

PHOTOGRAPHIC CANADIANA

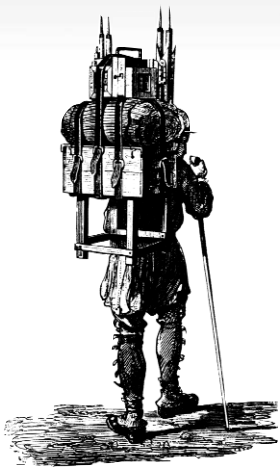
Volume 30 Number 3

November - December 2004



PHOTO ROBERT LANSDALE COLLECTION

A CARBON PRINT BY HEATH & BULLINGHAM c1880



***THE PHOTOGRAPHIC HISTORICAL SOCIETY OF CANADA
- 30th Anniversary Year -***

PHOTOGRAPHIC CANADIANA

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Writing for PC Journal

To publicize events, notices, advertising, writing articles or requesting information published in *Photographic Canadiana* please write directly to the Editor at 18 Ashfield Drive, Etobicoke, Ont., Canada, M9C 4T6. Telephone (416) 621-8788 or E-mail: boblansdale@idirect.com.

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OUR COVER



PHOTO ROBERT LANSDALE COLLECTION

We illustrate our cover with a fine portrait example of the Chromotype process which, over the next three issues, we hope to bring our readers an insight to the progress and intrigues which surrounded the selling of rights to the patented carbon process.

Author Audrey Linkman of Manchester, England has supplied us with an in-depth history originally published in the prestigious *Photographica World*, journal of the Photographic Collectors Club of Great Britain.

Editor Lansdale plans to add a third part describing the fortunes of the process in North America including the astonishing Canadian content.



President's Message

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PHSC – WE NEED YOU!

With the passing of Larry Boccioletti, the Executive has carefully studied the large number of tasks carried by those running the Society. Many have served for 20 and even 30 years. Over time, extra responsibilities have been absorbed by our few volunteers until they are running two and three projects throughout the year. Without assistants and extra managers it puts the Society in dire jeopardy of failure should any of these prime workers be unable to continue. Volunteers are needed by PHSC for the following activities:

● Photographic Canadiana

- assistant desk-top publisher
- writers and researchers
- photographer

● Annual & Special Auctions

- administration
- lot preparation and tag identification

● Program Meetings

- assistant Program Chairman

● General functions

- Treasurer
- Public Relations & Publicity
- Display Organizer
- Curator

● Internet

- assistant to Webmaster
- writing and editing content of speakers, events & info.
- developing new features of Q&A forum, Buy & Sell ads, on-line library of PC journal

● Spring and Fall Fairs

- Fall Fair Chairman
- assistants to Fair Chairmen
- advertising and publicity
- security
- admissions table

If you are able to devote some time as a volunteer with PHSC, both you and PHSC will benefit. We have been fortunate over the past 30 years by having a core group of dedicated volunteers contributing continuously to the Society's success.

Please contact Bob Wilson at (416) 928-0271 or at a monthly meeting.

PHSC NEEDS YOU!



MIKE ROBINSON
e-mail 698201@ican.net

The PHSC was founded in Toronto in 1974 for people interested in photographic history. It was incorporated as a non-profit organization in Canada four years later. All activities are undertaken by unpaid volunteers.

We help camera and image collectors and those interested in the diverse aspects of photographic history, sharing in their enthusiasm and knowledge.

We promote public interest in photographic history through talks, awards, publications, fairs and auctions.

The majority of our 250 members are camera or image collectors, photographic researchers & writers, and professional photographers in Canada. Included are many libraries, archives, museums and other photographic societies.

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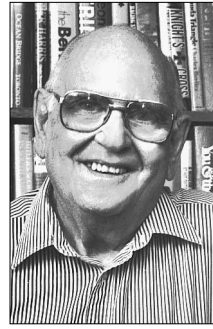
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Share your treasured collectibles with our readers. It does not have to be a rare camera. The criteria being that it is a photographic article which YOU cherish and is part of YOUR collection. Write c/o Photographic Canadiana or see me at a PHSC meeting.

A Treasure From My Collection...

By Bill Belier



BILL BELIER

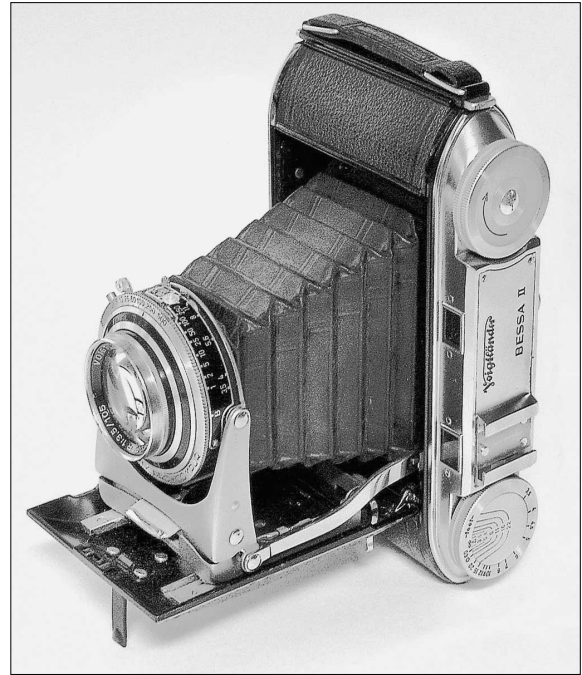
All contemporary cameras are expensive and medium format cameras are no exception. But there are earlier cameras that might be used on a tripod for landscape photography that would not sacrifice too much in optical quality. There are early cameras that might serve as an entry into medium format photography for under \$500 including, if necessary, a clean, lubrication and adjustment.

The Internet is a good place to start; while there is much guff talked in the chat rooms, usually there is a consensus. Three medium format cameras in particular seemed to have an avid following.

A Short Survey of Some Earlier Medium Format Cameras



Kodak Medalist II, Ektar f3.5, 1946-53



Voigtlander Bessa II, Color Skopar f3.5, c1950

As a longtime member of PHSC and frequent contributor of articles to our PC journal, Stan White hardly needs to be introduced to our readers. His consuming interest, of course, is stereo in all its aspects. Please review "Beyond The Third Dimension" (PC Vol 29 No 2, Sept/Oct 03).

Apparently there is another "dimension" to Stan that has previously escaped us... Stan the camera collector! But not in the general sense as he is quick to point out, "I collect certain cameras to use... and then actually use what I collect."

Stan's article follows:

They are: the Voigtlander Bessa II, the Koni Omega Rapid series and the Kodak Medalist II. The Graflex XL too, is a possibility for around the \$500 ceiling but this does not allow for a clean, lube and adjustment. A further alternative is the Mamiya Press available well within the budget. The series of Mamiya press cameras are very similar in design to the XL.

The Bessa II (6x9) owes its superiority over most folding rollfilm cameras to its moving front standard, thereby avoiding the optical limitations of front-cell focusing. It was originally equipped with a choice of three lenses. The Apo-Lanthar, currently trading at a price that only millionaires can afford; the Color-Heliar, a superb lens but also, if found in good condition, over budget, and the less expensive Color-Skopar, Voigtlander's equivalent of the Tessar and still a very good lens.

The Koni-Omega Rapid, (6x7) which comes in six variants but is essentially the same camera, has limited inter



Graflex XL, Planar f2.8, 1965-73



Koni-Omega Rapid, Hexanon f3.5, c1965

changeable lenses. The normal lens is a four-element Tessar design Hexanon or Omegon. Many of these cameras were given hard professional use and are near the end of their usefulness. But if you can get one in good condition, of the three cameras, it is the best buy for the money.

The Medalist (6x9) is a beautifully constructed camera but somewhat over-designed. In consequence, many have not survived in perfect working condition. But the lens is exceptional, a Heliar type, five elements, designed for Kodak by F.E. Altman, and since Kodak were heavily into rare earth glasses at the time, it is arguably the equivalent of the Apo-Lanthar.

The Graflex XL (varying formats depending on the backs) comes with a variety of interchangeable lenses. Of the normal lenses, as you would expect, the Planar is the most desirable.

The Mamiya Press in several versions (also of varying formats) is similar in design to the XL though possibly has a more rugged focusing system. The standard lens is the Sekor.

The two major factors affecting the sharpness of medium format negatives are: 1) the quality of the lens, 2) the flatness of the film. In the cameras using rollfilm holders, the later modified holders are essential. While my Medalist needed a professional repair, and the Bessa's pressure plate needed slight adjustment, used on a tripod for landscapes, all three cameras produced sharp, clean images. All three rangefinders worked well though were hardly necessary for landscapes where focus could be set by depth of field scale. Viewfinders varied from excellent on the Koni to poor on the Medalist, especially if you wear glasses.

The Bessa II's (Color Skopar) viewfinder is just about adequate. Its film is transported via a red window, mildly inconvenient but no problem if done carefully. The big advantage is its portability, remarkable in that for a 6x9cm negative, when folded it is almost a pocket camera. The Koni Omega is heavy. Its viewfinder is excellent and it is fast and easy to use. The lens on the Medalist, is indeed, superb, but the camera is heavy. It has the further disadvantage of using 620 film. 120 film has to be rewound. A high-priced conversion to 120 is available.

The Graflex XL and the Mamiya 23 are very similar in function. Both are heavy and slightly less convenient to use

than the Koni-Omega. The Planar, as might be expected, gives excellent results, but though I did not have the opportunity to compare the sharpness of the Sekor lens with that of the Planar, the Mamiya, notwithstanding, might be the better buy. It sells, with lens, for about half the price of the XL.



Mamiya Universal Press (late version of Mamiya 23), Sekor f3.5, 1969

If you intend to use these cameras for other kinds of photography, then their usefulness will be subject to other criteria. However, for landscape photography where the camera is used on a tripod and with lenses of normal focal length, and if you are prepared to sacrifice a measure of convenience for optical excellence at a reasonable expenditure, these cameras will produce images very close to, or as good as, contemporary cameras costing many thousands.

Other cameras that might also be considered, though beyond the scope of this article, are the Miniature Graphic type press cameras. And if you are prepared to settle for 6x6 format, the perennial f3.5 Tessar Rollei TLR, can always be depended upon for convenience and sharp images.

This article might serve as a guide for those who also want to use the cameras they collect, or as in my case, collect the cameras they want to use. S.W. ☺

ALL PHOTOGRAPHS COURTESY OF STAN WHITE

The Stigma of Instability

The Carbon Process

and Commercial Photography in Britain, 1864 to 1880

by Audrey Linkman, (Visual Resources Manager, The Open University, UK)

This lengthy thesis was previously published in Photographica World, issue #91, Winter 1999/2000. Its 19 pages of text, 5 pages of notes and single page of "Licensees of the Lambert Patent" has been broken into two parts to fit our publication limitations. We heartily suggest accessing a complete copy of the issue through the Photographic Collectors Club of Great Britain to whom we are indebted for permission to reproduce the article as are we equally indebted to the author for permission and assistance.

Part One

The carbon process was born out of an urgent desire to achieve permanency in photographic printing. The fading of silver prints in the 1850s and the establishment of a Committee to investigate the causes of fading left an indelible scar on the photographic psyche in Britain. Permanency became a Holy Grail pursued not simply for its own sake, but because of the benefits that were thought to accrue from possession of it. Without a guaranteed future the photograph was nothing more than a 'mere ephemeral toy to charm for a moment.' To the nineteenth century mind, those who created mere ephemera could never be regarded as serious artists. True artists laboured to produce work of lasting value. Permanency, it was thought, would improve the art status of photography by removing a palpable inferiority in relation to the other fine arts. Paintings and engravings had withstood the test of time; if photographs failed to endure, then their instability was indeed a stigma on photography which would frustrate any pretension on its part to rank on equal footing with the acknowledged visual arts. For those reasons the advent of a practical carbon process was welcomed with open arms by the photographic community in Britain to the extent that in its early years carbon was seen as a rival capable of challenging the supremacy of silver printing – and even supplanting it.

Carbon Printing – The Early Experimenters

In May 1839 Mungo Ponton, Secretary of the Bank of Scotland and Vice-President of the Society of Arts for Scotland, published his discovery that paper which had been impregnated with a solution of bichromate of potassium was sensitive to light. When an object was laid upon the treated paper, those parts which were exposed to sunlight hardened, while the areas covered by the object could be dissolved away by water. This discovery paved the way for an entirely new approach to making pictures by the action of light. Fox Talbot, advancing initial discoveries by the French physicist Edmond Becquerel, established the fact that organic substances such as starch, glue, gum, gelatine, etc., when mixed with bichromate of potassium, also lose their solubility after exposure to light. However it was not until August 1855 that the chemist and civil engineer, Alphonse Louis Poitevin, patented a basic technique for printing photographs in carbon. Poitevin added pigment to bichromated gelatin. The pigment was usually carbon black, which gave rise to the name – the

carbon process. Unfortunately, Poitevin's process could only produce prints which exhibited bold contrasts of black and white but were sadly deficient in halftone. It was, therefore, totally unsuitable for the majority of commercial applications.

Joseph Swan and the Newcastle Factory

Though Abbé de Laborde in France, and C. J. Burnett and William Blair in Britain had all recognised that the unexposed gelatine had to be attacked from the back, it was Joseph Wilson Swan of Newcastle on Tyne, who first developed a carbon process that provided commercial photographers with a viable, practical alternative to silver. Swan's patent, published 29 February 1864, (number 503) introduced a new product, which he called carbon tissue, and described its application in a double transfer process. Carbon tissue, which was then said to resemble black oilcloth in appearance, consisted of a base layer of paper covered with a film of gelatine mixed with sugar and finely powdered carbon or pigment. The tissue was expressly designed to permit exposure on one side and development on the other.

The sensitised carbon tissue was exposed under a negative. The carbon tissue was dark, its colour corresponding to the deepest tone that could be achieved in the final picture. No visible change took place during exposure so the correct timings had to be gauged by the use of an actinometer, a piece of equipment also designed by Swan. The face of the carbon tissue was then cemented to a temporary paper support using a solution of rubber and benzole. To ensure adhesion both tissue and paper were passed through a roller. After pressing, the resulting paper sandwich was soaked first in cold and then in hot water. This immersion allowed the original paper base of the carbon tissue to be peeled away and so exposed those parts of the gelatine which had not hardened by exposure to light. These could be washed away more effectively from the back of the image. This washing away of the unaltered gelatine from the back of the image (i.e. the side of the film opposite to that exposed to the light) played a crucial role in securing the precious halftones which had eluded Poitevin. Indeed, perfect gradation of tone depended on the exposure of one side of the film and washing away at the other.



Fine portrait examples of the permanent carbon process retain their original density and tones due to permanency of the carbon that makes up the image. Well printed facial tones are symbolic of the process when negatives have been under processed.

When sufficient gelatine and colouring matter were removed, and development was thus completed, the print was hung up to dry. If a regular negative had been used for the carbon print, the image at this stage was inverted. In order to secure a correct print and avoid lateral transversion the carbon image now had to be transferred a second time and attached onto a permanent support. According to Swan's 1864 specification, this was achieved by coating the surface of the dried print with gelatine, laying it face down on moistened paper, and passing this new paper sandwich through a rolling press. After drying, the rubber solution was dissolved with benzole to allow the removal of the temporary support paper.

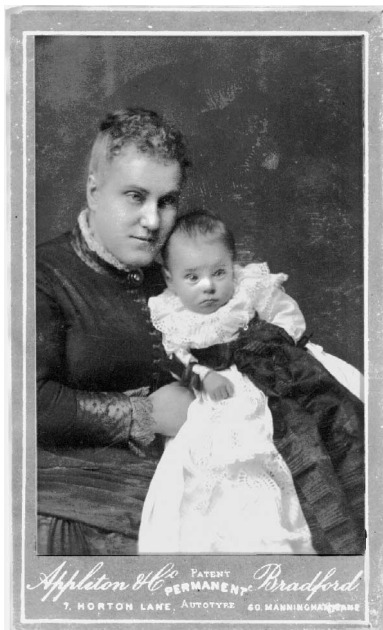
Swan's process was far too expensive, cumbersome and complicated for any application in the high street [portrait] studio, but it was viable for carbon printing on a commercial scale [reproduction of artwork]. It took Swan two years to iron out the practical difficulties. By March 1866 Swan and his partner John Mawson (d. 1867) had opened a carbon printing factory at Newcastle on Tyne which took orders for runs of prints in carbon. In its first commercial application carbon was introduced into those areas where 'photography is destined largely to supersede engraving'. In June 1866 an eye witness account confirmed the successful production of carbon prints from a 32 x 16 inch negative of David Octavius Hill's recently completed painting of the *Signing of the Deed*

of *Demission* which celebrated the formation of the Free Church of Scotland in 1843. The photographer and publisher was Thomas Annan of Glasgow and Hamilton, who commissioned a camera from Dallmeyer specially for this work.

By July 1867 this factory was reported to have turned out 'some thousands of exquisite prints'. Swan claimed that on one day in October 1866 twenty-one prints were obtained, all except one being 'quite perfect'. Such a fact was said to speak volumes, not only for the rapidity, but for the certainty of the process. Output included among others 16 x 12 inch carbon prints of *Waiting for the Boat* by Henry Peach Robinson, issued to upwards of a hundred members of the North London Photographic Association in 1866; 12 x 10 inch prints of Valentine Blanchard's *The Zealot*, presentation prints to the fifty or so members of the South London Photographic Society in the same year; copies measuring 22 1/2 x 12 1/2 inch of the *Horse Fair*, a painting by Herring whose copyright had been purchased by the Holroyds of Harrogate 'as the first of a series of carbon prints of original paintings which will be duly issued by the same firm.' The Holroyds later collaborated with Swan to produce a carbon print by the solar camera. In this case the tissue was prepared and sensitised in Newcastle, dispatched to Harrogate for exposure in the solar camera and returned to Newcastle for development and printing.

The photograph, mat and name-plate were printed to a single carbon tissue which most often ran to the edges of the card. Permanent Autotype cdv by Appleton of Bradford (England).

Photo from Robert Lansdale Collection



The factory at Newcastle manufactured the carbon tissue for in-house use. 'A piece of paper twelve feet long is made into an endless band revolving around rollers, which keep it stretched, and repeatedly pass it over a surface of melted gelatine, sugar, and pigment, until a perfectly even coating of the right thickness is applied to the whole length.' It was Swan's intention to produce the tissue in a non-sensitive state for retail to photographers adopting the carbon process. This tissue could be stored, sensitised prior to use by immersion in a solution of bichromate of potash and left to dry overnight.

Swan planned to offer a range of three distinct tints including indian ink, sepia and photographic purple which resembled the gold-toned silver print. Each tint was to be available in three grades suited for use with different types of negatives. There was, however, some significant delay in the production of the tissue which did not appear on the market until 1867. Swan sent William Blair of Perth a very liberal supply of his tissue in the summer of 1867 which, according to the recipient, was "now being manufactured by him for public sale". The appearance of the tissue may also have triggered the announcement of a ten pound licence fee for anybody working the process commercially though amateurs and professionals could practice and experiment at no additional cost beyond the purchase of materials from Swan. The imposition of a licence fee elicited a variety of responses with some seeing it as a mechanism for keeping the process select and justifying higher charges while others perceived injustice in the fact that the professional with a small practice had to pay the same rate as the trade printer.

Adolphe Braun of Dornach

In the same year he opened his own factory in Newcastle, Swan sold the rights for Scotland to T & R Annan, for Germany to Hanfstaegl of Munich and for France and Belgium to Adolphe Braun of Dornach in Alsace. Braun (d. 1878), whose career by the early 1860s had come to centre on Alsatian views and art reproductions, applied the carbon process particularly to the copying of works of art, especially old master drawings. In this specific application carbon enjoyed the superior advantage of being able to employ the very same pigment as that chosen by the artist for the original work. Thus a carbon print copied from a drawing in red chalk would be reproduced in a tissue having red chalk for its pigment; if the drawing was in sepia, blacklead or monochrome, then the reproduction was done in sepia or blacklead or the same colour. John Johnson, who later established the Autotype Company in England, was said to have 'inspired'

Braun with a sense of the value and scope of carbon and to have 'effected an arrangement' between Braun and Swan which lead eventually to the establishment of a factory at Dornach on the Rhine. The Dornach plant was installed under Swan's personal supervision along the lines of his own factory at Newcastle at a cost of over £16,000. It included provision for the manufacture of the materials as well as facilities for processing the carbon prints.

Even before the year was out Dr. Vogel claimed to have seen 'some hundreds' of reproductions of drawings in the Louvre which included works by Leonardo and Raphael. Vogel also mentioned carbon views by Braun taken with Johnson's Pantascopic camera. By March 1867 reproductions of drawings by Holbein in the Basle Museum were on the market in both carbon and silver. Though Braun estimated the cost of production to be 'seven-eighths' that of silver printing the carbon version retailed at twenty percent more than the silver, 'because he has a heavy first outlay for cost of patent to recover'. By the summer of 1867 Braun was 'working the process on a very large scale with considerable success'. Figures of four to five hundred prints per day were quoted in December 1867. This report also announced that Braun was hoping to expand in the spring to turn out fifteen hundred prints per day and that one of the principal operators had recently visited Newcastle to acquaint himself with recent improvements. By October 1868 it was acknowledged that the carbon process had 'received its largest development in France by M. Braun, of Dornach.'

Braun's operators visited major galleries and museum collections throughout Europe to photograph old master paintings, frescoes, drawings and statues. In 1868 a review in the *Journal of the Society of Arts* praised a portfolio of these reproductions which included 900 designs from the Louvre; 1100 pieces from the Albertine in Venice; 150 pages from the collection of the Grand Duke of Saxe Weimar; several hundred drawings from the Uffizi; Leonardo drawings and



Art illustrations from Robert Lansdale Collection

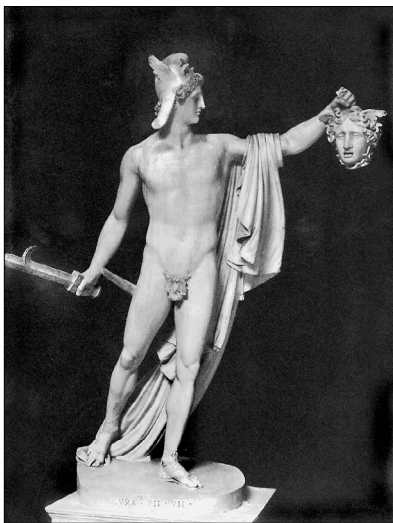
Great quantities of art were reproduced for educational needs, art collectors as well as for home and office decor.

Raphael cartoons from the Ambrosienne at Milan; 300 designs from the Academy of Fine Arts at Venice; and examples of sculpture at Florence. In that same year the factory was reported to employ eighty people and to enjoy such continual demand that it was impossible to accumulate stock.

Dr. Paul Liesegang, respected author of an influential manual on the carbon process, who visited Dornach in 1872, reported that the factory was turning out several hundred carbon prints each day. In spite of improvements introduced since Swan's original invention, Braun still worked with india rubber paper and maintained a steam engine on the premises for grinding the colours, mixing the india rubber solution and preparing the paper. In 1874 Edward L. Wilson of the *Philadelphia Photographer* confirmed continued expansion with one hundred employees, over ten thousand negatives, 'a large basement devoted to the Woodbury process' and the production of two to three thousand pictures every day. In March 1875 Braun was reportedly taking steps to convert his concern into a limited company with a capital of £26,000. At the same time it was rumoured that plans were afoot in Paris for the formation of a joint stock company to work the patents connected with the carbon process in France.

The Autotype Company

Early in 1868 Swan sold the English rights to his carbon patents to the Autotype Printing and Publishing Company. The Autotype Company was established under the joint direction of John Robert Johnson (1816-1881) and W.H. Benyon-Winsor, head of the firm of artists colour manufacturers. These two men 'really constitute the company – a few names being added, as holders of one or more shares, to give the limited liability form to the undertaking, that form being necessary in consequence of the previous partnership deeds'. John Johnson, a Yorkshireman by birth, trained as a chemist. He studied for some years in France and attended lectures in Paris by Chevreul on the *corp gras* about which little was known until the French chemist made his discoveries. Johnson was a prolific inventor. His most famous photographic invention prior to his involvement with carbon was the Pantascopic camera, patented in 1862 in the joint names of Johnson and John Ashworth Harrison (no. 2459). But his inventive capacity was not confined to the field of photography. Between 1845 and 1879 he took out some twenty-five



Photographic reproductions of statues made for study and appreciation.

patents covering an impressive range of applications including among others a type founding machine, a method of fixing colours in cotton fabrics, repeating firearms, lubricating compounds, treatment of sewage, typewriter machines, tramway rolling stock, etc. Johnson recognised the importance of Swan's achievement and actively encouraged promotion of the carbon process, having a hand in the establishment of Braun's factory at Dornach. Lack of funds, however, delayed his own efforts to initiate a similar enterprise in England. At last he found a partner in Benyon-Winsor who 'out of his abundant means, at once agreed to furnish the necessary funds to constitute the Autotype Company'.

Under his tenure as Director of the Technical Departments Johnson put his own inventive faculties to good use and speedily introduced a series of modifications and refinements to Swan's original process, all designed to improve, simplify and encourage a wider promotion of the process. In 1867 Swan himself had published a method of transfer which removed the need to use a rolling press. He made a weak solution of gelatine, added a small quantity of chrome alum and then immersed both the developed print and the mounting paper in it. The two surfaces were brought together in the

solution expelling any air in between. The adhesion was perfect as long as the correct procedure was followed. Johnson's most important improvements were patented in 1869 (no. 336). To assist the production of large size prints, Johnson looked for ways of attaching the exposed tissue to a plate of metal for development. He experimented with every form of cement until eventually he discovered that no cement was actually necessary. He realised that if the exposed film was plunged into water until it was fully expanded, and then was laid upon any plane surface impermeable to water, it would adhere firmly to that surface as long as all the air in between was carefully expelled – 'exactly as the boy's leather lifter or sucker adheres to the stone to which he has applied it'. Johnson initially employed a flat camel hair brush, but the squeegee soon came into use as the tool designed to drive out the air bubbles and remove superfluous moisture. The adhesion achieved by atmospheric pressure was permanent. This simple expedient obviated the necessity and expense of a rolling press and eliminated the use of india rubber solution with its obnoxious smell and potential danger to health.

Johnson further discovered that if the plane surface was coated before use with a thin layer of some fatty or resinous substance (he used a solution of wax, resin and turpentine), then the adhesion was sufficient to permit development but decreased as the film dried. In the case of double transfer where a temporary support had to be removed when the permanent support was in position this gradual detachment, as the film dried, was a positive advantage. Johnson noted, too, that the surface of the carbon print acquired the same character of finish as the surface of the support itself. 'If this be polished, the surface of the film is polished; if this be matt, the film has a matt surface; and if the surface of the plate be grained or tooled, the removed film of gelatine presents corresponding granulations or tool-marks.'

The Autotype Company after 1875 produced carbon prints from negatives submitted by amateur and professional photographers.



Photo from Robert Lansdale Collection

White lines by image show misalignment of printing masks where matte tint with name plate is printed to single piece of carbon tissue.

Photo Courtesy of Tom Genova



Temporary supports could be made of waxed or varnished paper, or metal, usually polished or grained zinc, or opal glass, flashed or ground. Johnson, himself, in an early practical demonstration to members of the Amateur Field Club used glass plates polished on one side and ground on the other to secure a glazed or matt finish at will. According to Johnson 'The pure flat surface of the rigid plate imparts a quality to the print never seen previously in pigment prints'. Specific surface finishes could also be acquired by other treatment. So, for example, an 'enamel' was acquired by coating the finished print with a

film of collodion. A 'mere glazed surface' like that of an albumen print was obtained by the use of a temporary support of flashed opal, fine grain porcelain plate or polished zinc. The finish was then 'enhanced' by immersing the print in an 'aqueous ammoniacal solution of shell lac'.

Another of Johnson's improvements related to the tissue. Swan's tissue comprised a paper base coated with a layer of gelatine mixed with sugar and pigment. The sugar was added to give flexibility to the tissue which was otherwise too hard and brittle when the gelatine was used on its own. The sugar also increased sensitivity and was soluble in water. Bichromate or 'sensitiser' could be incorporated into the gelatine mixture at the production stage to make sensitised tissue. Alternatively, the tissue could be manufactured without the addition of the bichromate. Insensitive tissue could be kept in the dry state for any length of time and sensitised prior to use by immersion in a solution of bichromate of potassium. Unfortunately Swan's original tissue proved problematic and unreliable. It was susceptible to damp in storage. Because of its extremely soluble nature the sugar had a tendency to dissolve out during sensitising and contaminated the bichromate solution. In warm weather the gelatine itself showed a marked tendency to dissolve in the sensitising bath and also to run during the process of drying. Heat could not be used in the drying process because it dissolved the gelatine. 'Working with sensitive tissue, made sensitive, when required for use, was therefore practically impossible, and the great expectations of the Company from the sale of licences and tissue were disappointed.'

In a paper to the South London Photographic Society in March 1870 Johnson announced that he had spent the past year 'in producing and bringing to maturity a pigment paper of entirely new composition and properties'. Johnson identified sugar as the problematic ingredient in Swan's tissue and substituted instead various stearates and oleates (soaps), finding oleates of potash or soft soap particularly suitable for his purposes. His tissue, Johnson claimed, would, with the right

equipment, dry within one hour after sensitising. This shorter drying period produced a more reliable tissue. The new tissue was more sensitive and had no effect on the make up of the sensitising solution. The use of soap also prevented the gelatine from dissolving and allowed it to be dried by heat using the right equipment. It should perhaps be noted that the right equipment in this case implied a box or closet which could be gradually supplied with heat in a manner which kept the source of the heat away from the tissue. Escaping fumes could have a harmful effect on the sensitive tissue. The by-products of gas burnt in the same room acted as a reducing agent on the chrome salt, 'even the emanations of a water-closet, placed at some distance from the drying pigment compound, have been proved to be injurious'. In March 1870 it was reported that the new tissue would shortly be available in place of the paper hitherto employed; it was still not on the market in April while September 1870 brought a reduced price.

In addition to improving materials and simplifying procedures, the other major concern of the Autotype Company in its initial phase was centred on the publication of carbon copies of old master drawings, sketches and etchings along the lines of Braun's successful enterprise on the continent. In this application the Company could draw on Benyon-Winsor's extensive knowledge of artists' colouring materials and their manufacture. This focus is reflected in the choice of the firm's name. The word Autotype was coined specifically to describe the reproduction of the artist's work in monochrome without the intervention of the engraver or draughtsman using only light and chemical reaction. The term was generally extended to include any photograph made in permanent pigments. Johnson's modifications particularly favoured the production of carbon prints by the single transfer method which involved the use of reversed negatives. Large commercial concerns which specialised in art reproductions easily generated reversed negatives using the simple expedient of a reversing mirror.

Initially the Autotype Company took over the running of Swan's carbon factory at Newcastle upon Tyne and worked there for more than a year using the staff trained to the work by Swan himself. A visitor to this factory, writing in the spring of 1869, reported that the method of working was identical to that originally proposed by Swan 'except in one slight particular'. The improvements researched by Johnson had not yet been implemented. On the day of this reporter's visit the work in progress included 'large fifteen inches productions' of *The Snooze* and *The Truant* from the monochrome pictures, painted expressly for printing in carbon, the copyright having been purchased by the Company with a view to publication. Also in hand were prints of a Scottish nobleman 'one of the most successful portraits in last year's Royal Academy'. This visitor reported an output of one hundred prints during his short stay with 'not one single failure, and, with the exception of two instances, no visible blemish or fault'. By July 1869 Johnson's modifications had been introduced since another visitor reported 'no press required, the single and double transfers being accomplished quite easily.

The Autotype Company also opened a manufacturing unit in London initially at Willesden in 1868 in premises adjoining the house of Ernest Edwards who was 'interested' in the company at that time. Three months later the London works

moved to premises in Brixton, described in an early prospectus as a 'small branch establishment' where negatives were taken and carbon prints made by Swan's process. Here the firm experienced considerable difficulty in recruiting employees trained to work the double transfer process, though the single process was more successful. The need to invert the negatives and the problems of working with large sheets of paper for enlarged prints had led Johnson to look for ways of simplifying the process. After fifteen months at Brixton the Company moved to a brand new, purpose-built site at Ealing Dean (sometimes Dene).

Johnson was responsible for planning and superintending the building of the new factory. The ground of the new works covered about one and a half acres, large enough to allow for future expansion. The factory was designed to manufacture the pigment and transfer papers and to undertake the printing of the autotypes. In the summer of 1870 the ground floor of the main building, approximately one hundred by forty feet, comprised office space, warehouse, store-room, press-room, engine-room, a strong room for negatives, and a printing and developing room which measured sixty by sixteen feet. This room was glazed in the roof and side to allow printing in bad weather. The second story housed a laboratory for the preparation of the pigment compounds and a room sixty by twenty feet for preparing and drying the tissue. The preparation room was ventilated by a powerful fan and the temperature was regulated by pipes through which hot or cold air could be circulated by turning a valve. The fan was worked by the engine which was also used to grind and mix the colours. Two other structures occupied the site at this early date - a walk-in camera 'the largest that has ever been constructed', capable of taking pictures four feet by three in direct sunlight and 'just completed' another studio for working in diffused light where pictures up to thirty four inches could be taken and processed.

In addition to their manufacturing works the Autotype Company opened a display gallery and showroom at 5 Haymarket. Although this gallery was up and running by May 1868, the Company enjoyed only a very brief tenure. By March 1870 a new gallery had opened at 36 Rathbone Place, off Oxford Street. 'This is forty by twenty feet in area, and twenty feet high, admirably lighted for the purpose of exhibiting the Company's works, and those of their licensees and foreign correspondents. Rathbone Place housed the general administrative departments which granted licences, sold prints, and took orders for tissue, transfer paper etc. The company also offered free instructions in working the process. These took place once a week at Rathbone Place. A fire occurred at Rathbone Place in 1879 and the Company opened new showrooms in Oxford Street in 1880.

On show at Rathbone Place were the autotypes of Adolphe Braun. The Company had exclusive rights to their sale and distribution in England. A complete set of the output of the Dornach factory was displayed in folio volumes in the Gallery. In May 1869 Johnson referred to a series of 35 folio albums of Braun's work. A year later in June 1870 the albums had increased to 40 containing over 3000 subjects and by 1871 the number had grown to about six thousand copies of original drawings. Also on display were the art publications issued by the Autotype Company. These included copies of work of old masters, contemporary painters and reproductions for book illustrations. Turner's *Liber*

Studiosum has been reproduced in autotypes, an undertaking made easier by the fact that it had originally been painted in sepia. Other works included Hogarth's *The Idle and Industrious Apprentice*, a selection of Dürer's engravings and drawings brought together for an exhibition at the Burlington Fine Arts Club, and items from the British Museum and South Kensington collections. Contemporary painters whose works had been reproduced included Thomas Faed, Charles Lucy, James Sant and Marcus Stone among others. Copies of contemporary paintings could either be taken directly from the original or from a monochrome drawing of the picture made by the artist especially for the autotype copy. Marcus Stone, for example, made a monochrome drawing of his picture of *Princess Elizabeth at Mass*. Alternatively, a proof copy taken directly from the original could be worked on by the artist to ensure that the photographic reproduction of the various tones were correct.

The Autotype Company took care to promote its products outside London. The Company's 'active and intelligent agent' and secretary, J F Boyes undertook promotional tours throughout Britain encumbered by samples displayed in large albums. In the spring of 1869 his itinerary took him to Perth in Scotland where he arranged a meeting with William Blair. In addition to Braun's reproductions Blair was shown 'specimens of carbon prints of all sizes, from life negatives and from landscapes', and was given to understand that 'agencies are being established in this country for the sale of these hitherto almost inaccessible, and yet invaluable, productions'.

All of these investments, the factory at Ealing and the display gallery at Rathbone Place, were pioneered in the firm belief that 'carbon would be king'. Both profession and public, however, proved reluctant to share this optimistic conception and by 1872 the losses by the Company were reckoned to have reached some £25,000. A prospectus issued in about 1871 confirms that the Company was looking for new investment and distinct changes occurred in personnel and direction at this date. In 1871 John A Spencer somewhat unexpectedly joined the Company. The son of a chemist, Spencer followed in his father's footsteps and studied chemistry at University College, London. He later succeeded to the paternal business and then spent a period as demonstrator of Applied Chemistry at the Panopticon in Leicester Square. About 1853 he became interested in photography and subsequently set up in business as a manufacturer of albumenised paper with a factory in Shepherd's Bush. According to the dealer John

Cameo vignettes were prime source of sales for portrait photographers but were hard to produce because residue carbon stained the whites.



Photo Courtesy of Tom Genova

Werge, Spencer's was the largest albumen paper factory in the country with a reputation for quality and reliability. In circa 1867 Spencer began the manufacture of carbon tissue, a diversification which brought him into direct conflict with the Autotype Company. Litigation over patent infringement seemed imminent when, instead of attempting to beat the opposition, Spencer unexpectedly joined it! At about the same time an amalgamation took place with the firm of Sawyer and Bird who had six presses in operation at their factory in Ealing where they were successfully working the collotype printing process of Ohm and Grossman, patented in Berlin in 1867 and in England in October 1869. Trading as Spencer, Sawyer, Bird & Co the new management acquired the patents, plant and premises and took over the manufacturing side of the business but not at that time its publication operation which continued as the Autotype Company. All aspects were amalgamated again in 1875. The new arrangements enabled Johnson to 'receive some substantial benefit from his long service to the cause of permanent photographic printing' and he withdrew from active involvement in the Company, living for a time in Paris before his death in Warwick in 1881.

Courtesy of Scarborough Public Library



Gainsborough House, Sarony's studio at Scarborough (UK)

The transfusion of new blood brought further improvements. The double transfer process, necessary for carbon printing with existing 'regular' negatives, became easier and more reliable following Sawyer's invention of double transfer on a temporary flexible support, patented 29 October 1874 (no. 3740). The flexible support was designed to expand and contract in perfect harmony with the carbon tissue and so ensure a sharp, clean print. The support itself could be used for twenty or thirty pictures. The double transfer process could be worked more easily and reliably after the realisation in circa 1876 that the single and double transfer methods required transfer papers with different specifications. Single transfer paper was then prepared by coating a suitable paper with gelatine which had been sufficiently hardened to become almost insoluble and impermeable. Double transfer paper was given a thicker coating of soluble gelatine. Prior to this refinement double transfer workers had experienced difficulties with adhesion to the temporary support during development and 'reticulation' of the carbon image.

New services were introduced. The Autotype Company was now able to undertake photomechanical printing work in addition to its carbon printing. Following the extension of its premises and manufacturing facilities the Company was for the first time in a position to supply all the materials required for carbon printing 'without delay or limit'. In addition practical instructions were offered on a daily basis instead of once a week. For the first time, too, the Company offered its services as trade printers undertaking to make carbon prints from negatives sent to them by amateurs or professionals. In effect, this enabled the high street photographer to introduce a new and profitable line in portraits in the form of framed carbon enlargements.

Oliver Sarony of Scarborough

The cost of plant, complexity of the process, unreliability of the early tissues and the delays and uncertainties in its supply, all these factors conspired to discourage any widespread adoption of the carbon process in the 1860s. Apart from the Autotype Company itself few commercial photographers in Britain made any attempt to enter the field. There were, as ever, one or two exceptions, among whom were the firms of T & R Annan and Oliver Sarony. Entrepreneurial to his fingertips, proprietor of Gainsborough House in Scarborough, the largest and most lavishly appointed studio in the land, [Canadian born] Oliver Sarony harvested the bountiful profits

that flowed from the sale of framed and coloured enlargements. His affluent clientele was happy to pay anything up to one hundred and fifty guineas for overpaintings in oils with 'Equestrian portraits or groups' being 'Half Price Extra'. Sarony never did things by half measure; the grand scale was his natural

and only sphere of operation. By March 1868 he had secured the sole patent for Swan's process for Scarborough and set about the construction of a two horse power steam engine on his premises to enable him to manufacture his own tissue.

Among other things the engine was intended to drive the fans that would dry the tissue in an hour. Only a few months later in October 1868 Sarony is reported to have ordered an even larger engine with a view to considerable expansion now that he had some experience of working the process. By September 1869 a new, six horse power engine had just been installed.

In a circular issued by Sarony at this time he claimed that the firm had been made a branch of the London Autotype Carbon Publishing Company at a cost of upwards of two thousand pounds. That same circular advertised a new venture organised 'after the manner of a club'. This initiative involved the purchase each year of an appropriate number of paintings by 'celebrated and rising artists'. Subscribers of say



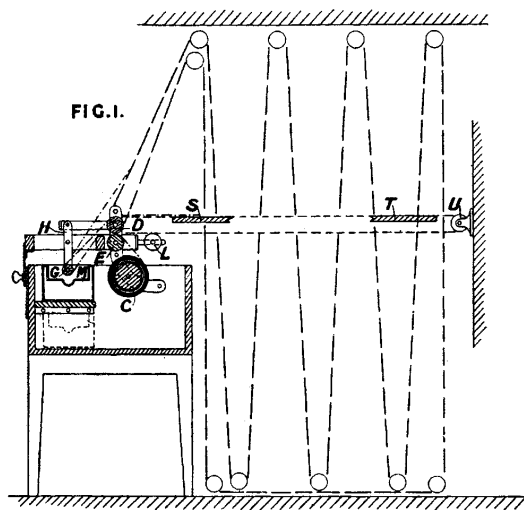
Canadian born Oliver Sarony

Courtesy of Scarborough Public Library

en guineas would have the choice, according to priority of subscription, of pictures in the gallery at that price. In addition to the subscribed picture, and at no extra charge (!), the subscriber would also be entitled to a carbon reproduction of that and every other subscription picture of the same value. Sarony, naturally, retained copyright of every picture so purchased.

Other examples of Sarony's publications included a selection of sea pieces, 'masterly sketches' by the 'well-known' marine painter, Carmichael, issued in the autumn of 1868. The originals were sketched in sepia, the majority measuring 15 x 10 inches. In the autumn of 1870 the Scarborough studio issued a combination picture by Lachlan McLachlan of Manchester of the members of the Cotton Famine Relief Committee. The negative measuring 48 x 24 inches was taken from an enlargement finished in oil. Another print published at the same date was an 'open group' by Barraud entitled *The London Season*. The size of this negative was 45 x 19 inches. Sarony took care to advertise the fact that the negatives and proofs were produced within three hours of their arrival at the Scarborough studio.

In 1869 Sarony was hailed as the 'first portraitist who has adopted the carbon process'. Sarony would certainly have found carbon effective in portrait enlargements and useful as



Oliver Sarony and J.R. Johnson patented a coating machine in 1878 for carbon tissues or pigment paper.

a base for his overpainted portraits in oils - as would other high-class portrait photographers at this time. His entry in the Photographic Society exhibition of 1869 of two frames of cabinet portraits in carbon suggest that he was also attempting to use carbon in the production of cartes and cabinets. This exhibit met with varied response. A reviewer in *The Photographic News* found them 'delicate, brilliant, well modelled ... As carbon prints they were very fine'. Note the reservation in that last sentence. If these were the same items as the 'frame of Autotypes printed from really fine negatives' viewed by W T Bovey - and it seems likely that they were - then Bovey's description of prints 'conspicuous for their lack of 'pluck' and 'washy' appearance' suggests an altogether different result. Sarony's attempt to employ carbon in the production of cabinet size portraits and the nature of the response to it foreshadowed the debate around carbon printing that was destined to dominate commercial photography in the 1870s.

Carbon versus Silver

Because the commitment to permanency was so profound, the idea held currency in the early years after its introduction as a practical process that carbon could and should oust silver and take its place as the foremost process in general use. Of course people at the time recognised the enormity of this suggestion. They knew full well that silver printing was well established, comparatively simple in its operations and capable of producing photographs of great delicacy and beauty. Their willingness even to entertain the possibility of a take over by carbon was in itself a measure of the strength of the desire to achieve permanency. For William Blair the eventual supremacy of carbon was a matter of time, not debate since 'for the great mass of photographic work, it should be understood that the silver print must pass away and become extinct, or nearly so - supplanted, or shouldered off the stage by its healthier rival, the carbon.'

The opinion formers in the photographic world of the 1860s and 1870s, the editors of the journals and the élite of professional portraitists, were also positively biased in favour of the process. George Wharton Simpson, editor of *The Photographic News* and a man very much at home in the photographic laboratory, believed it to be his duty to promote carbon. 'The chief pushing [which] the process has received, has been given by ourselves and other photographic journalists, who, in the discharge of a manifest duty, have persistently kept before photographers a knowledge of the fact that permanent printing was a possibility, and that the 'bye-word and shame' of instability was no longer a necessity in the productions of their art'. He was unequivocally proud of his efforts in this direction. 'That we have been one of the earliest advocates of, and staunchest believers in, the universal adoption of carbon printing, we readily admit.' This confession was substantiated by his authorship of one of the first textbooks on the carbon process to be published in Britain.

For those photographers concerned with issues of status, the complexity of the carbon process could be regarded as a positive advantage since it would serve to drive out the cheapjacks and leave the field to the skilled and committed photographer. Complexity demanded an increased investment of time, effort and skill which would nurture a more respectful attitude towards photographers as a class and justify the imposition of higher charges. In the material world high prices were equated with high value. Carbon could thus be presented as a process which worked towards the greater good of photography in general, while those who promoted or adopted it could perceive themselves as morally superior to the rest.

Swan's delays in opening the Newcastle factory, his failure to supply a satisfactory tissue and the imposition of a ten pound annual licence fee on all commercial use lowered expectation and fostered doubts and concerns about the long term viability of the process. Confidence, however, returned with the establishment of the Autotype Company and its huge investments in the late 1860s/early 1870s. Rising to the surface with this renewal of confidence came the question of whether or not carbon was destined to supplant silver. That question remained a matter of vigorous debate throughout the 1870s but by the close of that decade the answer was known and the issue decided.

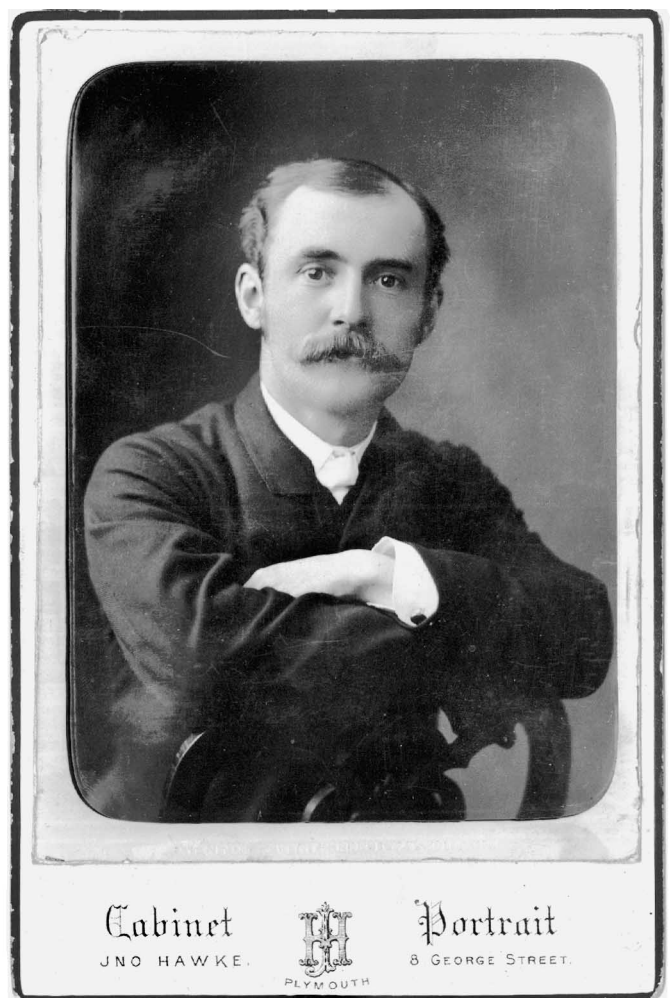
On the threshold of the 1870s the prospects for carbon were better than they had ever been. The Autotype Company was going from strength to strength. The process, though still complex, was simpler than ever before. The new factory was turning out good quality tissue as well as fine art autotype reproductions. Carbon had, in fact, cornered this sector of the market. It offered serious competition to other processes where small runs of fine prints were required and cost mattered less than quality. In the spring of 1870 the Company won praise for introducing a very liberal licensing policy which abolished the payment of fees or royalties. The purchase of tissue from the Company carried the right to employ carbon for portrait and landscape work without any additional charge, except in cases where special privileges were required. The change of management increased public confidence. According to the photographic supplier, John Werge, 'from the moment J R Sawyer became 'director of works' the company rapidly became a flourishing concern'. All these developments naturally fuelled confidence in the future of carbon. One columnist, on learning of Johnson's improvements to the process in 1869, believed it 'not improbable that carbon printing will really supersede silver for all important work'. A year later, while acknowledging progress to be 'somewhat slow, undoubtedly, but not less undoubtedly sure', the same columnist expressed his 'conviction that carbon printing must eventually become general, if not universal.'

In order to substantiate such speculation carbon had to begin attracting converts. With publication of Johnson's simplified process three government departments took out licenses to work his patent: the East India Museum under Mr. Griggs; the Photographic Department of the Royal Arsenal at Woolwich under Baden Pritchard; and the War Office at Chatham, then under the control of Captain Crawford and subsequently of Captain Abney. As befitted the man who was later to take over as editor of *The Photographic News* Baden Pritchard regularly penned articles describing the arrangements at Woolwich and documenting the progress of carbon within his department. In June 1870 he claimed an interest in carbon dating from 1859 and twelve months practical experience of working Johnson's process. By April 1870 he was reported to have issued 'upwards of three thousand prints of military subjects in carbon.' An article published in February 1872 claimed a total production in the area of twenty to thirty thousand carbon pictures, an average of about three hundred large prints being produced each week. Dr. Liesegang visited Woolwich in 1872 and was particularly struck with the arrangements for calculating exposure and printing in batches. By 1877 output was estimated at upwards of one hundred thousand prints.

Carbon and the Portrait Industry

However, if expectations of its superseding silver were ever to be fulfilled, carbon had to infiltrate and dominate the highstreet studio since portraiture was the major commercial application of photography for most of the nineteenth century. In this area everything remained to be done. The number of portraitists who had any practical experience of carbon at the start of the 1870s could almost be counted on the fingers of one hand. In January 1871 Wharton Simpson voiced his doubts about whether there were a 'dozen, or even a half dozen portraitists in the kingdom that have tried it [carbon] on any commercial scale. We do not know one in London who has done so'. Certainly no other portraitist was operat-

ing on the scale of Sarony in Scarborough. Among the few known to have dipped early fingers in bichromate was numbered T H Hennah of Brighton, said to have 'adopted the new process with success' by 1871. The firm of William and Daniel Downey, at that date based in Newcastle, exhibited a portrait in carbon at the Photographic Society exhibition in 1870. Jabez Hughes of Ryde was said to have produced some 'admirable' carbon portraits. John Middleton Burgess of Norwich, inventor of the eburneum process in 1865, collaborated with Nelson K Cherrill to produce a modification in which transparencies were printed in carbon and mounted with a backing of gelatine and white pigment. The carbon eburneum process was shown to members of the Photographic Society in 1870. Cherrill published a couple of articles on the working of the carbon process in 1867 and a year later entered into partnership with one of the most eminent portraitists of the day, Henry Peach Robinson. Their studio was sited at Tunbridge Wells. In January 1871 it was reported that Robinson himself 'has or is trying carbon'.



Photos from Robert Lansdale Collection

Separate high gloss Chromotype print on card is mounted to cabinet card. Blind stamp identifies it as Chromotype print.

Mayall was another top class portraitist whose name was linked with carbon in the late 1860s. In October 1867 he announced publication of a card portrait of Earl Derby in carbon. This portrait was taken in the subject's own library, not in the photographer's studio. Pre-publication publicity advertised its issue both as an 'ordinary' carte de visite and as a carbon photograph. Mayall's firm claimed to have recently produced 'many' portraits by this new method both from existing

negatives and ones made for the purpose. 'The carbon prints give no more definition, and are scarcely, perhaps, so brilliant as silver prints, but they are as clear as steel-plate engravings, and as immovable'. These early portraits must presumably have been printed at Swan's Newcastle factory, since Mayall was only reported to have 'nearly completed arrangements for introducing the carbon process' in October 1869.

In spite of Simpson's specific exclusion of any London portraitist working carbon on a commercial scale, the firm of Window and Grover later claimed that their Baker Street studio witnessed the first trial of the printing of portraits in carbon by a private firm. In 1869 Window, himself, patented a *Heath & Bullingham of Halifax has carbon image right to edge of card*



powder carbon process suitable for enlargements and exhibited carbon enlargements at the Photographic Society exhibition in 1869. The patent was completed in 1870 and photographs by the process were praised for being 'very fine in half tone'. The patent was acquired by the Autotype Company with whom Window 'was for some time associated'.

Those portraitists who worked the carbon process in their own studios in early 1870s were

both exclusive and expensive. They concentrated either on specialist applications such as Burgess' carbon eburneum process or Window's powder carbon process or they worked on carbon enlargements. In both types of application the prices they could charge justified the additional input. When in 1871 the Autotype Company offered its services for the first time as printers to the trade, prepared to make enlargements from negatives sent to them for the purpose, then the framed carbon enlargement found its way onto the highstreet and into the homes of the relatively affluent, middle class customer. As the decade progressed more trade printers offered carbon enlargements and more superior studios used carbon in their expensive specialités. Carbon was particularly versatile in that it could be applied to a variety of surfaces including ivory, opal, paper, stretched canvas, panel, card-



J. Grey designated "sole patentee for Stonehouse and Devonport"

board etc. Thus by the mid 1870s carbon had established a ready niche in the commercial repertoire as the preferred process for superior enlarged portraits. At the exhibition of the Photographic Society in 1875 carbon was used almost exclusively for the enlargements on display.

Minds generally remained receptive to the idea that carbon could potentially dominate. To do this, however, people recognised that carbon had to be employed in the production of the countless carte and cabinet portraits which poured from the commercial studios situated in the high street of every town up and down the country. 'Small work' was the staple product of the portrait industry, and if carbon was not applied to small work, carbon could never dominate. 1871 witnessed a battle of words in correspondence columns of *The Photographic News* on the question of carbon vs silver. The principal protagonists were Wharton Simpson and W T Bovey, who declared himself 'persuaded that silver printing must, sooner or later, give place to the mechanical methods which are progressing towards perfection,' but remained convinced that 'the end of silver printing is not yet.' It becomes clear from this exchange that complexity, lack of familiarity and costs of conversion and production were not only deterrents to the widespread adoption of carbon in the high street studio. The fact was that 'whilst pioneers in the process have been steadily working ... to remove technical difficulties, it was not advanced with equal steps in beauty of results'.

Poor results were particularly evident in small work since 'carbon answers well for large work which pays for being worked up, but ... there is a fineness and a delicacy wanting which, as compared with silver, unfits carbon for small portraiture.' Even that most ardent and committed supporter of carbon, Wharton Simpson, was forced to confess that 'In many cases the comparison is in favour of silver printing in richness, depth and transparency.' Efforts to achieve carbon vignettes with a clean white ground appear to have met with repeated failure. The removal of all pigment still left a film of gelatine on the surface of the print which impaired the purity of the white highlights. Since the vignette was an established line in the commercial portraitist's repertoire this was a significant failing. Vignettes were regarded as artistic and tasteful. Because of the additional effort involved in their printing, in the 1860s and 1870s at any rate, vignettes were charged at a higher rate and probably therefore brought higher profits. As a result of these serious failings some photographers who had attempted to work the carbon process, decided to give it up again. Samuel Fry was one of these: 'The carbon I relinquished for the simple reason that silver prints are better'. Arthur Brittlebank was another who 'practised the carbon process and gave it up because I could not get results equal to silver prints'.

TO BE CONTINUED IN NEXT ISSUE

- In our next issue Claude Léon Lambert arrives from France in the summer of 1875 to become a new champion of carbon armed with novel techniques and expert skills.
- Author Audrey Linkman's research interests centre on nineteenth century British photography specialising in commercial portraiture and the family album. She previously worked to establish the Documentary Photography Archive in Manchester, UK, and now works as the Visual Resources Manager at The Open University.

A SECOND LOOK...

by Robert Lansdale

The story by Les Jones in issue 29-5 (March/April 2004) of this journal on the interesting life of Reverend Thomas Creen of Niagara-on-the-Lake, Ont. has attracted attention in the United States. The condensed version of the article was recently reprinted by *The Daguerreian Newsletter* whereby Gary L. Delscamp of Kettering, Ohio was drawn to the photograph of the good Reverend and sent the following message:

Mr. Jones:

When I received my latest Daguerreian Society Newsletter today I immediately opened it to read. Imagine my surprise when my eyes fell on the photo of the dag on page three along with your article on the Rev. Thomas Creen. In February of 1995 a friend of mine found the half plate dag which [image] is here attached. He found it in the Mount Vernon area of Ohio which is just north of Columbus. Because of the size and subject matter I purchased it... thinking some day the sitter might be identified. IF the ID on the man you wrote about is correct then I think that my dag is possibly from the same sitting(?). I would appreciate hearing your thoughts on this.

Gary L. Delscamp



Les Jones replied:

Delighted to receive your note. It's definitely Rev. Creen but he looks much younger to me. While the basic pose is the same it appears that the fabric design of the tablecloth is quite different. It might be the same photographer with an earlier tablecloth OR a completely different photographer. It might be worthwhile to run close-up pictures of the tablecloths to see if anyone has matching shots and can identify the photographer? Regards,

Les Jones

So can anyone offer suggestions or identify the photographer?



CONTINUING THE SIDA STORY...

Bill Belier's *Untold Story Behind the 1936 Sida Camera* which appeared in our Sept/Oct. 2004 issue, brought a prompt reply from Michael Pritchard of Christie's Auctions in London, England with text and photos. Michael served as editor of *Photographica World* for 15 years before heading into the auction world; so he has much knowledge of rare cameras and photographica. Our thanks for his added info.

The little Sida entered the world in Germany at a time when there was much political change which led to the Second World War. Bill's story explains the close ties his Sida had with a victim of the Holocaust.

As the worldwide Depression of 1929 began to take its

toll, fewer successful new cameras were introduced to the marketplace. There were still designs patented but fewer ever got off the drawing board. By 1932 stability was beginning to return and in Germany the Weimar Republic was under severe pressure while Hitler's National Socialists were moving to center stage. Hitler became Chancellor in 1933.

During this period a number of new designs appeared in the subminiature class to take advantage of motion picture film stock in various widths: 35mm, 17.5mm (split 35mm), 16mm, 9.5mm, and 8mm (split 16mm). The *Leica* (first prototype built in 1914) had already been market tested in 1923 with 31 handbuilt cameras. In 1931 a match-box size camera with waist level optical viewfinder was manufactured in Leningrad. It produced a 24mm square negative. The *Rothschloss*, 1 x 3 x 4 inches, was produced in Berlin in 1932. It produced 18x24mm negatives on 35mm film..

In 1932 during the Leipzig Fair Fritz Kaftanski (Fotofex-Kameras) of Berlin announced the VISORFEX and a few months later the FEXOR, PARLORFEX and MINI-FEX. The

Minifex was touted as the smallest camera in the world and was the first serious subminiature of the 20th Century. Solidly built, it used unperforated 16mm film in roll form producing negatives of 13x18mm. The small body was fitted with a dial or rim-set Compur shutter made by Deckel (much oversized in relation to the body). It came with an f3.5 Trioplan 25mm lens.

PHOTO COURTESY OF GEORGE EASTMAN HOUSE



The Mini-Fex with oversized Compur shutter

of 13x18mm. The small body was fitted with a dial or rim-set Compur shutter made by Deckel (much oversized in relation to the body). It came with an f3.5 Trioplan 25mm lens.

PHOTO COURTESY OF BERNARD PLAZONNET

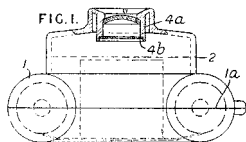


One of the variant models of the Sida, different shutter release.

In 1934 the first of near-novelty cameras appeared, L'Aiglou which had a 14x14mm format on special roll film. It was followed by the British made Bobby and the French Le Photolet.

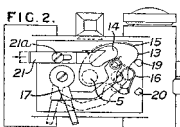
Fritz Kaftanski with K. Gumpel patented the Sida camera for paper-backed roll-film in December 1, 1934; the shutter was patented separately. First models were manufactured in Berlin – negative size 24x24mm. The British Sida Cameras Ltd. was registered in 1935 and introduced its first productions in 1936. Aimed at the low-end market for mass distribution, it consisted of three main parts: a body carrying the shutter mechanism, a cover housing the film and a projecting lens carrying portion that enclosed the shutter mechanism. First

448,127. Photographic roll - film cameras. GUMPEL, K., 8, Olivaerplatz, and KAFTANSKI, F., 173, Kurfürstendamm, both in Berlin. Dec. 1, 1934, No. 34513. [Class 98 (i)]



A camera 1 comprises three main parts, viz.: a body carrying the shutter mechanism, a cover which houses the film, and a projecting lens-carrying portion 2 fitting over and enclosing the shutter mechanism, the body and cover being shallow and provided with relatively staggered lugs for the purpose of facilitating the separation of these two parts. The body and cover fit together friction-tight on shoulders 1a. A cylindrical ring 4a supports the diaphragm 4b by means of a wire spring. Specification 448,169 is referred to.

Shutter mechanism of the single blade type comprises a pivoted sector-shaped shutter plate 13 having a reniform aperture 14 and operated from a spring 16 by a pivoted operating lever 17, the axes of the shutter plate 13, lens 5 and operating lever 17 lying substantially in line, and the shutter plate being provided with an abutment 15 for engagement with a locking member 21 during time exposures. The locking



produced in cast metal, production swung to the use of Bakelite thermoplastic and exist in red, green and black with mottled combinations of brown and red showing up.

The simplicity of this plastic and its moulding technology goes a long way to explain why the Sida was produced by so many different manufacturers in so many different countries. There even is evidence of a Sida camera made in Poland or Hungary but with Hebrew lettering molded into it (Christie's Auction, July 2002, realizing £223).

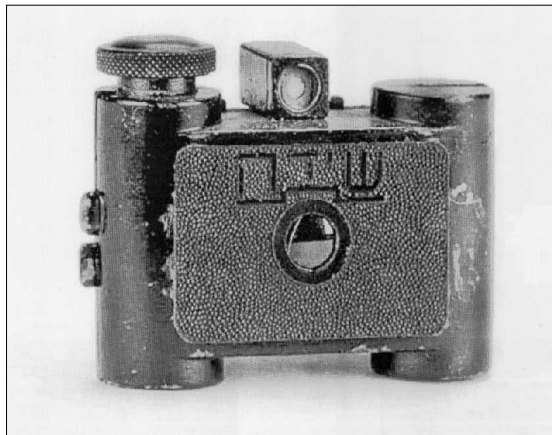


PHOTO COURTESY OF CHRISTIE'S AUCTIONS - LONDON

Sida produced in Poland or Hungary carries Hebrew lettering molded into the back cover plate.

With repressions increasing of Jewish business and social order by the National Socialists (Nazi), Kaftanski fled to Prague, Czechoslovakia where he continued production of the Sida. 1937 saw the arrival of the SIDAX 4x4 and in 1938 the FEX 4x6.5 which became the basis of a very long series of Bakelite cameras made by FEX in France. As the Nazis expanded their occupation Kaftanski fled to Lyon, France to commence the Fex company. During this period, it is possible that he had some contacts with MIOM in France because of very similar shape of the Czech Dufa Fit and Photax Blinde. The cameras, made in Slovakia, were probably inspired from Kaftanski designs. During 1939-1941 Kaftanski lived near Paris and there is a blank in his history.

When Kaftanski found an associate, Mr. Bouchetal in Lyon, 1942 saw the birth of FEX as the most prolific French camera manufacturer with the first French Fex produced during the WWII restrictions. Made of light wood covered with black paper it was equipped with an Angenieux lens, as this was the nearest lens manufacturer in the free zone. This was the Compa Fex – on later models, the Angenieux name around the lens was deleted as this was a very poor quality camera. The Lyon plant continued to build Fex cameras, probably with Kaftanski participation, at least until the end of 1950.

Then in 1945 saw the start of KAFTA in Paris. This company, at first, was only an outlet for Fex cameras but then moved into manufacturing to create its own cameras Kaftax and Banco. Kaftanski is also noted for creating the Stylophot which was made by Secam and a model made for Kunik of Germany. His design influences can be seen everywhere and this is but a small part of Kaftanski's interesting and long career in the camera manufacturing industry.

References:

Subminiature Photography by William White, Focal Press, 1990
Spy Camera by Michael Pritchard and Douglas St. Denny, Classic Coll

Toronto Notes

Reported by Robert Carter

EARLY BICYCLE PHOTOGRAPHY

For our October meeting Lorne Shields illustrated how photography can enrich any collection field. The historic photographs which are but part of his bicycle collection offer a dramatic history of the bicycle. Much of Lorne's cycle collection was donated to Canada and now resides in the National Museum of Science & Technology in Ottawa. He shared 240 of his images providing an entertaining and informative narration.

The bicycle was a tremendous social success and catalyst both in Europe and North America. It affected all levels of society bringing quick transportation to millions of men and women in the late 1800s and early 1900s. The vehicle gave freedom to travel the countryside and groups formed to participate in tours and races. At its peak cycle races drew the largest audiences of any sport. As the bicycle evolved, speed and safety became hallmarks of good design and engineering.

The bicycle was initially an expensive toy that quickly became a means of practical transport for the masses. Continuing technical innovations led to the automobile and the airplane. Many people had their "likeness" taken with their new possession. Some images shown were of famous racers and circus teams. Lorne's chronological presentation gave the history and evolution of this famous means of locomotion.

Lorne recalled an incident in his early collecting days that proves it takes time to accumulate depth of knowledge. In his travels he acquired a bicycle collection in Hawick, Scotland. As he haggled down to the last items the seller asked if he was interested in one left-over item. Lorne replied: "That's got four wheels – I've never heard of a bicycle with four wheels. I've bought everything else so why not throw that in for free." It was then agreed to give it without cost. Much later the Henry Ford Museum in Dearborn, Michigan offered 15 thousand dollars for that Sawyer Quadracycle. It proved to be

the rarest item of the whole collection. "But at the time," offered Lorne, "I did not know!"

Lorne is an expert on the history of the bicycle. His theme interest led him to collect the best and most important cycling photographica he could find and afford. "There is no point in buying everything," says Lorne, "and I cull poorer material when replaced by better samples. If you have a bicycle image (or an old bike or book on bicycles) and need information, then contact Lorne at (905) 886-6911 or lorne-shields@rogers.com



LORNE SHIELDS & BIKES

PHOTOS BY ROBERT LANSDALE

THE SPECIAL ESTATE AUCTION by John Linsky

After our summer recess the Special Estate Auction was pulled together in record time. To help finalize the Larry Boccioletti estate, the PHSC assembled all photographica spread throughout Larry's home and in three large sheds. Ed Warner, Bob Wilson and John Linsky

headed up the team to sort everything into "auction worthy" lots, to describe and tag and then move to the auction site. But first a location and date were established that fitted within other fall Society commitments. Saturday was packing with more on Sunday beginning at 7 AM. We

had over 300 lots (from this one source) – normally 225 is our limit. By 6 PM we were exhausted but finished. Thanks to all the volunteers. Julie Boccioletti sends her gratitude for lifting the burden from her shoulders. Everyone is surely pleased with their purchases and "special finds."

PHOTOS BY GEORGE DUNBAR



Graphics, cine and studio cameras



Checking the goods for buys



Movie cameras of all sorts



Auctioneer Warner & Linsky



Inspecting a reflex Graphic



Auctioneer Ed Warner & bidders



Seeing double on Graphics

FALL FAIR REPORT

by Mark Singer

The Fall Fair became a concern for me as Larry Boccioletti, who had been Fall Fair Chairman since it started in 1985, was slowing down due to health problems. His passing last July 20th caused me to (temporarily) assume Chairmanship for both Spring and Fall shows. Over the years Larry and I have co-ordinated our efforts in running the two shows, each responsible for specialized tasks. With Larry's demise, some key tasks just about fell through the cracks but luckily were completed in the nick of time.

We have been under pressure to find a new location for our Fairs as The Soccer Centre has been rethinking its mandate and our type of show spread across their soccer field does not fit into their way of thinking. Negotiations had progressed to hold the fairs in the former Downsview air base but we were hamstrung by conflicting levels of management and government red tape. John Linsky made another approach to The Soccer Centre and we were able to finalize the date of October 17th.

We were asked by The Soccer Centre not to take food or drink onto the playing field, so we set up a small eating area off-

field. We were asked to maintain the tables and chairs which had been deteriorating over the past few years. PHSC is now required to set up the tables and chairs and remove same after the show. Lacking volunteers from the PHSC I contacted Labour Ready and signed a contract on Friday afternoon just before the show week-end. The crew was to arrive at 7 PM Saturday night. On my arrival, there still was a soccer game in progress and we couldn't get access for another half hour. The four men from Labour Ready set to work placing over 125 tables, 300 chairs and 500 wooden blocks (one under each table leg to protect the artificial turf).

As for PHSC people, Bob Lansdale brought in and assembled the Society's promotion booth and display panels while Ed Warner brought his trusty skills and tools to repair a fair number of broken tables, in many cases replacing the whole leg assembly. I was kept busy distributing signage, roping off parking areas, installing the coffee urns plus the PA system and keeping things rolling. By 11 PM a tired bunch of guys were ready to head home.

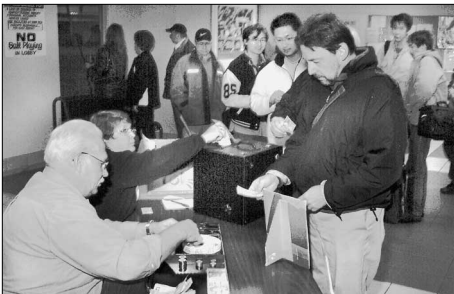
It was back on deck for 7 AM as the vendors started streaming in. Despite a cold and miserable day (it snowed just north of Toronto); despite the distraction of the Toronto Marathon; despite Henry's concurrent Digital Show – a crowd of interested patrons were lined up down the hall ready for the 10 AM door-opening count-down.

Two-thirds of the soccer field were covered with 120 tables manned by 80 sellers. Three tables were used for display only.

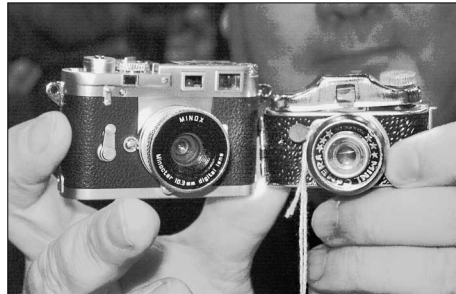
Ed and wife Jean Warner did a great job in the front lobby collecting admissions from some 638 visitors to the show. I certainly want to thank the Security volunteers who helped in many ways to make the day run smoothly, addressing queries and keeping surveillance. Thanks to Tony Fernandes, Egon Kellner, Tiit Kodar, Julian Morasutti and George Dunbar. Bob Lansdale wore three hats as traffic cop keeping the loading area in order, as official photographer and setting up the PHSC promotion booth. Brian Wilson and a uniformed policeman infused the necessary security presence. Brian also greeted arriving table holders and issued their registration packages. Gracious thanks to John Linsky for his work as Treasurer and undertaking the extra negotiations to set up the fair.

When the last patron had departed and the vendors packed away their collections, the same crew from Labour Ready moved in to dismantle and store all the tables and chairs that they had installed the night before. With the aid of a powered golf cart everything went faster and all was back to normal by 6.30 PM.

It was a most satisfying day for all who were involved and I hope it may serve as a tribute to Larry Boccioletti... Long may he be remembered! ☘



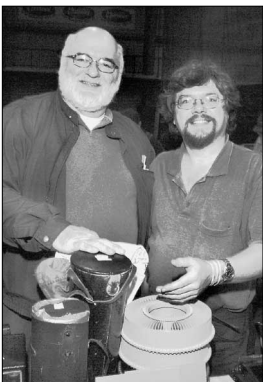
Ed and Jean Warner took care of admissions.



Minox Leica Digital beside a "Hit" Type mini.



R. Anger with Ernemann ciné & Bob Gutteridge



Pat Agnew, past PC editor, & Clint Hryhorijiw -programs



L. Ross and Rick Barreca with Durst 8x10 enlarger.



Odd Kodak folder is enlarger for 16mm ciné film.



Kodak 00 Cartridge Premo compared to AA battery.



Les Jones needs information on "Vemeer" camera.

PHOTOS BY GEORGE DUNBAR & ROBERT LANSDALE

As Reported by George Dunbar

Browsing the Journal Exchanges

• publications from photographic societies are received and reviewed for your interest. Borrow individual issues or collections, from Librarian Gerry Loban - phone (905) 477-3382.

A newsletter of the **Swann Auction Galleries** of New York (Autumn, 2004) reports the proposed sale of many 19th and 20th century photographs. For example, the earliest known photograph of George Armstrong Custer in military uniform (a sixth-plate ruby ambrotype, 1861) is expected to sell in the range of \$25,000-\$35,000 and a Walker Evans Depression-era image, *Bethlehem Graveyard and Steel Mill (1935)*, is listed at \$15,000-\$25,000.

The fascinating life and career of photography collector and historian Helmut Gernsheim is revealed in a booklet from the **Mannheim Symposium 2003 (The European Society for the History of Photography)**. The event was entitled *Helmut Gernsheim Reconsidered*. Interesting details of Gernsheim's acquaintance and negotiations with the niece of Lewis Carroll from 1948 to 1954. As well as the five essays concerning Mr. Gernsheim, there is an interesting biography of John G. Morris (best known for his association with LIFE Magazine) who was presented at the Symposium with the Dr. Eric Solomon-Prize.

The Dagerreian Society Newsletter (July-August, 2004) explores the puzzling mystery of "ghost images" on some photographs and suggests the solution. Also, the feature portfolio, *Searching for the Revolutionary War Generation*, is illustrated with more than a dozen images of both the obscure and famous such as Dolley Madison.

An insightful article, *The Image of Politics* by the late David Faddy, explores photography as it related to Lincoln, Gladstone, Hitler, Stalin, Roosevelt and others (**PhotoResearcher** – **September, 2004** – from the European Society for the History of Photography).

The Nikon Journal (Sept. 30, 2004) features *Nikon's 'Original' 500 MM Lens* with plenty of detail, diagrams and photos. Also articles about WW II binocular polarizer filters and images of many camera prototypes including wood mockups. A surprising item, *Amazing Flexibility of the Ultra Wides*, shows 12 and 15 MM Voigtlander lenses attached to Nikons. The obituary of LIFE photographer Carl Mydans (age 97) is noted since he was instrumental in publicizing Nikon products in the 1950s.

The 75th anniversary of the **Edison Institute Tintype Studio** (now located at Greenfield Village Museum, Dearborn, Michigan) is celebrated with an article and photographs in **The Photogram** (Sept/Oct 2004), the newsletter of the Michigan Photographic Historical Society.

Reconnecting With the Don is an exhibition of historical artifacts and photographs of the Don River valley in Toronto. Now on display at the Market Gallery, 95 Front St. E., Toronto (until January 30, 2005).

WATCH OUT FOR FAKES

by M. Lindsay Lambert

I show here a fake American Civil War carte-de-visite that I recently purchased from an ephemera dealer in Smith's Falls. Dealer Wayne Throop ended up with three fraudulent images when he acquired a photo album at an auction in Merrickville. Obviously they were added to "spice up" the contents of the album.

Mr. Throop explained that he has traced out their origin as the culprit bought the original cdv's from himself and a local historian. They are now marked as copies – no further fakes are expected.



PHOTOS COURTESY OF M. LINDSAY LAMBERT



The fraudulent photos were glued up from colour photocopies (front and back) with the UL corner convincingly broken. Under a magnifying glass the image is made up of fine horizontal lines. The edges of the card are white (not faded yellow) while the paper fluoresces under UV light – old photos won't do that.