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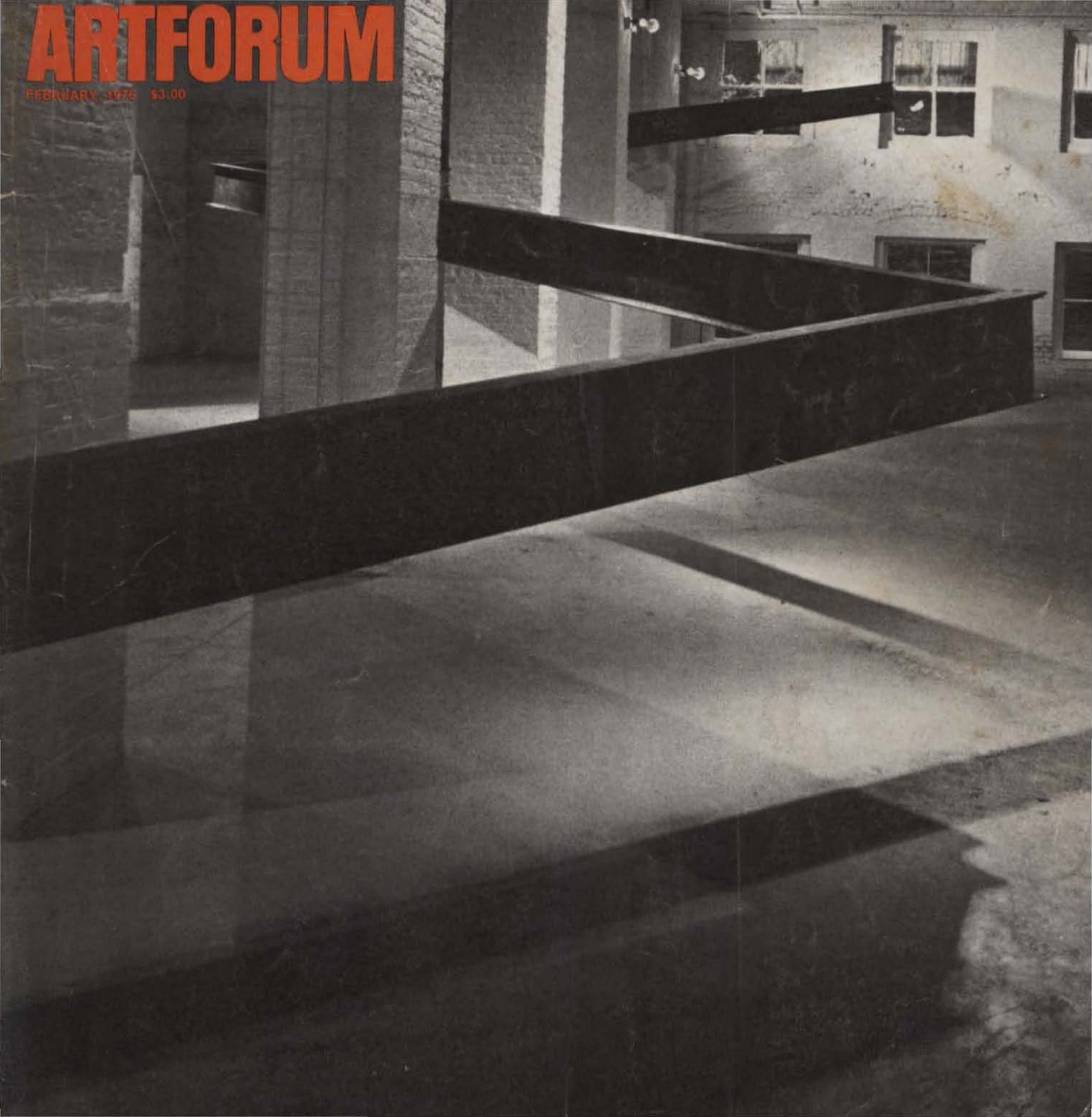
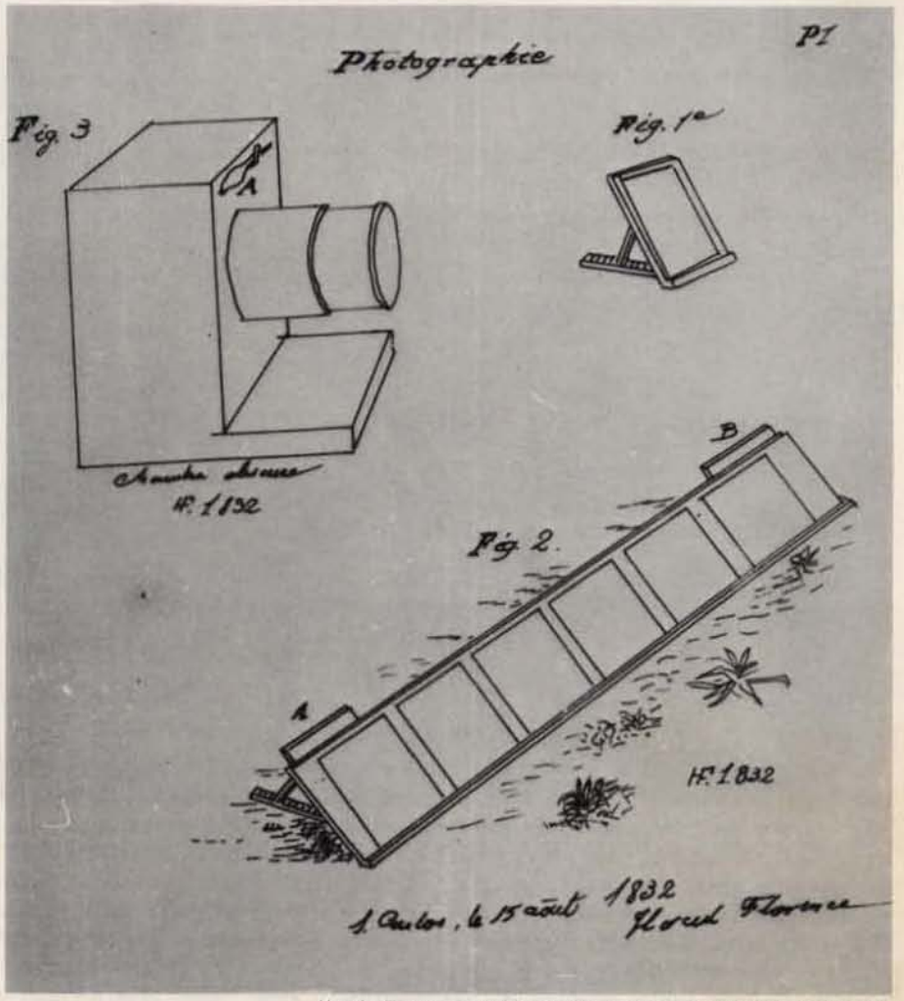


Portrait of Hercules Florence, ca. 1875, Allema Studio, S. Paulo.



Hercules Florence, Original drawing for camera obscura and printing devices, 1832.

HERCULES FLORENCE 'INVENTOR DO PHOTOGRAPHIA'

WESTON NAEF

In the Rio de Janeiro study of Gilberto Ferrez, Brazil's foremost photo-historian, grandson of one of their pioneer photographers and great-grandson of the eminent Neoclassical sculptor, I recently saw startling documents related to the early history of photography. The manuscripts and photographs were brought to Rio for our inspection by Arnoldo M. Florence, great-grandson of Hercules Florence (1804–1879), artist, inventor and prolific diarist. With him was the young Brazilian photographer and historian, Borris Kossoy, who had drawn to my attention the name of Hercules Florence and the existence of information that might add a significant new footnote to the history of photography, which he had already made public in the journal *O Estado de S. Paulo*, December 8, 1973.

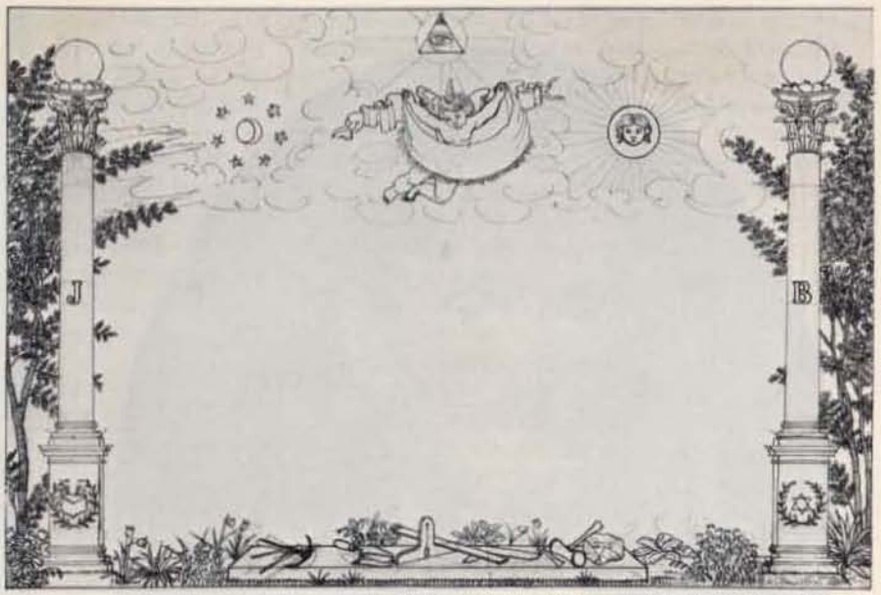
Arnoldo Florence brought with him to Rio on November 21, 1975, five leather-bound diaries and manuscripts of Hercules Florence along with several photographs. The most important of the manuscripts, like its companions written in Hercules Florence's minuscule script, with sepia gall-nut ink that has occasionally deteriorated the paper, is called by him *Livre d'annotations et de premiers materiaux*. The first entry, dated 1828, is a list of some 200 paintings and drawings he made while official artist with the Baron Langsdorff expedition to the interior of Brazil via the Amazon. Langsdorff was the Russian Consul-General to Brazil and the expedition which departed from Rio on September 3, 1825, was sponsored by the Czar Alexander I, thus obliging Florence to send the renderings to St. Petersburg (Leningrad) in January, 1828, where they are preserved today. Florence settled in São Paulo and later came to reside in Campinas near there, where he recorded various scientific investigations he had embarked upon.

In 1829, Florence wrote in his diary the investigations he was making into a sign language similar to that used by deaf mutes today. It is illustrated with detailed drawings and explanations of his method. In 1830 he spent many months investigating principles of flight, illustrated with diagrams of hot air balloons, and simultaneously investigated a new type of printing press. Hercules Florence certainly cast himself in the mold of the artist/scientist/humanist of the Renaissance (for which his name was very apt), but apparently saw no deterrent in the fact he was distant from the centers of scientific investigation in Europe and North America. Florence was like his Renaissance precursors to the point of writing imaginative parables, and even produced an elaborate iconographical schema for a projected engraving.

Hercules Florence prospered in the lush environment made possible by a hybrid pattern of civilization that flourished in Brazil. The nation at that time was an outpost of the Hapsburg Empire ruled by Don Pedro II, who brought to the nation the standards of civilization that he carried genetically with him. His dreams were made a reality by an extravagant wealth that was created from the sale and export of raw materials via the cheap energy of Negro slave laborers imported from Africa.

In this context, the curiosity of Hercules Florence drew him to an investigation aimed at discovering a way to make permanent the image of nature fleetingly cast on drawing paper in a camera obscura. The camera obscura was a standard artist's tool, and had even led

Hercules Florence, Masonic Diploma, salt print from paper negative on paper watermarked "1829/Lane & Co." Date 1832 added subsequently.



Hercules Florence, Original ink and pencil drawing for Masonic Diploma.

W. H. Fox Talbot into his investigations after a trip to Como, Italy, where he used such a device in 1832.[1] In precisely the same year, Hercules Florence writes in his journal that he was entranced by the idea of permanently capturing the natural wonders of Brazil. He had precisely the same motivations as Talbot. The skill of his hand, even with the aid of the camera obscura, was insufficient to record adequately the wonder of nature; Talbot, however, did not begin his research until he returned to England in 1834.

Arnoldo Florence showed me a drawing made by his great-grandfather, signed and dated 1832, that described the essential hardware necessary for making photographs. It is captioned at the top "Photographie," in French, the language used in most of his writing, for Hercules Florence was born in Nice. His use of the cognate "Photography" is itself significant, for it precedes by almost a decade the first use of that word to describe sun-pictures, the earliest of which in Europe were called after their inventors. Sir John Herschel is often credited with coining the name "photography" in 1839.[2] In France, Daguerre's process of making an image from nature on a sheet of silvered copper was called the Daguerreotype when it was made public in 1839 after several years of investigation, from which not a single visible example survives today. In England, W. H. Fox Talbot, who began his investigation in 1834 and who arrived at his first substantial success in 1839, called his invention the calotype, a designation that was changed to Talbotype in 1846.

Florence states he came upon the terms with the help of his druggist friend Joaquim Correia de Mello, who also told him about the light-sensitive property of silver salts, and supplied the necessary chemicals. Before settling on the word "calotype," Talbot had, in fact, used the term "photogenic drawings," and J. B. Reade, another pioneer in England, called the results of his experiments "solar mezzotints." One would, therefore, have expected Florence's discovery to have been called perhaps the "Florencetype," or some neutral description that suggested the physical procedure by which nature is caused to print its own image.

It is presumed that Florence's "figure one" is a simple printing frame, similar to devices used by Talbot and other early photographers to hold their paper negatives in contact with writing paper that had been made light-sensitive with silver nitrate and common salt. His "figure three" looks as if it could be a camera, but is not identified by him as such. Florence's device is considerably different from those used by Talbot and other Europeans who adapted the simple camera obscura, a box that vaguely resembles Florence's, but differs in its being oblong rather than square in shape as in Florence's design.[3] The European camera obscura's oblong shape was necessary in order to place the ground glass sufficiently far from the lens to permit focusing the image. Principles of optics suggest Florence's design would not function as a camera obscura unless the interior design were more complicated than the simplicity of its profile suggests.

There is no mention of researches into light-sensitive materials in Hercule Florence's diaries of 1828–1832, and it is possible the drawing represents his first idea before attempting to put any of the theory into practice. Beginning January 15, 1833 (leaf 131), he makes almost daily entries that chronicle his discovery. On January 20th are recorded his researches on "fixation des images dans la camera obscura" which are continued through February 10th, when he declares, "I have made an image." Unfortunately, the antiquated chemical nomenclature Florence utilized has not been deciphered, and therefore the specifics of how he fixed the image are not clear at present. It is clear, however, that silver salts were the basis of his sensitizing procedure.

Two actual photographs survive (presumably made with this camera) which are claimed to date from late 1832, both copies of drawings, and both very similar in appearance to the earliest surviving European photographs on paper such as those of Talbot, preserved in the Bertolini Scrapbook from 1839 in the Metropolitan Museum of Art.[4] One of the Florence photographs represents a copy of a drawing with nine labels designed by Florence for use by his druggist friend Joaquim Correia de Mello, who, Florence tells us, first told him about the light-sensitive properties of silver salts on August 15, 1832. The image is quite faint, with the overall tone being purple gray with small areas of deeper purple mottling, an appearance which resembles the earliest unfixed images of Talbot. It is a positive image—black lines read black—although the caption at the bottom is in reverse, "Photographia de H. Florence, inventor do photographia."

The other extant Florence photograph is of a drawing, also preserved, of a design for a masonic diploma. It is on paper watermarked "1829/Lane & Co." The image is barely visible, as is a pale sepia tone similar in appearance to the faint plates occasionally found in Talbot's *Pencil of Nature* (1844). There is no trace of violet, one of the most characteristic hues of the earliest photographs. Two sentences are inscribed on the photograph, apparently at different times. The top sentence, earlier of the two, expresses chagrin over the fading of the image; the second sentence, certainly added much later, declares this to be a photograph made in 1832, "seven years before the idea came to anyone else."

Making the images permanent was for Florence, as well as for his European counterparts, the most tantalizing and elusive piece of the puzzle. Daguerre and Talbot worked for over five years until visible results were obtained, and yet they were discovered almost simultaneously by both. However, once Sir John Herschel learned of the barest outline of his colleagues' researches, he duplicated them in a matter of one week in 1839.[5] Herschel's true genius came to bear in discovering how to make the photograph permanent through the use of sodium thiosulphate, a breakthrough

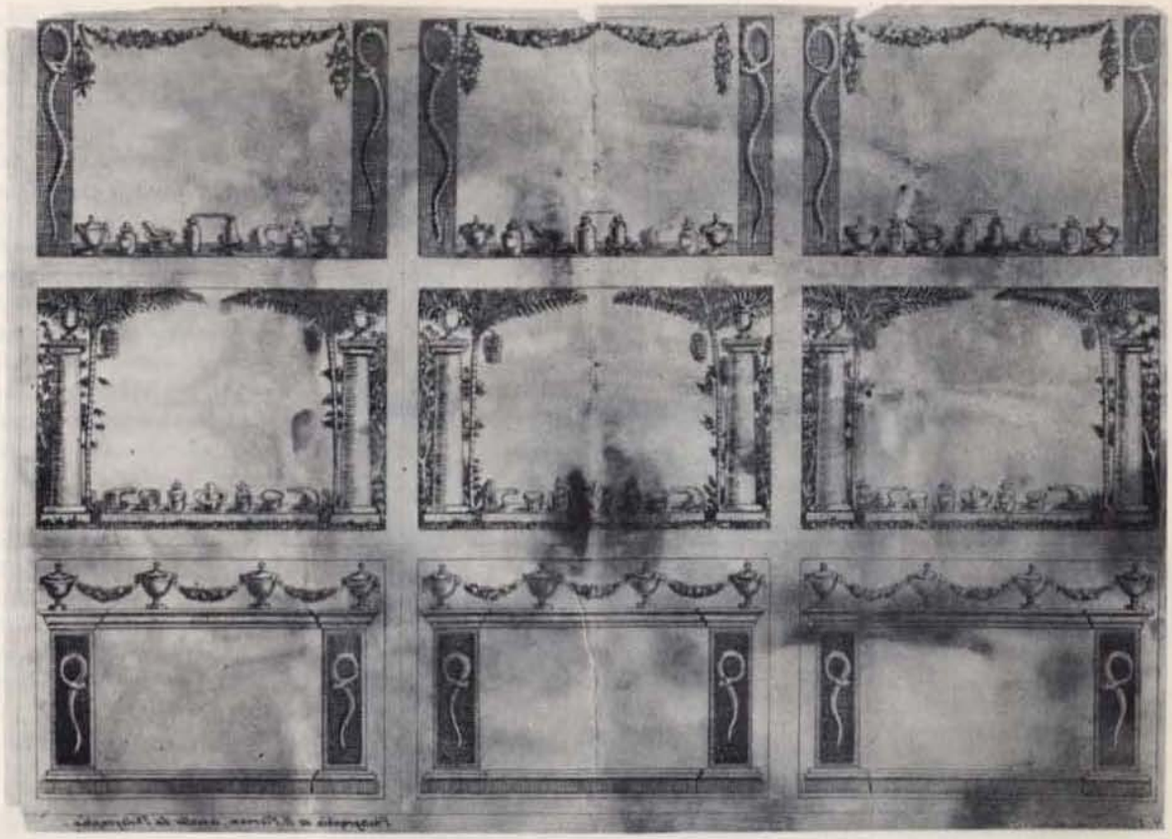
that opened the door for the widespread use in Europe and North America of Talbot's positive/negative process,which in turn made possible the use of photographs to illustrate books.

Evidence suggests that, working in isolation, Hercules Florence was unable to develop an effective fixing agent, an assumption based on the fact that he abandoned photography to pursue other avenues toward his goal of inventing a fast, cheap replacement for the printing press. Then, too, so few photographs have survived. The two photographs extant suggest that he was more interested in copying drawings than in working from nature at large. Thus it is not surprising to find that his journals from 1832 to 1839 show an intense investigation of printing without a printing press, via a stencil device similar to that utilized in the modern mimeograph machine, an invention he called the Polygraph.

Throughout the rest of his life, Florence remained self-conscious about his isolation and the fact that his near-inventions were popping up in perfected forms around the world. In 1839, shortly after the first news of photography arrived in Rio de Janeiro, Florence wrote to the newspaper *Phenix* of São Paulo a letter which was published on October 21st and which was thought of sufficient importance to be reprinted in Rio's *Jornal do Commercio* on December 29, 1839. In it, he describes two articles he had sent to the Prince de Joinville in Paris, one called "The Discovery of Photography, or Impressions by Means of Sunlight," and the other, "Investigations into the Fixing of Images in the Camera Obscura by the Action of Light," with which he also claims to have sent an example of a drawing photographed by him. He goes on to say:

"Since I have dealt little with photography, through lack of more complex means and sufficient chemical knowledge, I have not discussed the discoveries with anyone, because the same idea can occur to two people, because I have always found the facts put forward unreliable and to each his own reward, but I anticipate this declaration concerning the Polygraph, which has such splendid properties, in order that its proper inventor shall be known in due time." (Translation courtesy of Gilberto Ferrez.)

The existence of Florence's daily journals, wherein he enters the progress of his researches, plus the fact that he declared his discovery in the newspaper very soon after the European announcements of Talbot's calotype and Daguerre's process, give great credibility to the claim. Less persuasive are the manuscripts for a book based upon his researches that he called *L'Ami des arts/livre a même,/ ou Recherches et decouverts/sur differents sujets nouveaux*. That manuscript is in a very similar format to the daily journal, but seems to have been written in the 1850s, although the various drafts bear different dates. In the third of these, which summarizes all his work to 1840, there is a long essay on the researches of Wedgewood, Davy, Niepce, and Daguerre (but not Talbot), prefatory to his recounting of his own discovery of photography. Inserted nearby is the transcription of a letter written to the eminent French photographer, Julien Vallonde de Villeneuve, dated January 18, 1857. Florence had begun to associate his invention in his own mind with the Europeans whose names had by this time entered the history books, and had even corresponded with persons capable of making his discoveries known to other knowledgeable and interested investigators. It would have been natural for Europeans to disregard his now outmoded technology, but none seem even to have acknowledged that Florence's claims had merit for history's sake alone.



Hercules Florence, pharmaceutical labels for Joachim Correia de Mello, salt print with touches of violet, captioned in reverse on print: (right) H. Florence del et. Sculp./(left) Photographia de H. Florence, inventor do Photographia.

It is surprising that Florence's name apparently went unnoticed by modern European and North American historians of photography until Gilberto Ferrez published the *Jornal do Commercio* article of 1839,[6] although he himself had not actually seen the diaries and manuscripts until the present meeting. He knew of Florence's research through the extensive biography of Florence published in São Paulo in 1901. It is surprising that such a biography failed to come to the attention of the early European and American photographic historians who, as a matter of course, gave careful scrutiny to the published sources.

Is it possible that Hercules Florence perpetrated a hoax by fabricating a sequence of investigations after the news of Talbot's and Daguerre's discoveries became public in 1839? Yes, but unlikely. If he were merely copying the Europeans, his equipment would likely have imitated theirs, and his camera differs substantially from the most common European devices, although it bears some resemblance to one of Talbot's earliest instruments. Moreover, the European application of photography was seen to be the rendering of nature itself, hence, the frequent application of terms like sun-pictures, photogenic drawings, etc. Florence, on the other hand, had in mind the invention of a printing process that would outmode the printing press. There might have been sufficient time for journals announcing photography to arrive in Brazil, such as *The Atheneum*, where Talbot first published his discovery in February of 1839, or the *Proceedings* of the Royal Society, where Herschel published his collaborative findings. The voyage by sea would have taken about six months if they were dispatched immediately. That would have given Florence two months to duplicate the results and prepare a false claim, a sequence of events which does not seem plausible. With claims and counter-claims published almost daily in the European press in 1839, it is clear that photography was an invention whose time had truly come, and the simultaneity of discoveries in Europe lends credibility to the claim by Hercules Florence that he was "Inventor do Photographia."■

Weston Naef is associate curator of prints and photographs at the Metropolitan Museum of Art.

1. D. B. Thomas, *The First Negatives*, London, 1964, p. 2.
2. Beaumont Newhall, *Latent Image: The Discovery of Photography*, New York, 1967.
3. Thomas, figure 2.
4. Newhall, figure 9.
5. Newhall, pp. 57–63.
6. Gilberto Ferrez, *A fotografo no Brasil*, Rio de Janeiro, 1953, p. 15. Beaumont Newhall writes me (December 21, 1975) that his files contain clippings of two articles on Florence in South American publications: *Life* (Latin American edition), ca. August, 1954, letter to the editor from Mario L. Erbolato describing Florence; and Alfredo Santos Pressacco, "Hercules Florence, Primer fotografo de America!," *Fotocamera*, no. 172, December, 1965, pp. 61–62.

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