

Correspondence

Photograph Enlarging Apparatus.

To the Editor of the SCIENTIFIC AMERICAN :

We notice with pleasure that you give a description of our photograph enlarging apparatus on page 142 of your issue of August 8, but see that you attribute the design to M. J. Carpenter. Will you permit us to make the following slight correction? The apparatus was invented by our M. Gaumont, and it has always been constructed by the Comptoir Général de Photographie. With many thanks and assurances of our highest consideration,

L. GAUMONT & COMPANY.

Paris, August 17, 1896.

Stone Carving: Where Should It be Done?

To the Editor of the SCIENTIFIC AMERICAN :

The writer who, under the heading of "Carving Before and After Placed" (an article which has been copied into some of our London technical papers), says he does not really believe a stone carver knows why he prefers to carve his work in situ, knows very little of the topic upon which he writes.

It is impossible to carve stone upon the banker (without the carvings be a succession of repliche, of the effect of which a model one has already been carved in place) and be sure of the success, or non-success, of the work. It is not how carving looks under the nose of the artist, but what its finished effect is from the ground—from the point of view of the ordinary spectator. This is a most necessary element to its ultimate artistic effect.

All the best works in this country have been carved in block and in place, and so far as my experience goes in the United States (and it has been somewhat extended), all the most successful exterior facades have had their carved work executed in place also. In France they go a step farther, and a greater part of the moulded work—the actual masonry—is also done in place. This is what an English mason can seldom or ever do. He can work the most delicate and intricate mouldings, when leaning over them by the banker's side, but if he is required to stand upright, as a stone carver does, and do his work in that position, he is as uncomfortable personally as his work is generally deplorably disappointing.

To a practical man of artistic intent, there can be no two ideas about which is right or wrong as regards the position in which stone carving should be done. If executed upon the scaffold, then, if the craftsman has natural ability, he will leave it a success, and not before. If, however, it is done upon the banker and afterward fixed, no matter how skillful the workman may be, it is a pure chance whether the effect, after the stone has been put up, is satisfactory or not.

When the writer to whose doctrine I take exception says, "for the most part the ornamental work (i. e. stone carving) could, it would seem, be done to better advantage in the yard, or under cover, than when the workman is slung upon a staging," it is clear he has little practical knowledge of his subject. Of course, if a handicraftsman was simply "slung up," he would have little chance of working in comfort, and the man who does not work in comfort cannot produce good work. A stone carver, in this country at least, always works upon a staging four boards wide, which is the minimum width required for the operator to step back and see the passing effect of his labors as they progress. This scaffolding should be some five feet below the work to be carved. A good gage for scaffolders is to put their boards so that, in a capital or spandrel of ordinary size, for instance, the nose of the actual workman will be level with the middle of the block to be manipulated.

The more than hinted danger in lifting carved stones up to their places is nothing at all. With ordinary mechanical care, anything can safely be hoisted.

The question why stone carvers prefer to do their work in place is a distinctly artistic one. It can, I insist, in the best interests of their art, be better done there than it can upon the ground; hence natural instincts teach them that is the place whereon their calling may be carried out to the best advantage.

HARRY HEMS.

Exeter, England, August 15, 1896.

"Barisal Guns"—Reminiscences of the Charleston Earthquake of August 31, 1886.

To the Editor of the SCIENTIFIC AMERICAN :

In your issue of SCIENTIFIC AMERICAN of June 27, 1896, in an article headed "Barisal Guns," after an interesting account of these strange acoustic phenomena, you ask of any of your readers who know personally or otherwise of these curious noises that you would like to get from them an account of it.

I have personally heard these noises (evidently subterranean detonations) many times in the Blue Ridge Mountains of this State and North Carolina, but never so forcibly or distinct as I (and many others) heard them in this region for many days previous to the earthquake of August 31, 1886, the center of which was probably not more than seven or eight miles from here

(Summerville, S. C.), more generally known as the Charleston earthquake of August 31, 1886. Having been a resident here (Summerville, S. C.) at the time of this earthquake, I recollect that for several days previous to the main shock (August 31, 1886), the sky being perfectly clear, rather coppery in hue, a profound calm prevailing, with an oppressive heat, there began to be heard about six or seven days before the shock of August 31, 1886, at irregular intervals (alternating with occasional low rumblings, as of wagons rolling over bridges), a deep, booming sound, like the discharge of siege guns in the far distance. For nearly a week these sounds could be distinctly heard all throughout this entire region, for at least a radius of twenty miles around Summerville, S. C.

This weird sound seemed, at Summerville, to come from out of the distant southeast, and as from depths beneath the ocean. The tone of the sound, though heavily masked from depth and distance, was deep and profound, massive in volume and power, and was most significant and impressive of the play of vast energies, especially as heard in the silence of our surrounding forests. Along with some of the more distinct detonations, tremors of minor earthquake shocks could be felt precursory of the main shock of August 31, 1886. There were other strange acoustic phenomena. They could also be heard for many days prior to August 31, and in the intervals of the heavy booming (of phantom cannon?) peculiar and startling sounds (somewhat masked), resembling the rushing of railroad trains upon distant bridges. This frightful prologue of "Barisal Guns," in conflict in the lower depths, combined to impress on the mind a sense of mighty energies in conflict, rending the foundations of the earth. This sound of deadly struggle was most distinctly subterranean, but always masked, as coming from great depths below.

And there was yet another peculiar sound, heard both before and after the main shock, usually occurring at the moments of minor shock and tremor, which seemed to resemble the rush of a great (subterranean) wind, or rather as of the passage of a whirlwind or aerial vortex, sweeping through the earth below. Its resemblance to the peculiar rush of wind was most striking, as was also its no less marked subterranean character. All these strange occurrences took place in a period of profound calm—not a leaf moving nor a breath of air stirring. These events were subterranean, not aerial.

The acoustic phenomena preceding, accompanying, and following this earthquake were most striking. The sound of the "Barisal Guns" kept up at intervals for some time after the main shock, but with diminishing intensity, and finally disappeared in about a year afterward.

Another acoustic phenomenon, well worth recording as a phase of this earthquake, was a sound like that of giant blows striking upward from below against the earth crust, as if some Titan were trying to drive a hole through the earth. The thud and jar from these blows were often tremendous, and could be felt over wide spaces. The sound created an impression of the projection of enormous masses of liquids and solids from below against the earth crust, as if trying to gain a vent. This sound caused a great terror to those under whose demesnes (or farms) it occurred. They thought that the earth would be driven through beneath their very feet. I knew of several who became perfectly frenzied with fear and incontinently fled from their homes (and the country hereabout). While this strange sound was being heard, if one placed a stick in the ground to some depth (which I did several times) and applied his ear to it, he could hear the blended fury of impact, rending, crushing, and tearing asunder; violent jar and tremor, mingling ever and again with the deep tones of the "Barisal Guns."

Dr. T. N. ROBERTS.

Summerville, S. C., July 6, 1896.

To Make Ordinary Plates Orthochromatic.

Ordinary gelatine-bromide plates can be orthochromatized by immersing them for three minutes in a dipping bath containing a mixture prepared as follows :

A.	
Erythrosine .....	5 gr.
Alcohol.....	5 oz.
Water, to.....	20 "

B.	
Ammonia.....	2 oz.
Water, to.....	20 "

For use, take one ounce of each of the stock solutions A and B, and make up to ten ounces with boiled water.

After immersion, the plates must be washed until water runs evenly over their surfaces, and can then be placed away to dry. Quick drying can be effected by soaking the plates for five minutes in a bath of alcohol.

Deep ruby light only should be used for conducting the operations throughout. The treatment is said to increase the general sensitiveness of the plates, as well as conferring orthochromatic properties upon them.—The Amateur Photographer.

Recent Archæological News.

The tiara of the Scythian King Saitapharnes, which was recently acquired by the Louvre for 200,000 francs, is now regarded with suspicion. A Russian savant, M. Welesowski, has pronounced it bogus.

Kynosarges, a suburb of ancient Athens, with a famous gymnasium, is being hunted for by the British School of Athens to the south of Mount Lycabettos on the banks of the Ilyssus. From the remains found in the preliminary excavations, it seems likely that the true site has been discovered.

The Egyptians were conversant with the art of landscape gardening, though they had to contend with the flatness of the land. Water, however, as an adjunct was often called into play, for there was the inexhaustible Nile. We have three plans of their gardens, as the one found in the tomb of Meryieat Tell el Amaron, which gives us the perfect idea of how a grand garden was laid out. We have, too, pictures of Egyptians reclining on chairs and fishing in these artificial lakes. At Karnak there was one such lake, but whether it was used for the convenience of the priests or served for certain religious purposes, we do not know. There is a good chance that whatever may be the secrets of this Karnak lake will shortly be disclosed. Mr. De Morgan, the most indefatigable and at the same time the most practical of Egyptologists, proposes pumping out the sacred lake of Karac, and at the latest date was at Assuan making his preparations.

Among the many thousands of objects discovered during the present year by Mr. W. Flinders Petrie and others, while excavating some thirty miles from Thebes, and now on view at University College, there is a pair of scales, which with the exception that they turn on a pin, exactly resemble those used in our pharmacies of to-day. The length of the beam is about four and a half inches, a ring at each end carries the original cords, which are three in number, and the pans, about the size of a penny piece, are slightly convex in shape; a small ring is attached to the top by which they may be held; the finish and workmanship are alike excellent. The exhibition closes, unfortunately, in a few days, but as the discoveries have been of an extraordinary character, another opportunity will no doubt be afforded later on to those who feel interested in the past to see the collection when permanently located. It is refreshing to find that in those distant days tipcats and tops were known to the boys, while the girls had their dolls, and the chemist manufactured pots of perfumed fat or unguent, which in one case at least still retained traces of its original odor.—British and Colonial Druggist.

Warren K. Moorehead, curator of the Ohio Archæological Society, has been opening mounds along the valleys of the Muskingum River and its tributaries, making some important finds, says the Cincinnati Commercial Gazette. A small mound on the Porteus farm, three miles south of Coshocton, was opened, in which five skeletons were found. These skeletons are of unusual interest to science, as they indicate the type of the prehistoric race. The skull is thicker than that of the negro, with low facial angles, prominent jaws, handsome teeth, and small brain capacity. The skeletons indicate a tribe somewhat shorter than ourselves, more muscular, and heavier. Near Walhonding, in a mound two feet high, was found the skeleton of a person supposed to have been the arrow maker of the tribe. Just above him were buried some sixty or seventy of his implements. These were made of flint, beautifully shaped, and about half the size of a man's hand. In a gravel pit near by was found the skeleton of a child, with mussel shells and other playthings. In a mound nine feet high, on the Johnson farm, were found a stone used for playing games, flint scalping knives, and a few arrow heads. There are a great many mounds in this valley, and it is expected that other valuable and interesting finds will be made.

With reference to excavations of the island of Philæ, the Cairo correspondent of the Times writes: "The work of clearing the island of debris so as to permit a thorough examination of the ancient monuments, which was intrusted by the Egyptian government to Captain Lyons, R. E., will probably be completed shortly. The satisfactory discovery has been made that the foundations of the main temple of Isis are laid upon the granite rock, being in some places over 21 feet in depth, and the temple has nearly as much masonry below ground as above. The southeastern colonnade has also its foundations upon the granite, and, so far as excavated, they are curious, if not unique in design. They consist of parallel cross walls some meters high, but varying according to the slope of the rock surface, with large stone slabs placed horizontally upon their tops, and the pillars forming the colonnade are erected upon the slabs. The nilometer is marked in three characters—Demotic, Coptic, and another much older, probably Hieratic, of which a copy has been sent to Berlin for decipherment. A stela was found bearing a trilingual inscription in hieroglyph. No traces have been discovered of any buildings anterior to the Ptolemaic periods. M. De Morgan, Director-General of the Antiquities Department, is engaged upon repairing the great hall of columns at Karnak."