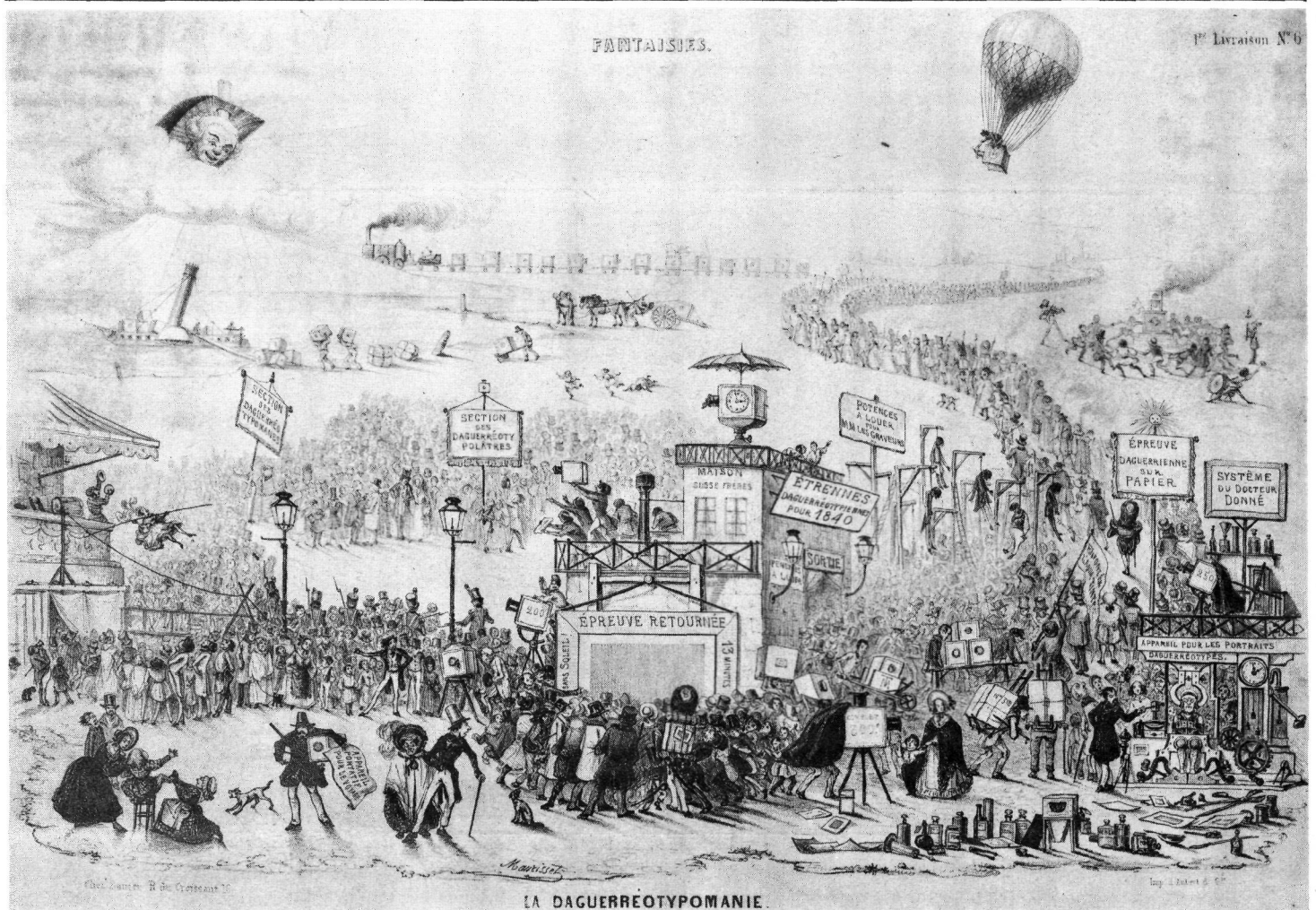


IMAGE

Journal of Photography of the George Eastman House

April, 1953

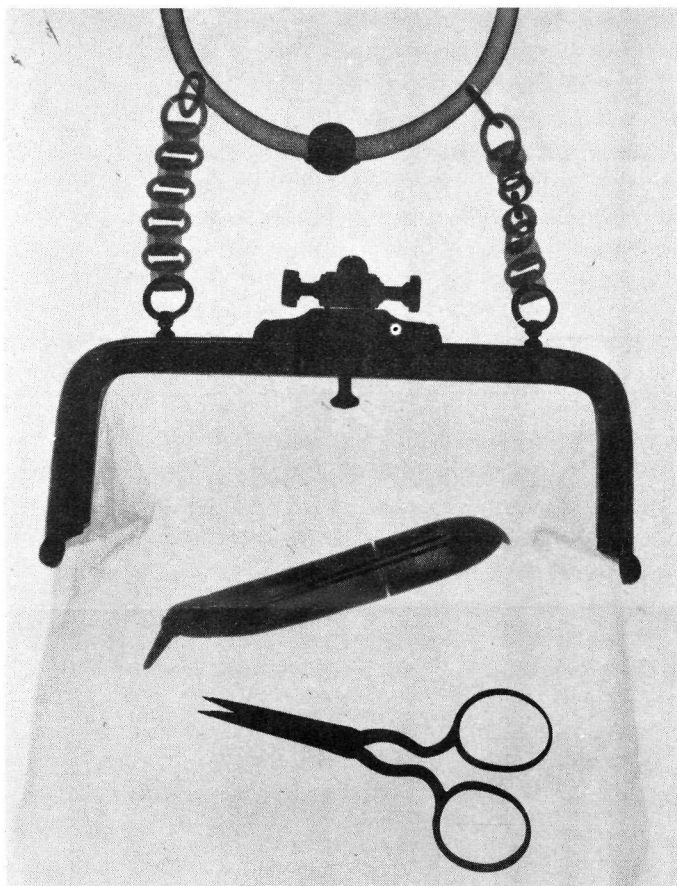
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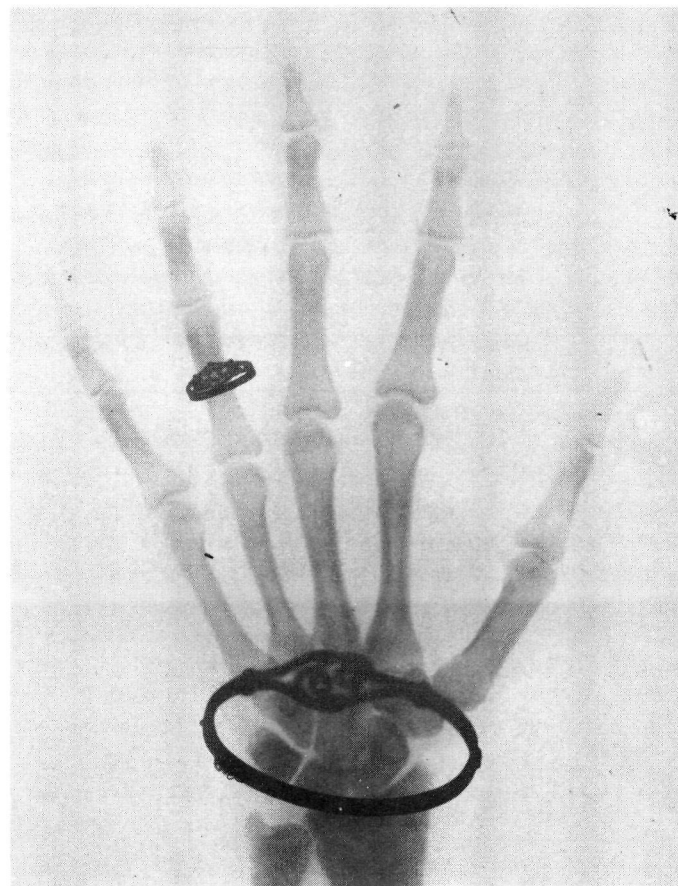
THE DAGUERREOTYPE CRAZE, a lithograph by Theodore Maurisset issued in Paris at the end of 1839, is first caricature of photography.

PHOTOGRAPHY WAS NEWS when the French lithographer Maurisset made fun of the first camera fans in this print of 1839. In the center of the caricature a gigantic frame is marked "Without Sun. Delivered Proof 13 Minutes." From the side door of the studio marked "Exit" people surge forth beneath the signs "Windows to Rent" and "Daguerreotype New Year's Gifts for 1840." Beyond the building another sign announces "Gallows to Rent to Engravers." The first photo fans pass by in procession, carrying the banner "Down with Aquatint," a form of engraving which Dr. Donné, hidden beneath a focusing cloth, is making by photography. Underneath a victim is pilloried in a "Machine for Daguerreotype

Portraits," while a clock, with madly swinging pendulum, ticks off the minutes of exposure. The procession marches past a festive group dancing around a fuming mercury developer. Everywhere there are cameras. On wheelbarrows, carts, railroad cars, steamboats. Packed on heads, shoulders, backs, under the arm (Portable Camera for Traveling), Set on tripods, roofs, and even swung from a balloon. Marked "300 Francs Complete." Focused on an unwilling child, on a tightrope dancer, while crowds look on bearing banners "Section of Daguerreotype Haters" and "Section of Daguerreotype Lovers." Over this animated scene King Sol, a reflector for a crown, smiles benignly.



EARLY X-RAY PHOTOGRAPH, taken probably in 1895, shows cloth needle case and scissors inside handbag with metal frame.



DIAGNOSTIC VALUE of the x-rays was recognized at once. This 1895 radiograph in George Eastman House shows normal girl's hand.

THE DISCOVERY OF X-RAYS

Few inventions have aroused more public curiosity than the discovery of x-rays by Wilhelm Konrad Röntgen on November 8, 1895. Within weeks pictures appeared in popular magazines of such everyday objects as a handbag, showing the contents, or parts of the human body. How Professor Röntgen made his epochal discovery is graphically told in the following interview, condensed from McClure's Magazine for April, 1896.

I WAS working with a Crookes tube covered by a shield of black cardboard. A piece of barium platino-cyanide paper lay by the bench there. I had been passing a current through the tube, and I noticed a peculiar black line across the paper.

"The effect was one which could only be produced, in ordinary parlance, by the passage of light. No light could come from the tube, because the shield which covered it was impervious to any light known."

"And what did you think?"

"I did not think; I investigated. I assumed that the effect must have come from the tube. I tested it. Rays were coming from the tube which had a luminescent effect upon the paper. It was clearly something new, something unrecorded."

"Is it light?"

"No."

"Is it electricity?"

"Not in any known form."

"What is it?"

"I don't know."

And the discoverer of the x-rays thus stated calmly his ignorance of their essence as has everybody else who has written on the phenomena thus far.

"Having discovered the existence of a new kind of rays, I of course began to investigate what they would do. It soon appeared that the rays had penetrative power to a degree hitherto unknown. They penetrated paper, wood, and cloth with ease, and the thickness of the substance made no perceptible difference, with reasonable limits." He showed photographs of a box of laboratory weights of platinum, aluminum, and brass, they and the brass hinges all having been photographed from a closed box, without any indication of the box.

"The rays," he continued, "pass through all the metals tested, with a facility varying, roughly speaking, with the density of the metal." He showed a photograph of plates soldered with solders of different metallic proportions. The differing lines of shadow caused by the difference in the solders were visible evidence that new means of detecting flaws and chemical variations in metals had been found. "Since the rays had this great penetrative power, it seemed natural that they should penetrate flesh, and so it proved in photographing the hand, as I showed you."

THE DEVELOPMENT OF THE TELEPHOTO LENS

By Rudolf Kingslake

THE original telephoto lens consisted of a regular photographic objective with an adjustable negative lens added behind it to give a variable image magnification. Later, to secure aberration corrections, telephoto anastigmats were designed with a fixed separation, the only advantage of these ordinary anastigmats being their shorter length from front surface to focal plane.

Adjustable telephoto lenses date back to 1611 when Johann Kepler in his *Dioptrice* described the use of a Galilean or "Dutch" telescope to project a magnified image of a distant object, and in the following year the same procedure was used by Christopher Scheiner to project sunspots upon a screen, to facilitate observation and to make drawings. Scheiner moreover illustrated how the magnification could be varied over a wide range by changing the position of the rear negative lens in relation to the image formed by the front positive lens. During the next two hundred years, the same principle was occasionally adopted by various workers in the construction of telescopes of variable power.

In 1847, soon after the introduction of photography, the telephoto principle was revived for photographic purposes by I. Porro, and by various other workers, with some success, although no attempt was made at that time to design special lenses for the purpose.

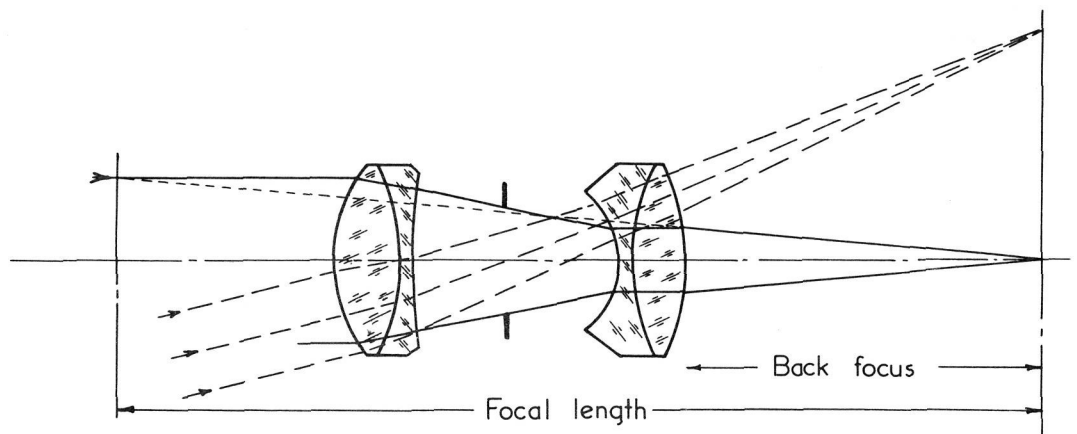
The middle era in telephotography was initiated abruptly in 1889 when almost simultaneously Adolph Steinheil, T. R. Dallmeyer, and A. Miethe (Voigtländer) designed and patented "telenegative" lenses intended to be used behind a well-corrected photographic objective. The attachments of Steinheil and Miethe were cemented triplets, while that of Dallmeyer consisted of two similar cemented meniscus doublets with the deep concave faces adjacent. By 1900 many other firms had

also announced similar systems. The separation between the negative attachment and the main lens could be adjusted longitudinally by a rack-and-pinion or a helical screw arrangement to vary the magnification, the usual procedure being to set the bellows extension of the camera at some likely value, and then rack the positive system forwards and backwards relative to the fixed negative system to bring the image into focus. Thus the image magnification that could be achieved was limited only by the size of the camera. At no time was the photographer aware of either the actual focal length or the relative aperture of his objective considered as a unit; his computations of exposure time were made by formulae based on the camera extension and the aperture of the main lens.

The variable telephoto lens was thus altogether an admirable arrangement, except that the aperture was low and varied with the magnification, the field was very curved in a backward direction, the aberrations were poorly corrected, and pincushion distortion of considerable magnitude was inevitable. After all, as the main lens was fully corrected, the attachment should have been fully corrected also, which proved to be impossible in a reasonably simple system. Nevertheless, much excellent work was done with these early telephoto systems, and they had many incidental advantages such as a considerable improvement in perspective in large portraits because of the increased distance from subject to camera. Variable-focus telephoto projection lenses for lantern-slide projection were introduced by a Father Brouquier of Toulouse in 1901, and were later manufactured by various opticians.

Eventually, of course, photographers became dissatisfied with the low aperture and poor corrections of the variable-power telephoto systems of the 1890's and in 1905 the first fixed-focus telephoto was designed by K. Martin of the Busch Company and called the "Bistelar." It consisted of two cemented doublets, a fairly strong positive and even stronger rear negative, separated from the front component by such an amount

FOCAL LENGTH of telephoto lens is greater than the distance from rear of lens to film plane (back focus).



that the distance from the front lens surface to the film plane was about 70 per cent of the focal length. Although the aberration corrections were not good, they were much better than in previous telephoto systems since the front component was no longer required to be self-corrected and it was possible for the designer to balance the corrections between the two halves, but this improved correction was obtained only by losing almost all the advantages of the old variable-power telephoto system. To be sure, the total length of the camera was somewhat reduced as compared with its length with a normal lens, but both the aperture ($f/8$) and field ($\pm 14^\circ$) were drastically limited with this type of construction.

During the succeeding years, a wide variety of fixed-focus telephoto anastigmats were designed, almost every manufacturer including one or more in his catalogue. Apertures were increased to as high as $f/3.8$ and aberration corrections enormously improved, but 15° still marks the limit of the useful

field angle. The most important advance was made by H. W. Lee in 1923 when he showed how the distortion which had hitherto been regarded as inevitable could be removed by a suitable design of the rear component, and as a result almost all telephoto lenses today have reduced or zero distortion.

However, as the size of cameras has become smaller and smaller, the practical advantages of telephoto lenses are becoming less and less significant, so that now only lenses of exceptionally long focus are of the telephoto type. They are still in regular use in aerial cameras, however, where the focal length must be long and yet the whole camera must be as compact as possible.

Dr. Kingslake is Director of Optical Design, Hawkeye Works, Eastman Kodak Company, and author of the recent book, Lenses in Photography. He has made a specialty of the history of photographic lenses. This is the first of a series of articles.

CANYON DE CHELLY, New Mexico, now a National Monument, was first photographed by T. H. O'Sullivan for government expedition in 1873.





SELF PORTRAIT was taken by T. H. O'Sullivan with stereoscopic camera at Pinogana, Panama, in 1870. He was the official photographer to the Darien Expedition, the first Panama Canal survey.

T. H. O'SULLIVAN

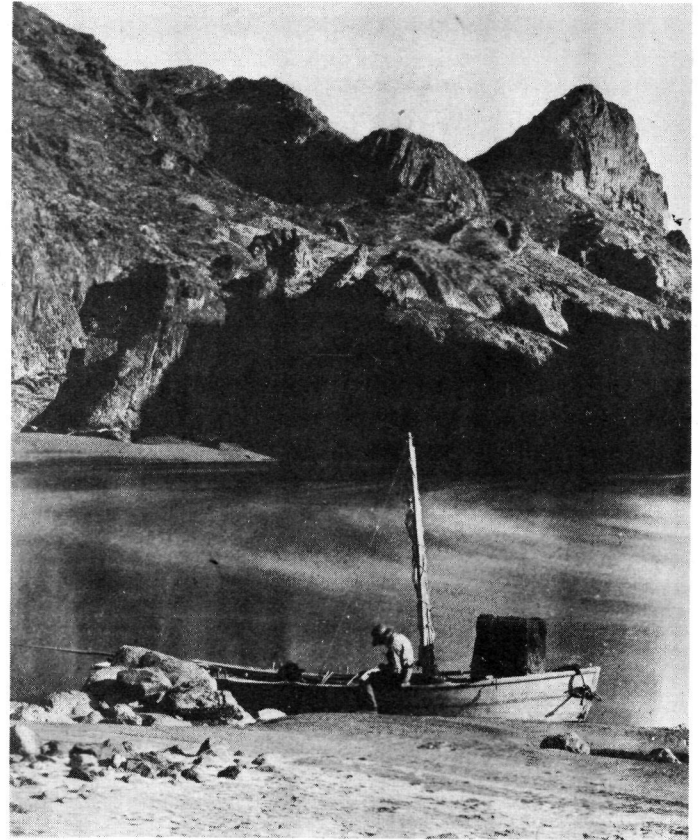
By *Hermine M. Baumhofer,*

U. S. Air Force Photographic Center

HE IS AN educated gentleman of superior qualifications in his profession and in every way personally worthy and a Tip Top Republican into the bargain," so wrote Henry O'Connor in 1880 of Timothy H. O'Sullivan, photographer of the Civil War and of the Frontier.

One of the best known early photographers in the United States, O'Sullivan was born in New York City probably in 1840. He learned his craft in the New York gallery of Mathew B. Brady, and was thereafter employed by Alexander Gardner of Washington. During the Civil War he served for six months as First Lieutenant on the staff of General Vielie. Honorably discharged at Hilton Head, S. C., in May, 1862, he served for three years as a civilian photographer attached to Headquarters, Army of the Potomac. Alexander Gardner states that O'Sullivan was in his employment for over seven years, chiefly as superintendent of field or map work for the Army of the Potomac.

In 1867 and 1868 he was the official photographer on the United States Geological Exploration of the Fortieth Parallel under the leadership of Clarence King. In 1870 he penetrated deep into the tropical forests of Panama as cameraman for the



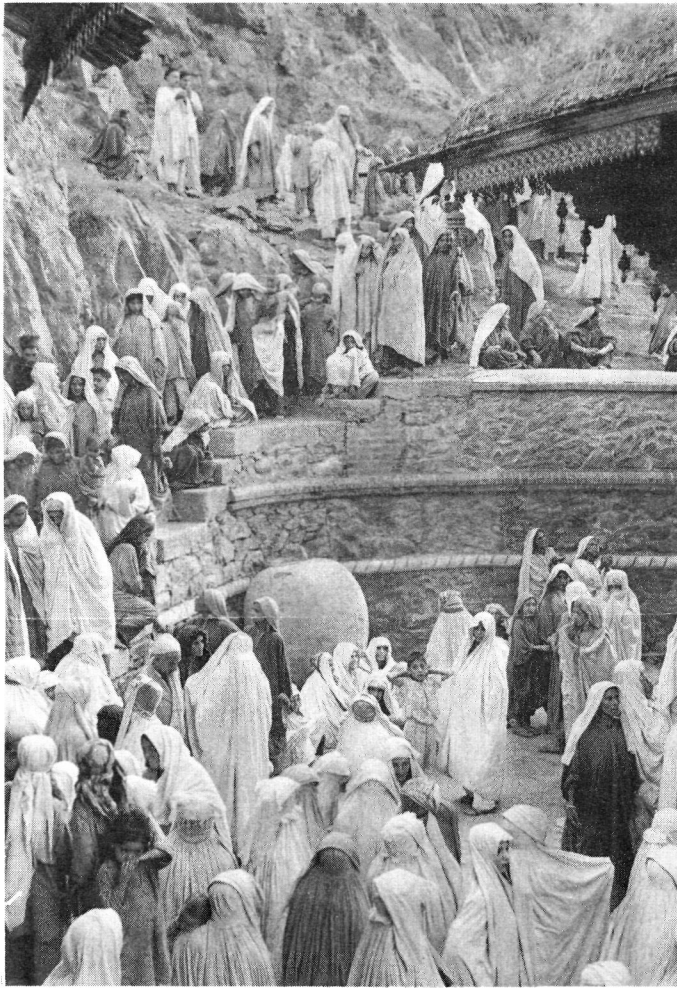
"THE PICTURE," O'Sullivan's boat in which he descended the Colorado River in 1871, contained a dark tent for developing. Black Canyon, in background, is present site of the Hoover Dam.

Exploration and Survey for a Ship Canal by Way of the Isthmus of Darien. As civilian assistant to Lieutenant George M. Wheeler of the Corps of Engineers, U. S. Army, he was in charge of photographic activities on the United States Geographic Survey West of the 100th Meridian during 1871, 1873, and 1875. His photographs of the unknown west were published by the United States Government in huge albums which formed part of the official records of these important surveys.

For five years O'Sullivan dropped out of sight. In 1880 Clarence King, director of the U. S. Geological Survey gave him a temporary appointment at \$100 a month. O'Sullivan could not have been very active, however, for the expenditures by the Survey for photographic materials for the year ending June 30, 1880, totaled only \$6.75.

Towards the end of the year the photographer in the Office of the Supervising Architect of the Treasury Department, Lewis E. Walker, died, leaving a vacancy. The position carried a salary of \$2250 — handsome by 1880 standards — and O'Sullivan was so anxious to receive the appointment that he got his former employers and politically minded friends to write letters of recommendation. They were hardly necessary, for his record was outstanding.

He received the appointment on November 6, 1880. But already he was suffering from a fatal illness. His employment record ceases with the stark statement: "Removed March 31, 1881." He died on January 14, 1882.



CARTIER-BRESSON photographed these Moslem women at a mosque in Kashmir, India in 1948. From "The Decisive Moment."

DECISIVE PHOTOGRAPHS

The Decisive Moment, by Henri Cartier-Bresson, New York, Simon and Schuster in collaboration with Editions Verve of Paris, 1952. 126 plates. \$12.50.

THE French edition of this book of 126 splendid reproductions of Henri Cartier-Bresson's photographs bears the title *Images à la Sauvette*. The phrase is idiomatic, and may be freely translated "Pictures Taken on the Run." In a sense the French title is more descriptive than the English for it defines this gifted photographer's way of working. Any photograph, if it is lasting, must have been taken at the decisive moment. But to make such a photograph on the run, to compose literally while raising the camera to the eye, is a feat which few can accomplish.

For some twenty years now Cartier-Bresson has been doing just that. He carries a camera with him constantly. Every picture which he has taken is a very personal record of something which is already taking place. He has no studio, does not employ models, does not even direct those he photographs. He is the silent and alert witness of the passing scene.

His early work was so unusual in style, in capturing of the apparently accidental moment, that the awkward word "anti-

graphic" was coined to describe it. A picture was drawn of the young French photographer wandering with camera in hand, aimlessly taking snapshots from which startling pictures were later selected. Nothing could be farther from the truth. Cartier-Bresson trained himself from the start to compose his pictures so exactly that not one of the plates in this book have been trimmed.

Cartier-Bresson outlines his approach to photography in a short introduction. He feels that the miniature camera is "an extension of the eye." While shooting, the photographer must build a story, else his work will lack continuity. Unlike the writer, he cannot change: what happens at the decisive moment is recorded forever. This thoughtful approach is in contrast to the usual magazine photographer who feels that his mission is accomplished when he has "covered" the assigned subject from every conceivable angle. Cartier believes that the photographer should never intrude. He never uses flash, and when he is working, even the subject is usually unaware of his presence.

Since the war—he was prisoner of the Germans, escaped at the third try to join the French underground—Cartier-Bresson's pictures show less attention to the excitement of unfamiliar form and more interest in the interpretation of people. His mastery of composition enables him to make each picture almost instinctively a whole, and his personal reaction towards his subject finds expression within this frame. Of his recent

PARIS SCENE, 1932, shows Cartier-Bresson's eye for the unusual.



work perhaps the most outstanding are the pictures which he took on an extended stay in India and the Far East. There are pictures which seem almost classical in the pages of *The Decisive Moment*.

The book was published by Tériade, the French publisher of deluxe art books and such magazines as *Verve*. The American edition was made possible by the enthusiasm of Richard Simon of the publishing firm of Simon and Schuster. Himself an amateur photographer, he has contributed an appendix describing Cartier-Bresson's disarmingly simple technique.

VACHEL LINDSAY ON FILM

The Art of the Moving Picture, by Vachel Lindsay. New York, Macmillan, 1915.

THERE are men in the motion picture business who regard the term art as an epithet and would prefer to have their work condemned than praised as being artistic.

Thirty-eight years ago, art was not considered synonymous with box-office disaster and many enthusiastic pioneers were delighted, as was D. W. Griffith, to have their work recognized as a form of art when poet Vachel Lindsay wrote his book *The Art of the Moving Picture*.

Lindsay's 1915 appreciation of film was the first of its kind to come from so eminent a man of letters. When Lindsay wrote of the art of the moving picture, the term was no mere lyricism of a poet, for Lindsay had been an energetic art scholar. He was familiar with every nook of the Chicago Art Institute and the Metropolitan Museum of Art, and was almost as much respected for his work in art criticism as for his poetry.

A great poet must be something of a prophet, closely attuned to the eternal verities. Therefore it is not surprising to find in reading this poet's book, written at the very dawn of film artistry, that his predictions are both accurate in what has come to pass and inspiring for the future.

At a time when film production was centered in the East, Lindsay bid the world watch California, which he felt would become to the culture of the cinema what Boston had been to letters.

He insisted that "the photoplay cuts deeper into some stratifications of society than the newspaper or the book have ever gone" and saw the film as the "restitution of picture writing" which would revive the cave-man point of view and require the special attention of society.

Mary Pickford and Blanche Sweet inspired not only the critical approval of Vachel Lindsay, but some of his poetry as well. In his memorable *The Congo and Other Poems*, right along with "Abraham Lincoln Walks at Midnight" one may find Lindsay poems "Blanche Sweet" and "Mary Pickford." He explains the phenomenal popularity of Mary Pickford in terms that must surely have puzzled her producers. He contends that the public love her in spite of her inappropriate pictures, that they love her for the "fine and spiritual thing Botticelli painted in the faces of his muses and heavenly creatures. Because the mob catch the very glimpse of it in



ACTION movies, Vachel Lindsay said, "provoke the ingenuity of the audience, not their passionate sympathy." He named "The Spoilers" of 1914 as a fine example.



INTIMATE photoplays, like "Enoch Arden" of 1915, starring Wallace Reid and Lillian Gish, were called by Lindsay "the world's new medium for studying . . . restrained moods of human creatures."



SPLENDOR at its best was seen by Lindsay in "Julia of Bethulia." Griffith's film, he said, "gives me hope that he or men like him will illustrate the American patriotic crowd-prophecies."

Mary's face, they follow her night after night in the films."

In compelling chapters, Lindsay discusses the cinema as architecture in motion, and ably contrasts its qualities with those traditionally the properties of the theatre. He berates censorship. Concerned with the possibility of dialogue films he predicts: "If the talking moving pictures becomes a reliable mirror of the human voice and frame, it will be the basis of such a separate art that none of the photoplay precedents will apply. It will be the phonoplay, not the photoplay. It will be unpleasant for a long time."

The whole content of motion pictures is classified into three categories: pictures of Action, Intimacy, and Splendor. In the field of action he praises Colin Campbell's memorable *The Spoilers* (1913). The 1915 *Enoch Arden* with Wallace Reid and Lillian Gish was one of his favorite movies of the Intimate type, and in the Splendor Group he cites *Judith of Bethulia* (1914) as one of the most significant photoplays he ever viewed.

The poet-prophet sounds eloquent warning against a mechanistic future for our civilization. He sees other prophetic writers (Bellamy, Verne, and Wells) with forebodings. "Many times Wells has gone into his laboratory to invent our future, in the same state of mind in which an automobile manufacturer works out an improvement in his car.

"That which man desires, that will man become. He largely fulfills his own prediction and vision. Let him therefore have a care how he prophesies and prays. We shall have a tin heaven and a tin earth, if the scientist are allowed exclusive command of our highest hours."

Vachel Lindsay called for film makers to "set before the world a group of pictures of the future." His final pages glow with poetic ardor to culminate in a declaration:

"It has come then, this new weapon of men, and the face of the whole earth changes. In after centuries its beginning will be indeed remembered.

"It has come, this new weapon of men, and by faith and a study of the signs we proclaim that it will go on and on in immemorial wonder."

POSTWAR ITALIAN FILMS

Il Neorealismo Italiano.

Venice, Published by the International Exposition of Cinematographic Art, 1951. 149 pp. Not Illus.

PERHAPS the most spectacular rebirth of moving picture production since the war has taken place in Italy. The films *Open City*, *Paisan*, *Shoeshine*, *The Bicycle Thief* received the highest critical acclaim on their showing in the United States and held a rich promise for the future.

There now appears a complete list of all films made in Italy from 1945 through the summer of 1951. It is an impressive

list: over four hundred titles are included. The editor, Gaetano Carancini, has conscientiously recorded the names of all who were responsible for production, direction, acting, photography, music and scenario. He also gives us a short synopsis of each film.

In addition there is a bibliography by Mario Verdone, and essays by Gian Luigi Rondi, and Ermanno Contini.

The title is a misnomer. The term "neorealism" is used in Italy to describe the realistic style, based on the documentary approach and the use of untrained actors. Actually the list includes *all* films produced professionally in Italy.

THEODORE HUFF

ALL students of motion picture history mourn the unexpected death last month of Theodore Huff—teacher, writer, musician, artist and, above all, devoted chronicler of the chaotic past of the movies. No film scholar loved the medium so uncompromisingly; no historian was more scrupulous with facts.

His tragically short life was inextricably involved with movies. As a boy he watched production at Fort Lee in New Jersey. Later he played the piano for silent films. At Yale he produced avant-garde movies. At the University of Southern California and New York University he taught film history.

In the early days of the Museum of Modern Art Film Library he assisted Iris Barry. He will be long remembered by his biography of Chaplin and his trenchant letters to New York newspapers, championing such misunderstood film masterpieces as Dreyer's *Day of Wrath*.

Most of all, Ted Huff will be remembered as one who loved the movies with all his heart and so much so that every one of his great range of talents was enlisted completely in the arduous service of film history.

TO OUR READERS

A limited number of color reproductions of the caricature "Daguerreotypomanie," suitable for framing are available to readers of *Image* through the generosity of Edward Stern & Co., Philadelphia. The 9¾ x 13½ inch reproduction is made from a hand-colored original in the George Eastman House. We shall be glad to send a copy on receipt of \$1.00 to cover handling, packing and mailing.

Correction. The first name of Lady Eastlake, author of the 1857 article quoted on page 4 of the January-February issue of *Image*, is Elizabeth, not Mary, as printed.

The columns of IMAGE are open to all who are interested in tracing the development of photography. Unsigned articles which appear in these pages may be reprinted providing that credit is given the George Eastman House.

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