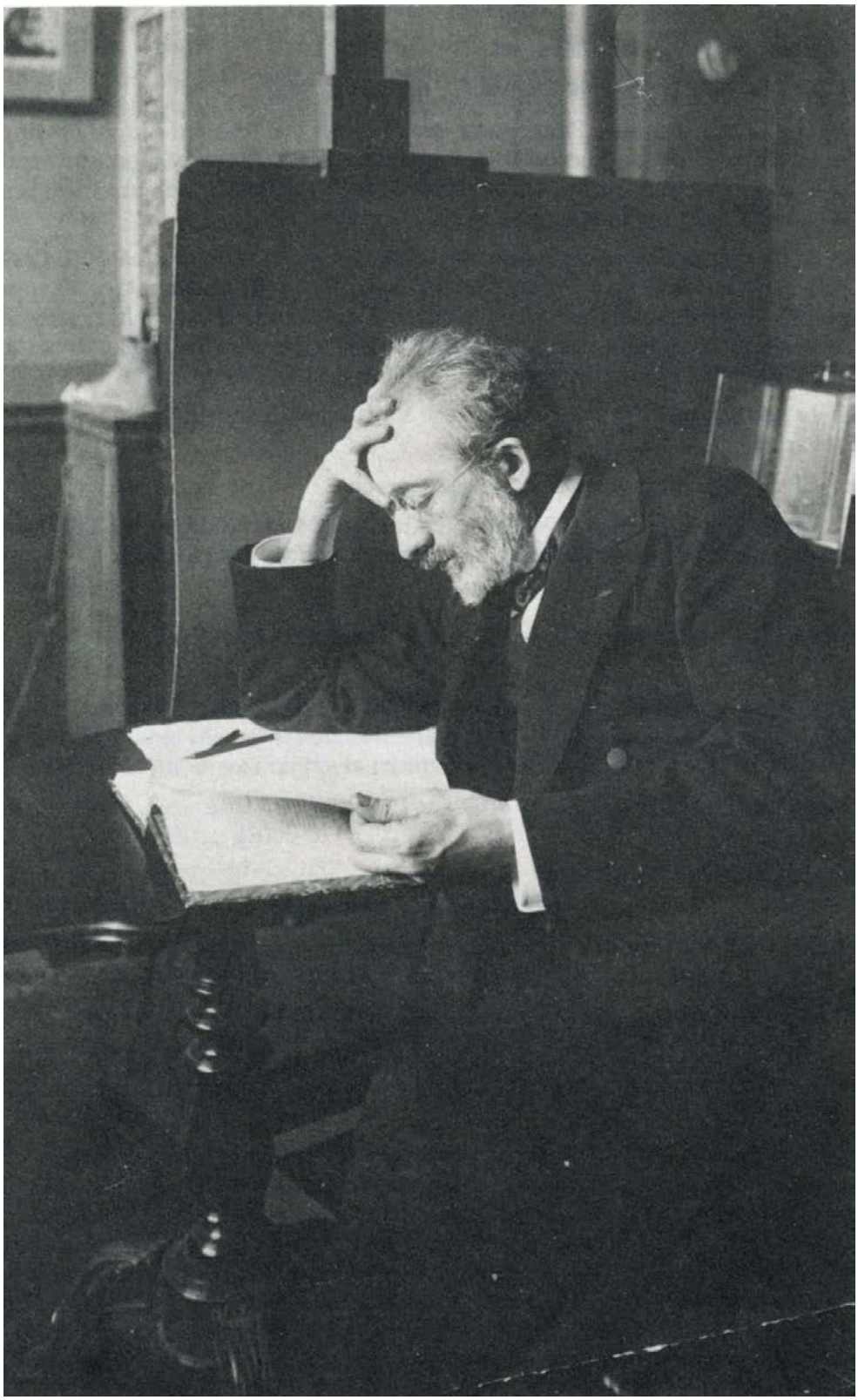

YVES DELAGE

Photograph of a portrait by Gabriel Quidor (1904), by kind permission of Madame Lucie Coignerai-Devillers, granddaughter of Yves Delage.

13

THE 1902 CONCEALMENT

ANDRE VAN CAUWENBERGHE

"I have here before me, since an hour ago, two photographic images, exhibited at the Academy of Sciences by Monsieur Yves Delage, Professor of Zoology at the Sorbonne. By tomorrow, their story will have gone around the world, for they are the most mysterious, the most improbable, the most impressive pictures that one could possibly imagine. How can I tell, how can I express to others the emotion they arouse in me?"

This was the preamble to Horace Blanchon's article in *Figaro* of 23 April 1902, the article that launched Prof. Yves Delage into the news 48 hours after he presented a paper to the Academy of Sciences. During the solemn meeting of Monday, 21 April 1902, Delage set forth, with complete scientific objectivity, the results of the work that Paul Vignon had obtained, based on the photographs of the Holy Shroud of Turin taken by Secondo Pia on the occasion of the 1898 exposition of the Relic.

Born in 1865 of a wealthy family of Lyon, Paul Vignon pursued his studies for a career in science, but his great passion was mountain climbing.[1] In 1895, having overexerted himself in his studies and his sport, Vignon suffered a nervous breakdown and spent a year convalescing in Switzerland. There he took up painting, in which he excelled rapidly, even to having a show in a Paris salon. It was in 1897, after he had regained his health, that Paul Vignon met Yves Delage, a distinguished scientist not only professor at the Sorbonne, but director of the Museum of Natural History and, since 1882, a member of the Academy of Sciences. Soon after their meeting, Vignon collaborated with Delage in the direction of *Année Biologique*, founded by Delage in 1895, then later became his assistant at the Sorbonne, sometimes substituting for him in his teaching.

There was already talk about the photographs of Secondo Pia; but also of the historical objections to the Shroud of the very eminent Canon Cyr Ulysse Chevalier.[2] John Walsh writes that Delage saw more in the photographs than could be explained by the letter of Bishop d'Arcis. It was Delage who, in 1900, first showed Vignon Pia's photographs. Vignon lost no time. That same year, he visited Secondo Pia, who gave him copies on glass plates. It was in the guise

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This paper is expanded from Dr. van Cauwenberghe's article "L'Occultation du 21 Avril 1902", *La Lettre Mensuelle du C.I.E.L.T.*, Paris, May, June, July/ August 1990.

of a connoisseur that Vignon evaluated these negative images, for since he was an artist as well as a biologist, he knew that an image produced directly in negative in the XIVth century was inconceivable, consequently the very notion of a XIVth century forger was absurd.

From this emerged a paradoxical situation. "It was through. Delage, an agnostic in religion," Walsh continues, "that the younger man [Vignon], a Catholic, came finally to his work on the Shroud. In the end, it was Delage, ironically, who compelled the world of science to pay heed to the relic."

The Studies

"At the instigation of Delage," wrote Thomas Humber, "Vignon and other scientists set about to investigate the Shroud."[3] The two scientists were soon joined by the Commandant René Colson, Assistant Professor of Physics at the École Polytechnique; Armand Gautier, Professor of Biological Medicine, member of the *Institut de France*; and two journalists from *L'Univers et le Monde*, Dr. J. de Gaux and Arthur Loth. Their task was to determine whether the image could have been produced by natural means. Various experiments ensued; for example, Vignon had his face covered with a red powder, over which a cloth moistened with albumen was laid. The results, of course, were grotesque. Direct contact was not the answer.

Contact and projection? Rene Colson had a suggestion. He had demonstrated by experiments that powder of freshly scraped zinc emits vapors that in a dark environment react on a photographic plate. The results of his research had been presented to the Academy of Sciences and published in the *Comptes rendus* of 6 July 1896. Based on this research, the question arose: Would not the vapors from a sweat-drenched body, in the darkness of the tomb, leave their trace on the Shroud? Could the linen have been somehow sensitive to vapors?

According to St. John's Gospel (19:30), Nicodemus brought a mixture of aloes and myrrh for Jesus' burial; in the Old Testament, Colson found a Mosaic recipe for burial ointments that mixed these aromatics with olive oil. Colson and Vignon soaked linen cloths in a mixture of aloes and olive oil, using as subjects zinc-powdered medals and plaster casts. The results were encouraging, but there was still the question of bodily vapors. Then Prof. Armand Gautier suggested that the corpse of a tortured man, covered with blood and bathed in morbid sweat, must certainly emit strongly alkaline vapors, and not at all acidic, as in the case of an ordinary sick person who dies in his bed.

And so an alkaline ingredient was added to the formula. The best laboratory results were obtained by moistening a plaster hand with ammonia, then covering it with a suede glove and exposing this to a cloth soaked in an emulsion of aloes and olive oil. While the results were only moderately successful, they were sufficient to assure

Vignon and his collaborators that they could demonstrate a natural formation of the image.

The story of their experiments in a research without previous history will remain a lasting tribute to these men. For weeks and months," Delage wrote to Charles Richet,[4] "we were obsessed by the disconcerting contradiction between a material fact, which was fundamental, and the apparent impossibility to find a natural explanation; a situation that would play into the hands of those who accept miracles, that my philosophical opinions cannot accept at any price. And suddenly, here was the natural explanation, luminous in its simplicity, chasing out the miracle.... When Mr. Vignon, with the help of Mr. Colson, found the scientific explanation of the formation of the image on the shroud, you remember the profound joy we felt to possess, at last, the clue to the enigma."

All that remained now was to publish this remarkable work. Delage published "Le Linceul de Turin" in *Revue Scientifique*: Vignon's first book, *Le Linceul du Christ: Etude Scientifique*, appeared in April (it went into a second edition in May). Then, on 21 April 1902, Delage presented their work to the assembly of the Academy of Sciences.

At the Academy of Sciences

Under the dome of the *Institut de France*, the sessions of the Academy of Sciences are held on Monday afternoons. On Monday, 21 April 1902, there was a crowd to hear Yves Delage report on the exciting work that his assistant, Paul Vignon, had conducted on the subject of the Holy Shroud of Turin. The title of his paper was "Imprints produced on a sheet by emanations from a corpse."

"The major part of the session," Dr. de Gaux reported in *L'Univers et le Monde* on May 23, "was devoted to the scientific demonstration of the authenticity of the image of Christ on the Holy Shroud of Turin."

Humber reports that Delage was well aware of the singular importance of the occasion as he began reading the paper that he and Vignon had prepared. After discussing the history and properties of the Shroud, he detailed the step-by-step research and experiments of Vignon and his colleagues, work which Delage had overseen and approved to the very end. Science had shown the Shroud was not, could not be, a painting; science had demonstrated that the Shroud was not some other kind of forgery; science had even determined how the image was formed.

"Add to this," Delage pointed out, "that, in order for the image to have formed itself without being ultimately destroyed, it was necessary that the corpse remain in the Shroud at least twenty-four hours, the amount of time needed for the formation of the image, and at most several days, after which putrefaction sets in, which destroys the image and finally the Shroud." Then he pronounced these words, which would have a considerable echo: "Tradition — more

or less apocryphal, I would say — tells us that this is precisely what happened to Christ; dead on Friday and — disappeared — on Sunday. The Man of the Shroud," the agnostic stated solemnly, "was the Christ."

The secretary for the Physics sciences of this day's session was Marcelin Berthelot. A man of 75, scientist of international renown, inventor of thermo-chemistry and one of the founders of organic synthesis, he was member of the Académie Française and Grand-Croix of the Legion d'Honneur. But a positivist and militant atheist, Berthelot could not admit that the dome of the Institute should resound with the name of Christ and the applause of the audience.

Traditionally, the speaker submits the text of his communication to the Secretariat so that it be published in the *Comptes rendus de l'Académie des Sciences*. But that evening, against all precedent, Berthelot notified Delage to take back his text, telling him to rewrite his paper treating only of the vaporography of zinc, without making the least allusion to the Holy Shroud, certainly none to Christ.*

Even today, preserved for posterity alongside some of the greatest inventions of French science, in volume 134, pages 902-904, under Berthelot's revised title, "Chemistry: On the formation of negative images by the action of certain vapors", one can read the expurgated text, falsifying the truth, in blindness and quite simply in hostility to Christ, in the name of a scientism that today is unsurpassed. Denaturing the very purpose of the communication, Berthelot acted in a way that can only be considered a fraudulent concealment, unworthy of such a great scientist. It was an affront from which Delage recovered with difficulty.

The full text as it appeared in the *Comptes rendus* is presented in Annex A.

The Aftermath

The events of April 21 sent great repercussions through scientific, philosophical, and literary circles. A sort of hysteria overtook some of the journalists. One of the most rabid was Maurice Vernes, Associate Director of the School of Higher Studies, Department of Religious Sciences, at the Sorbonne.

In *Revue Scientifique*, the journal that hosted these exchanges, Paul Vignon responded to an article by Vernes. "He preceded his paper by a sort of pamphlet that appeared in the May 4 issue of *Raison*," Vignon lamented. "There he wrote a lot about 'mystification', of 'intellectual ineptitude', even of a 'conspiracy'. Finally, Mr. Delage and Mr. Colson and several other well-known personalities who considered

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*In a footnote on the first page of "Autour des Origines du Suaire de Turin" (in *Memoires de l'Académie des Sciences, Belles-Lettres et Arts de Lyon*, 1903), p. 237, Chevalier asserts, quite correctly, that in the *Comptes rendus* for 21 April 1902, "There is not one word that applies to the Shroud of Turin". Chevalier dated his article 9 January 1903.

it an honor to lend their cooperation, are treated as 'seminarians disguised as scientists' indulging in a 'little debauchery', justifying 'reprisals'."

Refutations and controversies were rife; they can still be read in *Revue Scientifique*, in the archives at the Bibliothèque de l'Institut de France. I will conclude, however, by citing some of the more important passages from the letter that Yves Delage wrote, toward the end of May, to Charles Richet.

"There is a category of persons to whose opinion I am not indifferent and who, in good faith, came to believe — so much have the facts been distorted, so much talk there has been about what certain journals have reported — that unconsciously or by a lack of scruples I have betrayed science and have not been true to my convictions as a free-thinker. For these persons, I want to reestablish the facts, and for this purpose I beg the hospitality of your journal.

"I would not have needed to do this if the Bureau of the Academy had accepted to publish the explanations that I gave in presenting the work of Mr. Vignon. But since my paper was refused by the Secretary in service on that day [Marcelin Berthelot], it results that I spoke and took part officially in the debate about the Shroud without there being anywhere a written record to which I could refer to say whether I accept or deny responsibility. It is easy, in such circumstances, to embroil things. Therefore I would like to resume rapidly what I said at the Academy and to add some remarks that I could not make at the Academy because they would have been out of place there."

At this point in his letter, Yves Delage gives the text of the paper he had prepared for the *Comptes rendus*; the exact result of Vignon's work based on Rene Colson's experiments with zinc plates.

"But", continues Delage, "on the corpse there is no zinc; and the Shroud is not a photographic plate!"

He concludes his letter thus: "And if it is not the Christ, then it is some common criminal. How do you reconcile that with the marvelously noble expression that you see on this Image? In any case, I maintain that I accomplished a truly scientific work and not at all clerical. I beg pardon, for using this word, of those whose convictions it might hurt; convictions that I respect even though I do not share them.

"I have been faithful to the true scientific spirit, treating this argument with the sole intention to find the truth, without worrying whether I have served the interests of this or that other religious sector. Those, instead, who allowed themselves to be influenced by such concerns are the ones who have betrayed the scientific method. I have not made a clerical work, because clericalism and anticlericalism have nothing to do in this affair. I consider the Christ to be an historical personage and I do not see why anyone should be scandalised that there exists a material trace of his existence."

It was the last public statement Delage was to make in this affair. Discouraged by so much animosity, he ceased his collaboration even though privately he remained in contact with Vignon. From that time on, he devoted himself entirely to his work at the Roscoff laboratory of Marine Biology, of which he had been director since 1901. In 1912, overcome by total blindness, he was obliged to curtail his work although, with the aid of secretaries, he continued to publish *Année Biologique*. Delage died in 1920, aged 66 years. His honesty remains for us a precious souvenir, an example for our days. The combat continues, with new weapons, new challenges, new opportunities; but it will continue to be met with a steadfast and loyal young courage.

NOTES

1. A frequent companion in his ascents was another Alpine enthusiast, a young priest, Achille Ratti. "Years later", John Walsh writes, "they met again in a private audience room at the Vatican; Vignon as the moving spirit in the scientific study of the relic, and Ratti as the learned Pope Pius XI, who believed whole-heartedly in its authenticity." (JOHN WALSH: *The Shroud*, Random House, New York, 1963).

Achille Ratti was elected Supreme Pontiff in 1922. As Mons. Ratti, he was present at the momentous Exposition of 1898. As Pius XI, he declared 1933 an Extraordinary Holy Year in honor of the nineteenth centenary of the Redemption; at his request the Shroud was put on display (September); among the pilgrims were Vignon and Barbet.

Excerpts from a few of his remarks: (1931), "We speak as a scholar and not as Pope. We have personally followed the studies of the Holy Shroud and we are convinced of its authenticity. Oppositions have been made, but they do not stand up." (1936, handing out photos of the Holy Face to youths of the Catholic Action): "... this Image ... more suggestive, more beautiful, more precious than one could ever imagine. It comes from that Object, still mysterious but certainly not made by human means, the Holy Shroud of Turin ... a thing sacred as probably no other; and surely ... it is not the work of human hands."

2. Born at Rambouillet in 1841, Ulysse Chevalier, renowned medievalist, was, at the end of the last century, Professor of Ecclesiastical History at the Catholic Institute of Lyon and corresponding member of the Academy of Inscriptions and Belles-Lettres. His biographer wrote: "He was an indefatigable worker.... He died in 1923, aged 82 years. During his long life, he had accumulated titles and honors.... His useful and durable historical work, and what does him great honor, consists in several publications devoted to the so-called Shroud of Turin, but it is principally by his two *Repertoires des sources historiques du Moyen Age* that Chevalier acquired a certain reputation."

3. THOMAS HUMBER: *The Fifth Gospel*, 1974, and *The Sacred Shroud*, 1977, in which he quotes extensively from John Walsh.

4. Charles Richet, Director of *Revue Scientifique*, was an internationally known physiologist, discoverer, among other things, of anaphylaxis, which earned him the Nobel Prize for Medicine (1913) and the election to the Academy of Sciences in 1914.

Delage's much-quoted letter to Richet was published in *Revue Scientifique* on 31 May 1902. The text was translated into Italian by Francese di Bernardo Lonigri: "Un non-credente davanti alla Sindone", with introduction by Rev. Gaetano Intrigillo, and published as a supplement to *Rosario Oggi*, Trani, 1982.

FOR FURTHER READING

A biographical sketch of Paul Vignon, with his portrait, written by the late Rev. Paul de Gail, S.J., appears in *Spectrum* #6, March 1983.

In *Revue de Synthèse*, 1979, Jean-Louis Fischer published "Yves Delage; L'Epigènese Neo-Lamarckienne contre la Prédetermination Weismannienne". It should be remembered that Delage was a pioneer in establishing the existence of parthenogenesis in nature.

Charles Pérez, Professor of Zoology at the Sorbonne and successor to Yves Delage as Director of the Roscoff laboratory, in *Travaux de la Station Biologique de Roscoff*, 30 September 1926, published a 30-page commemoration in homage to Delage on the occasion of the unveiling of a bronze monument in his honor. The paper gives a list of Delage's 168 scientific publications, including (#73) "Le Linceul de Turin".

I wish to express my gratitude to Mme. Coignerai-Devillers, D.Sc., for her gift to *Spectrum* of a genealogical chart of Yves Delage, as well as biographical data. Mme. Coignerai-Devillers shared reminiscences of her grandfather at the 1989 Paris symposium. She attended the 1978 Exposition of the Shroud in Turin, and continues her interest in sindonic studies and scientific research.

Dorothy Crispino

ANNEX A

COMPTES RENDUS DE L'ACADÉMIE DES SCIENCES
Session of 21 April 1902
Presided by M. Bouquet de la Grye

Chemistry: On the formation of negative images by the action of certain vapors.
Note of Mr. P. Vignon, presented by Mr. Yves Delage (Extract)

It is known, from the work of Mr. Colson, published in 1896 in the *Comptes rendus de l' Académie des Sciences*, that freshly scraped zinc, at ordinary temperature, emits vapors capable of affecting photographic plates in the dark. The research of Russell has shown that the striae of a sheet of zinc are reproduced on a photographic plate. But from there it is a long way to obtain the image of an object in relief.

We have succeeded in obtaining images, both with medals powdered with zinc, and with plaster bas-reliefs or objects highly embossed, rubbed with powder of zinc. These images are negatives, not by the inversion of lights and shadows, since the work is done in the dark, but by the fact that the reliefs give more energetic impressions than the hollows. To interpret these, one must invert them photographically; positive images are then obtained, in which the scale of relief is scrupulously respected; a fact that is far from the case for normal photographs of the same objects illuminated frontally.

Of course, on such images made at a distance, one cannot hope to reproduce the most minute details; the precision of the details will be that much less as the distance increases. The sharpness of the image depends on the speed with which the action diminishes when the space increases between the emitting surface and the receiving screen.

From a point of the active surface, let us lower a perpendicular onto the receiving plate; the foot of this perpendicular constitutes the center of a circle that will be more energetically printed in its central region than on the edges; the image will be that much sharper the smaller the surface of the printed circle, and this surface is in inverse function to the speed with which the actions decrease when the distance increases. It is thus that the images are more or less equal to those that would be obtained if the actions were produced only in orthogonal projection from the different points of the active surface.

Curiously, once the images are reversed to positive, they frequently give the impression of having been illuminated from above. This is the case every time that a plane surface, such as the forehead, is seen from the front, where it presents an energetic relief; whereas a close-up plane recedes rapidly, such as the region linking the superciliary arch to the globe of the eyeball. As this latter plane recedes, it appears to sink into a deep shadow.

The specific character of the negative images formed by actions at a distance, lies in the diffusion of the contours. The limit of the visible part results, for the eye, in the falling away of the surface. If this falling away occurs at a short distance from the receiving plane, the contour is still marked, although faintly; but if this falling away occurs at a distance greater than that at which the vapors can act, then there is no recording of it in the image, which fades progressively toward the edges until it imperceptibly disappears completely.

Practically, in spite of the blurring of the contours, images made by vapor are far from being simple veils; if the object presents strong reliefs, the image will be energetic and accentuated; it seems simply that the object is seen through a transparent gauze, or that it half-emerges from a fog.

We have obtained negative images using ammoniacal vapors on linen impregnated with a mixture of powdered aloes and olive oil; it is known that aloes contain an ingredient that turns brown when it is oxidized under the influence of alkalies in a damp environment. The ammoniacal vapors can come from a solution of ammonium carbonate, wetting, for example, a plaster hand in a suede glove. One obtains a sort of imprint of the hand; an imprint modeled, negatively, diminishing at the edges, distorted "by default" in those places where the hand is too far from the cloth, and "by excess" in those places where the cloth was in contact with the hand. The fermentation of urea, easily brought about by the addition of a little urine, triggers the formation of ammoniacal vapor and brings about the browning of the aloes. The fermentation of a febrile sweat, rich in urea, leads to the same result; this is classic.