

POMPEII.

To alight from a railway train, to purchase a ticket of admission, to negotiate with a guide, and then, after walking a couple of hundred yards, to find oneself transported back and brought face to face with the every-day life of eighteen centuries ago, is to experience a sensation which no subsequent visiting of famous relics of the past can ever efface from the mind. An ancient ruin is but a heap of stone, whether in Mexico or in Egypt. The massive blocks of Stonehenge or those of the Ephesian Temple of Diana mean nothing to those who, from their knowledge and imagination, cannot call up mental pictures of the circumstances under which they were erected; and it requires no small effort on the part of even those possessing the appreciative faculty to exercise it, when a locality hitherto surrounded with a halo of romance, sentiment, or historical interest, is for the first time viewed from the window of a nineteenth century railway train. Pompeii is perhaps the one exception. Tourists who have wearily ascended Pisa's leaning tower and thought of nothing but the steepness of the stairs, or who have "done" the Acropolis at Athens at sunrise, with the idea of breakfast uppermost in their minds, find in the exhumed city an interest which leaves no room for such incongruous feelings. It is the interest which attaches to all things personal, the same interest which induced thousands at the Centennial to turn their backs on the magnificent Castellani collection of antiquities and linger in the New England kitchen.

To reach Pompeii from Naples, a fifty minutes' journey by the railroad which skirts the bay is necessitated. The line cuts through the great lava stream of 1794, over two thousand feet wide and forty feet thick, at the base of Vesuvius, and passes a number of little villages, inhabited (in the face of constant danger from earthquake) on account of the great fertility of the soil. On reaching his destination, the visitor pays a small admission fee, and enters at once into the streets of the ancient city.

Pompeii was partly destroyed by two earthquakes in the year 63 A.D. Its inhabitants were still engaged in rebuilding the injured portion, when, on August 24, 79, a great eruption of Vesuvius overwhelmed the city and the adjacent towns of Herculaneum and Stabiae. So sudden was the outbreak that the escape of the people was prevented. A dense cloud of black smoke burst forth from the crater, and settled thickly over the town, plunging it in complete darkness. A dense rain of thin light ashes followed, and then showers of hot stones, mingled with masses of lava giving off mephitic gases. Meanwhile great rivers of black lava poured irresistibly down the mountain sides, filling the streets and cutting off the exit of those who had taken refuge in cellars; while others, who were attempting to leave the city by the gates, were blinded by the drifting ashes and overcome by the sulphurous vapors. For three days this terrible infliction continued; and then, when the smoke dispersed, where once was a beautiful town was but an arid mass of ashes, pumicestone, and hardened mud.

Centuries went by. The rich volcanic soil became covered with a profusion of vegetation, and a new town sprung up over the buried city, only to be destroyed by earthquake four hundred years after the great eruption. Pompeii then existed only in tradition; and this located the lost city several miles from the uninhabited plain under which it was eventually discovered. In the middle of the last century, the finding of relics in the vicinity induced the government to undertake systematic excavations. An inscription was soon unearthed establishing the fact that the true Pompeii had undoubtedly been found; and since that time the work of uncovering the buildings has been slowly and carefully carried on.

A fine series of engravings, from "Italian Pictures Drawn with Pen and Pencil," presented herewith, give an excellent idea both of the appearance of the excavation and the manner of conducting the work. Fortunately the material which chiefly covered the city was not lava, which would have set like stone after probably burning paintings and melting objects in metal, but a fine light ash, which insinuated itself into the minutest crevices, and even through porous earthenware. The writer assisted in opening a large wine jar still bearing the seals placed over its mouth at the time of filling. The white ashes had replaced the wine, and had made their way through pottery of



Fig. 1.—CLEARING A STREET

floor, as their weight naturally carries them downwards through the soft mass of ashes. The digging is therefore rapidly prosecuted until the above uniform level is attained. Then shovels and picks are put aside, and the ashes are taken out by handfuls, each workman carefully crumbling the material to powder before rejecting it. As soon as the experienced eye of any worker recognizes the indications of a mould being formed in the ashes, labor near that point is stopped, and tamping irons are cautiously inserted to make two or three vents in the cavity. Then liquid plaster is poured in; and after being left sufficiently long to harden, the ashes are taken away and the cast removed. Fig. 9 is from a photograph of casts thus obtained. The bodies are those of two women, apparently poor people, as on the finger of one an iron ring was found. The elder one has the limbs drawn up as if in agony; the other, a girl probably of fifteen years of age, is more composed. One of the hands is half open, as if holding something. The texture of the dress is exactly reproduced, even to the stitches of the seams.

It is believed that of the inhabitants of Pompeii thousands perished. Many hand groped their way through the streets, and so escaped to the open country. At the chief gate there stood a sentinel, who sternly kept his post through the thunders of that dreadful day. He died in harness. Planted in his sentry box, he covered his mouth with his tunic, and held on against the choking and sulphurous shower. But the ashes fell and fell, and finally filled the box, and buried the soldier alive, still grasping his weapon in one hand and veiling his mouth with the other. There, after ages of rest, he was found—a grisly skeleton clutching a rusty sword.

Sad discoveries were made in the street leading to that gate. There were two skeletons locked in close embrace, the teeth perfect, indicating youth in its prime: skeletons of a young man and maid. They had fallen together in their flight, and death had wedded them. There was a mother with her three children hand

in hand, who tried vainly to outrun death. Perhaps the mother singly might have done it, but she could not leave her children. Plenty of food for sad thought is furnished in remembering that six hundred skeletons have been already exhumed!—many in such positions and circumstances as to suggest very touching episodes accompanying the final catastrophe. Of the family of Diomed, seventeen persons were stifled in a wine cellar well stocked with amphoræ of wine, some of which bore the date of the vintage. The fugitives in their agony of fear stood all huddled in a corner. One swooning girl fell forwards on to the bed of ashes that had drifted in. She left the impress of her bosom in the drift like a seal in softened wax.

An interesting little circumstance is connected with one of these houses. The skeleton of a dove was found in a niche overlooking the garden. Like the sentinel, she had kept to her post, sat on her nest through all the storm, and from beneath her was taken the egg she would not leave.

The shops and taverns which have been exhumed are very interesting as illustrating the domestic life of the people. Fig. 5 represents the interior of a baker's shop. Eighteen hundred years ago, the baker, having placed his loaves in the oven, had closed the iron

door, when he had to fly for his life. A few years since the batch was drawn. The loaves are jet black, and of stony hardness; but the marks of the baker's fingers show plainly on them. In an eating house were found raisins, olives, onions, figs, fish cooked in oil, and other articles of food, some retaining their natural appearance and all plainly recognizable. It is a curious fact that a precisely similar mode of cookery prevails in the modern Italian villages to that indicated by the utensils and prepared food found in Pompeii; and in some instances vessels have been found which might at the present day be put to their original use, as they differ little from those now employed. In one eating house, for instance, is a dresser of brickwork in which are large metal and earthenware vessels for soup, with furnaces to keep it warm and ladles to distribute it, precisely as are used in modern restaurants. Amphoræ of wine are marked with the year of the vintage, the characteristic quality, and the name of the wine merchant from whom they were purchased. Taverns are indicated by checkers on the doorpost, or by a sign painted on the wall. The streets are paved



Fig. 2.—SEARCHING FOR RELICS.

close texture and now harder than stone. Generally, however, the presence of the ashes has proved a positive advantage, because in opening a street for example, as shown in Fig. 1, they are easily dug out and removed; while by packing closely around perishable objects they have formed perfect

moulds, retaining the form of the objects after the same have wholly decayed and disappeared. The work of removing the debris from a room is represented in Fig. 2. It is not frequently that articles are found at a height above four feet from the

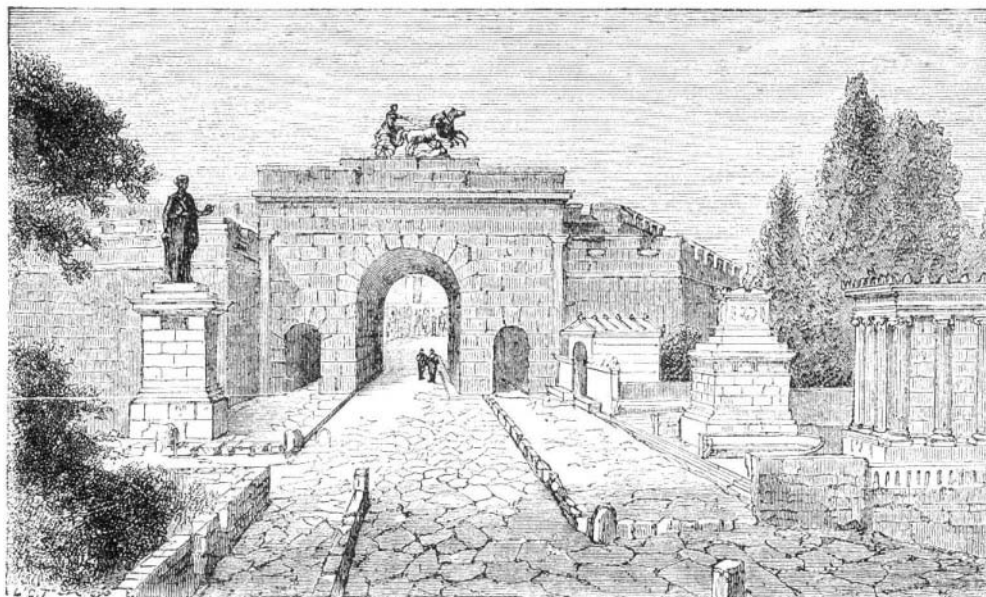


Fig. 3.—THE GATE OF HERCULANEUM AND STREET OF TOMBS.

with solid blocks of stone worn in deep ruts by chariot wheels; and at one drinking fountain, where slaves stooped and drank from the flowing spout, on the edge of the trough is a spot worn smooth by the pressure of the many hands that rested against it.

The dwellings for the most part are small and low, few exceeding two stories. They have little ornamentation externally, and are well adapted to a people accustomed to pass most of the day in the open air. The upper stories, being of wood, with flat roofs, were speedily consumed; but as those portions of the house were generally used as storerooms or apartments for servants, their loss is of little consequence. The ground apartments have escaped serious injury; and on their walls some of the frescoes appear as brilliant as if recently painted. Figs. 6, 7, and 8 afford an excellent idea of the various objects found in the dwellings, as well as of their remarkable state of preservation. Fig. 6 shows a collection of cooking utensils. It is hardly necessary to call attention to the colander, the frying pan, and the forks and spoons, as being the same as those now used. Gold ornaments, copied from the designs shown in Fig. 7, are now quite common; and many of the terra cotta lamps depicted in Fig. 8 have served as suggestions for the patterns of modern gas fixtures.

The walls of the city, which have been traced throughout their full extent, indicate that an irregular oval area of about two miles in circumference was occupied. It has generally been supposed that the population was from 20,000 to 50,000, but according to Signor Fiorelli, the general superintendent of the excavations, Pompeii had not more than 12,000 inhabitants at the time of the eruption. Eight gates have been discovered, and the roads outside of them were lined on each side with tombs of considerable size and architectural pretension. The Street of Tombs, before the gate of Herculaneum, Fig. 3, was probably the principal burial place of the city; and the sepulchral monuments adorning it give evidence of the refined taste and great wealth of prominent Pompeians. The streets, which for the most part run in regular lines, are with some exceptions barely wide enough to admit a single vehicle. The widest does not exceed 30 feet in breadth, and few exceed 22 feet. Five of the main streets have been partially or wholly traced; and with these a regular system of minor streets appear to have been connected. These thoroughfares, with a single exception, terminate in or traverse the western quarter of the city, which is the only part yet completely explored. The public buildings were profusely decorated structures, and included temples of Jupiter, Mercury, and Venus, besides two theaters. The *thermæ* or public baths—a room in one of which is represented in Fig. 4—were elegantly adorned.

The most important paintings and objects of art discovered by excavation have been deposited in the National Museum at Naples. Until recently the excavations have proceeded slowly; but at present the Italian Government is liberally assisting the work. The space now laid bare measures about 670,000 square feet, or one third the whole area occupied by the city. Signor Fiorelli calculates that, making the excavations on an average 25 feet deep, and employing 81 laborers daily, the whole city will be unearched in 1947.

Hindoo Snake Charmers.

Frank Buckland, the naturalist and writer, informs the readers of *Land and Water* that at the Westminster Aquarium, London, a company of three or four snake charmers have recently arrived from India. He states that not for twenty years have these curious people, with their wonderful tricks, appeared as exhibitors in London.

"The performance takes place in the northwest corner of the Aquarium. Convenient seats have been arranged so that every one can have a good opportunity of seeing what is going on. In order that there shall be no suspicion of trapdoors, etc., the platform on which the performance takes place is composed of solid earth. The performers are three in number: the principal actor is Seyed Emman, his assistant is called Gheesa. There is also present a very intelligent-looking slim boy named Moen Deer. This young gentle-

man keeps up a perpetual tapping on a tom-tom drum, while he keeps up an animated conversation with Emman and Gheesa. Seyed Emman is dressed in the Hindoo fashion; he wears a resplendent turban, a very handsome silver waistband, and massive silver anklets ornamented with bells; his assistants are also well dressed, their copper-colored skins contrasting well with the ornaments they wear. To heighten

are sometimes called, double-headed snakes; the next, a large lacertine; the others, cobras. While four of the snakes are crawling about the platform, the charmer pays especial attention to one of the cobras. The instant the lid of the basket is off, up rises the cobra as if impelled by a spring. This cobra is a large snake and prettily marked; he has especially brilliant eyes. It is very beautiful to see the wonderful way

in which he expands his hood. This is beautifully marked at the back, the resemblance of a pair of spectacles. There are also patches under the throat. For a minute or two the cobra holds himself quite erect; the man sets down on his heels immediately in front of the cobra, and pipes at him furiously with his musical instrument. This seems to excite the anger of Mr. Cobra, who makes two or three very nasty spiteful lunges at him. The charmer then dances round the snake, which still remains in his basket—the shape of a common strawberry basket. The brute, following the man, with his expanded hood and threatening head, made several strikes at his naked legs, but he was never quick enough to hit him.

"I observed what I did not know before, that a person with a quick eye can tell when a cobra is going to strike. A cobra never strikes while his head is on the ground. Next, when his head is erect, he must draw back a little before he can make a dart.

"The anatomy of the cobra should be known to all our readers. When he is quiet and undisturbed, his hood does not appear at all. This hood is formed by a loose skin immediately below the animal's head. It is erected by a beautiful mechanism formed by the ribs, which are so fitted to the vertebrae that they can be spread out at right angles, and so erect the hood. Hence the name cobra *di capello*, of the hood. The cobra that was made to dance, so far as I could see, was the *naja tripudians*, or 'naga.'

"Sir Joseph Fayrer, M.D., in his remarkable work, 'Thanatophidia, or Death Snakes of British India,' writes: 'Cobras are most deadly; they all have the hood, and they never attack without distending it; they raise the anterior third of the body from the ground, slide along slowly on the posterior two thirds, and with the hood dilated, remain on the alert, darting the head forward to attack when anything hostile approaches. The cobra is a nocturnal snake; it feeds on birds' eggs, fish, frogs, and insects. They are not unfrequently found in roofs of huts, holes, and old masonry, etc. The cobra is most deadly, and its poison quickly fatal: paralysis of the nerve centers takes place, and death occurs with great rapidity, sometimes in a few minutes, especially when the fangs have penetrated a vein and inoculated the poison instantly in the venous circulation. The number of deaths caused yearly in India by these snakes is perfectly appalling. The cobras are the favorites of the snake catchers, and it is astonishing with what ease and freedom the reptiles are seized and handled by these men, even while in possession

of all their fangs.' "The cobra has several (some five or six) poison fangs on each side at the edge of the roof of the mouth. These fangs are perforated, the hole being just large enough to admit the bristle of a hairbrush. In connection with the upper end of the tooth, there is a duct communicating with a poison gland the size of a large nut. The cobra may be said rather to strike than to bite. It does not lay hold, as does a dog, but it gives a quick and almost instantaneous stab with its teeth; the poison runs down—the word is rather injected—into the wound made by the tooth. I myself have had very unpleasant experience of cobra poison. I was dissecting a rat which had just been struck by a cobra. In skinning it, a minute drop of the poison got under the nail, and the symptoms were very unpleasant. I have examined the cobra poison under the microscope; it is colorless, slightly viscid, something like clarified honey. On two occasions I have watched the poison form itself into crystals when under the microscope. This had been seen and described a hundred years ago by Dr. Mead. Microscopists of the present day say that this crystallization is simply drying. I am of different opinion. I believe that these crystals are *sui generis*. The subject is well worthy of further investigation, though the operation of procuring the

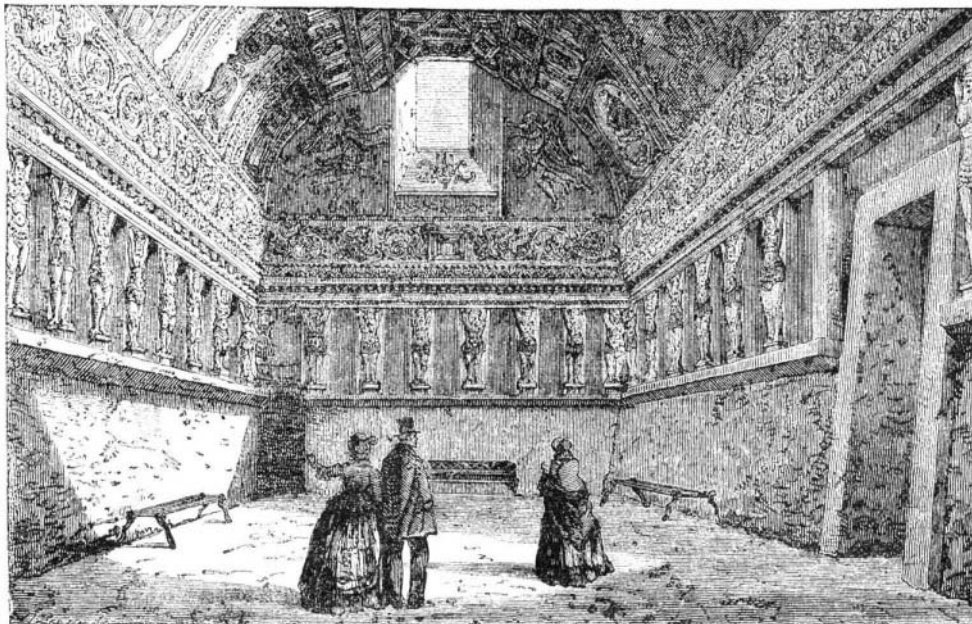


Fig. 4.—TEPIDARIUM OF PUBLIC BATH.

the effect, Mr. Gheesa had painted his forehead and arms in yellow ochre. Seyed Emman comes out on to the platform carrying his snakes suspended to a bamboo over his shoulder; the snakes are carried in baskets beautifully made of bamboo. He places the baskets on the earth, and dances round them frog fashion, all the time playing a curious Indian instrument that look like a cocoanut with a penny whistle attached; this is called a *surringhee*. It appears that



Fig. 5.—BAKER'S OVEN, BREAD, AND FLOUR MILLS.

nothing can be done without formal incantations—frog dances, and a great deal of talking and shouting. After Seyed Emman has sufficiently charmed the snakes in the baskets, he lifts off the covers of three of them, and dexterously twitches the living contents on to the platform. The first basket contained two specimens of *amphisbena*, or, as they

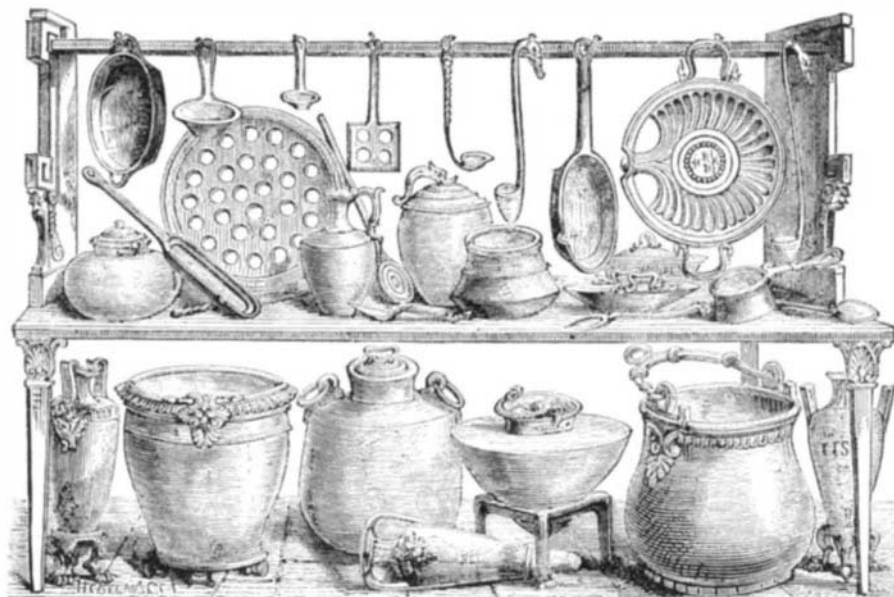


Fig. 6.—POMPEIAN COOKING UTENSILS IN THE MUSEUM AT NAPLES.

poison is somewhat dangerous; poison may, however, be procured from the fangs of living or recently killed vipers.

"The next trick performed by Seyed Emman is the conversion of the dried skin of a little animal into a living beast, which beast turns out to be a mongoose, and a fierce little animal is this mongoose. A dried skin of a cobra is next placed on the ground, the charmer dances round it and pipes on his cocoanut a stirring strain which reminds me very much of Highland bagpipes. He rolls this skin up and places it in a covered basket, from which basket in due time he produces a second living cobra, rather larger than the first. This cobra seems a very spiteful gentleman; he made distinctly two or three fierce lunges at the charmer, and I could distinctly see his mouth wide open when he made his strike. This experiment of converting a dried cobra skin into a living cobra is, I should fancy, a repetition of the trick we read of in Exodus: 'Then Pharaoh called the wise men and the sorcerers. Now the magicians of Egypt they also did in like manner with their enchantments, for they cast down every man his rod, and they became serpents.' The next trick is making a shrub grow into a small tree under a basket. A seed is placed in the ground. The first time the basket is lifted off the seed has grown into a small plant. At each taking off of the basket the plant is discovered to be larger and larger. The trick is very cleverly done, as the man is sitting in the middle of the stage, which is, as I said before, formed of earth. Other very ingenious tricks follow, and the performance is terminated by the celebrated basket trick. The boy, Moen Deen, is tied hands and feet, and then completely inclosed in a large cabbage net. The young rascal, grinning all over with apparent delight, is then dropped, like a pudding into a pot, into a very small basket, which seems hardly big enough to hold a brace of hares; the lid is then put down. Incantations are performed while the cloth is thrown over the basket, a sharp sword is then thrust through the basket in all directions. When the cloth is removed the boy is found released from the net, and jumps out of the basket unhurt. On another occasion, when I was present, the boy disappeared from the basket, and suddenly reappeared on the platform, whence or how I really cannot understand.

"Altogether this is a very interesting performance, and brings before our eyes scenes which most of us have heard, but few have had an opportunity of seeing. After the performance was over, I interviewed the charmers; they told me they were obliged to take very good care of their cobras as the weather was so cold. Dr. Lynn has telegraphed to India for more cobras, and some twenty or thirty more of these venomous brutes are shortly expected. It will then be an interesting sight to see Seyed Emman handle these newly caught specimens."

Photographic Bibliography.

Photography during its brief career has already had numerous applications—some exceedingly useful, but others less so. As a means of supplying facsimile copies of valuable documents it is unrivalled; and reprints, in facsimile, of original editions of the works of Shakespeare, Holbein, and other authors of past times, as well as copies of certain manuscripts of Burns and other modern authors, are now easily accessible. The forthcoming advent of the four hundredth anniversary of the introduction of printing into England has afforded certain writers an occasion for instituting comparisons between the wonderful extent of the circulation of the Bible compared with the sacred writings connected with other religious faiths. It has been stated that there exists a law of the Mohammedan religion prohibiting utilizing printing types in the reproduction and multiplication of copies of the Koran. The precise nature of the existing objection to the use of types in connection with the reproduction of the Koran we cannot at present ascertain, although we have made inquiries from those who are believed to be in a position to know. Hence up to the present period all copies of the Koran made use of by the adherents of the Mussulman faith have been laboriously produced by writing with pen and ink. That this has arisen from a desire to keep their "book of the law" free from error is without doubt, although, reasoning from strict analogy, this seems to be the very best means of introducing error.

It is pleasing to find that the high religious authorities of the Mohammedan faith have at length decided that although the typographic art, pure and simple, may not be applied to the reproduction of the Koran, the art of photography may be invoked to provide the means of disseminating their sacred writings. It is believed that if a copy of the Koran recognized as perfectly accurate be placed in the light, and another copy of its pages be obtained by photo-mechanical means, there will obviously be no chance of errors occurring

in such reproduction. By means of photolithography and phototypography—the latter of which is suitable for working at a modern printing machine—it is not too much to say that in a brief period copies of the Koran in the original Turkish language may be as easily procurable in the towns and villages of Oriental countries as they now are in London,

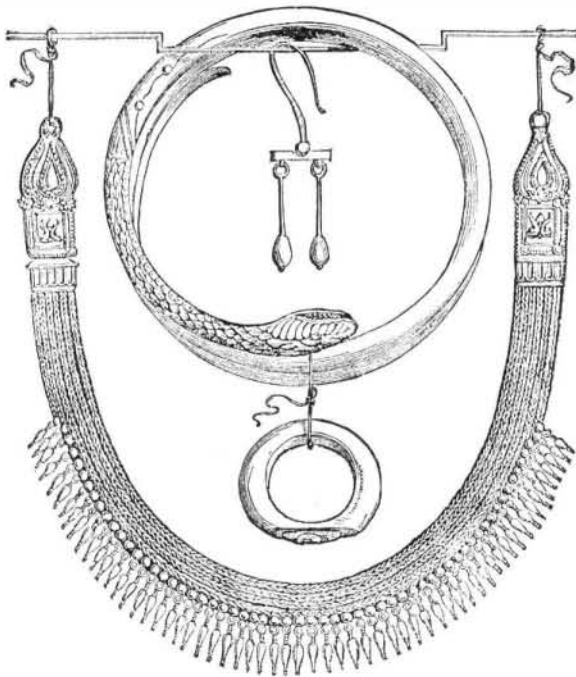


Fig. 7.—POMPEIIAN JEWELRY.

where the English translation may be obtained at any book-stall at a shilling per copy.

Of still greater interest would it be if the Russian Government allowed a photographic reproduction to be made of what is recognized as the oldest copy extant of the New

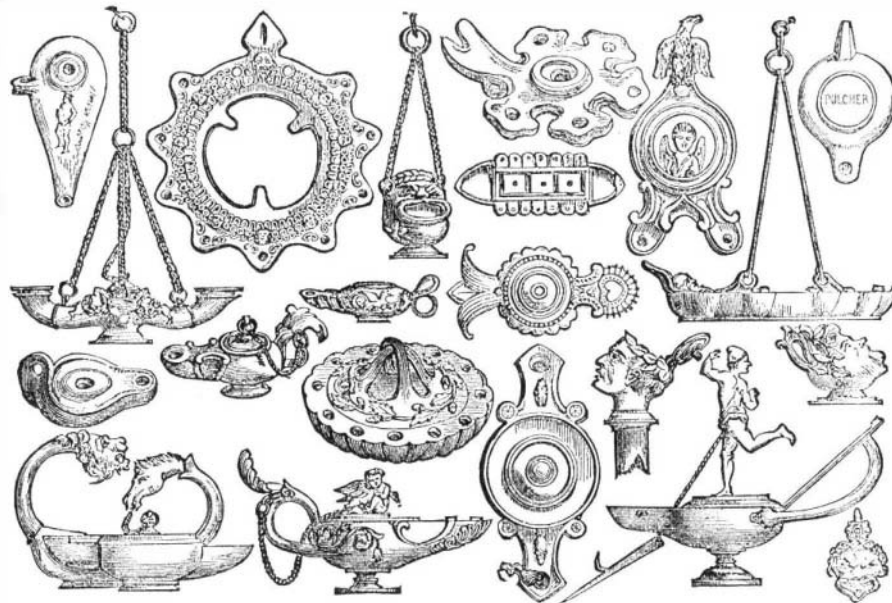


Fig. 8.—BRONZE AND TERRA COTTA LAMPS.

Testament, to be found in the Imperial Library, at St. Petersburg, where it is only to be consulted under the strict surveillance of an armed guard. If this valuable work were reproduced with the degree of accuracy appertaining to photography alone, how many disputed minor points of doctrine might not cease to exist! It is well known among bibliographers who are students of the New Testament in the

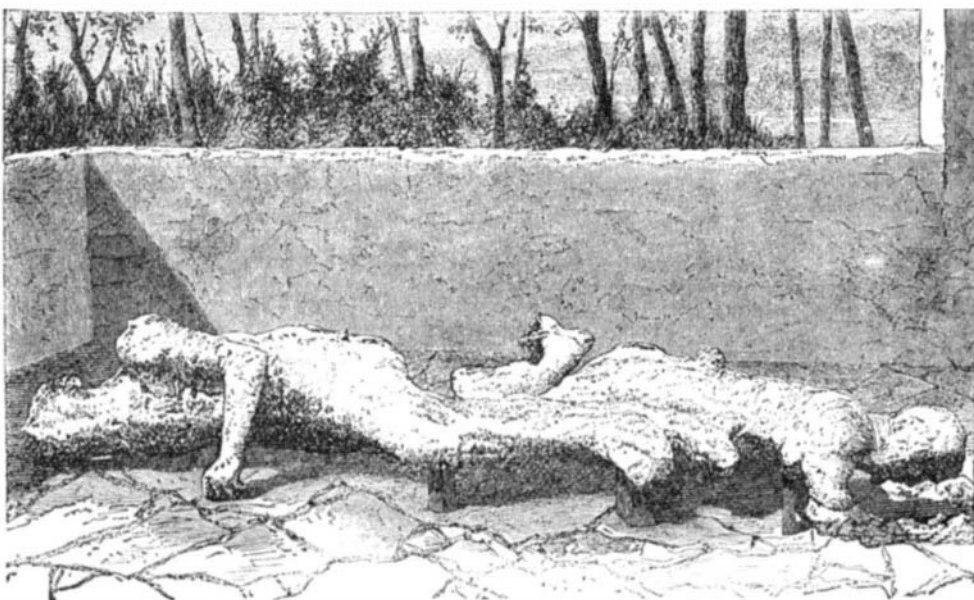


Fig. 9.—CASTS OF HUMAN BODIES FOUND AT POMPEII.

original Greek that, by the introduction in the copies of apparently trifling marks of no larger dimensions than a comma, the whole sense of a passage may be inverted or, at least, seriously modified, and it has frequently been insisted that

such "marks" have been intentionally made or varied with the view of supporting special dogmas. By the production of one good photographic copy all such differences would cease to exist.

As public attention will inevitably, by the new and liberal policy of the Mohammedan religious functionaries, be directed to the reproduction of other works by similar agencies, we anticipate a rapid demand for facsimile reprints of rare works. For the most part, such reprints have hitherto been made by the aid of photolithography; and with such a work as Holbein's "Dance of Death" on our shelves before us, it would be unjust to say that this process is not equal to the task of facsimile reproduction. Still it is in phototypography that the art of reproducing scarce works will find its chief outcome, speed and quality being alike the concomitants of this method of printing.—*British Journal of Photography.*

New Drawing Scale.

An instrument for reducing or enlarging drawings, called a *planigraph*, has been invented by M. Marmet, of Versailles. It consists of a rule carrying two scales which have different graduations, and are placed end to end in opposite directions. At the common origin of the scales is a needle about which the rule can freely turn. Reading on one side, the vector radii of the different points of a given figure, and marking on the other side the points designated by the same numbers, you obtain a figure reduced or enlarged in the proportion resulting from comparison of the scales. These scales are fixed to the rule by screws. There are five for each side, among which choice is made according to the reduction required.

The Opening of the Permanent Exposition.

The Permanent International Exposition in the Main Centennial Building, Philadelphia, was formally opened on May 10. Speeches were made by the Hon. John Welsh, President of the Centennial Board of Finance, Hon. A. T. Goshorn, late Director-General, and Mr. Clement M. Biddle, of the Permanent Exhibition Company. The music rendered by a large chorus and orchestra, was nearly the same as at the Centennial opening. President Hayes declared the show open for the season, but forgot to touch the button which signalled to start the machinery, as it was intended he should do. The crowd was large and not very orderly; but the ceremonies passed off reasonably well. At present the condition of the exhibits is as usual—by which we mean incomplete, as is invariably the case in every fair of this description on the opening day. There is every indication, however, that the display will be a creditable one; and the new arrangement of the huge building affords excellent facilities for comparison and study of exhibits. When the Exposition is reduced to good running order, we shall lay before our readers whatever there is therein of novelty and interest.

The Fall of the New York Post Office Roof.

The verdict of the coroner's jury, after examination into the causes which recently led to the fall of a portion of the roof of the new Post Office building in this city, shows that, on the removal of a wall in the fourth story, the remainder of the same wall on the story above was left standing, but was supported by two light 15 inch iron beams, which were not deemed competent to sustain the load. Accordingly this superincumbent wall was removed, and an iron truss substituted for it, in order to uphold the roof. This truss, with the iron roof beams, not being strong enough to stand the stress, the fabric, under its load of concrete, fell. Ex-Supervising Architect Mullett is charged with fault in the matter; but that gentleman appeals from the verdict, which he says emanates from professional rivals, and asks that an examination be conducted by the Chief of Engineers, U.S.A.

Pitury, an Australian Rival to Coca.

Baron Von Müller, of Melbourne, has at length determined the botanical source of the "pitury," a stimulant long known to be in use by the aborigines of Central Australia, and said to be of marvellous power. After some years of efforts to obtain a specimen, he has with certainty determined them to belong to *Duboisia Hopwoodii*, a bush referred to the order *solanaceæ*. In the *Australian Medical Journal*, Baron von Müller states that the natives chew the leaves to invigorate them during their long foot journeys through the deserts, just as coca leaves are used in South America. It is carried about by them in little bags. It is also employed to excite courage in warfare. We shall probably soon hear concerning its therapeutic qualities.

