

## M. Vignon's Researches and the "Holy Shroud."

At a meeting of the Paris Academy of Sciences on April 21, some remarkable photographs of brownish stains found on the "Holy Shroud" kept in the Treasure Chamber of Turin Cathedral, and traditionally said to be the winding sheet of Christ, were exhibited in connection with a paper by Dr. P. Vignon. Upon reproducing these stains by photography, Dr. Vignon found that he obtained a realistic picture of a human figure, and the suggestion is that the picture is actually a representation of the body of Christ, produced by radiographic action from the body, which, according to ancient texts, was wrapped in a shroud impregnated with a mixture of oil and aloes.

In his paper published in *Comptes Rendus*, Dr. Vignon remarked:

"It is known from the work of M. Colson published in the *Comptes Rendus* of the Academy of Sciences in 1896, that freshly cleaned zinc emits vapors at the ordinary temperature which are capable of affecting photographic plates in the dark. The researches of Russell have also shown that the striations of a plate of zinc are reproduced on a photographic plate. But it is a long step from this to the realization of an object in relief. I have succeeded in obtaining images either with medals powdered with zinc, or with bas-reliefs or objects fully embossed in plaster and rubbed with zinc powder. These images are negatives, not by the inversion of light and shade, since they are formed in the dark, but by the fact that the reliefs give more energetic impressions than the cavities. To interpret these it is necessary then to invert photographically; positive images are then obtained in which the scale of relief is scrupulously respected, which is far from being the case in normal photographs of the same objects illuminated from the front. Naturally, upon images made at a distance, the reproduction of the most minute details could not be expected, the precision of the detail obtained being less at the distance increased. The clearness of the image depends upon the rapidity with which the action diminishes when the space increases between the emissive surface and the receiving screen.

"From a point of the active surface let a perpendicular be lowered onto the receiving plate; the foot of this perpendicular constitutes the center of a circle which makes a more energetic impression in its central region than on its edges; the clearness of the image will thus be greater or smaller the surface of the circle acted upon, and this surface varies inversely as the rapidity with which the actions decrease when

the distance increases. It is on this account that the images correspond very nearly to those which would be realized if the actions were produced only according to the orthogonal projections of the different points of the active surface.

"It is a curious point that the images converted into positives frequently give rise to the impression of having been lit from above.

"This will be the case when a plane, such as the forehead, is seen from the front and forms at the same time a strong relief, while a plane near it is rapidly shifting, such as, for example, the region which connects the superciliary arch to the eyeball. When this plane shifts it appears to sink into a deep shadow.

"The truly specific character of these negative images which arise from action at a distance lies in the softness of the contours. The limit of the visible portion is the result for the eye of the receding of the surface. If this falling back takes place at a small distance from the receiving plane, the contour is still marked, though vaguely; but if this falling away is produced only at a distance greater than that at which the vapors can act, no corresponding effect is produced in the image, which gradually weakens up to its borders by insensible gradations until it disappears altogether. Practically in spite of the softness of the details and the outlines, the impressions produced by vapor are far from consisting of simple shadows; if the object is in strong relief, the image is energetic and well marked; it appears simply as if the object were seen through transparent gauze, or as if it had half emerged from a fog.

"Negative images have also been obtained by acting with ammoniacal vapors upon cloths impregnated with a mixture of powdered aloes and olive oil; it is known that aloes contains a principle which turns brown and is oxidized under the influence of alkalis in moist air. A plaster hand covered with a suede glove which has been moistened with a solution of ammonium carbonate acts similarly. There is obtained in this way a sort of print of the hand, a negative softened at the edges and wanting in proportion in so far that the points where the hand is too far from the cloth are too faint, the points of contact of the hand and cloth, on the other hand, being too strongly marked. The fermentation of urea, easily brought about by the addition of a little urine, leads to the formation of ammonium carbonate and thus causes a browning of the aloes. The

fermentation of a febrile sweat, rich in urea, leads to the same result, as is already well known.”

The extension of Dr. Russell’s researches on the photographic activity of certain bodies in the dark, contained in the above paper communicated to the Paris Academy by M. Vignon, has given rise to almost curious discussion, says Nature.

There is a so-called “Holy Shroud” at Turin in which tradition states the body of Christ was wrapped after the Crucifixion. An article in the Times thus refers to it and its connection with M. Vignon’s work:

“It is said to have been brought from the East in the fourteenth century, and in the following century it passed into the hands of the House of Savoy, and was deposited at Chambéry. Finally, it was transferred in 1578 to its present resting place by Duke Emmanuel Philbert, who wished to spare Carlo Borromeo, the sainted Archbishop of Milan, the fatigue of a pilgrimage to its distant Savoyard shrine. The Shroud bears upon it, traced in hues of brown, what is alleged to be a double impression of the figure of Our Lord, the outlines both of the face and back of which have reproduced themselves with wonderfully distinct exactness. So seldom, however, is it exposed to view that this remarkable characteristic had almost been forgotten when, in May, 1898, some photographs specially taken of it by Signor Secondo Pia, of Turin, with the consent of its present owner, the King of Italy, once more drew attention to this strangely living likeness. Eighteen months ago these photographs came under the notice of M. Vignon, who, recognizing their importance, at once began that inquiry of which the results were made public in a paper communicated to the Académie des Sciences.”

In Paris, therefore, it has been generally accepted that a demonstration has been given by science of the authenticity, not only of the so-called shroud, but of all the historical events connected with it, and a much closer rapprochement between science and theology is predicted for the future.

Here, however, difficulties have been raised. Father Thurston, a learned Jesuit, writes to the Times as follows:

“Before we can profitably discuss the value of Dr. Vignon’s scientific explanation of the marks on the ‘Holy Shroud’ a serious difficulty of quite another order has to be cleared up. The Abbé Ulysse Chevalier claims to have proved to demonstration that the linen winding-sheet exhibited at Turin is a spurious relic manufactured in the fourteenth century, and, as the writer believes, with fraudulent intent. M. l’Abbé Chevalier is a scholar of distinction, and of his perfect loyalty to the Catholic Church there can be no possible question. Moreover, his essay (*‘Étude Critique sur l’Origine du S. Suaire,’* Paris, Picard, 1900) has been warmly welcomed by the more critical journals devoted to hagiography. In the Bollandist periodical, the *Analecta Bollandiana*, for instance, its Jesuit editors state (vol. xix, 1900, p. 350) that the Abbé Chevalier’s discussion is final, and that ‘il ne reste plus qu’a proclamer “á haute et intelligible voix,” comme le voulait le Pape Clément VII: “Haec figura ... non est verum sudarium Domini Nostri Jesu Christi.”’

They go on to state that the story of the ‘image of the shroud’ given by Geoffroy de Lirey to the college founded by him in 1353 is not lost in the mist of the ages and does not happen to present any of those old securities by which the historian who wishes to impart his own laboriously acquired conviction to others must at times find himself baffled. We have, for instance, the document addressed to the Pope by Bishop Peter d’Arcis, in which he denounces the fraudulent dealing of the Chapter of Lirey who for motives of avarice pretended that miracles were worked by the shroud, whereas his predecessor in the see of Troyes had officially investigated the matter and proved it to be a forgery. ‘Et probatum fuit eciam per artificem qui illum: (pannum) depinxerat, ipsum humano opere factum, non miraculose confectum vel concessum.’”

There is also another difficulty. It is stated that there is at least one other Holy Shroud in another holy place.