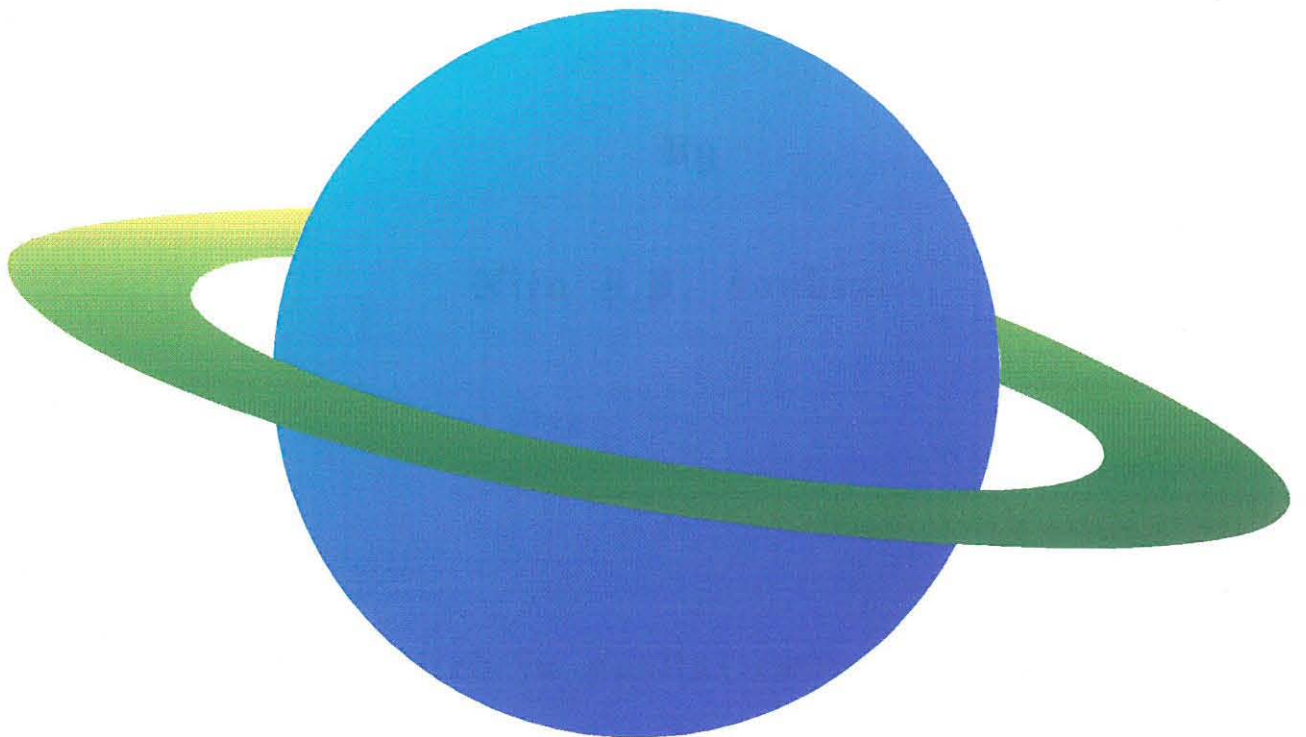


WORLD OF SPECIAL EFFECTS



BY

NICO J.P. JOUBERT

NOVEMBER 1992

World of Special Effects

By

Nico J.β. Joubert

Submitted in partial compliance with the requirements for the National Diploma in Photography at the Free State Technicon, Faculty of Art and Design.

November 1992

INTRODUCTION

PAGE

CHAPTER 1

- Birth of photography	2
- Camera obscura	3
- Louis Jacques Mande Daquerre	9
- Wet plate photography	16
- The Gelatin Dry Plate	18
- Photography of action	20
- George Eastman and the Kodak Camera	24
- The speed of modern photography	25
- Art of Photography	26

CHAPTER 2

Different techniques used in Special Effects.

- Gost and Double Images	30
- Sandwiched Images	35
- Montage	37
- Multi Image Filter	40

CHAPTER 3

PAGE

Discussion and critique of other artist's work.

- Fred Burell	46
- J Patric Towle	47
- Tom Mac Carthy	49
- Nob Fukuda	50
- Ralph Mors	51
- Andreas Feininger	53

CHAPTER 4

Discussion on artists own work

- Figure 1, Figure 2	56
- Figure 3, Figure 4	58
- Figure 5	60
- Figure 6	61
- Figure 7	63
- Figure 8	64
- Figure 9	66
- Figure 10	67
- Figure 11	68
- Figure 12	69
- Figure 13	70
- Figure 14	71
- Figure 15	72
- Figure 16	73
- Figure 17	74

List of illustrations

Other artist's work

-	Fred Burell	The misterious leader	46
-	J Patric Towle	Painting with light	47
-	Tom Mac Carthy	Venice submerged 1969	49
-	Nob Fukuda	Butterfly 1969	50
-	Ralph Mors	Laser beam fantasy 1969	51
-	Andreas Feininger	Untitled	53

Author's own work

-	Figure 1, Figure 2	Untitled	56
-	Figure 3, Figure 4	Untitled	58
-	Figure 5	Untitled	60
-	Figure 6	Untitled	61
-	Figure 7	Untitled	63
-	Figure 8	Untitled	64
-	Figure 9	Untitled	66
-	Figure 10	Untitled	67
-	Figure 11	Untitled	68
-	Figure 12	Untitled	69
-	Figure 13	Untitled	70
-	Figure 14	Untitled	71
-	Figure 15	Untitled	72
-	Figure 16	Untitled	73
-	Figure 17	Untitled	74

Photography has always been closely tied to the concepts of time and place. The documentarian and the fine art photographer each inspire a similar kind of wonder, how were they able to see and capture so remarkably the moment that we could have seen too, if only we had known where to look.

When we come across another kind of picture, however, portraying the place or the moment that previously existed only in a photographer's mind, we may be overwhelmed surely by the technical aspect of the image. Our sense of time and place, so crucial to our understanding of the photographic medium, may become disjointed. There may be little or nothing comfortably familiar in the image and our perception of the moment, the time of day, or the exact location may be completely distorted. Instead of asking how the photographer was able to capture such beauty and emotion, we may ask ourselves an embarrassingly pedestrian question, perhaps even scratching our heads unfetchingly as we intone; how did he do that? Suddenly the entire basics of our love for photography may turn from meaning to method, and we may be tempted to risk almost anything in return for a simple explanation of how the moon ended up in the Atlantic. 'How' is the question that seems to arise whenever Special Effects Photography is mentioned. Understanding the techniques will help us gather an answer to valuable clues, but the solution to the mystery of these pictures will be found only in each individual photographer's unique way of thinking.

So what is a Special Effects photograph anyway? We can begin by stating what it is not. A Special Effect photograph is not anything that lacks dimension, visual appeal, or magnetism. It probably is not a photograph that looks like your mother made it at your fifth birthday party. Nor is it a picture characterised by a lot of grey-to-black zones. A Special Effect photograph is, however a picture that is made, usually by some type of physical manipulation, either in the camera or in the copying device. Special Effects photography is concerned with manipulating reality to form an eye-catching image, or to create a dream-like, even nightmarish visual situation. Photography today makes most use of Special Effects to create surreal images - pictures with themes based on the irrational subconscious. This surrealism can take the form of either pure dream-like fantasy shots, or pictures which at first seem normal, but contain some impossible juxtapositioning of structure or subject. If you are a beginner in this field of photography, first experiment with simple camera techniques such as panning, the use of slow shutter speeds, and improvised optics. In the darkroom photograms and solarized images are a good starting point.

CHAPTER 1

THE BIRTH OF PHOTOGRAPHY

Since prehistoric times man has been making images of himself and the world around him, but until comparatively recently the processes involved have required skills possessed by a few.(1) However, it was the 'silhouette' that first satisfied a mass demand. The profile picture, traced from the shadow cast by a lamp or cut from black paper, became popular in the early 18th century. They were named after Etienne de Silhouette. Copies could be made but took just as long to make as the original.(2)

One of the first systems producing multiple copies of a portrait was invented by Gilles Louis Chretien in 1786. In his apparatus a profile cast by a lamp onto a glass plate was traced by an operator using a pointer connected by a system of levers like a pantograph, to an engraving tool moving over a copper plate. The finished engraved plate, with added details of features and costume could be inked and printed many times. Chretien called his device the Physionotrace. Many of these principles had been established by the beginning of the last century.

1. Birth of photography (p.8)
2. Birth of photography (p.9)

CAMERA OBSCURA

The phenomenon of the Camera Obscura had been observed in ancient times. Chinese scholars in the 4th century BC were probably familiar with the effect. A very clear description of the Camera Obscura was given by Leonardo da Vinci in his notebooks. It was clear that this was a useful effect for the artist and the Camera Obscura was recommended by Giovanni Battista della Porta in 1588 in his book, *Natural Magic*. He suggested that a brighter and clearer image could be produced by replacing the small hole with a convex lens or a concave mirror.(3)

During the following 300 years the Camera Obscura was a feature of many public and private buildings. Even today a few are still in operation and can be seen at several places in Great Britain. To make the Camera Obscura practical for use by artists, versions were developed that could be carried from place to place like the sedan chair.

3. Birth of photography (p.10)

Even more convenient versions were made as collapsible tents with lenses and mirrors or prisms at the apex, displaying the image on a horizontal table surface. Portable forms were made from small wooden boxes with a moveable lens at the front, focussing an image on a ground glass screen at the rear. This most popular form of Camera Obscura was widely used by artists who could copy or trace the image, simplifying the problems of accurately rendering form and especially, perspective. It was this device that was to evolve into the photographic camera. (4)

Natural philosophers have been aware since ancient times that light has an effect on certain materials. Some fade on exposure, others darken. The first scientific study of this was carried out by J.H.Schulze in 1727. He filled a glass bottle with a suspension of chalk and silver in nitric acid and demonstrated that when exposed to light the mixture turned from white to a dark purple. By attaching stencils of black paper to the outside

4. Birth of photography (p.10)

of the bottle he was able to print images of letters and shapes on the mixture but they were destroyed when the liquid mixture was disturbed. In 1777 C.W. Scheele showed that this darkening of silver compounds by the action of light was due to the formation of metallic silver.(5)

Around 1800 Thomas Wedgwood conducted the first experiments in making images on paper sensitized with silver salts. Perhaps as a result of working with his father's camera obscura, used in the design of decoration for pottery. Thomas Wedgwood became fired with the idea of making the image record itself directly on paper. This is how Wedgwood's experiments were described : 'White paper or white leather, moistened with a solution of nitrate of silver, undergoes no change when kept in a dark place; but, on being exposed to daylight, it speedily changes colour, and, after passing through different shades of grey and brown, becomes at length nearly black ... outlines and shades of paintings on glass may be copied by the agency of light.(6) When a white surface,

5. Birth of photography (p.11)
6. Birth of photography (p.12)

covered with a solution of nitrate of silver, is placed behind a painting on glass, exposed to the solar light the rays, transmitted through the differently painted surfaces produce distinct tints of black or brown, sensibly differing in intensity according to the shades of the picture, and where the light is unaltered, the colour of the nitrate becomes deepest.(7)

'...After the colour has once been fixed upon the paper or leather, it cannot be removed by the application of water, or water and soap, and it is in a high degree permanent. The copy of a painting, or the profile, immediately after being taken, must be kept in an obscure place. It may indeed be examined in the shade but, in this case, the exposure should be only for a few minutes; by the light of candles or lamps, as commonly employed, it is not sensibly affected.(8)

'the images formed by means of a camera obscura have been found to be too faint to produce an effect upon the nitrate of silver. To copy these images, was the first objects of Mr.

7. Birth of photography (p.13)
8. Birth of photography (p.13)

Wedgwood in his researches on the subjectNothing but a method of preventing the unshaded parts of the delineation from being coloured by the exposure to the day is wanting to render the process as useful as it is elegant.'(9)

Certainly some materials existed at the time which would have given some permanence to the picture. Wedgwood died soon after in 1805, without developing the discovery that was so close to being a practical proposition. The first permanent images made directly by the action of light were produced by Nicephore Niepce. In the early years of th 19th century Niepce, an amateur scientist, inventor and artist, became interested in the new techniques of lithography. He discovered that a coating of varnish made by dissolving bitumen of Judea in a suitable solvent was sensible to light. The prints he made were called "Heliography or Heliographs".(10)

Since the varnish hardened if exposed for a long period, if the coated plates were placed under an

9. Birth of photography (p.13)
10. Birth of photography (p.14)

engraving on translucent paper the lines of the picture protected the bitumen from light and remained soft. Where light passed through the engraving, the bitumen hardened and became insoluble. After exposure the plate was washed with a mixture of light petroleum and lavender oil, which dissolved away the soft unexposed parts of the coating, leaving a permanent image on the plate.(11)

Niepce's first "heliographs" were produced in 1822; in 1826 he succeeded in recording an image on a bitumenized pewter plate in a camera obscura. An eight hour exposure produced a faint but identifiable image of the scene from an upper window of Niepce's home in France. His heliographic process was quite impractical for normal photography due to the very long exposures requested, although in a modified form, it was used later for the production of plates for printing - his original aim. From collaboration with another inventor was to come a new method, evolved from the heliograph but much more practical.(12)

11. Birth of photography (p.14)

12. Birth of photography (p.15)

LOUIS JACQUES MANDE DAQUERRE

Daquerre was a scenic painter who in 1827 had introduced the Diorama, spectacular illusion for the theatre. In 1827 Daquerre and Niepce met in Paris. They concluded an agreement to share information and to work together to develop a satisfactory process. Four years later Niepce died and his son Isidore Niepce continued the partnership, but it was not until 1837 that a satisfactory process was developed by Daquerre. "The Daquerreotype"(13)

He continued to work with metal plates and discovered that a silver plate, after careful polishing, could be made light-sensitive by exposing it to iodine vapour. Exposure of many minutes in the camera produced no visible image, but Daquerre discovered that a "latent" image formed in the silver iodine layer by the action of light could be revealed by treating the plate with the fumes of heated mercury. The mercury vapor formed an amalgam with the minute specks of silver

13. Birth of photography (p.16)

produced by exposure to light, and thus intensified, the image became visible. To make the image permanent the unused silver iodine was removed by using a strong hot salt solution. The image was formed by the whitish silver mercury amalgam reproducing the light parts of the subject, while the dark areas were represented by the polished silver surface, it was held to reflect a dark background.(14)

Daquerre's discovery was announced by the French scientist Francois Arago on 7 January 1839. The Daquerreotype could be used freely throughout the world, except in England, where it had been patented on 14 August, just before publication in France. The Daquerreotype was immediately popular; supplies of apparatus and materials were designed by customers anxious to try their hand at picture making. The art world was astonished and disturbed. The simple lens fitted to the first Daquerreotype cameras had limited light gathering powers.

In 1840, Joseph Pentzeval of Vienna computed a new

14. Birth of photography (p.17)

lens design, the first created specifically for photography. Four glass elements were combined to produce a lens with a large aperture (about $f./3.6$ in modern calibration) transmitting about sixteen times more light than did the simple lens on Daquerre's first camera. The Pentzeval lens was first incorporated in an all-metallic camera designed by Peter Voigtlander and sold from January 1841. As a basic lens design it has been used ever since. The combination of improved lenses and double sensitizing brought exposure times down to well under a minute in normal conditions.(15)

The Daquerreotype was the first photographic process to be used but it was not from this that modern photography evolved. Daquerre's beautiful but complicated process was obsolete within twenty years of its discovery, killed by a principle introduced by his contemporary, W.H.F. Talbot, an Englishman.(16)

William Henry Fox Talbot was inspired to develop a photographic process through his lack of success as an amateur artist.

15. Birth of photography (p.18)

16. Birth of photography (p.21)

His observation that an excess of salt reduced the sensitivity of light sensitive paper led Talbot to a method of fixing images by treatment with a strong salt solution. His photographic drawings, as he called them, were thus made tolerably permanent. This suggested a further development. He discovered the principle on which modern photography is based - the negative which could be used to print many positives (these items were suggested to Talbot in 1839 by the astronomer, Sir John Herschel).(17)

Sir John Herschel had been inspired by the reports of Daquerre's and talbot's work to carry out experiments of his own. He realised that sodium thiosulphate, whose property of dissolving silver salts he had discovered in 1819, would make an ideal material for fixing the photographic image. Daquerre immediately adopted the new method but because it was so expensive and reduced the density of the already faint photographic drawings , Talbot did not use it for some time assisting with the less efficient methods of fixing with salts, potassium iodide or potassium bromide.(18)

17. Birth of photography (p.24)
18. Birth of photography (p.26)

The photographic drawing process was far from perfect. In particular the paper was very insensitive, many minutes or even hours being needed to produce an adequate negative in the camera. But in September 1814 talbot discovered that, as with the Daquerreotype, a latent image formed by a brief exposure to light could be revealed by development. Fine writing paper was first treated with silver nitrate solutions followed by potassium iodide solution, forming light-sensitive silver iodide on the paper fibres. Before exposure the paper was given extra sensitivity by washing it with a mixture of silver nitrate and gallic acid solutions. An exposure of only a few minutes was enough to form an image which was revealed when the paper was again treated with the silver nitrate and gallic acid solution. Since the new process gave a much stronger image than the photogenic drawing paper, fixing in "hypo" solution was practical.(19)

After washing and drying, the paper negative was usually waxed to make it translucent for printing.

19. Birth of photography (p.27)

Prints from the negative were made by a variation of the photogenic drawing process.

Paper was soaked in a solution of common salts and dried. The salted paper was sensitized when required by treatment with silver nitrate solution. The dried prepared paper was placed in close contact with a negative in a printing frame and was exposed to strong daylight, preferably sunlight. Exposed under the negative, the salted paper rapidly darkened in inverse proportion to the density of the negative giving a positive image. When the desired density had been reached, the paper was removed from the frame, fixed and washed.(20)

Talbot called his new process "calotype" although it soon became widely known under the alternative honorary name of "Talbotype". In 1841 he applied for a patent for the process and all who wished to use the "Calotype" process had to apply for a license.(21)

In 1851 Gustave Le Gray introduced an important improvement. He found that by waxing the paper

- 20. Birth of photography (p.28)
- 21. Birth of photography (p.28)

before sensitizing, the keeping properties of the negative paper were greatly improved. Calotype paper had to be exposed soon after sensitizing, preferably while still moist; waxed negative paper could be kept for days or weeks before exposure without loss of quality. The waxed paper negative paper was also capable of recording very fine detail, although it was much less sensitive than the Calotype paper.(22) In 1852 Talbot relinquished his patent rights in the paper negative process for all uses except commercial portraiture and for a few years the process and its variations enjoyed new popularity, especially in England and France. But, like the Daquerreotype, the Calotype was destined to disappear. A new process, evolved from the negative positive principle of the Calotype, but without its limitations, was to replace them both.

22. Birth of photography (p.29)

WET PLATE PHOTOGRAPHY

In March 1851, Frederick Scott Archer, a sculptor and Calotype photographer described a new process using collodion. The recently discovered material was made by dissolving a form of gun-cotton in ether. The collodion negative could record fine detail and subtle tones and had the great advantage of being much more sensitive than either the Daquerreotype or Calotype.

A quantity of collodion containing potassium iodine was poured onto a perfectly clean plate. By tilting the plate the collodion was made to flow evenly over the surface. When the ether had almost evaporated, leaving a tacky coating, the plate was plunged into a bath of silver nitrate to sensitize it. The still wet plate was loaded into a plateholder and exposed in the camera; if left to dry, almost all its sensitivity was lost.(23)

Immediately after exposure, the plate was developed, fixed and washed. Exposure times were

23. Birth of photography (p.31)

reduced to a few seconds. Scott Archer published his process freely and derived no personal benefit from it. In a book published in 1852, Scott Archer described a variation of his process in which the collodion negative was whitened by treatments with a solution of mercuric bichloride. If the image was backed with black varnish, paper or velvet, by reflection the negative image appeared positive. The collodion positive soon became very popular for portraiture. Frederick Scott archer died penniless in 1857, having seen his process revolutionise photography.

Fortunately his process remained popular well into the 1880's. If a reliable method could be found to prepare plates in advance, with no loss of speed or quality, a great saving in cost and weight could be made. The whole operation would also be much simpler. The photographer would need only a camera, tripod and a few dry plates. The search for an improved dry process went on.

THE GELATIN DRY PLATE

In the early attempts to create a dry-plate process photographers used a variety of substances to keep the collodion plate moist for longer periods. In 1855 J.N. Taupenot published details of a process using sensitized layers of both albumen and collodion. The collodion-albumen plate was very slow, but capable of fine resolution and could be kept for weeks before exposing. By making an "emulsion" of silver bromide in collodion, and coating the mixture on a glass plate, W.B. Bolton and B.J. Sayce found in 1864 that the dried plate could be kept for long periods before exposure without loss of quality. Like all the dry-plate processes were less sensitive than the wet process but from 1867, The Liverpool Dry Plate and Photographic Company sold precoated plates made by this process.

The first account of a really satisfactory dry-plate process was published by Dr. Richard Leach Maddox of London. He found that the ether vapour of the wet-collodion process affected his poor health and he searched for a substitute for

collodion. He turned to gelatin, a substance that had been employed before in photography, notably as a sizing agent used in the preparation of papers suitable for the Calotype process.

Dr. Maddox found that by mixing cadmium bromide and silver nitrate in a warmed solution of gelatin an emulsion of silver bromide was formed in the gelatin. Coated on glass plates and dried, this sensitive material retained its properties for some time after manufacture. As first described, the process was imperfect but it attracted the attention of other experimentors. The science of sensitometry, as it is called, was pioneered by Ferdinand Hurter and Vero Driffield in England during the last twenty years of the nineteenth century. The "H & D" scal of plate sensitivity remained the standard method of speed determination for a long time. Among the many radical changes in the practice of photography brought about by the introduction of the gelatin dry-plate, the most important was the great reduction in exposure times. For the first time "instantaneous" photographs of fractions of a second in duration could be acvhieved without difficulty. The photographing of moving subjects, a dream for so long, became practical at last.

PHOTOGRAPHY OF ACTION

With early photographic processes it was impossible to record moving objects; their movement produced a blur on the plate. Thomas Skaife's "Pistolgraph" camera, introduced in 1856, was fitted with a Dallmeyer lens with the exceptionally large aperture of $f/1.1$. A shutter powered by a rubber ban permitted exposures sufficiently brief to stop the action of slowly moving objects.

When stereoscopic photographs of scenes with movement were required, both pictures had to be exposed simultaneously. This led to the fitting of simple shutters over both lenses. Usually of simple design - sliding plates or flaps - these early shutters could be used to give exposures as short as a quarter of a second.

One of the earliest photographers to make a speciality of action photography, and certainly the best known, was the Englishman Edward Muybridge, who worked for most of his life in America. In the early 1870's Muybridge began a photographic investigation into the locomotion of the horse, using a simple shutter device to take

brief exposures on wet collodion plates, but without conclusive success. After a break in his work, he succeeded, in 1877, with improved apparatus in recording a trotting horse with exposures repeatedly as brief as a thousandth of a second. Soon after he created a system of a number of cameras in a row, their rubber-band-assisted drop shutters triggered directly by the moving animal or released electrically in sequence by a suitable timing mechanism.

Although Muybridge was the first to put this idea into practice it had been suggested earlier, notably by a Swedish portrait painter, Oscar G. Rejlander. "On Photographing Horses". Rejlander referred to the "vexed question" of the exact position of a horse's legs when galloping and suggested a way of solving the problem. This suggestion was probably seen by Muybridge, and it may have prompted him to devise his successful system some years later. The gelatin dry plate was ideal for his purpose, having great sensitivity and simple manipulation, and in the 1880's he made intensive studies with his batteries of cameras of the movements of animals and men. When published, his sequence pictures upset all previously held ideas of the representation of movement. His work led ultimately to the

successful introduction, by other inventors, of motion-picture photography in the 1890's.

Professor Etienne Marey, a French physiologist stimulated by Muybridge's work, devised several cameras in which sequences of images could be recorded on a single plate. His experiments culminated in 1887 in a "chronophotographic" camera in which long series of action pictures could be recorded on rolls of sensitized material. This device can be considered the first practical cine camera.

The great public interest aroused by the publication of the results of these "chronophotographers", led to the rapid development of hand cameras. Although most of these cameras did not perform very well through limitations of design or of the materials they employed. The glass plate then in universal use was a major drawback. Awkward mechanisms were needed to change a succession of glass plates inside the camera.

Although the dry plate relieved the photographer of the necessity of making his own plates, he still had to process and print them, operations requiring a darkroom and the necessary skills.

These problems, and the expense involved, prevented photography from becoming a popular passtime. This was also to be changed by a young American bank clerk, George Eastman.

GEORGE EASTMAN AND THE KODAK CAMERA

Eastman became interested in photography in 1887. He decided to try out the new process he was reading about in "The British Journal of Photography", of Bennett's method of "ripening" gelatin emulsions. He was so successful. that he decided to go into business as a dry plate manufacturer, using a plate-coating machine he devised and patented in 1879.

In 1884 William H. Walker, a camera maker, joined Eastman's organization, and together they developed a rollhoder suitable for attachment to any standard plate camera. It took a roll of paper negative material which was wound on after each exposure by turning a key. Eastman devised and patented a number of cameras under the trademark "KODAK".

THE SPREAD OF MODERN PHOTOGRAPHY

BY 1890 the basis of modern photography had been established; there has been no fundamental change in the chemistry of the process since the gelatin dry plate was introduced.

The fundamental principles of colour photography had been proposed and demonstrated by the turn of the century, following the demonstration of the first colour photograph by James Clerk Maxwell in 1861.

The first practical motion pictures, inspired by the pioneer work of Muybridge and Marey and made possible by the introduction of Eastman's transparent celluloid in 1889 were publicly shown in 1893 in Edison's Kinetoscope viewing machine. By the end of 1895 the Lumiere brothers were projecting moving pictures to paying audiences. Within a year cinematography was practised throughout the world.

ART PHOTOGRAPHY

In the early years of photography the ability to record images directly from nature was novelty enough. The photographer was content to record what was there, choosing a suitable angle, distance and, perhaps, time of day.

A technique of printing more than one negative onto a single sheet of paper had been used by Calotypeists to add clouds to otherwise featureless skies. The most famous exponent of this technique was the Swedish portrait painter Oscar G. Rejlander.

Henry Peach Robinson became a professional photographer in 1857. Greatly influenced by Rejlander's work, Robinson produced many combination prints. Although the improvements in photographic materials that came with the gelatin dry-plate process largely removed the need for combination printing, Robinson continued to use it for some of his later pictures. However, most of his later shows carefully posed figures in rural settings. Although his techniques of picture making instead of picture taking often produced attractive images, to the modern viewer many are

excessively theatrical in effect.

These attempts to make "High Art" of photography were rarely successful. Photography was confined by being made to imitate painting, instead of being allowed to develop in its own right. After the extravagances of "art" photography of the 1860's and 1870's, creative photography went into decline for some years, due, perhaps, to a preoccupation with the changing technology introduced by the gelatin dry plate.

In 1892 a number of the pictorial photographers of the naturalistic movement broke away from the traditional photographers, whose work was typified by that exhibited at the exhibitions of the Royal Photographic Society. Led by George Davidson, they formed "The Linked Ring" dedicated to the promotion of photographic pictorialism. In America a similar reaction against the photographic establishment occurred, and "The Photo Secession" was formed in 1902, led by Alfred Stieglitz, the groups, like The Linked Ring, was devoted to the new pictorialism. Their work gained general acceptance in the art world, both in Europe and America.

CHAPTER TWO

DIFFERENT TECHNIQUES USED IN SPECIAL EFFECTS

GHOST AND DOUBLE IMAGES

If an exposure is made of any object against a black background, that portion of the negative that receives no image of light from the subjects will remain in its original state. That is, it will be absolutely transparent if the negative is developed, or it will normally record an image of the same, or any other objects, in another position on the black background.

Taking advantage of this, it is possible to make separate exposures of as many different objects as we desire. Each object is recorded alone, without backgrounds or surroundings of any kind, and leaving the rest of the negative, whether previously exposed or not, untouched.

If the objects and exposures are many and their relative positions important such positions must be marked accurately on the focussing screen, or upon a tracing of it, so that the separate images may be correctly aligned and not overlap. Only the simpler doubles and triples may be achieved by merely sighting them in the view-finder and cultivating a good memory, other must be

registered in some manner.

In all cases of black background photography, the model must wear light-coloured clothes. Anything in the nature of dark suits or dresses will be lost in the surrounding gloom leaving you with a disembodied and hands. This gives a clue to a new range of effects and an extension to the black background technique.

Practical experiments with black cloth will eventually suggest to you the possibility of making any portion of the invisible by masking in black materials. If you find it more convenient, and more economical of black material, these curious decapitations can be contrived by masks within the camera, and this will often be the most convenient and successful method of operation.

Mask must be cut from black paper with a matt or non-glossy or reflecting surface, card covered with a black velour paper is ideal. They are inserted into the bellows at the back of a camera, so that they are not more than two inches in front of the opening in them . Disclose the required amount of the subject and cut it at the required point. The opening should be just big enough to expose the required portion, and no more. Being

near the emulsion surface, the mask will cut the object quite sharply, and not with a blurred and ragged edge that would be effected by a mask outside the camera.

Masking is an invaluable help where the background at your disposal is not big enough for the desired effects. If your model is to occupy only a small corner or appear minutely in the middle of a dark space and you have only an open door to pose him in, the surroundings of the doorway can simply be masked out in the camera.

Black backgrounds are useful and all very well, but they are rarely a natural condition of everyday observation, and conceivably arouse a certain suspicion in association with strange and exotic effects. Doubles and triples, and fakes with a natural and life-like background, are both more deceptive and disturbing.

Multiple exposures with natural background can only be contrived by intercepting a mark between the subject and the camera to control the order in which the two halves, or other divisions, of a subject shall record. Thus a mask can be used to obscure the top half or one side of the subject from the camera's vision, and then reversed so

that the parts are revealed and the already exposed half concealed. By such means the subject and exposure are divided into two independent halves, which will appear normally combined in the final print without a trace of a joint.

The division can similarly be made into three parts across the negative in either direction, or in four parts by exposing one quartered corner after another but these represent the maximum.

Masks like this are most conveniently arranged outside the camera, a few inches in front of the lens, ensuring that the joints between the strips are diffused and not sharp, so that the images blend one with the other without a perceptible break or difference of tone. The form of the mask will depend on the complication or otherwise of your requirements for dividing the subject into two equal halves can be made in front of the lens in the form of a hood or cap to fit on the camera lens.

Having cut the tube, masking is now performed by partially closing one end with a suitable cut disc or card, so that exactly half of the subject is concealed from the focussing of the camera. The remaining piece is provisionally fixed in one end

of the tube and the other end placed on the lens mount of the camera. The accuracy of your work can only be thoroughly tested by making an experimental exposure, exposing first the one half of the plate and then the other by reversing the lens cap. If the two halves blend without a suspicion of a joint, you get full mask, and excellent doubles.

SANDWICHED IMAGES

Sandwiching is the term for combining two slides in one mount to produce a composite picture. The effect may be either naturalistic or surreal. This technique is especially useful for dramatizing an uninteresting sky: for example, add a sun, a moon, clouds, lightning, a flock of birds or an aeroplane's vapour trail to heighten the impact of a composition.

Generally, each slide in the composition should be overexposed by half a stop or even a stop, or the final image will be too dense. However, no exposure adjustments are required when one of the subjects is a silhouette with a pale background. For a realistic effect, one should usually match the two images in scale, perspective, and the quality and direction of the lighting, although one can sometimes use these discrepancies creatively. Avoid too much detail for the result will look cluttered.

Apart from slides and plastic mounts, all one needs are a craft knife, adhesive tape, and a soft brush for cleaning the slides. It also helps to have a light box and a viewing glass, to facilitate sorting through slides and previewing

the effects of various paintings. The key to successful sandwiching is planning.

The most adventurous use of sandwiching is to combine images in an ambiguous or enigmatic way, so that the final picture suggests daydreams and fantasies. If anything, the more unlikely the combination of subjects, the more successful the sandwich will be.

MONTAGE

Montage differs from other ways of creating multiple photography images in that it demands a degree of hand craftsmanship. Once one has mastered the basic cutting and pasting skills, montage is fun to do as well as creatively rewarding.

The term refers to the art of combining parts of different prints into a single image - usually a composition that one would not be able to achieve with photography alone. The usual approach is to mount a large background print on stiff cardboard and then paste small images onto it. All the prints should be on the same grade of paper and be similar in density and contrast.

Unless one wants an obvious collage effect, one will need to take great care to disguise the cut edges. First, cut away the unwanted parts of the print with scissors, leaving about an inch to spare around the outline of the subject. Using a craft knife with a new blade, score lightly around the outline, penetrating the emulsion only. Then, make a series of small flaps by cutting right through the print at equally spaced intervals from the outline to the edge of the cut-out. Place the print face down by pulling up each flap, carefully

tear off the backing paper to produce a cut-out that is very thin at the finest grade of sandpaper over the back, working from the centre outwards.

If these techniques are perfected, the superimposed images should merge unobtrusively into the background print. After pasting down the images onto the background print, rephotograph the composition.

By projecting a coloured slide onto textured or three-dimensional surface and photographing the result, one can obtain arresting images. Light coloured surfaces are best for this technique. Instead of a slide, try projecting lacey fabric or other pattern-forming materials held in a glass mount. Use an ordinary slide projector and a tripod mounted camera. For a greater versatility in composing the picture, attach a zoom lens to either the camera or the projector, or both. If the image is projected onto a textured surface, place the camera alongside or just above and behind the projector; this will minimize shadows. Photograph in the dark with the projector lamp as the only light source and use tungsten-balanced slide film, or daylight film with No. 80A or 80B correction filter. A high-speed film and a slow shutter speed will compensate for the relative

low emission of light from the projector. When projecting onto a three-dimensional subject, such as a woman's head, one can prevent projected light from falling onto the background by aiming the projector at an angle more oblique than that of the camera; a black background will absorb stray light and provide a good contrast. Oblique projector angles can also be used to provide fascinating distortions of the projected image.

MULTI-IMAGE FILTERS

Thread a multi-filter image onto the front of the camera lens, and with a single press of the shutter release, a picture can be created that has all the appearance of a double or multiple exposure. The polished facets of the filter bend rays of light before they enter the lens, so that several identical views of the subject reach the film. When using a multi-image filter no exposure adjustments are necessary but the subject must be chosen carefully. A facet that has five or more facets will scramble a complicated subject, making an almost unrecognizable picture. Even when using filters of a simple design, one should try to ensure that at least one of the displaced images falls on a dark part of the frame.

If the background is light, the image will be washed out and pale. Remember also to use the depth of field preview control, because the subjects appearance will change according to the aperture chosen. Dazzling flashes of sunlight on a blue pool of water enchant the eye, but on film they often look disappointing. A starburst or diffraction filter can restore the brilliance of the reflected light, and create an image that more closely resembles what you remember seeing at the

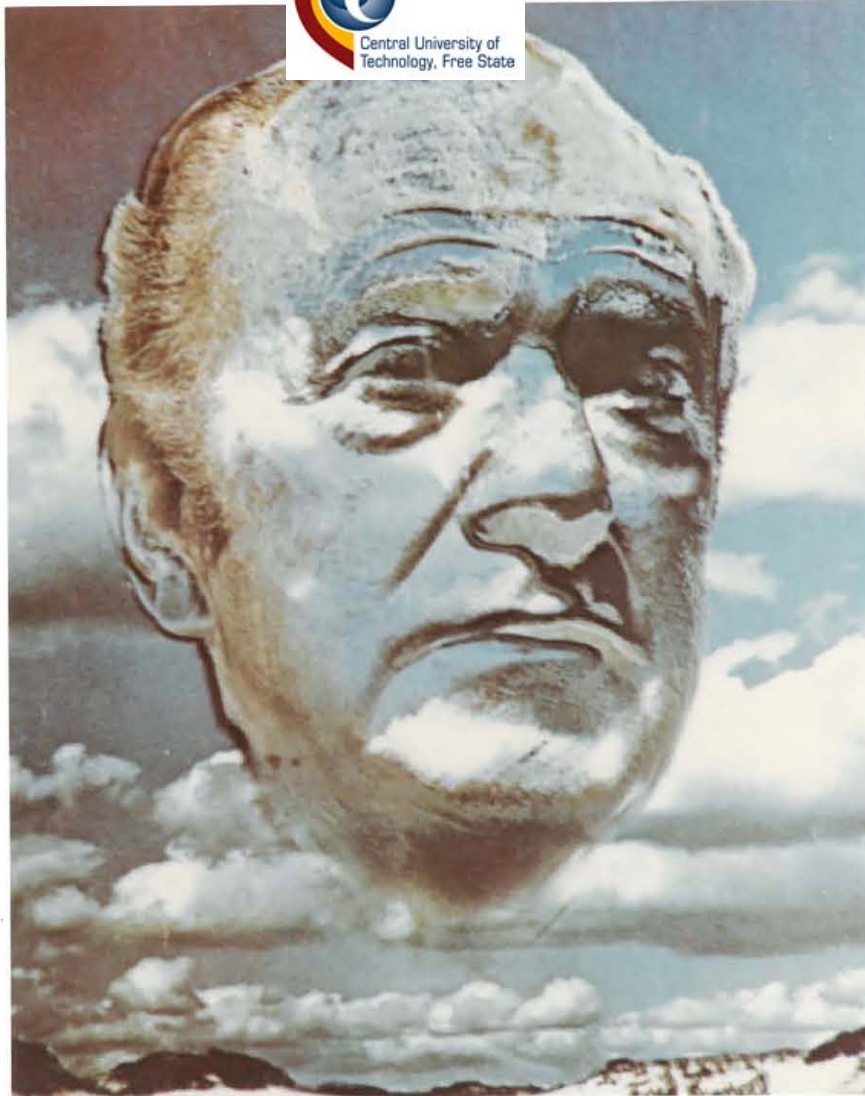
moment you released the shutter. Tiny grooves on starburst filters and diffraction filters spread light from the bright highlights into the darker areas of a picture. Thus, both types of filters work best with scenes that show very bright subjects on a dim background. At night, for example, they enhance the twinkling brightness of street lights seen against the dark sky. A diffraction filter has an additional effect; it splits light into component colours, surrounding each bright highlight with rainbow-coloured streaks or with halos. The effect of starburst and diffraction filters depend on the focal length of the lens and on the aperture used. However, the image in the camera's viewfinder does not always show precisely how the picture will appear, even if the lens is stopped down to the working aperture. Take pictures at several different apertures, and choose the best effect after you have processed the film. Avoid using either of these filters when a subject has a lot of fine detail, because both filters cause some diffusion, the picture may look blurred. The deliberate choice of a shutter speed that is too slow to stop a subject's movement can produce exciting and original pictures. Depending on the direction and the speed of the subject, one can convey movement with slight blurring while still recording a

recognizable image. To stop camera shake during a slow exposure, one usually needs to use a tripod. Neutral density filters can be used, when photographing in daylight or bright light, to compensate for the slower shutter speed: an 0.9 filter, for example, reduces the light reaching the film by three stops. Beautiful abstract images can be obtained by using a very slow shutter, of several seconds or more, for dusk scenes with coloured lights. During lengthy exposures, even slight movement of the subject will cause highlights to spread into shadow areas and colours to flow. An electronic flash unit is a familiar piece of equipment and one can easily overlook its potential for special effects. Yet with a little ingenuity one can turn a regular flash photograph into an exciting and unusual image. The easiest way to do this is to take the picture in dim light at a slow shutter speed. The camera may have an X or a lightning bulb on the shutter speed dial to indicate the limit of flash synchronization; this is simply the maximum speed, and the flash will operate equally well at slower speeds. Choose a speed between 1/15 and one full second, then take the pictures as usual. When the shutter release is pressed, the flash will fire but the shutter will remain open, so that the ambient light continues to form an image. If the background is lit

continuously from another source, and a long exposure is set, a moving subject lit momentarily by flash, will appear sharp but ghostlike. Try experimenting with different shutter speeds and moving the camera to produce dynamic images.

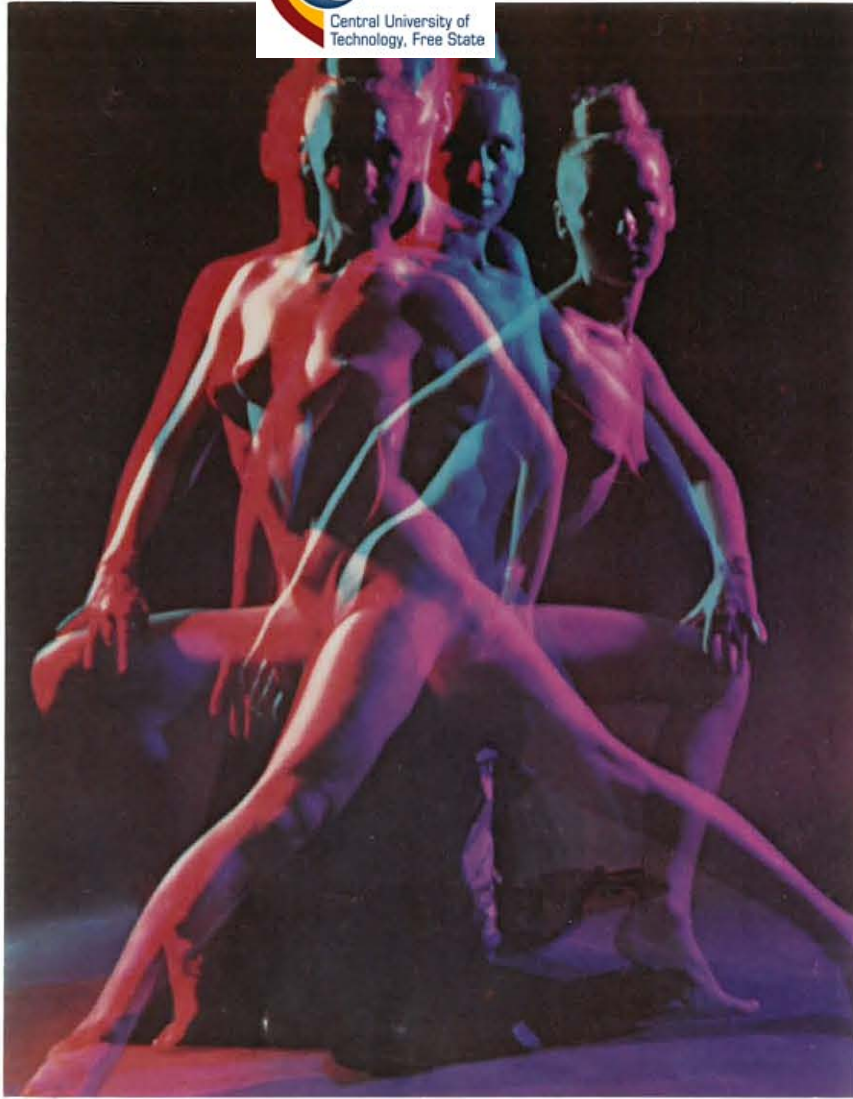
CHAPTER THREE

DISCUSSIONS AND CRITICS OF OTHER ARTIST'S WORK.



FRED BURRELL

In this photograph the artist Fred Burrell used a Kodalith positive that was partially bleached in Potassium ferricyanide and then laid over a colour print that he took of the blue sky. The author thinks that Fred Burrell used this technique to its full extent, by using the soft tan of the tones and the transparent base of the kodalith to allow see-through to the clouds and to create the impression of a floating image.



J. PATRICK TOWLE

This photograph was made with four electronic flash units, with the four synchro-cables plugged into a multicontrol flash box. This allowed the artist (J. Patrick Towle) to fire each flash after the model had moved into the position he wanted. Each flash head was covered with a colour gel. The lights were placed at different distances from the model until the four meter readings gave equal results.

The author feels that J. Patrick Towle succeeded very well with the composition and the technical aspect of this photograph. However the author thinks that one exposure could have been made with a colour gel more closely related to the skin tone of the model, just to break the red, blue and purple colour scene of the photograph. By overlapping parts of the model's body, a greater feeling of movement was created by the artist.



TOM MCCARTHY

By combining two dominant images of Venice, Tom McCarthy took this false colour infrared double exposure at sunset, and by using a green and blue filter he created a picture with very striking and strong colours.

The author feels that the simplicity of the composition and the subjects used, enhanced the success of this photograph.



NOB FUKUDA

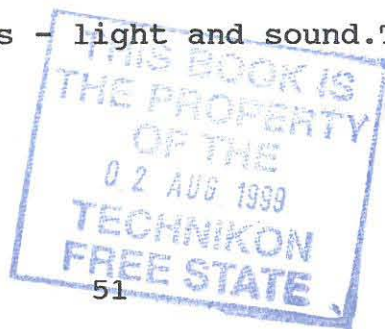
The artist Nob Fukuda used pieces of glossy coloured paper pasted onto a white cardboard that served as the subject of the composition. He then used a sheet of flexible aluminium, that was thick enough to hold its shape when twisted, to reflect the bright colours that were pasted onto the white cardboard.

The author feels that the success of this photograph lies in the bright colours that were used and the twisted images that were reflected from the aluminium sheet. The author also thinks that the bright spectrum of colours gives a feeling of peacefulness to the photograph.



RALPH MORSE

The author chose this photograph to show how new technological equipment can be used to create super-natural or imaginary images. A laser wields light in ways that can create entirely new kinds of photographic images. Like a very fine paint brush, it can draw ultra-thin lines with light, or position a dot of light energy with pin-point accuracy. In this picture, lasers have been used to weld two kinds of perceptions - light and sound. The narrow beam of



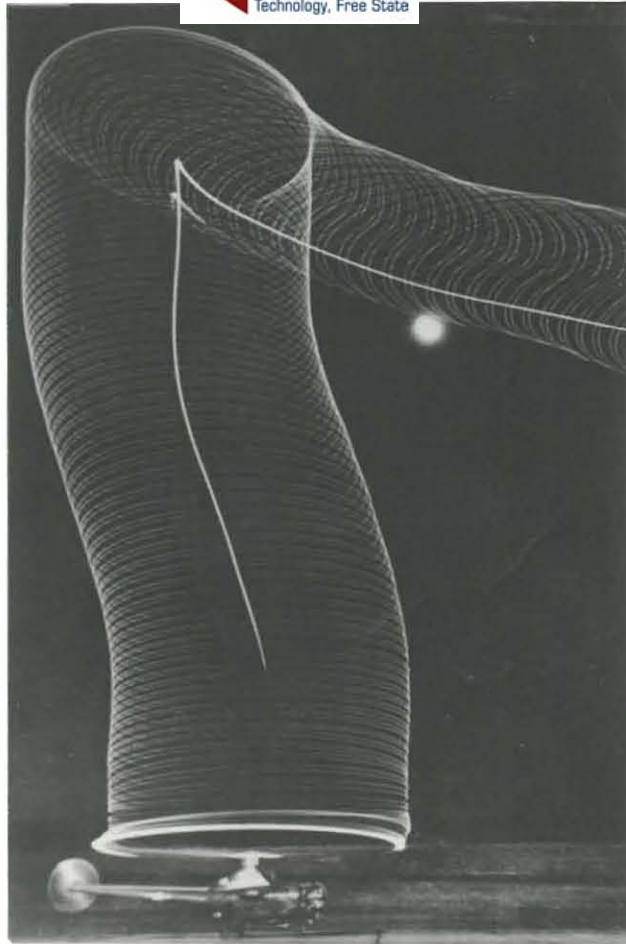
51



93/1762

the laser responds to the faint vibrations that make up sound just as a fine paint brush reveals the faintest trembling of an artists hand. This photograph was sketched by laser light that jiggled when music caused the air to vibrate. The musical vibrations, affecting mirrors that were reflecting the laser beams, induced the light to dart wildly across a wall.

The author feels that there is not a great form of composition in this photograph, but he enjoyed the unique technique used. With this technique an artist could be very creative.



ANDREAS FEININGER

This photograph shows a coast guard helicopter taking off at night. To make the ascending spiral photographable, special light bulbs had been attached to the tips of the rotor blades. The artist Andreas Feininger made perfect use of the black sky as a backdrop.

The author feels that the spirals in this photograph give a great feeling of movement. The success in this photograph lies in the creativity that the artist used to compose the photograph in such a way that it gives a great feeling of movement.

CHAPTER FOUR

DISCUSSION ON THE ARTIST'S OWN WORK



FIGURE 1.

FIGURE 2.

Interesting distortions of colour and tone result when film and processing are mismatched. The simple transposing method is to print regular colour slides on colour-negative paper. The two pictures above demonstrate this effect. Figure 1 is an ordinary food shot that is normally exposed and developed.

In Figure 2 a simple transposed method is used to form this transposed image. The colour slide in picture 1 was printed on colour-negative paper to create this effect.

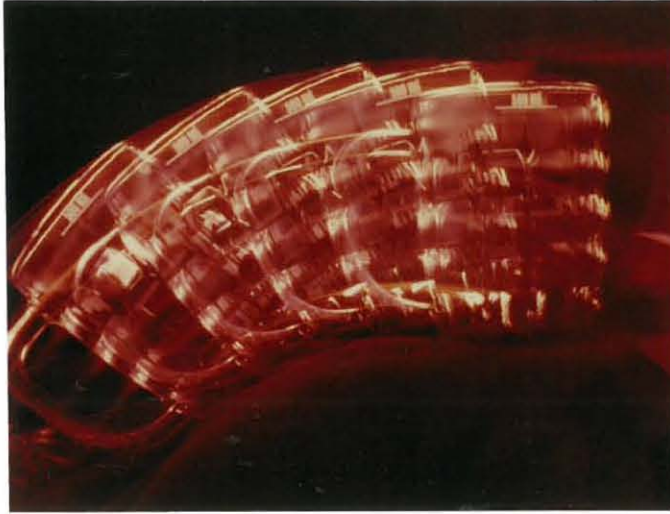


FIGURE 3.

FIGURE 4.

In these two pictures above the photographer made use of camera movements to create strong impressionistic and abstract effects. In Figure 3 the photographer used a MAMIYA RB 6 X 7 and normal tungsten slide film. The beer mug was placed on a platform. The photographer placed one flashlight, out of sight behind the beer mug, using a red gel over the flashlight. He then used a long time exposure and with the movements of his tripod, he managed to move the camera upside-down while

flashing. The beer mug's image was captured in different stages while the camera was moving.

In Figure 4 the photographer also used his camera movements but this time he only flashed once and let the continuous light of the flash head create the streaks while moving the camera upwards and then sideways.



FIGURE 5.

In this picture, the photographer managed to create a dreamlike atmosphere. He used double exposure to create this effect. In his first exposure he posed the model against a black background staring into the distance, to make his first exposure. Then he placed the egg on black velvet, and by lighting it from only one side, he managed to let the shadow area of the egg blend in with the black background.



FIGURE 6

In this picture the photographer managed to create a spherical atmosphere. Again he used double exposure but this time he posed the model on a white background. He then covered the bottom half of the picture with black velvet to prevent that part of the picture being exposed. He made his first exposure using a soft lightning technique.

He then turned the film plane upside-down to prepare for the second exposure. For the second exposure he only posed the model in another position and with the same lightning technique he made his second exposure.



FIGURE 7.

In this picture the photographer wanted to create a ghostlike image. He used a MAMIYA RB 6 x 7 camera and 100 ISO, black and white film. He used double exposure and only one light to create a low-key image. In his first exposure he concentrated on the side of the model's face with the light from the back to create a silhouette image. In the second exposure he faced the model's face towards the camera, and situated the face in the dark area, of the first exposure, of the model's hair. He then developed and printed the photograph on normal black and white paper.

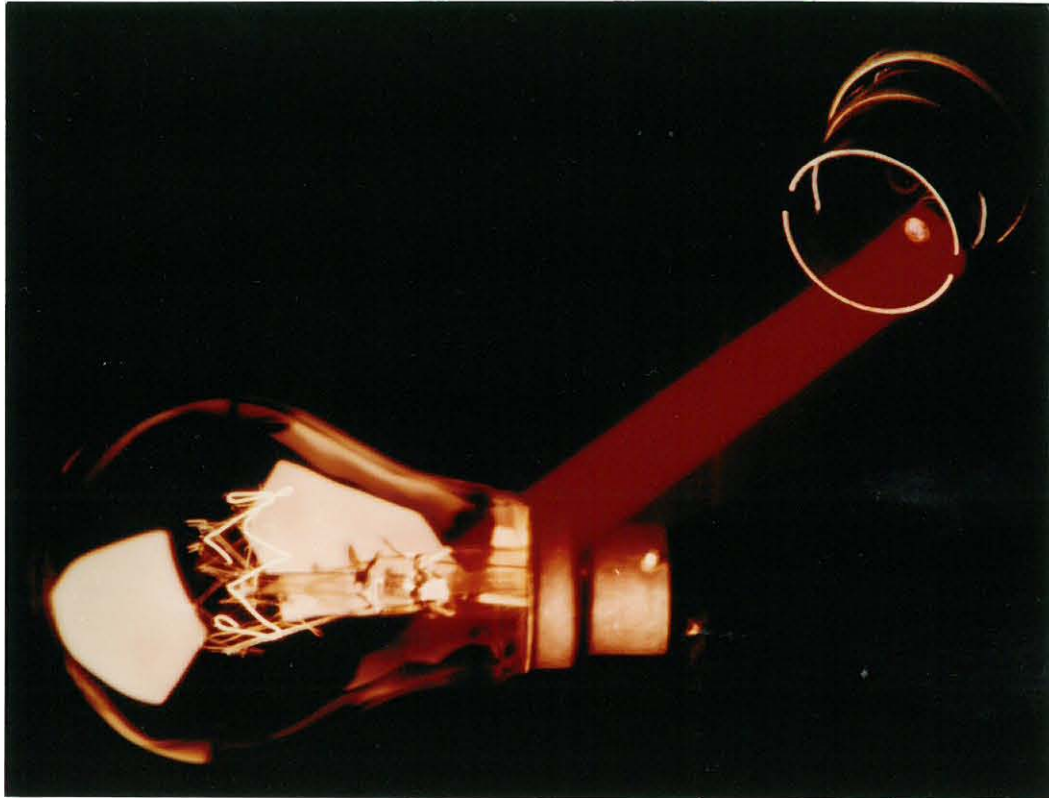


FIGURE 8.

In this picture the photographer managed to create a scientific atmosphere. He used a 4 x 5 SINAR camera and tungsten slide film. He made use of multiple exposure to create this effect. In his first exposure he posed a shining light bulb onto black velvet and used the light of the light bulb for the first exposure. He drew the image on the viewing-screen. In the second exposure he placed

the socket of the light bulb onto black velvet and positioned it so that the socket and the bulb did not overlap. In the third exposure he had to create a laser beam shining from the socket to the bulb. He created this effect by using a piece of black cardboard and by cutting a very thin strip from this board. He then covered the opening with a red filter and by using a flash light from the back he made the third exposure.



FIGURE 9.

In this picture the photographer made use of double exposure. He used a 4 x 5 SINAR camera and tungsten colour slide film. In the first exposure he placed a camera on black velvet and made the exposure. He then drew on the viewing screen for the second exposure. In his second exposure he posed the model in a pre-planned position according to the guide-lines on the viewing screen and made the second exposure.

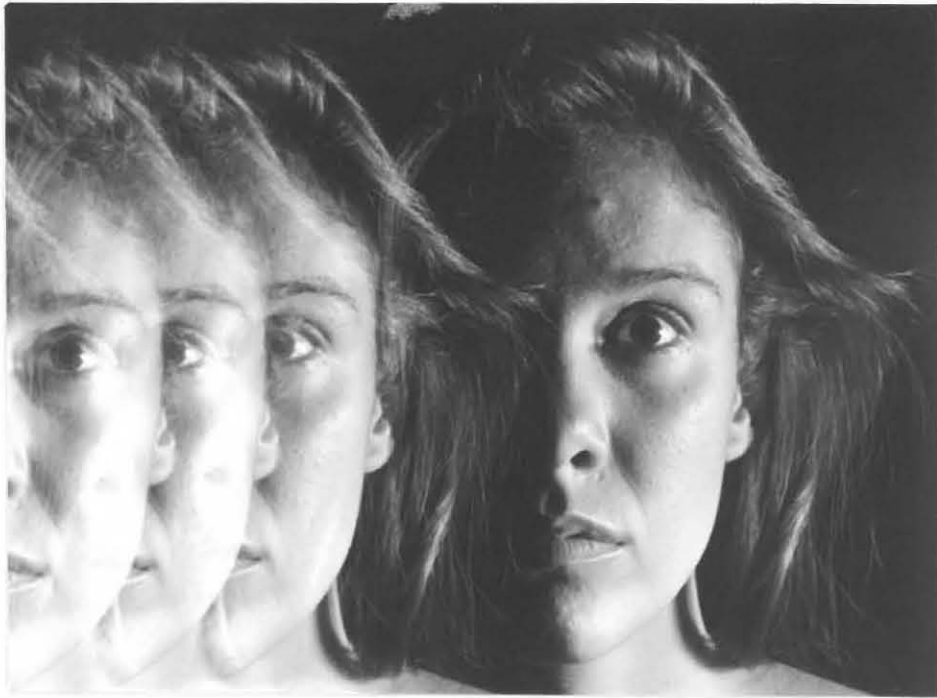


FIGURE 10.

In this picture the photographer yet again managed to create a ghostlike image by using multiple exposure. He used a MAMIYA RB 6 x 7 camera and a 100 ISO, black and white film.

For all his exposures the photographer posed the model against a black background. Then by using a long time exposure and the movements of his tripod, he managed to move the camera side-ways while flashing.



FIGURE 11.

In this picture the photographer used a 4 x 5 SINAR camera with a colour slide film. He also made use of double exposure to create this picture.

In his first exposure, the photographer photographed a bread against a black background. The photographer then posed a model in a lying position for the second exposure, giving the impression of a woman lying on a bread.



FIGURE 12

In this picture the photographer used a negative of a fashion shoot he did. And then, just by SOLARIZING the photograph, while he was printing it, he created this bright and colourful picture. The negative was a normal 35mm Agfa colour film, printed on Agfa paper.



FIGURE 13.

In this picture the photographer used two black and white negatives that he took of a swimmer. On the one negative the swimmer was jumping into the water and on the other negative the swimmer was diving into the water. He then combined the two negatives by printing them over each other on one piece of paper to create this unusual picture.

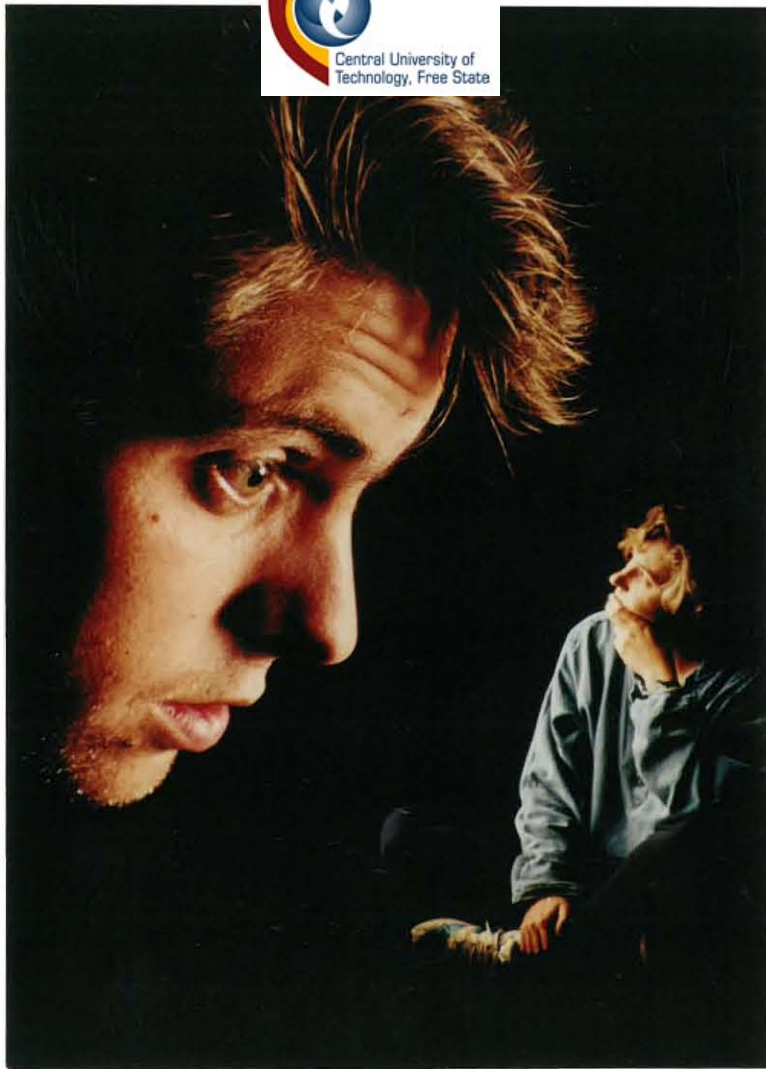


FIGURE 14



FIGURE 15

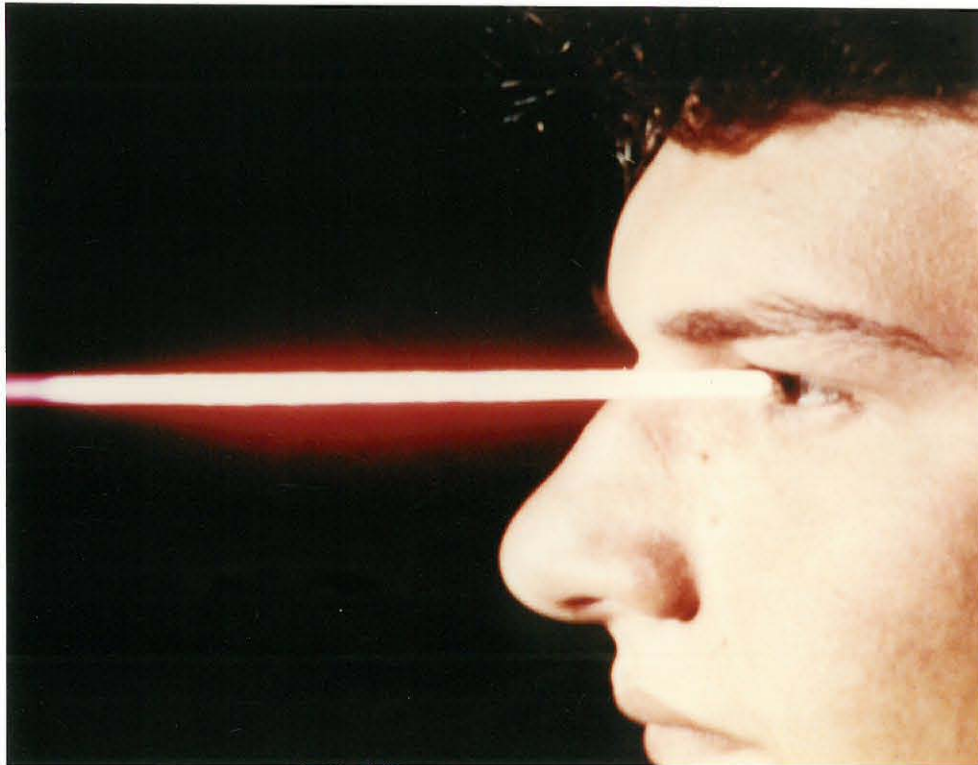


FIGURE 16





FIGURE 17



CONCLUSION

Ever since the birth of photography, scientists, artists, and even young up and coming photographers were always searching for a major breakthrough in technology to improve equipment, film and techniques.

Today, a new era has been entered, with the assistance of modern equipment and techniques. This era is recognised by the creativity and initiative applied by the photographic artist. This level of innovation and creativity resulted in pictures out of the ordinary, with emotion and atmosphere.

The author feels that special effects photography can be seen as an art form that must be kept alive for those innovative artists that will follow.

"How did he do it?", is one of the questions that flows from the special effects art form. The solution to this question lies in the individual skills and techniques applied by the individual artist. Only by analysing these, will the critique be able to analyse the produced art.

BIBLIOGRAPHY

1. Birth of photography :- Brian Coe
2. Photofinish :- Alex Morrison
3. Simple Photography :- Peter Marmoy
4. Darkroom Techniques I :- Andreas Feininger
5. Darkroom Techniques II :- Andreas Feininger
6. Enlarging :- C.I.Jacobsen &
L.A.Mannheim
7. Photographic Seeing :- Andreas Feininger
8. Photography as a tool :- By the Editors of
Time Life Books
9. The Complete Photographer :- Andreas Feininger