

part with the chloride of silver as it does with the nitrate of that metal when under the influence of that mysterious power which appears to emanate from the solar orb.

33. Admitting the imperfect character of the results which I have endeavored to record as faithfully as possible, I cannot but regard them as important, and they appear to point to some general law, which is probably applicable to those phenomena which Moser has described, and which are in all probability acting a grand part in the mutations of the universe. The same power which we detect changing the film of chloride of silver on the photographic paper, has been in action for countless ages on the earth's surface; and by pursuing, with due care, the investigation, we may be enabled to proceed, step by step, into the great laboratory of nature, and discover the various causes which have been in operation on the consolidated masses of this globe, and which are producing multifarious chemical changes, to the excitation of which are due the great magnetic phenomena which are exciting so much the attention of philosophers.—*Phil. Mag.*

LITHOGRAPHY.—*The Art of Printing from Stone.*—The process of Lithographing is based upon the fact that printing ink, being largely composed of oil, will not adhere to any surface that is wet with water. Every one knows how utterly impossible it is to mix oil and water. To lithograph, then, all that is necessary is to draw on the surface of a dry slab of stone with a greasy crayon, whatever is desired to be printed. A weak solution of nitric acid, is then rubbed over the stone, which fastens the drawing so that it cannot be rubbed off. After this a solution of gum Arabic is passed over the surface, and then the surface is ready for printing. By means of a sponge, water is now passed over the stone, and while yet wet, the inking roller is applied, the ink of course adheres to the line of the drawing, because

they are oily, but to the wet stone it does not stick. The paper is now laid on, and with the stone passed through the press the result being a beautiful and exact copy of whatever is drawn.

The stone required for lithography is of a peculiar kind of lime and clay nature, resembling in appearance a smooth yellow hone, yet possessing the quality of absorbing water. It is found chiefly in Bavaria, though there are quarries of it in England. The Bavarian stones, however, are those most usually employed, and their importation is a considerable object to commerce. They are worth, in New York, from five to ten cents per pound.—*Banner of the Union.*

GEOLOGY OF ALABAMA.—The *Montgomery Journal* has commenced the publication of a series of essays on this interesting subject. The third number is devoted to the examination of the calcareous deposits and their value in the useful arts. It states that the annual consumption of lime in the State is one million of bushels, costing 50 cents a bushel, three-fourths of which are imported. He says it can be furnished from the beds of Alabama at 10 cents a bushel. Let the South develop its resources.

The Artesian Well at Charleston, S. C. has now reached the depth of one thousand sand feet, and they are now putting down the tubes to secure further operations. With the exception of occasional boulders the whole depth of the well has been cut through a bed of marl. The last boring discovered an increase of sand, and water had risen above the surface.

The artists of Boston are about to erect a monument to the late Gilbert Stuart, the renowned portrait painter.

The same apparatus used now in producing Daguerreotypes will, with slight alterations and additions, be required of the Hillotype process.