

sensitive to all coloured rays, even to the red? It is a disadvantage, but one which may be easily overcome. When working in the dark room, it is not necessary to see everything very distinctly, or to hold the plates close to the source of light. It is, therefore, advisable to screen off the light with a very thick red glass, so that only a subdued glimmer is obtained, exercising but little or no influence over the sensitive products, and it is needless to expose them to this feeble light, except during the few seconds when charging or emptying the dark slides. The action of placing the plates in the drying oven or in the developing bath admits of only a faint exposure to light, and the fogging will be scarcely perceptible. There is, then, really, no fear of the complete iso-chromatism being hindered, as means can easily be taken to prevent this fogging.

Photographic Enamels Printed in Various Colours.—When printing enamels by the powder process, it seems to me easy to obtain several colours on the one impression by screening off parts of the plate which are not to be printed blue, for instance, and powdering blue over the portions uncovered. The plate is then turned over in order to get rid of the surplus blue, or lightly blown off by bellows, and then passed on to the next colour. By this means an image in several vitrifiable colours is at one time placed on the enamel or porcelain. It may next be half baked, the work retouched with a brush to finish it up, and after submitted to the final firing. In order to conduct this rather delicate operation, one must have a little dexterity and practice, but it is easily acquired.

Photo-Ceramic Lectures at Limoges.—This mention of enamels reminds me to say that the annual course of photo-ceramic lectures will soon be delivered by me at Limoges, the town celebrated for porcelain. My readers know, without a long explanation, what important parts photographic processes take in ceramic decoration. It is really astonishing to note the scarcity of applications of this kind, and the imperfection of most of the designs actually employed to ornament the porcelain. It is to be hoped that by showing at the various industries practising this kind of decoration what value they may derive from photography, they will succeed in producing more artistic subjects. The lectures will be essentially practical, and include photo-engraving processes, in outline or chalk, on copper or zinc, photographic enamels in powder colours, phototype and its combinations with chromo-lithography in vitrifiable colours, the various photo-mechanical processes for transferring designs to engraving plates, and gelatine reliefs suitable for moulding and embossing the porcelain paste.

MM. Dodille's Albumenized Paper Factory.—We have recently visited this factory for manufacturing sensitive albumenized paper. Ten thousand eggs are consumed weekly. The work proceeds night and day without intermission, and yet the demand exceeds the supply. The sensitive paper will keep six months in a dry place without undergoing any alteration. The time will soon come when factories of this kind will have to be multiplied, for photographers are gradually ceasing to prepare their own paper. By the help of gelatine plates and paper already prepared by skilful hands, the work of the photographer is greatly simplified.

LEON VIDAL.

LIGHTNING PRINTS ON THE HUMAN BODY,

Mr. GEORGE BRUCE thus writes to the *Berwickshire News*:—It may be interesting to some of the readers of the *News* to know that through the thoughtfulness of Mr. Gunn, chemist, I secured a well-defined impression of the "lightning print" found on the arm of his son, George Gunn, who, along with other three boys, was, as reported in your last issue, struck by the electric fluid. So far as I am aware, it would seem that this is the first time this remarkable phenomenon has been photographed, and, perhaps, when the picture is put into the hands of one of our eminent electricians, the photographic image may elucidate a point which

is, at present, in the minds of many people, rather hazy. In relating the miraculous escape of those four boys made from a violent death, your correspondent, while suggesting the popular idea that the delicately traced figures, so very like fern fronds, or branches of trees, are caused by the object which happen to be near the person struck by lightning being printed on the surface of the body, does not identify himself with this theory. He only suggests the current idea that the marks found on the necks and arms of the boys may be representations of a tree not far distant from where they were standing. Now, while it is not to be wondered at that for generations this has been believed, I for one am not prepared to accept the current belief as scientifically correct. The first objection which presents itself to my mind against the generally accepted opinion, that the floral figures impressed upon the skin are photographic representations of surrounding objects, is, that the photographic conditions necessary to form the image and retain it are entirely wanting, namely, a lens and a surface made sensitive to light. But, assuming that a law exists, unknown to us, by which the electric fluid in passing from a thunder-cloud to the earth so rarefies the air that, as in the case of the mirage, the atmosphere, by the laws of reflection and refraction, depicts objects as clearly as a photographic lens; and further, that for the time being the surface of the human body is so affected as to become sensitive to light, and thus prepared to receive and retain impressions of surrounding scenery, the "lightning prints" under these circumstances would be, I think, different from what they really are. The floral figures which were so vividly represented on the bodies of the boys were what may be called positive pictures, namely a *dark* picture on a *white* ground; whereas, had they been formed by the chemical and optical laws that are essential to the formation of the photographic shadow of a tree, they would have been negative pictures—that is, a *white* picture on a *dark* ground. There are other objections that might be mentioned, such as the position of the tree referred to by your correspondent in relation to the boys who were *within* the stable, and also, that while the "lightning prints" were clearly defined, there were no impressions visible from the clothes they wore. I think, however, that sufficient has been said to show that we must search in some other direction for the cause of these mysterious and delicately beautiful forms, and, thanks to the researches and experiments of scientists, the probable explanation is not far to seek.

By a simple experiment, a stream of sparks discharged from an electrical machine can be broken up and made to take the exact form of figure found on the arm photographed. Or if a charged *Leyden jar* be substituted in our experiment, and a pane of glass be interposed between the knob of the vessel and the discharging tongs, a perfect *breath figure* of the discharge is seen on each side of the glass which bears a most striking resemblance to a tree. Knowing, then, that under certain conditions the sparks from an electric machine may be made to take the form of a brush, a feather, a fern, or a tree, we are, I venture to say, compelled to come to the conclusion that the markings developed on the necks and arms of our young friends were caused by the direct action of the electric fluid, paralyzing the nervous system, and causing, for a time, congestion in the capillary vessels, and therefore redness, wherever the tree-like sparks touched the skin.

Notes.

Our work "About Photography and Photographers" will be published next month, by Messrs. Piper and Carter.

"The Tourist Photographer," a series of journies with the camera, will commence next week.

Intending exhibitors at the Brussels Exhibition are reminded that the forwarding agents in London are Messrs. Flageollet Brothers and Co., George Yard, Aldermanbury, who will receive exhibits up to the 20th of this month.