liquids. It is very probable that the *Thermopolium*, properly so called, corresponded with the modern coffee-house, and that the building already described under this title, near the Gate, may be regarded as a type of the class. These smaller shops, unprovided as they appear to be with rooms for the customers, were probably cooks' shops, open to the street, where the articles were cooked and sold across the counter, as is still the case in many Italian towns. An inscription was found in one of them, stating that the proprietor, "Phæbus, solicits M. Holconius Priscus and C. Gaulus Rufus the duumvir, with his other customers,"—a form of frequent occurrence, equivalent to the announcement of the modern shopkeeper that he is patronised by the nobility.

Fountain (1788), called the Fountain in Triviis, because it is situated at the junction of three streets; it is a small basin, with a fountain flowing

from a *castellum*, or circular-headed reservoir, ornamented with sculptured figures.

III. We now turn down the little street on our left, at the back of the triangular mass or "island" of houses which we have just examined.

House of the Dancing Girls (1811).—A richly decorated house, which derives its name from the pictures of the Four *Danzatrici*, still graceful and voluptuous, which covered the entire atrium. This and the two following houses were formerly supposed to have formed one mansion.

House of Narcissus (1811), formerly called the House of Apollo, from the celebrated bronze statuette with silver strings which was found in it. The modern name is derived from a graceful picture of *Narcissus*. The peristyle and its columns are very elegant; the hollows in the low wall which fills the intercolumniations are supposed to have contained flowers. From the surgical instruments, ointments, and lint found in one of the rooms, the house is supposed to have been the residence of a surgeon.

House of Isis and Osiris (1813), a small domestic temple, formerly considered the Sacrum of the House of the *Danzatrici*. It contained an altar dedicated to Isis and Osiris, and a figure of *Harpocrates* enjoining silence with his finger. One of the rooms is painted with representations of two young deities in love, warriors on horseback pursuing fugitive damsels, and other familiar subjects. At the bottom of this street, ten skeletons, one that of a child, were found, with some rings, bracelets, silver money, and a bronze lantern.

House of Papius (1813), so called from the name written on the external wall; it contains some mosaics and paintings, none of which require particular description.

IV. We return hence to the *Tri-vium* and Fountain in the Street of *Herculaneum*.

Public Bakehouse (1809), at the angle of the House of *Sallust*, the proprietor of which no doubt let it to advantage

as Cato tells us that the millers of Pompeii were in great repute. This bakehouse, which is smaller than one we shall have to describe shortly, contains three large mills and one small one, the oven with two troughs for water in front of it, the kneading-room, the cistern, the store-room, &c. When first opened, the corn, the water-vessels, and the amphoræ containing the flour, were all in their proper places, and nothing was wanting but the fire, to have enabled a modern baker to resume the business.

House of Sallust (1809), formerly called the House of Actæon, from a celebrated picture on the wall of the ladies' atrium. This is one of the principal private mansions in Pompeii. It occupies an area of 40 square yards, and is surrounded on three sides by streets, the ground-floor, as usual, being occupied by shops. When first excavated, it bore unmistakable marks of having been rifled of its portable treasures after the eruption. The arrangement of the building and the details of its different apartments are described at length in all the great works on Pompeii, but our space allows us to notice only the leading features. The entrance-door is flanked by pilasters with stucco capitals, one of which represents Silenus teaching a young faun to play upon the pipe. The passage is bordered by apartments for the porter and by a shop for the sale of oil, produced, probably, on the proprietor's estate. The atrium is Tuscan, with a fountain in the centre, and an impluvium of Greek marble in the form of a shell. On either side are highly decorated apartments, one of which serves as an ante-chamber to a hall on the left, supposed, from its vicinity to the bakehouse, to have been a winter triclinium. The apartments at the end of the atrium open on a portico of fluted Doric columns, which borders a narrow strip of garden-ground, 70 feet by 20, the centre of which was paved, the flowers being arranged in boxes like a modern orangery. The walls were gracefully painted to represent trellis-work, creepers, birds, and fountains.

In one corner is a summer triclinium, with a round table of marble in the middle and apertures above for the beams of the trellis. The walls are painted in panel, with a frieze at the top representing the eatables used at a feast, but nearly every trace of this painting has perished. In the other corner of the garden is a small stove for heating water, supposed to mark the position of a bath. On the right of the atrium is the most interesting department of the mansion, the *Venerium*, a real prototype of the Oriental harem. It consists of a small court, or atrium, surrounded by a portico, of octagonal columns, a sacrum dedicated to Diana, two sleeping-rooms at the sides with glazed windows looking into the court, a triclinium separated from the court probably by curtains, a kitchen, a water-closet, and a staircase leading to a terrace above the portico. Every part is elaborately decorated, and the paintings are appropriately expressive of the uses to which the apartments were applied. The walls of the court are painted black with rich gilt ornaments; the columns are bright red. The sleeping-rooms contain pictures of Mars, Venus, and Cupid, and the entire wall at the back of the court is covered with a large painting, representing the story of Diana and Actæon, an evident allusion to the danger of prying too closely into the mysteries of this portion of the mansion. In the adjoining lane was found the skeleton of a young female, supposed to be that of the fair being who was enshrined in this sanctum with so much privacy and magnificence; she had four rings on one of her fingers, set with engraved stones; five gold bracelets, two ear-rings, and thirty-two pieces of money were lying near her. Close at hand were found the skeletons of three other females who were probably her slaves.

Iron Shop (1809). — A small shop, in which were found many implements and other articles indicating an iron-monger's warehouse.

Public Bakehouse (1810). — A second of these establishments, on a larger

scale, and rather more elaborate in its construction than the one already described. It was excavated in the presence of Mazois. It has a court 36 feet by 30, with square pillars to support the roof. Beyond the court is the bakehouse, 33 feet by 26, containing four flour mills of trachytic lava, like the celebrated millstone of Andernach, and of very curious construction. The lower part, which is fixed firmly in the ground, has a conical, or bell-shaped projection in its centre. The upper part, which is shaped externally like a dice box, is hollowed internally into two concave or bell-shaped basins, the upper one being reversed to receive the flour, the lower one fitting over the convex projection of the under part, to whose surface the flour passed through small apertures made in the upper basin, around the iron pivot on which it worked. The upper part, when first discovered, had an iron framework, with holes for the insertion of wooden bars, to which asses and sometimes slaves, as both Plautus and Terence testify from their personal experience, were attached, for the purpose of turning it. In the room which is supposed to have been the stable, a jawbone, and other fragments of an ass's skeleton, were found. In other rooms were the ovens, the stone kneading-troughs, the ash-pit, the cistern, and the vessels for holding water. On one of the piers was a painting representing an altar with the guardian serpents, and two birds chasing two large flies, an amulet, probably, for keeping flies from the new-made bread.

Academy of Music (1810), or the Casa del Corago, so called because it was covered with paintings representing instruments of music and tragic scenes.

House of Julius Polybius (1808-17).—A very large house of 3 stories, on the right of the street, opposite the house of Sallust, built on the supposed line of the sea wall, or on a steep rock sloping rapidly down to the ancient beach. This position must have insured a commanding view, and rendered it altogether a charming resi-

dence. The floor by which we enter is level with the street. It presents the usual arrangement of a vestibule and atrium opening on a terrace, a peristyle, and the ordinary private apartments. Under the terrace are a private bath, a saloon, a triclinium, &c. Beyond them is another terrace overlooking a large court, surrounded by porticos, with a reservoir in the centre. Below is another floor containing the baths, and the dark damp and miserable cells in which the slaves are believed to have been lodged. From the general plan of this house it is thought that it was a lodging-house. Many of the rooms were decorated with mosaics and other ornaments of great beauty, but, like all the earlier excavations on this side, they were filled up and greatly injured before the site was opened the second time.

House of Three Floors (1775-80).—Adjoining this is an extensive building which bears this name, as the floors have been preserved entire. It is supposed to have belonged, like the last, to Polybius, as inscriptions in which his name occurs have been found among the ruins. It has a very large Corinthian peristyle of arcades and piers, with two vestibules communicating with the street and the atrium. The arcades have square apertures for windows which appear to have been glazed. The whole building was richly decorated; the portico and three adjoining apartments were paved with mosaics.

At this point the street branches into two—that on the right is not yet cleared; the left leads into the Forum.

Apothecary's Shop, at the corner of the Trivium. On the external wall is a painting of a large serpent as the *genius loci*. Several glasses and phials, containing medicinal and chemical preparations, were found in the shop.

Tavern, at the corner of the next Trivium, called the "Fortunata," a shop of the usual character, with a counter covered and faced with marble, and the walls painted in blue panels with red borders. In front of it is a

Fountain, at the angle of the pavement, consisting of a large square basin,

like that seen soon after entering the city.

V. We now turn to the N., down a street, which here falls into the main thoroughfare, beginning our examination at the bottom, with the

House of the Painted Columns (1844).

— A small house, of the ordinary character, the name of which sufficiently describes its principal features.

House of Neptune (1844).— Another small house, irregular in plan, but remarkable for some pretty paintings in the atrium, and for a marble impluvium, with a space round it for planting flowers.

House of Flowers (1809), formerly called the House of the Wild Boar, from a mosaic of a Dog seizing a Wild Boar by the ear, now in the collection of the Prince of Salerno. It derives its present name from some graceful pictures representing nymphs bearing flowers in their aprons.

House of Modestus (1808), so called from an inscription found on the walls, in which this name frequently occurred. It is a small house, with the usual arrangements of its class. When first excavated it excited the interest of Mazois and other antiquaries by its atrium being what is called *impluviatum*, or inclined outwards, so as to throw the water outside instead of carrying it into a cistern in the centre of the floor. Some of the walls were found covered with paintings illustrative of the Odyssey.

House of Pansa (1811-14), one of the largest and most interesting of the private mansions of the first class. It occupies an area of 300 feet by 120, and extends into three streets. The ground floor, like that of the modern palaces of Naples, is occupied entirely by shops, which we have Cicero's authority for describing as one of the most lucrative kinds of property in Roman times. One of these shops appears, from the communication between it and the mansion, to have been the proprietor's own store for the sale of the corn and agricultural produce of his farms; another is a bakehouse of the usual character, with the phallus

S. Ital.

and the well-known inscription "Hic habitat felicitas." Another, in the side street, has a cross on the wall, from which Mazois and the Count de Clarac inferred that it had been inhabited by a Christian. The principal entrance to the mansion is paved with mosaics and decorated with two Corinthian pilasters. On the wall near it is painted in red letters the words PANSAM ÆD. The interior presents the usual arrangement:— a Tuscan atrium with the ordinary apartments at the sides, a peristyle of 16 Ionic columns, with an open court containing flower-beds and a fish-pond in the centre; bed-chambers on one side, a triclinium and a library abutting on the back walls of the shops on the other; a hall opening into the garden, flanked on the right by domestic apartments, and on the left by servants' rooms and a kitchen which was supplied with stoves like those now in use. The whole breadth of the building facing the garden had a portico of two stories. The garden was half as large as the mansion, with a reservoir in one corner and the remains of a fountain in the centre. The entire building was rich in mosaic pavements and mural paintings, but nearly all of them have disappeared. One very curious painting, however, remains in the kitchen, representing a religious sacrifice to the Laræ, who are personified by two serpents near an altar, surrounded by the elements of a dinner, a pig for roasting, a ham, a string of mullets, a spitted eel, a boar's head, thrushes, &c. Sir W. Gell gives a view of the interior of this mansion, restored by the accurate pencil of Mr. Cockerell, which will afford a better idea of its general character than any description unaccompanied by drawings. In one of the bed-rooms five female skeletons were found, some of them with gold ear-rings in their ears.

VI. The S. front of the House of Pansa faces the Street of the Baths, one of the main thoroughfares of the city. Before we describe the interesting objects which it contains, we shall return northwards towards the city wall, and examine the "island" of

houses lying between this and the Street of Mercury.

House of Apollo (1838), near the bottom of the street, a richly decorated house, with painted walls, a fountain, and a garden decorated with bacchanalian garlands and other emblems; two mosaics were found in it, one representing the quarrel of Agamemnon and Achilles; the other, Achilles in his retirement at the court of Lycomedes.

House of Adonis (1836), so called from a large painting which covers the entire wall of the garden, representing Adonis wounded by the wild boar and consoled by Venus and her attendant Cupids. Another picture represents the story of Hermaphroditus and the nymph Salmacis; but both of them have suffered considerably from exposure to the atmosphere. In the two adjoining houses were found 64 silver moulds used by confectioners, and 14 vessels adorned with bas-reliefs of Cupids and satyrs.

House of the Small Fountain (1826), so called from a fountain encrusted with mosaics and shell-work, placed in the centre of the inner peristyle, and supplied by an impluvium, of which the leaden pipes and brass cocks are still visible. The water issued from the mouth of a comic mask. The little bronze fisherman of the Naples Museum was found in front of it. On the wall of the atrium is a curious picture of a farm house and yard, with a group at the entrance supposed to represent the adoption of Ædipus by Peribœa, Queen of Corinth, after his discovery by the shepherds of Cithæron. Another picture, representing a seaport with a mole built on arches, supposed to be a view of Pozzuoli, has been removed to Naples. One of the inner rooms, supposed to be the parlour, or exedra, was covered with paintings of hunting scenes. The record room, or tablinum, had a painting of Cupid milking a goat. The remains of two staircases prove that there was an upper story.

House of the Great Fountain (1827), a handsome but irregular atrium, 50 feet by 40, with a fountain in the cen-

tre of the peristyle, unlike any previously discovered, and more remarkable for its size and singularity than for its beauty or good taste. It consists of a very large semicircular niche, surmounted by a pediment, the whole encrusted with mosaics of different colours, and ornamented with sea-birds and aquatic plants. The water of the fountain issued from the bill of the bronze goose held by Cupid, now in the museum. The back wall of the peristyle was formerly covered with paintings, representing a pseudo-garden and a boar hunt; but the plaster fell soon after it was excavated. Sir W. Gell has preserved a representation of it in the 2d series of "Pompeiana."

The Fullonica (1826), the House of the Dyers and Scourers, a very curious building, which has made us acquainted with one of the most important of Roman trades. It has an atrium surrounded by a peristyle, with a fountain between two of the columns, and surrounded by numerous apartments containing the vats for the dyes, fire-places for hot water, ovens for drying the cloth, and the usual appurtenances of a dyer's establishment. The object which gave its chief interest to the house has been removed to Naples. It was a pilaster which stood near the fountain, on which were represented men, women, and boys engaged in the various operations of treading, dipping, wringing, carding, and drying the cloth. Some olives were found in one of the rooms, which had perfectly retained their colour.

House of the Tragic Poet (1824-26), called also the House of Homer and the House of the "Cave Canem," one of the smallest but most elegant private houses in Pompeii. When it was first discovered, it became celebrated throughout Europe for the variety and beauty of its paintings; but most of its treasures have now been removed to the Museum. From the single circumstance of one of these paintings representing a male figure reading from a scroll, the house was called that of the Tragic Poet, a misnomer for which it is difficult to account, since the large

number of valuable articles which it contained, such as rings, bracelets, earrings, chains, and ornamental jewellery in gold, coins and other articles in silver, portable stoves and lamps in bronze, distinguished by peculiar delicacy of workmanship, should rather have suggested that it was the house of a silversmith. Externally, the lower part presents to the street a blank wall divided into square panels painted red; the upper floor had windows opening on the street $6\frac{1}{2}$ feet above the pavement, and measuring 3 feet by 2; at the side of each window is a wooden frame in which the window or shutter worked. The door turned on pivots, the bronze sockets of which still remain. At the threshold was the celebrated mosaic of a dog chained, with the inscription *Cave Canem*, "Beware of the dog," now in the Museum. The internal arrangement of the house is not different from the others we have described; but its walls were decorated with an unusual number of first class paintings. The atrium, the gynæceum, the triclinium, and several of the principal apartments, were covered with pictures, and many of the rooms were paved with rich mosaics; but all the best works of art have been removed to Naples, including the celebrated mosaic of the Choragus instructing the Actors. One of the walls of the principal apartment is painted in the style now universally known as Pompeian; the wall being divided into squares by perpendicular lines decorated with festoons and arabesques, and supporting a rich frieze representing a Combat of Greeks and Amazons. A very interesting restoration of this house will be found in the 2nd series of Sir W. Gell's "Pompeiana." We have already mentioned the numerous articles of value which were discovered here. With them were found some fragments of skeletons. From the disturbed state of the ground in the neighbourhood of the house, it is certain that search had been made soon after the eruption for the treasures it was known to contain.

Inns.—Two large inns terminated the

street at this end. In one of them was found, in 1845, the money of the landlord, consisting of 206 large copper pieces of Galba, Vespasian, and Titus, and 42 pieces of silver.

VII. We now enter the Street of Mercury, and return to the N. to commence our examination of the next island of houses, as usual, at the end nearest to the city wall.

House of Inachus and Io (1829).

House of the Nereids (1830-31). — This house, once called that of Isis, adjoins that known as the House of Meleager, for which reason the latter name has frequently been applied to both. To add to the confusion, the House of the Quæstor, beyond them, which has had more than its share of Pompeii names, was formerly considered to belong to them, and thus two-thirds of this clump of buildings were described as a triple house under a variety of titles. The present building, which is perfectly distinct and complete in itself, derives its present and most appropriate name from the ornament which pervades almost every part of it,—a graceful representation of Nereids reposing on sea lions and other marine animals. In every part of the house we find traces of the damage done by the earthquake which preceded the eruption. These injuries have in most cases been repaired, but their situation may nevertheless be recognised by the recent character of the work. The freshness of the decorations also may be considered to indicate that the whole building was undergoing the process of renovation at the time of the last catastrophe. The frequent occurrence of vessels filled with lime in different rooms supplies additional evidence to support this supposition, which is of more importance than at first sight it may appear, for the unique arrangements of the interior, taken in conjunction with these extensive repairs, make it evident that the house is one of the most ancient which has yet been excavated. Even the vestibule, with its three gradations of colour, black red and white, the latter uppermost, convinces us

before we have entered the Tuscan atrium, that we are on the threshold of a building which differs materially from all we have yet examined. In the atrium, the first object which arrests our attention is the impluvium, remarkable for its elegant fountain and pedestal of inlaid marbles, with a marble table in front, supported on winged gryffons. In the rear of this fountain is a room open to the atrium, the frieze of which is composed of bas-reliefs and paintings alternately, the only example yet met with in Pompeii. The walls of this room were painted yellow, above a red plinth, having one picture in the centre of each. One of them was the picture of Isis, which gave to the house one of its older names. The bed-rooms on the other side of the atrium were lighted by windows inserted above the doorways, and were richly decorated with arabesques. A large triclinium completes the building on that side. Passing from the atrium we find ourselves in one of the most magnificent peristyles which have been preserved to our time. The holes in the marble threshold show that it was separated from the atrium by a door of four folding leaves. The 24 columns which form so grand an object in the spacious area, are almost Doric in their style: at the base of each is an iron ring for spreading an awning over the impluvium in the centre, which was evidently used as a fishpond, and was so arranged that the water of a fountain fell over eight steps, forming a miniature cascade. Along the margin is still to be seen a deep channel in which were found numerous remains of plants and shrubs. The walls were covered with pictures, the best of which have been removed. At the back of the peristyle, facing the fountain, are two noble apartments, one of which is remarkable for its two tiers of columns with capitals resembling the Corinthian. The upper tier is surrounded by a gallery, which rests on arches springing from the capitals of the lower, the arches being small segments of a circle. This is, we believe, the only instance known in a building of this date, in which the

continuous architrave was abandoned, in order that the columns might be tied together by a series of arches,—a mode of construction which the early Christians were supposed to have introduced when they adopted the form of the Roman Basilica as the model for their churches. At the extremity of the mansion on this side is a second triclinium, of imposing size and proportions, and decorated with great richness in every part. If the roof had been preserved, it would have been one of the noblest rooms in Pompeii.

House of Meleager (1830), formerly called the House of Apollo, another very handsome and interesting mansion which, like the one just described, was under repair at the time of the eruption. The work, however, in this case appears to have been in a more advanced state. The principal features of the building, as it now appears, are the Corinthian atrium, the very singular apartment with a window in whose marble framework traces of an iron gate are still visible, the venereum containing an apartment with Grecian pilasters and a Doric cornice, the triclinium with a window looking out upon a garden, and the site of the garden itself now ruined by the fall of the cellars beneath it, but remarkable, when first discovered, as containing many of the shrubs with which it was planted. The mosaics and pictures with which the mansion was profusely decorated were found in an extraordinary state of freshness and preservation, confirming our remarks in regard to the renovation of the building; but everything of interest, including the beautiful painting of Meleager and Atalanta, which gave name to the house, has been removed to Naples.

House of the Quæstor (1829-30), formerly known as that of the Dioscuri, of Castor and Pollux, and of the Centaur; a house of great magnificence and size, and decorated with uncommon elegance in every part. Unlike most of the other houses in Pompeii, the exterior of this exhibits the same attention to minute ornament and finish which characterises the interior.

The façade is unusually rich; the stucco with which it is covered being worked in panels and cornices, formed by stamped ornaments of the same material picked out with colour. At the entrance doorway is a picture of Mercury running away with a purse. On the sides of the vestibule are paintings of Castor and Pollux, or the Dioscuri, from which the building derived two of its names. The atrium, 40 feet square, has a Corinthian peristyle of 12 columns, with an impluvium and fountain in the centre. The walls, which are coloured red and yellow, are covered with paintings of arabesques, grotesques, landscapes and figures, including among the latter many of the gods. In the left angle is a small room, in which were found two very large and highly ornamented wooden chests, lined with bronze and bound externally with iron. They are supposed to have been the depositories of the money collected as taxes customs and port dues, and from this supposition the building has derived the name of the "House of the Quæstor," though there is no proof that a small town like Pompeii ever had an officer of that rank. They were found securely fastened to a solid plinth cased with marble, and were closed by strong bronze locks. When first excavated, fifty gold and silver coins dropped through the decayed woodwork of the bottom, but these must have formed a very small portion of their treasures, for they had been rifled ages before and by some one who well knew both the locality and their contents. Whoever he may have been who was thus anxious to rescue the buried gold, the walls now standing show that he made an error in his calculation, and had to exercise considerable ingenuity and labour to repair it. In excavating from above, he entered the adjoining room, and instead of retracing his steps and renewing his excavations at the distance of a few feet, which would have brought him into the apartment he was seeking, he preferred to cut through the massive wall of the atrium, and extract the money by

breaking a hole in the chest which stood on the other side of it. This proceeding, of course, indicates an intimate acquaintance with the spot, while the evident reluctance to make a second excavation suggests the idea that the explorer was anxious not to attract attention to his work. Beyond these chests is the tablinum, with its beautiful pavement of white mosaic edged with black, and its walls decorated with peculiar brilliancy. Two of the paintings, representing Ulysses detecting Achilles among the daughters of Lycomedes, and the Quarrel of Achilles and Agamemnon, are as fine as any which have yet been discovered. Several of the adjoining rooms are likewise richly decorated, but our space does not allow us to describe them separately, or to mention any of their pictures except that of Thetis dipping Achilles in the Styx. In the rear of these rooms is a colonnade supported by Doric columns, and opening upon a garden. The walls of this colonnade were decorated with paintings, mostly of tragic scenes in the theatre; but several of the best have been removed to Naples. The wall of the garden facing the house was painted to represent a pseudo-garden; one of the walks was covered with a trellis, the supports of which still remain. Passing over the minor apartments we now enter one of the most splendid courts which have yet been brought to light; it is called the Court of the Piscina by Sir W. Gell, who has given a most accurate view of it. It is surrounded by a colonnade formed of four Corinthian columns on each side, with antæ at the angles; in the centre, one end was occupied by a fish-pond and fountain, the rest was filled with earth for a flower garden. On two of the antæ were two of the most celebrated pictures now at Naples, the Perseus and Andromeda, and Medea contemplating the Murder of her Children. On one of the others was the well known picture of a Dwarf leading a Monkey. At the extremity of the court is a triclinium of large size, which was closed by folding doors, the marble sockets of which

are still visible. In the centre of the floor was the celebrated circular mosaic of the Lion crowned by young Loves with garlands of flowers, now in the Palace of Capodimonte. It would be tedious to describe the other rooms in detail, and quite impossible, in our limited space, to attempt to particularise their ornamental features. A volume might be written on the House of the Quæstor, and days be spent in studying the infinite variety, the magnificence and the grace which have placed it at the head of the private palaces of Pompeii.

Tavern (1832), a building so called from the number of cooking vessels, tripods, pots, and pans of bronze and earthenware which were found in it. The walls are covered with licentious paintings, representing the usual routine of low tavern scenes. Two of them, however, are unobjectionable and curious as illustrations of domestic habits. One represents a drinking scene, in which two of the men wear capotes like the fishermen of the present day; the liquor is served in a basin like a punch bowl, and drinking horns are used instead of glasses. On a row of pegs above are suspended various kinds of eatables, some of them preserved in nets, and one bearing some resemblance to a string of maccheroni; the scratches on the wall look very like the landlord's score. The other painting represents a 4-wheeled wine cart with a curriole bar, from which the two horses are detached. The cart is filled with a huge skin, from the leg of which a man and boy are filling the amphoræ.

House of Anymone and Neptune (1826-31), a small house, with a portico and garden, remarkable for the discovery of five skeletons among its ruins, with several bracelets and rings of gold, and coins of gold, silver, and bronze, not as usual lying on the pavement, but buried in the accumulated materials about 12 feet above it. This circumstance is curious as affording additional proof that the houses were explored and rifled after the eruption, and that the ashes for some time after-

wards evolved gases destructive of human life.

House of the Anchor (1826-30), so called from a mosaic of an anchor found in the entrance porch. It has a portico and covered loggia of large size, supported by Doric columns, and overlooking a garden decorated with niches and pedestals for statues, and terminating in a little temple between two fountains.

House of Zephyrus and Flora (1827), a large house abutting on the Street of the Baths, frequently confounded with the one we have just noticed, and described under a multiplicity of titles, such as the House of Ceres, the House of the Bacchantes, and the House of the Ship, the latter from a painting at the entrance of one of the shops which occupy, as usual, the ground floor. The modern name is derived from a very celebrated painting, supposed to represent the marriage of Zephyrus and Flora, and now removed to the Museum. The walls are in better preservation than those of most other houses of this class. From their height and from the arrangement of the decorations, it appears to have been two stories high. Some beautiful paintings were found in the atrium; one was the fine sitting figure of Jupiter on his golden throne, with a glory round his head like that surrounding the heads of mediæval saints. The well, with a cover of African marble, was decorated with coarse mosaics, representing two large masks, a river, and griffons. Four iron tires of chariot-wheels were found among the ruins, precisely corresponding with those now in use.

VIII. We now turn again to the N. by a street running parallel to the street of Mercury, to examine the two last houses which remain to be noticed in this quarter of the city.

House of the Labyrinth (1832), a very large and imposing building, scarcely surpassed by any other which has yet been discovered in the imposing character of its architecture, or in the elegance of its internal arrangements. It derives its name from the

mosaic of Theseus killing the Minotaur, which formed the pavement of one of the principal apartments.

House of the Faun (1829-31), called also the House of the Great Mosaic, the first name being derived from the bronze statuette of the Dancing Faun which is now the gem of the Museo Borbonico; the second from the mosaic of the battle of Issus, the grandest mosaic yet discovered, which forms so conspicuous an object in the Hall of Flora in the same Museum. This is said to be the largest of the Pompeii houses. It must also have been one of the most magnificent and luxurious, though little remains even of what it exhibited when first excavated. The space usually occupied by pictures was here filled with mosaics, many of which like the Acratus of Bacchus riding on a tiger, the course of the Nile with the hippopotamus, the crocodile, the ibis, &c., have evident reference to the worship of Osiris. The pavement was mostly formed of oriental marble and alabaster of different colours. Nearly all the objects of interest have followed the two principal works of art to Naples; and as it was chiefly in its mosaic decorations that the mansion differed from others we have described, it is unnecessary to particularise its details. In the numerous apartments were found a greater variety of furniture and domestic articles than in any other house which has been examined. Some of the stewpans were of silver; the bronze vessels were of unusual elegance and finish; and the gold bracelets, necklaces, and rings found in the apartments of the *venereum* were rich and massive beyond any other examples of Pompeii jewellery. The court also was filled with amphoræ in preparation for the coming vintage. Some skeletons were found in one of the rooms.

IX. We have now completed our examination of that half of the city which is comprised between the Herculaneum Gate, the Street of the Baths, the Street of Nola which is a continuation of it, and the transverse streets leading from the Gate of Vesuvius to the theatres. The *Quadricium*

formed by the intersection of the two latter streets was the scene of the first excavations. A few objects have been cleared in the line of the Street of Nola on the left, which we may briefly notice here, in order to avoid the necessity of retracing our steps hereafter.

House of the Bronze Bull, with an atrium painted with garlands of fruits and flowers. Beyond this, numerous shops and foundations of houses have been traced, showing that the street was bordered with habitations, but none of them are sufficiently excavated to detain us. About 500 feet before we reach the gate is the

House of the Infant Perseus, so called from a picture representing Danae with Perseus at the court of Polydectes, in the island of Seriphus.

Shops and smaller houses (1812).—The street close to the Nola Gate, on the city side, is bordered by a series of small houses and shops; but in consequence of their unpromising character the excavations in this quarter were soon abandoned.

Gate of Nola (1812), formerly called the Gate of Isis, a single arch still entire, 21 feet high and 12 wide, built of rubble and brick, faced with stucco. This, like the Herculaneum Gate, was double; but the outer portion, which was doubtless of tufa like the walls, has been destroyed, and what now remains has been rudely repaired, probably at the time when the towers were erected. The arch, however, is evidently more ancient than these reparations. The gate is placed at a distance of nearly 50 feet from the outer walls, so that it was approached externally by a narrow passage, the entrance of which was fortified by two towers. Another peculiarity is that it is not at right angles with the wall, but is in a direct line with the street of Nola. The keystone of the arch on the city side is sculptured with a head of Isis, by the side of which is an Oscan inscription, written of course from right to left, signifying that C. Pupidius, the Meddixtuticus, repaired and dedicated it to Isis. On the inner sides were chambers, supposed to have contained

wooden steps which gave access to the walls.

We now return to the *Quadrivium*, to examine several small houses which lie between it, the Street of the Dried Fruits, and the Street of Fortune, preparatory to our entering on the region of the Forum. First, however, we have to notice the

Shops of the Quadrivium (1845).—At this junction of the four streets, as in many of the neighbouring *quadrivia* and *trivia*, numerous shops appear to have been congregated. This locality must have been a favourable one for business, in consequence of the meeting of four thoroughfares from important quarters of the city, and consequently the shops which were excavated in 1845 were found to contain an unusually large supply of articles of merchandise. Two of them were stocked with bronze and iron utensils for cooking and domestic purposes; another, apparently the store of a statuary or stone mason, contained blocks of marble and several statues, one of which represented the skeleton of a woman in flowing drapery, supposed to represent the Goddess of Envy.

House of the Chase, containing representations of the chase of the various wild animals used in the amphitheatre.

House of the Bronze Figures, so called from the numerous figures of men and animals, and double-headed busts or *Hermes* in bronze, which were found in it.

House of the Chalk Figures, a name derived from the objects it contained.

House of the Black Walls, "*Casetta della Parete Nera*," so called from the very delicate and graceful ornaments on a black ground in one of the apartments, alternating with pictures representing sacrifices to *Venus*, *Minerva*, and *Juno*; *Cupid* and *Psyche*, &c.

House of the Figured Capitals, so called from the pilasters at the entrance with capitals representing *Fauns* and *Bacchantes*.

House of the Grand Duke of Tuscany, a very small house, but remarkable for the picture found in the principal room, representing *Dirce*, *Antiope*

and the *Bull*, and for a mosaic fountain embellished with the marble statue of a *Faun*.

House of Ariadne, sometimes called the *House of Bacchus*, remarkable for the elegance of its internal arrangement, for the *sacrarium*, the garden *triclinium*, and several interesting paintings which were found in it, among which may be mentioned the *Ariadne* from which it derives its name; *Galatea* on a *Triton*, *Apollo* and *Daphne*, and the old *Love-merchant*.

XI. A street called the *Vico Storto* separates this mass of buildings from a few houses excavated in recent years. It is sufficient to record their names as the *House of Mercury* (1845), *House of the Quadriga* (1845), *House of Love disarmed* (1844), so called from a very pretty picture of *Cupid* made prisoner by two girls, and a *Baker's Shop* (1845). The frequent occurrence of the *phallus* over the entrance doors, and the obscene pictures found in several of the houses, have induced the belief that this was the quarter of the courtesans.

XII. We now return to the central *quadrivium* formed by the junction of the Street of *Nola*, the Street of the *Baths*, and those of *Mercury* and *Fortune*. At this point are the remains of a *Triumphal Arch and Fountain*, forming a grand entrance to the Street of *Fortune*, and corresponding with another arch which, as we shall see presently, formed the termination of the street at its junction with the *Forum*. At this point may be said to begin the *Public Edifices and Institutions of Pompeii*. First of these, at the corner of the Street of *Nola*, is the

Temple of Fortune (1825), a small *Corinthian* temple, erected, as the inscription tells us, by *Marcus Tullius* the *duumvir*, supposed to be a descendant of *Cicero*, on his own ground and at his own cost. The steps in front are broken by a low wall or *podium* supporting an altar, which was protected by an iron railing, the remains of which are still visible. The portico had four marble columns in front and two at the sides; but they had either been removed after the eruption or

destroyed by the earthquake which preceded it, as no trace of them was found. The cella is square. Behind the altar is a semicircular niche, containing a receptacle for the statue in the form of a small Corinthian temple. In the cella was found a female statue with the face sawed off, no doubt one of the ready-made figures which were sold in this state by the Roman sculptors, in order that the features of any particular goddess might be added at pleasure. Another statue found here, and attributed to Cicero, was a full-sized figure wearing the toga of the Roman magistracy, and extremely interesting as having been entirely painted with the costly dye, a mixture of purple and violet, which appears thus early to have been the peculiar colour of the higher order of magistrates and priests.

Public Baths (1824).—This establishment is of great extent, covering an area of 100 square feet, and having a frontage in three streets. An inscription in the court, on the right of the entrance, records the dedication of the baths at the expense of Cnæus Alleius Nigidius Maius, and the games and entertainments which took place in honour of the event in the amphitheatre, the luxury of an awning (“*vela erunt*”) being especially mentioned. As Nero’s interdiction of theatrical amusements did not expire till the year 69, it is inferred from this inscription that the dedication took place a very short time before the destruction of the city. The building is divided into three compartments; the 1st containing the furnaces and fuel, the 2d the baths for men, the 3d those for women. The same furnaces of course supplied both sets, and were supplied with water from a reservoir at a little distance, the pipes being carried across the street by the Arch, in which their remains are still visible. Each set of baths was paved throughout with white and black marble, and was arranged on one plan, consisting of a disrobing room, a cold bath, a warm bath, and a vapour bath. Those for the men are the largest and most elegant. A vestibule, entered by three different passages and surrounded

by a portico, leads, by a corridor in which 500 terra-cotta lamps were found, into the disrobing room or *apodyterium*, an oblong stuccoed chamber painted yellow, with holes in the wall in which the clothes pegs were inserted, and with seats of lava on three of its sides. The roof was vaulted and lighted at one end, close to the ceiling, by a window containing a single pane of glass 3 feet 8 inches broad, 2 feet 8 inches high, 2-5ths of an inch thick, and ground on one side, as was proved by the numerous fragments found upon the floor. Underneath this window is a large bearded mask in stucco, with tritons and water nymphs on each side of it. The roof was painted in white panels with red borders; beneath the cornice of the room is an arabesque frieze in relief on a red ground, composed of chimeras, vases, and lyres resting on two dolphins. At one end of this room is a small chamber, supposed to be a wardrobe. At the opposite end is the entrance to the cold bath, or *frigidarium*, a circular chamber in a fine state of preservation, stuccoed and painted yellow, with a bell-shaped roof which was apparently painted blue, and lighted by a window near the top. The cornice is decorated with relief in stucco on a red ground, representing Cupids engaged in a chariot and horse race. In the angles are 4 circular niches with seats painted red and blue. In the centre is the cold water basin of white marble, 12 feet 10 inches in diameter, and 2 feet 9 inches deep, with two steps in front of the entrance door, and a low seat in the middle. The warm bath, or *tepidarium*, is entered from the disrobing room, and nearly corresponds with it in size. It has a vaulted ceiling painted red and blue, and richly covered with stucco ornaments in medallions, consisting chiefly of figures and foliage. At one end it is pierced with a window 2 feet 6 inches high, and 3 feet wide, which contained a bronze frame in which four panes of glass were curiously fastened by screws, so as to be opened or shut at pleasure. Below the cornice of the roof the wall, which is painted to re-

present porphyry, is divided into numerous niches by terra-cotta figures of Atlas, 2 feet high, covered with stucco and painted flesh colour. The niches are supposed to have held the clothes of the bathers, the oil vessels, and the perfumes. Along the sides of the room are bronze benches, standing upon legs in imitation of those of a cow, an evident allusion to the person whose name is inscribed on them, "M. Nigidius Vaeula, A. P. S." In the centre of the room is a large bronze brazier, 7 feet long and 2½ feet wide, lined with iron but having bronze bars for the charcoal; on the front is the figure of a cow in high relief, another allusion to the individual by whom all these bronze vessels appear to have been presented. From this chamber we pass into the vapour bath, or *caldarium*, the length of which, in strict accordance with the precept of Vitruvius, is twice its width. It terminates at one end in a semicircular niche, containing a marble vase 5 feet in diameter, which held the warm water for ablutions; around its rim is an inscription, in bronze letters, recording its erection at the public expense, by order of the Decurions, by Gnaeus Melissæus Afer and Marcus Staius Rufus, duumviri of justice for the second time, at the cost of 750 sesterces (6*l.*). At the other end of the chamber, which is square, is the hot bath, 12 feet long and about 2 feet deep; it is of white marble, and is elevated on steps of the same material. The vaulted ceiling is extremely handsome, being composed of transverse fluting; the cornice is supported by fluted pilasters painted red; the walls of the room are of yellow stucco. The temperature of the room was regulated by three windows or apertures over the niche of the vase; these were closed by plates of bronze which were drawn or withdrawn by means of chains. The walls and pavement were constructed hollow, so as to allow the steam to circulate freely from the furnaces, which may still be examined *in situ* on the W. side of the building. The *Women's Baths* are on the other side of the furnaces; they are arranged on

the same plan as those for the men, and are decorated in the same manner, but are not so large or so perfectly preserved. We have mentioned 500 lamps as having been found in one corridor of this vast establishment; they formed but a small portion of the whole number, which is said to have exceeded 1,300, and to have included every variety of form and size. Among the many other objects discovered in the rooms was a money-box and a surgeon's catheter.

Street of Fortune (1823), a fine broad street leading to the Forum, in direct continuation of the Street of Mercury. It is 200 feet long and 22 feet wide, and has footpaths at the sides. On the right it was bordered by the portico of the Baths, beneath which were numerous shops, as there were also on the opposite side, all of them apparently of the first class. In one of them were found several hundred articles in glass and bronze, bells, inkstands, money-boxes, dishes, steelyards, &c., the greater part of which may be examined in the Museum. In this house a skeleton was found in the act of escaping from his window with 60 coins, a small plate, and a saucepan of silver; two other skeletons were found in the street. In another house were found, in 1845, in a large room on the ground floor, various articles of office furniture, with some marble weights and several coins of Galba and Vespasian. At the S. end, forming the entrance to the Forum, the street was spanned by the

Triumphal Arch (1823), built of brick and lava, covered with thin plates of marble, and still retaining its massive piers; each decorated with two fluted Corinthian columns of white marble, with square niches between them which are supposed to have contained statues and fountains. There is reason to believe that this arch was surmounted by an equestrian bronze statue, as fragments both of the man and horse were found among the ruins. The street on the left is called the *Street of the Dried Fruits*, to be hereafter noticed; that on the right contains two shops, called the *Milk Shop*

and the *School of Gladiators* from the signs over the doorways already noticed at p. 324.

XIII. We now enter on the Quarter of the Forum, which contains the principal Temples, the Tribunals, the Exchange, and other public institutions.

The Forum (1816) is the most spacious and imposing spot in Pompeii; it is distant about 400 yards from the Herculaneum Gate, and about the same distance from the Great Theatre. It is surrounded on three of its sides by a broad colonnade of Grecian Doric architecture; the columns are of white marble, 12 feet high and 2 feet $3\frac{1}{2}$ inches in diameter. Above this colonnade there appears, from the numerous traces of staircases still visible, to have been a terrace. On the E. side of the Forum are the remains of an older arcade and portico, which had been damaged by the earthquake and was in process of rebuilding. In front of the columns are pedestals on which stood statues or busts of eminent personages; some of them, from the size of the pedestals, were evidently equestrian. Several streets opened into the Forum but were closed at night by iron gates, as is proved by the fragments of iron still traceable at the different entrances. The entire area was paved with marble. In front of the portico on the S. and W. sides are several pedestals for statues, some of which, from their size, must have been equestrian. A few of the pedestals still bear the names of distinguished inhabitants of the city, among which may be recognised those of Pansa, Scaurus, Sallust, Gellianus, and Rufus. Fontana's aqueduct passes diagonally under the pavement, cutting through the foundations of the Temple of Venus and of other important buildings in the opposite angle.

Temple of Jupiter (1816-17), once called the *Senaculum*, a building of large size and imposing aspect, standing on an elevated basement at the N. end of the Forum, and occupying by far the finest site in the city. It is built of brick and lava, covered with white

stucco. The entrance is approached by a long flight of steps, flanked by pedestals for colossal statues. Exclusive of these steps, the building is 100 feet long and 43 feet wide. In front was a square vestibule with a magnificent portico of Corinthian columns, six in front and three at each side, which are supposed from their diameter of 3 feet 8 inches, to have been nearly 40 feet in height. The interior of the cella, 42 feet by 28, is bordered on each side by a row of eight Ionic columns, which appears to have had another row above, supporting the roof of a gallery. The walls were painted, the predominant colours being red and black. The pavement was of marble, arranged in the diamond pattern in the centre, with a border of black and white mosaic. The door sill retains the holes for the bolts of the doors. At the N. end of the cella are three small chambers, behind which are the remains of a staircase leading probably to the gallery. From the vestibule there is a fine view of Monte Sant' Angelo and the surrounding country.

The Prisons (1816). A small plain arch at the W. angle of the Temple leads to the Prisons, narrow dungeons without light except what might be admitted through the iron bars of the doors. The skeletons of two men were found in them, their leg bones encircled with the iron shackles; they may still be seen in the Museum at Naples.

The Public Granary (1816). Adjoining the Prisons is a long narrow building, near which were found the public measures for corn, oil, and wine, now preserved in the Museum. To this circumstance it owes its present name.

Temple of Venus (1817), a small temple surrounded by an area of 150 feet by 75, on the W. side of the Forum, a larger space than is occupied by the precincts of any other Temple in the city. This area is bounded on all sides by a portico, 12 feet 2 inches wide, covered with beams of timber, and consisting of 48 irregular and disproportionate columns, which were

originally Doric, but have been converted into Corinthian by means of stucco. The walls of this portico were decorated with a series of paintings on a black ground representing architectural subjects, landscapes, dwarfs, pigmies, and various relics of Egyptian superstition, suggesting the belief that the building may have been used in later times for the worship of Osiris. The Temple itself stands upon an elevated basement, ascended by 16 steps, in front of which is a large altar covered with a black stone, containing three places for fire, in which, when first excavated, the ashes of the victims were discovered. On the west and east sides are duplicate inscriptions recording the erection of the temple by M. Porcius L. Sextilius, Cn. Cornelius, and A. Cornelius, at their own expense. The cella is very small, and contains nothing but the pedestal for a statue. In the open area were found the statues of Venus and Hermaphroditus now in the Museum, and a mosaic border of great beauty. In a room supposed to be the private apartment of the priest, was found a picture of the infant Bacchus and Silenus playing the lyre. An inscription found among the ruins records that Marcus Holconius Rufus, and Caius Ignatius Posthumus, duumviri of justice for the 3d time, by a decree of the Decurions, had purchased for 3000 sesterces the right of closing the windows, and had erected a private wall as high as the roof, to conceal the proceedings in the College of the Corporation of Venereans.

The Basilica (1817), the Westminster Hall of Pompeii. This edifice, 220 feet long and 80 broad, occupies the S.W. angle of the Forum, and is supposed to be the work of Greek architects. It is approached by an open court or vestibule, entered from the portico of the Forum, and still retaining the grooves in the piers by which it was railed off or closed with doors. From the vestibule a flight of steps leads into the interior by five doorways. The central area was open, and was surrounded by a gallery supported by a peristyle of 28 Ionic columns of

large size, curiously built of brick and tufa stuccoed, and forming a covered passage below, along the four sides of building. The walls were covered with stucco, painted in squares in imitation of various coloured marbles. At the end of the building, elevated on a basement and decorated with six columns, is the Tribune for the Duumviri or Judges, with vaults beneath, which are supposed to have been the dungeons for criminals. In front of the Tribune, between the two centre columns of the peristyle, is a square pedestal which supported a bronze statue, of which nothing but the legs were found. The remains of other pedestals are seen at the sides, at the entrances, and in front of the portico; the sites of fountains are also traceable. The pavement was entirely wanting when the building was excavated, having evidently been removed after the eruption; in fact, the whole edifice bore marks of having been rifled, in all probability not for the purposes of plunder but for the recovery of its records. Both the inner and the outer walls present numerous inscriptions, some written with red paint, and some merely scratched with a sharp point. One of them announces that C. Pumidius Dipilus was here at the nodes of October, during the Consulate of M. Lepidus and Q. Catulus; this was 79 a. c., the year of Sylla's death. Other inscriptions appear to be announcements of public games; one of them gives notice that the gladiator Festus Ampliatus, whose name will be recognised as occurring on the Tomb of Scaurus (p. 330.) will contend for the second time on May 17. Among the inscriptions scribbled under the portico were many verses from Ovid's *Art of Love*.

The Curia and Ærarium (1814), at the S. extremity of the Forum, facing the Temple of Jupiter, are three small halls of equal size, and presenting no difference of construction, except that the central one has a square recess and the remains of a raised basement at the end, while those at the sides have circular recesses. They were highly decorated with columns and statues. The

central hall, from the numerous coins of gold, silver, and copper which were found in it, is supposed to be the *Ærarium* or Public Treasury; the others were probably the *Curie* or Courts for the meetings of the Municipal Magistrates.

Houses of Championet (1799), so called from the French General of that name by whom they were excavated. One of them has a *cavædium* of considerable elegance, and the other has an atrium the columns of which were originally fluted, but were subsequently renovated by coloured stucco. The basement of the peristyle which surrounds a small garden has several singular openings for the purpose of lighting a series of subterranean chambers, which were approached from the street by an inclined passage and from the peristyle by a stair. One of the apartments still retains many traces of its brilliant arabesques and medallions; but the beautiful pictures, which made these houses celebrated at the beginning of the present century, have long since disappeared. In one of them four female skeletons were discovered, with numerous gold bracelets and other articles of jewellery, which, with the other objects of interest, were removed to Paris. The situation of these houses on elevated ground overlooking the sea, and commanding an uninterrupted view of the Sorrento coast, must have been particularly agreeable. From this point we cross the Forum, to complete our examination of its E. side. At the S. E. angle, at the corner of the Street of Abundance, formerly called the Street of the Silversmiths, we find the

Scuola Publica, a name given to a square building, without ornament or inscription, the use of which has not been satisfactorily determined.

Crypto-Porticus of Eumachia (1821), or the *Chalcidicum*, a building of large size in the form of a basilica, 130 feet long and 65 feet broad, supposed to have been the Exchange of the cloth merchants. It had two entrances, one from the Street of Abundance, the other from the Forum. The latter had a noble portico of 18 columns; the grand

entrance in the centre was closed by folding doors, of which the sockets and bolt holes are still visible in the marble. This was bordered by raised platforms, for the purpose, probably, of haranguing the people. The interior was divided into a large area 130 feet by 65, surrounded by a double gallery, a peristyle of 48 columns of Parian marble of beautiful workmanship, very few of which have been found, a *chalcidicum* or enclosed apartment at the extremity of the area entered from the side street, and a *crypto-porticus*, or gallery in which walls pierced with windows have replaced the columns usually seen in the interior. These walls are painted in panels, red and yellow, with representations of flower borders at the base. At the end opposite the entrance is a semicircular recess which contained a statue of Concord. Behind it, in a niche in the centre of the wall in the *crypto-porticus*, stood the statue of *Eumachia* the priestess, 5 feet 4 inches high, with an inscription recording that it was erected by the dyers to *Eumachia*, the public priestess. On the architrave over the side entrance is another inscription, recording the erection of the building by *Eumachia* the priestess, daughter of *Lucius*, in her own name and that of her son, *M. Numistrus Fronto*, and at her own expense. This is a repetition of a much larger inscription which was affixed to the front of the building, but was found on the ground broken into fragments; it is now in the Museum. Under the staircase leading to the upper gallery was a *Thermopolium*, or shop for hot liquids, in which one of the most interesting urns in the Museum was discovered. The entire building appears to have suffered severely from the earthquake, as it was evidently under repair at the time of the eruption. On the external wall was a notice of a gladiatorial show, and an inscription recording that that all the goldsmiths invoked *C. Cuspius Pansa* the *Ædile*.

Temple of Quirinus, (1817-18), formerly known by the names of *Romulus* and *Mercury*; a small temple, close to the *Crypto-porticus* on the E.

side of the Forum, occupying a space 57 feet 6 inches, by 55 feet 7 inches. It stands upon a basement and is approached by a narrow vestibule, with steps on each side leading to the platform of the cella, in the centre of which is an altar of Parian marble with bas-reliefs representing a sacrifice on one side, and the sacrificial implements on the others. The principal figure was long supposed to be Cicero. The walls are divided into long compartments by pilasters. In front of the temple were found the fragments of an inscription recording the deification of Romulus by the title of Quirinus. Adjoining the building were the apartments for the priests, in one of which numerous amphoræ were found.

Decurionate (1818), called also the House of the Augustals, and the Senaculum, or Senate House; a small hall 83 feet by 60, adjoining the Temple of Quirinus, with a portico of Ionic columns of white marble. On each side of the entrance is a pedestal for statues. In the centre of the area is an altar, and at the end is a semicircular recess with a seat for the decurions, who are supposed to have held in it their public sittings.

House of the Augustals (1818), called also the Pantheon, and the Temple of Augustus. If these are not all misnomers, it would appear from the culinary paintings at the N. entrance, and from the large collection of fish-bones and other fragments of food found in the sink in the centre, that a building devoted to religious purposes was used also as a banqueting house. It is a spacious edifice with entrances in three of its sides, the principal one decorated with marble columns and pedestals for statues. The columns of the portico had been thrown down by the earthquake, and were under restoration at the time of the eruption. It consists internally of an open atrium 120 feet by 90, with 12 pedestals placed in a circle round an altar which occupies the centre of the area. These pedestals are supposed to have supported 12 statues of the *Dii Consentes*, but as no statues were found, it is sup-

posed that they were removed after the eruption. The back of the building is divided into three compartments, of which the central is subdivided into niches, in which were found the statues of Livia as a priestess, and of her son Drusus, now in the Museum and here replaced by casts. A statue of Augustus is supposed to have stood near them, as an arm holding a globe was found in this part of the building. On the S. side of the building are 12 small cells supposed to be the chambers of the Augustals, and the holes for joists prove that there were similar rooms above them. The inner walls of the whole building appear to have been decorated with great richness and care. Among the beautiful arabesques and paintings for which it was remarkable, we may mention the Ulysses in disguise meeting Penelope on his return to Ithaca, Io and Epaphus, Latona and her children, a Roman Galley, the Cupids making Bread, Donkeys working the Corn-mills, and various articles of food, such as geese, lobsters, game, fruit, wine, &c. The picture of the female painter herself holding her palette and brushes is at Naples. Near the N. entrance was found a box containing a massive gold ring with an engraved stone, 41 silver and 1036 bronze coins.

Shops of the Money Changers. — In front of the building just described, and under the portico of the Forum, stood seven of these *Tabernæ Argentariæ*. The pedestals of some of the tables still remain.

XIV. *Street of the Dried Fruits.* — Having now completed our survey of the Forum, we have to notice briefly a few houses which have been excavated in the rear of the public edifices on its E. side. This district is bounded on the N. by the Street of the Dried Fruits, which derived its name from the large quantity of these articles found in the numerous shops which border it on both sides. Besides this stock of raisins, plums, figs, and chestnuts, a collection of hemp seed, scales and weights, pastry moulds, lanterns and vases of various kinds, were found

in them, and several of their entrances were ornamented with pictures. Near the corner of the street, where it joins that leading to the Street of Abundance, a beautiful figure of Bacchus pressing the juice of a bunch of grapes into a vase, with a panther at his feet, was discovered.

House of Prince Henry of Holland (1844), a small house excavated in the presence of this prince, but containing nothing to require a description.

House of the King of Prussia (1822-23), in a street which runs S. from the Street of the Dried Fruits to that of Abundance, another small house of the same class, which derives its name from having been excavated in the presence of his Prussian Majesty. Some gold bracelets and rings, some bronze balances, strigils, and ornaments of a bed, and a small bas-relief in marble representing two masks and a winged horse were the principal objects found in it.

House of the Fisherwoman (1822-23), so called from a picture representing Venus fishing and Cupid looking on.

Several inns and shops of the ordinary character occur in this street, among them is the shop of a soap-maker.

House of Venus and Mars (1820), called also the House of Hercules, from a picture representing his initiation in the mysteries of a priestess, the present name being likewise derived from a picture it contained. Some mosaics, sculptures, and inscriptions, in which several Pompeian names occurred, were also found in it; but the object of greatest interest was a well 116 feet deep, the arch of which had so effectually resisted the earthquakes and the eruption that it is as perfect now as it was 18 centuries ago. The water is said to be mineral, and is now often used for medicinal purposes.

House of Ganymede (1839), a small house in the rear of the Crypto-porticus, the basement is occupied by the shops which line the N. side of the Street of Abundance. Its name, as usual, is derived from a painting on one of its walls.

House of Queen Adelaide (1839), adjoining the one just mentioned; it derives its name from the late Queen Dowager of England, in whose presence it was partly excavated. Like most of the houses in this quarter of the city, it is of moderate size, and as the principal objects which were found in it have been removed, it contains nothing now to call for a detailed description.

XV. *The Street of Abundance*, formerly called the Street of the Silver-smiths, is a fine broad thoroughfare leading from the S. extremity of the Forum to the quarter of the Theatres. It derives its present name from a Statue of Abundance which was found in the centre of the quadrivium formed by the intersection of the Street of the Theatre. Its old name was derived from the great quantity of jewellery found in the shops which are crowded together on each side of it, showing that the neighbourhood of the two theatres must have been an eligible spot for the sale of personal ornaments. These shops, unlike any of the others we have had to describe, are built in the Greek style; the doors are flanked by pilasters, and the masonry and mouldings are so skilfully arranged that they incline almost imperceptibly with the slope of the street. Many of the houses still bear the owners' names, painted mostly with red colour in very irregular and rude characters, and in some instances over the names of previous tenants imperfectly erased. Here and there we find the name inscribed on a little white tablet on the walls, the *Album* of the Roman architects. Some pray for the patronage of the *Ædile*, and one assures him that he is worthy of it, "dignus est." Another has a rude representation of the owner, a scribe, with a pen behind his ear. One house has a very beautiful and perfect doorway of stone, the only example yet discovered; on the right wall of the vestibule is a painting of a monkey playing the double pipe. Another peculiarity in this street is the occurrence of marks on the walls of some of the houses, as if they had been

worn by chains. At one spot where this occurs, a piece of marble worked in the form of a sharp cone is inserted in the pavement. Sir W. Gell conjectured that it was a place of punishment for slaves, and that they were drawn up the wall so that the foot only should rest upon the cone. The remains of two fountains may be traced in different parts of the street. At the end was found a skeleton, with a wire bag in his hand containing 360 silver coins, 6 of gold, and 42 of bronze; several rings and cameos, which he was also carrying away, were found near him. We shall now proceed to notice the few remaining houses we have to describe. They all lie on the S. of this street, between it and the southern wall of the city. Beginning at the end nearest the Forum, adjoining what is called the *Scuola Publica*, is the

House of the Wild Boar (1816), so called from a mosaic in the prothyrum or porch, representing a wild boar attacked by two dogs. In the atrium, also, are some mosaics of great beauty, one of which is supposed to represent the walls of the city.

House of the Accoucheur (1817), sometimes called the House of the Graces, from a picture found on one of its walls. The instruments discovered in this house abundantly justify its present title. They were 70 in number, and many of them were arranged in cases like those now used for the same purpose. Among them were different kinds of forceps, catheters, and the speculum uteri which has been patented in our day in England as a modern invention. The numerous pestles and mortars of various sizes, the wooden box still containing the material of pills converted into an earthy substance, the roll prepared for cutting into pills, the marble slabs for rolling it, and others for making ointments, all proved that the owner enjoyed an extensive practice in his branch of the profession. On one of the walls are the remains of a painting which affords an instructive example of the drawing of the Roman painters: the

colour has entirely flown, but the outline remains, cut into the plaster by some sharp instrument. The singular bronze statue of a boy with glass eyes, and some specimens of lace now in the Museum, were found in one of the apartments.

XVI. The street which leads S. from the corner of this house is called the *Street of the Dii Consentes*, from a painting on the right wall near the angle, representing the 12 superior divinities, with the tutelary serpents underneath. Juno wears a blue robe, Diana a yellow one, and Venus a pale green more transparent than the dresses of the other goddesses. A few houses have been excavated along the line of this street, which may be briefly noticed:—

House of Hero and Leander (1838), a small house on the left hand, excavated, like many of the others in this quarter, at the expense of King Lewis of Bavaria.

House of Auge and Hercules (1839), at the rear of the *Scuola Publica*; so called from a picture, illustrating a well-known incident in the history of the mother of Telephus.

House of Bread (1829), (*Casa di Pane*), a small house containing nothing now to call for a description.

House of Apollo and Coronis (1813), supposed to have been the residence of a physician, from the painting which gives it name, representing the fatal love of the mother of Æsculapius.

House of Adonis (1813), called also the House of Diana, the former name being derived from a beautiful painting of Venus and Adonis; the latter from a marble statue of the goddess found in one of the rooms. The whole house was decorated with great taste; some paintings of sea horses gambolling are full of grace and spirit. In front of the house was a public altar, evidently erected for the purpose of offering sacrifice to some deity, whose image was painted on the external wall.

House of Queen Caroline (1813), the "*Casa Carolina*," adjoining the one just described; a very interesting house of the second class, with a Corinthian atrium, the roof supported by square

pillars which surrounded the court of the impluvium, and were painted with foliage to represent creeping plants growing from the court: the kitchen had windows opening to the street. A narrow passage leads from the atrium to another series of apartments, having a distinct entrance from the street, and containing in the court, instead of the ordinary triclinium, a semicircular couch of stone, the *sigma* of Martial, the only example which has yet been discovered. When this double house was first excavated, its walls were decorated with beautiful paintings, many of which perished immediately after they were exposed to the atmosphere. Fortunately, however, Mazois was present when they were discovered, and we are indebted to his ready pencil for the knowledge of a most curious representation of a painter's studio, in which all the figures were grotesques. Some of the more permanent paintings of a higher class, though far less interesting than this picture of daily life, are now in the Museum. In the vicinity of this house seven skeletons were found, with 68 gold coins of Nero, Vespasian, and Titus, 1065 silver coins, pearl ear-rings, and numerous other articles of personal ornament or domestic use.

House of the Under-ground Kitchens, at the extremity of the street beyond the "Casa Carolina," the most southern house yet excavated, remarkable only for the arrangement of the basement, rendered necessary on this site by the rapid slope of the ground towards the ancient line of the sea shore.

XVII. From this point we return to the E. corner of the Street of Abundance, where it meets the cross street leading to the theatre, to examine the

House of the Physician, situated at the S. W. corner of the Quadrivium. It derives its name from the objects found in it, and now contains nothing which requires a particular description. The statue of Abundance, already mentioned, was found standing in the centre of this Quadrivium.

House of the Emperor Francis II.

(1819), a small house adjoining the one just mentioned, and so called because it was opened in the presence of his Imperial Majesty. It has a peristyle and some wall paintings of no great interest. Some gold ornaments, a silver vase, a vase of bronze very delicately worked, and a terra-cotta statue, were the principal objects discovered in the apartments.

House of the Emperor Joseph II. (1767-69).—Following the street of the theatre, we find at its S. extremity the house which bears this name, occupying rather more than half of the W. side of the Triangular Forum. As it was one of the first private houses excavated, the rooms were refilled with earth as soon as they were examined, in accordance with the unscientific practice of that time. It appears, however, that it was a mansion of great magnificence, of three stories, and so situated on the rising ground which overlooked the sea, that on entering the principal door, the visitor must have commanded a noble view of the Sorrentine shore, through the whole perspective of the interior. The S. side appears to have opened upon a garden sloping gradually down to the shore, like the villas already examined in the neighbourhood of the Herculaneum Gate. A skeleton of a woman was found in the furnace room of the bath.

House of the Triumphant Hercules (1847), called also the "Casa della Sottrattice," from a picture of a young girl in one of the rooms playing the double flute. This is the most important discovery made in the excavations of recent years. It is a double house, of three stories, with an open atrium bordered by the usual apartments, a triclinium of great magnificence, and a reception room or tablinum, opening upon a garden at the back, containing an impluvium in perfect preservation, which has been allowed to remain exactly as it was found. The atrium is paved with mosaics, and the walls of the entire building are highly decorated with paintings. In the small sleeping rooms at the side are pictures representing

Cupid riding on a Dolphin, bearing a letter from Galatea to Polyphemus; the favourite subject of Venus fishing; a Narcissus; Victory in her car; some Cupids swimming; and several landscapes. The triclinium, in which the feet of the couches were found richly ornamented with silver, has three large pictures, of life size, representing Hercules at the Court of Omphale, the latter wearing the lion's skin and holding the club of her lover; the boy Bacchus with Silenus on a cart drawn by oxen, and followed by Bacchantes; and a bacchanalian procession, with Victory recording on a shield the exploits of the triumphant demigod. The tablinum is paved with coloured marbles, arranged in chequers, and the charcoal fragments still visible in the panels of its walls show that it was decorated with paintings on wood. The garden contains at one end a fountain adorned with mosaics, and a small marble statue of Silenus, and in the centre an impluvium or reservoir, surrounded by statues in bad taste, but curious from their variety and arrangement; among them are, Love riding a dolphin, a bearded satyr, a stag, a fawn extracting a thorn from a goat's foot, a goat caressing its young one lying in the lap of a shepherdess, and others which we need not particularise. Attached to this house is a second series of apartments, including an open atrium, a kitchen, and other rooms, apparently intended for the servants. In the court was found a four-wheeled waggon, with iron wheels, and adorned with bronze ornaments. Several elegant vases, candelabra, glass bottles in the form of animals, some surgical instruments, and bronze coins were found in the different rooms, which were decorated with pictures of tragic and comic scenes; one of them represented a young actress in a mask playing the double flute, from which the house, when first excavated, derived its name. The kitchen was furnished with numerous culinary vessels in bronze, and still retained in many parts the traces of smoke. We have already stated that the house had three stories. The

second and third floors were approached by a broad staircase. Near the foot of the stairs is a picture, in which a letter is introduced with the name and rank of the presumed owner of the house on the superscription. It is now scarcely legible, but enough has been deciphered to show that he was one of the municipal decurions.

XVIII. Having now completed an examination of the private houses, we proceed to the interesting quarter of the theatres.

The Triangular Forum (1764) is a triangular colonnade, with a portico of 90 columns on two of its sides, forming the piazzas of the great theatre. It is about 450 feet long on the eastern side, and is supposed to be nearly 300 on the western; the third side had no portico, and appears to have been lined with small apartments, but that side has not been completely cleared. The area is entered on the N. by a propylæum or vestibule of eight Grecian Ionic columns, raised upon two steps, with a fountain in front of one of the columns. This vestibule leads us into the colonnade, which is of the Doric order, and still retains some fragments of the iron bars inserted between the columns to protect it from a sudden rush of people. In different parts of this colonnade are three entrances to the Great Theatre, and one to the Barracks for the Troops, which lie beyond it. Parallel to the portico on this side is a long low wall, extending nearly to the bottom of the triangular Forum; it is terminated at the N. end by a pedestal, with the inscription "M. Claudio, M. F. Marcello Patrono;" and at the S. end by two altars and a circular building in front of a remarkable temple, which we shall describe before we enter the theatre.

Temple of Neptune (1767-69), formerly called the Temple of Hercules, the most ancient building yet discovered, situated on the highest ground within the circuit of the walls, at a distance of 400 feet from the old sea-line, so that it must have formed a striking object from every part of the bay. Its high antiquity is proved by

the large size of its Grecian Doric columns, the great depth and projection of the abacus, and by the general construction of the building, which more resembles that of the Temples of Pæstum, though of course on a much smaller scale than anything with which it can be compared elsewhere. It is therefore supposed to have been erected by the earliest colonists. From its ruined state it is difficult to define its peculiar features; but so far as we can now judge, it appears to have stood upon a basement or podium of 5 steps, and to have been 120 feet long, exclusive of the steps, and 70 feet wide. It had a cella paved with mosaics, and entirely surrounded by a peristyle of columns, 3 feet 11 inches in diameter at their base, and presenting the remarkable singularity of having, like the Basilica of Pæstum, an odd number of columns, 7 in front, and 11 at the sides. The masonry was covered with stucco. In front of the steps is an enclosure, supposed to have contained the victims for the sacrifice, and at the side are the two altars already mentioned, with the remains of a smaller one between them. Beyond this enclosure are the remains of a small circular temple of eight Doric columns, which covered a *puteal* or well protected by a circular perforated altar. Its use is doubtful, some supposing that it supplied the water used in the sacrifices; others that it was an expiatory altar marking the situation of a *bidental*, a spot on which a thunderbolt had fallen, and which, it is superfluous to add, was always held in peculiar sanctity. An Etruscan inscription was found near it recording that Nitrebius, for the second time Meddixtuticus, erected it. At the W. angle of the temple is a small hemicycle, a semi-circular seat of stone, facing the S., in which a sun dial was discovered. It must have commanded a glorious view, and have been close to the sea wall of the city, which explains the absence of the portico on this side of the Forum. We have mentioned the small apartments in this part of the enclosure. It is not clearly ascertained whether they were the residences of the priests or

sepulchral chambers. Several skeletons have been found in them, one wearing two armlets of gold, and another wearing on the leg a ring of bronze and one of silver, linked together. Near them were found a sacrificial knife in silver, engraved with figures of Bacchus and Isis, several pateræ and other vessels used at the sacrifices, and adorned with bas-reliefs of Isiac subjects. From these discoveries the two skeletons are supposed to be those of the high priests.

The Great (or Tragic) Theatre (1764), a very large and imposing structure, conveniently placed on the southern slope of a hill of tufa, in which the seats were cut without the necessity of extensive substructions. It was, of course, semicircular and open to the air, and was lined in every part, seats, stairs, walls, orchestra, and stage, with plates of Parian marble. The seats faced the sea, so that the audience must have commanded an uninterrupted view of the bay during the whole performance. The elevated position of the building considerably above the general level of the city, and the great height of the external wall appear to have preserved it in some measure from the fate which befell the houses in the plain. The upper part was not buried at all by the ashes, and even the stage was covered with so slight a deposit that the citizens were able, after the eruption, to remove all the scenic decorations, the furniture of the stage, the principal statues, and a large quantity of the marble lining. Many of these were no doubt comparatively new, as Nero's interdiction of theatrical amusements expired only ten years before the destruction of the city, and hence there was the stronger reason for recovering them. In spite, however, of these spoliations, the interior is still sufficiently perfect to explain itself far better than the most elaborate description unaccompanied by drawings. The general audience, or the plebeians, entered the theatre by an arched corridor on a level with the colonnade of the Triangular Forum, and descended thence into the body of

the house, called the caves, by six flights of stairs, which divided the seats into five wedge-shaped portions, appropriately called *cunei*. The doors of the corridor at the head of these stairs, were called the vomitoria. Many of the seats still retain their numbers and divisions; we are thus enabled to ascertain that the space allowed to each person was 1 foot $3\frac{1}{2}$ inches. By making this the basis of his calculation, Mr. Donaldson estimated the theatre as capable of containing 5000 persons. A separate entrance and staircase led to the women's gallery, which was placed above the corridor we have described, and was divided into compartments, precisely like the boxes in a modern theatre. It appears also from the fragments of iron still visible in the coping, that they were protected from the gaze of the audience by a light screen of iron work. Below, in what we should call the pit, a semicircular passage, bounded by a tall wall, called the *præcinctio*, separated the seats of the plebeians from the privileged seats reserved for the equestrian order, the Augustals, the tribunes, and other important personages. These seats were entered by a separate passage, communicating with an area behind the scenes. The level semicircular platform in front of the privileged seats, was called the orchestra, and upon it were placed the *bisellii*, or bronze seats for the chief magistrates. On each side of the orchestra are raised seats, entered from the stage, supposed to have been appropriated, like private boxes, to the person who provided the entertainment, or to the suite of the magistrates. In the *proscenium*, or the wall which supported the stage, are seven recesses, in which probably the musicians were stationed. The stage, or *pulpitum*, appears from the pedestals and niches, which remain, to have been decorated with statues. It is a long and narrow platform, quite disproportionate to the size of the house according to our notions of stage effect; but it must be remembered that the scenes of a Roman theatre were very simple and revolved

upon a pivot, and that the ancient drama was unassisted by those illusions of perspective which constitute the art of the modern scene painter. The wall at the back of the stage was called the *scena*; it has three doors, the central one circular and flanked by columns, the two side ones rectangular. Behind it is the *postscenium*, containing the apartments for the actors. It remains only to add that the exterior of the upper wall of the cavea still retains the projecting stone rings for receiving the poles of the *velarium* or awning, by which, on special occasions, the audience were protected from the heat of the sun. Several inscriptions, greatly mutilated, were found in different parts of this theatre, some of which are preserved in the colonnade near the Tavern, where the gallery has been restored by S. Lavega, the architect, in accordance with the indications left upon the wall by the carbonised fragments of the ancient wood work. Many of the inscriptions are conjectural restorations, but enough of the ancient letters remained to show that *Holconius Rufus*, son of *Marcus Rufus*, a *duumvir*, erected the theatre, and that the colony acknowledged his services by dedicating a statue to his honour. This latter fact appears from the remains of an inscription in bronze letters on the first step of the orchestra, with a space in the middle for the statue; the metal has been removed, but the apertures which contained it are still visible in the marble.

The Small Theatre, or Odeum (1796). — From the E. end of the stage of the Great Theatre a covered portico led into the orchestra of the small one, which is supposed to have been used for musical performances. It is similar in its general arrangement to the larger theatre, but is different in form, the semicircle being cut off by straight walls from each end of the stage, an innovation which proves that it is a more recent building. The general style and execution of the work also shows an inferiority, the causes of which may possibly be explained by an inscription recording that it was

erected by contract. It appears, however, to have had an advantage not enjoyed by the other, in having been permanently roofed, the same inscription describing it as the "Theatrum tectum." The seats of the audience in this theatre were separated, by a *præcinctio* or passage, from the four tiers of benches which held the *bisellii* or chairs of state. This passage was bounded on the side of the *cavea* by a wall, the ends of which were ornamented with kneeling figures which are supposed to have sustained lights. The parapet on the stage side of the passage, forming the back of the privileged seats, terminated at each end in a griffin's leg. The pavement of the orchestra is of *giallo antico*, African breccia, and purple marble. A band of grey and white marble runs directly across it, bearing the following inscription in large inlaid bronze letters: — "M. Oculatius, M. F. Verus, II. Vir. pro. ludis.," but the letters have been so often loosened and misplaced, that some have read the name "M. Olconius." The inscription probably means that he presented the pavement to the theatre. In the corridor which runs round the back of the house to give access to the seats, several inscriptions in rude Oscan letters were found upon the plaster of the walls, the work probably of some plebeian idler who could not find a seat. The stage presents nothing to require notice. In the *postscenium* were found some fragments of a *bisellium* decorated with ivory bas-reliefs, and portions of its cloth cushion. The theatre is estimated to have held 1500 persons.

Th: Iscon (1765), is a small, but exceedingly interesting and perfect building, standing on a basement or podium, in the centre of a court surrounded by a Corinthian portico of small columns only 10 feet high, with painted shafts. The two which flank the entrance had attached to them the *lustral basins* which are now in the Museum, and a wooden money-box. Over the entrance is an inscription recording the erection of the *Ædes*

from its foundations by Numerinus Popidius Celsinus, at his own cost, after it had been thrown down by an earthquake; and his elevation by the Decurions to their own rank as an acknowledgment of his liberality. The word *Ædes* is here used to distinguish the building from a Temple, which was always a consecrated edifice, whereas the worship of Isis had been forbidden by a decree of the Roman Senate, *a. c.* 57, and was therefore only tolerated. The court presents all the arrangements of the Isis worship. In one corner is an *adiculum* with a vaulted roof and pediment over the door, covering the sacred well of *lustral purification*, to which there was a descent by steps. It was stuccoed and painted throughout in the most grotesque style. Near it is an altar, on which were found the burnt bones of victims which had just been sacrificed; and several other altars are placed in different parts of the court. In a niche of the wall facing the *Ædes* was a figure of Harpocrates, with his finger on his lip to enjoin silence upon the worshippers in regard to the mysteries they might witness. In another part was a figure of Isis in purple drapery, partly gilt, holding a bronze *sistrum* and a key. On the south side were the chambers for the priests, and a kitchen for cooking the meats they were permitted to eat. In one of the rooms a skeleton was found holding a sacrificial axe, with which he had cut through two walls, in the vain attempt to escape from the eruption, but perished before he could penetrate the third. In a larger room behind the *Ædes* another skeleton was found with bones of chickens, eggshells, fish-bones, bread, wine, and a garland of flowers, as if he had been at dinner when the building was overwhelmed. Many other skeletons were found in other parts of the enclosure: showing that the hierophants of Isis, unlike the priests of the other temples we have described, did not desert her "fane so long divine," but remained to the last in the confident belief that the goddess would come to save them. The *Ædes*, which consists of a single cella,

stands, as we have said, on an elevated basement, the front of which is broken in the centre by a narrow projecting flight of steps, flanked by two altars, one for the votive offerings, the other probably for the sacred fire. In front of the cella is a Corinthian portico of six columns, having at each angle a small wing with a niche between two pilasters supporting a pediment. In these niches the celebrated Isiac tables of basalt, now in the Museum, were discovered. Behind one of these were secret steps and a side door leading to the cella. The exterior of the building and the portico were covered with stucco ornaments of a very ordinary character. The interior of the cella is small and shallow, the entire width being occupied with a long hollow table or pedestal for statues, having two low doorways at the end near the secret stairs, by which the priests could enter unperceived, and deliver the oracles as if they proceeded from the statue of the goddess herself. Besides this statue, several small ones of Venus, Bacchus, Osiris, and Priapus, were discovered in the cella or its precincts, all of them being close imitations of Egyptian art. The walls, also, were covered with pictures of the same character, many of which were of great interest as illustrating the Isiac mysteries: but as the most valuable have long since been removed, it would be tedious to describe them. Fontana's aqueduct ran directly under this court, a circumstance which renders it almost incredible that the foundations he must have met with, did not induce him to institute an investigation which would have led to the discovery of the city before the close of the 16th century.

Isiac Curia (1769), formerly called the Tribunal, the School, and the Lecture Room. It is an oblong open court, 79 feet by 57, surrounded on three sides by a portico of Doric columns, and having two small rooms at one end. In front of the portico is a stone pulpit, with a pedestal in front and a flight of steps behind, from which the lecturer is supposed to have addressed his audience. An Oscan in-

scription was found on the wall which separates the court from the Iseon, stating that the Curia was used by the priests of Isis, as a place of instruction for the novitiate.

Temple of Æsculapius (1766), a name given to it by Winckelmann, but subsequently changed, with very little reason, for that of Jupiter and Juno. It is a diminutive but evidently very ancient temple, of good proportions, standing on a low basement or platform ascended by nine steps from the court in front. The cella contained terra-cotta statues of Æsculapius and Hygeia. In the centre of the court is a large altar, the frieze of which is composed of triglyphs with volutes at the corners, bearing a strong resemblance to the Tomb of Scipio in the Vatican.

House of the Sculptor (1798), a small house between the temple just described and the two theatres, deriving its name from the numerous articles it contained, not only identifying the building as the studio of a sculptor, but affording a most instructive insight into the practice of his art in Roman times. Nearly all the important objects are now in the Museum; but in order to connect the house with its title, we may mention the discovery of half finished statues, blocks of unworked marble, in one of which the saw remained, a sun dial, a hen's egg of marble, pots of resin for making the cement, jacks and levers, chisels and saws, compasses, calipers, and no less than 32 mallets.

Barracks of the Troops (1766-69), a large and nearly square enclosure, 183 feet long by 148 wide, filling up the space between the great theatre and the city wall, and bordered by a Grecian Doric portico of 22 columns on the longer, and of 17 columns on the shorter sides. It was formerly called the Forum Nundinarium, or the Market-place, — a misnomer which no one could have sanctioned who had examined the Prætorian Camp at Rome, or had reflected that a market place must necessarily have had ample approaches and spacious entrances, whereas there were only two modes of

access to this area in ancient times, the one by a *cul-de-sac* at the back of the theatre, the other by a stair communicating with the Triangular Forum. The columns of the portico or colonnade are covered with stucco, the lower third plain and painted red, the upper portion fluted and painted alternately red and yellow. Under the portico are numerous apartments of uniform size for the lodging of the soldiers, a mess-room, a guard-house or prison, a kitchen, supplied with the necessary conveniences for cooking for the mess, stables for horses, an oil-mill, a room for making soap, and other minor offices. Above was a second floor, approached by three narrow staircases, and by one of better construction leading to the chambers which were evidently occupied by the officers and their families. This upper floor had a hanging wooden gallery under the roof of the portico, of which so many indications remained upon the walls that S. Lavega has restored it on the side now used as a tavern. When first excavated, every part of these barracks exhibited reminiscences of military life. On the surface of the 9th column of the eastern portico various inscriptions and drawings were found, rudely scratched upon the stucco, including the figure of a fighting gladiator, with his name "Valerius," and the numerals to denote that he had been 20 times victorious. Other scribblings and rude sketches, with several unfinished sentences, were observed in some of the public rooms; and on the wall near the small theatre the names of the three principal gladiators, Pomponius Faustinus, Amphiatius, and N. Popidius Rufus, were found inscribed. On the walls of the principal apartment on the ground-floor, which we have called the mess-room, were paintings of two trophies, one of which still exists in the Museum, but the other perished before it could be removed. In the guard-room were found four skeletons with their legs fastened into iron stocks; the latter have been removed to Naples and replaced by a model; but the skulls have been allowed to remain. In the sleep-

ing apartments numerous helmets of bronze and iron, richly ornamented sword-belts of bronze, greaves for the legs, shields, bolts for the archers, lances, swords, strigils, leather belts, household utensils, silver and copper coins, and various minor articles which it would be tedious to enumerate, were discovered. In the officers' rooms on the upper floor were found helmets of various kinds, some with vizors, others inlaid or covered with exquisite bas-reliefs, greaves adorned with sculptures of the same kind, swords of superior workmanship with ivory handles, and numerous articles of female dress and decoration, of the richest kind, proving that the families of the officers lived in the barracks with them. Among the personal ornaments were two necklaces of massive gold, one of which was set with twelve emeralds, several gold rings, ear-rings, and bracelets containing precious stones, gilt pins for the hair, and chests of fine linen and cloth of gold. One of these upper rooms contained 18 skeletons of men, women, and children, one of a mere infant, and several of dogs. In a stable near the foot of the staircase was found a skeleton of a horse, the remains of harness with bronze ornaments, and the hay stuffing of a saddle. Under the staircase was found the skeleton of a man carrying two cups and a saucer of silver. Inside one of the entrance gates 34 skeletons were found together, those, doubtless, of the guard who had been called out on the fatal night. The total number of skeletons found in the barracks was 63, a remarkable and affecting proof of the discipline of the Roman soldier, who knew that it was his duty to die at his post, and whose death in this instance was shared by those who were dearer to him than life itself.

XIX. At the distance of 600 yards from the Barracks and the Theatre is the *Amphitheatre* (1748-1816), in the S.E. angle of the city walls, near the Gate of the Sarno. This is a very interesting example of the Roman Amphitheatre, more recent and less perfect in the substructions of the arena than that of Capua, but more ancient than

the Coliseum of Rome, which was not completed till the year after the destruction of Pompeii. Its form, as usual, is elliptical. The major axis, including the walls, is 430 feet, being 190 less than that of the Coliseum; the minor axis is 335 feet, 178 less than that of the Coliseum. Like the great theatre it is cut out of a hill, so that it has fewer substructions than usual in such edifices, and is altogether wanting in that regular and massive masonry which forms so imposing a feature in the Coliseum and in the Amphitheatre of Nimes. Such masonry as we see here is the rough work called *opus incertum*, with quoins of squared stone; the marble plates, as in the theatre, must have been removed after the eruption, and nothing of a decorative kind is now visible except a few sculptured key stones of little interest. The interior contained 24 rows of seats, separated as usual into different ranges, according to the rank of the occupants, each range being approached by a distinct entrance from two different galleries, of which the large one had no less than 40 vomitories, communicating with as many flights of stairs which divided the seats into *cunei*. To facilitate this arrangement, the arches of entrance were numbered; and the tickets of admission, as may be seen in two examples in the Museum which Sir W. Gell has engraved, bore corresponding numbers, so that the spectators could proceed at once to their appointed seats without difficulty or confusion. The lower range, containing the privileged seats of the Magistrates, was entered by the arcade of the arena; the second, containing the seats for the middle classes, was reached by stairs placed between them and the outer wall; the third, appropriated to the plebeians, was approached likewise by stairs, as was also a gallery placed above all and divided into boxes for the women. Outside the wall of this gallery are the perforated stones for the poles of the *velarium*. The privileged seats were separated from the arena by a high parapet, on which, when first excavated, numerous

inscriptions were found, recording the names of the *Duumviri* who had presided over the games, together with several paintings of gladiatorial scenes, all of which have perished or been removed. The entrances at each end of the arena, for the admission of the gladiators and wild beasts and for the removal of the dead, are still perfect. Of the games practised in this arena it is unnecessary to give any account, for the bas-reliefs on the tomb of *Seaurus*, described at p. 329., afford so complete an idea of the gladiatorial exhibitions that it would be impossible in the space at our command to add to their instructive details. From a careful measurement of the seats of this amphitheatre, it is calculated that it could accommodate 10,000 persons, exclusive of the standing room. This fact, taken in connection with the statement of Dion Cassius, that the citizens were assembled here at the outbreak of the eruption, will explain the small loss of life, compared with the extent of the population, which the catastrophe appears to have occasioned. The audience, on quitting this amphitheatre, finding themselves cut off from the rest of the city by the falling ashes, appear to have made their way to the Sarno which ran at a short distance from the adjoining gate, and either embarked in the boats and vessels which they found there, or escaped to the hills about Nola, Nocera, and Avellino. It will be remembered that the amphitheatre, 20 years before, had been the scene of that sanguinary fight between the people of Nocera and the Pompeians, which induced Nero to deprive the latter of theatrical amusements for 10 years.

Forum Boarium (1754), a large square area N. of the Amphitheatre, supposed, as its name indicates, to have been a cattle market; but it was covered up as soon as it was excavated.

Villa of Julia Felix (1754-55), a square enclosure adjoining the Forum Boarium, one of the first objects excavated, but immediately covered up again according to the practice of that time. It is said to have contained