Central University of Technology, Free State

Special Effects and Digital Photography

By Diane Willson

Submitted for the subject
Visual Communication III

Faculty of Human Sciences

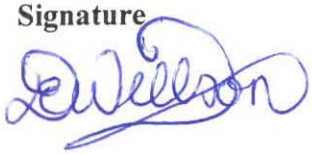
Technikon Free State

2001

Central University of Technology, Free State

I hereby declare that the work contained in this mini-thesis is my own independent work and that all sources consulted or sited have been indicated in full.

Signature



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History and Background of Special Effects and Digital Photography

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Contents

Introduction

If it walks like a duck,
Swims like a duck,
And quacks like a duck,
It may well be a chicken...
(Paul Fuqua)

The human eye can be described as a camera that takes about ten pictures every second. It telegraphs to the brain the information that each picture contains. It cannot work faster for the retina needs appreciable time to receive and transmit each impression as well as get ready for the next one.

Since the invention of photography man have been using it as a tool, to make it do what the human eye cannot, such as: speeding up time or slowing it down; to learn how things actually behave; of making things that are too distant, too small or too faint visible to the human eye.
As photography developed it became invaluable to science and technology.

The camera brings into being the most striking and useful views of the world even when it deliberately lies. It can alter what the eye would normally see into what the eye would like to see. It can make subtle shifts of perspective and radical distortions of form.

In the early history of photography photograph's was only taken of familiar objects; things that the human eyes can see. Faces, landscapes and buildings were the most familiar images.
Photographers started experimenting and playing around and with the development of better equipment (such as faster emulsions, bigger lenses and flash equipment) photographers soon realised that they possessed a powerful instrument that could perceive and record things that the eye cannot see.

For as long as people have contemplated the world, they have been fascinated by the seemingly impossible and, thereby, unexplainable... (Sage 1996: 4)

Background/history

Photography is the result of Professor Heinrich Schultz discovering in 1727 that light has an effect on silver nitrate. The invention of the daguerreotype process by Louis Daguerre in 1829 was the true birth of photography. The process involves a copper plate covered with silver nitrate.
Frederick Scott Archer introduced the collodion process in 1851. It involved using glass plates instead of copper.
The photographic process today (greatly improved) is in essence the same as that invented by Henry Fox Talbot in the 1830s. Silver halide crystals and gelatine coated on acetate sheets served as the film emulsion. These are exposed in a camera where an image is formed. It contains all the information to produce an image, but requires processing. The development converts the exposed silver halides into metallic silver. Unexposed silver crystals are removed during fixation process, leaving a permanent image. It then needs to be printed onto photographic paper and a similar process follows.
It is remarkable that in 150 years the process has stayed so similar, albeit with huge improvements in the speed and quality.
Photography is one of the greatest inventions of our time and since the discovery has evolved into a very important aspect of our lives. It became an important analytical instrument of science. It has been a tool in all facets of life:

- It has given us the ability to stop motion that the eye has always seen as blurs. Analysing the subtle actions of living creatures and the unknown ways of nature. It formed a visual calculus of motion. It could slow down the flight of a humming bird or speed-up the opening of a rose.
- Photography has given the microscope a memory. It is an indispensable tool that enables scientists to make lasting records of the infinitesimal world before a microscope lens. Scientist photographs of things like cells and atoms etc. Is not only strikingly beautiful, but serves a utilitarian purpose. Invaluable knowledge has been, and still is, obtained through photomicrography.
- In outerspace, photography has given man fresh facts and insights. Cameras gave man the ability to see celestial bodies in space that has never been aware of; it also plays a role in predicting weather.
- The camera has transformed the realm of darkness and imagined monsters of the underwater world nit a bizarre, beautifully real place. It increased knowledge of the see and its creatures-both deepwater and shallow water with its wealth of life forms.
- It has given man the ability to record light waves invisible to the human eye e.g. that "expresses a visual kind of poetry". Haas declared photography as a " transformation and not a reproduction"(Time Life Library 1973:234).
  Ultra-violet, infrared and x-rays produces brilliantly strange and useful effects.
- It revealed many hidden truths of the human body. With modern technology, it is constantly being an aid in medical examinations and operations.

The camera has proved an indispensable tool of inexhaustible application. New insights have been gained from photography. The camera can be used in ways that transcends the limits of time.

Special effects transformation through time

It is no exaggeration to say that all photographs are examples of special effects or photographic manipulation. Pictures capture a moment in time that will never again be exactly the same. Time in photographs are either compressed or stretched and captured to be examined at our leisure.
The main subject matter in the early history of photography was mainly people and landscape. Photographers soon started moving away from it, as everybody was capable of doing portraits and landscapes. The human race was always experimenting and they went on to using the cameras' eye as their own to pick up the passing scene around them.

One of the first photographers to do so was Charles Negre. He foreshadows the era of photojournalism. He comprised a record of the daily life in Paris. He saw beauty to record in scenes of ordinary people doing ordinary, everyday things as in **Figure 1**.
Philip Henry Delamotte recorded the site and development of the crystal palace (1851-1853) He spent two and a half years photographing the development of the building once every two weeks. One can see photographs of the groundbreaking in 1851 to the ceremonial dedication by Queen Victoria in June 1854. Delamotte recorded every detail, the good and the bad, even when some scaffolding collapsed killing twelve people. With this all, he showed how photography could preserve happenings for future generations.
Thomas Keith did one of the first montages in 1855. He exposed his negative six times. In **Figure 2**, he shows a combination of the old medieval town marks against the newer buildings of Edinburgh.
In the next years photography evolved from the contemporary to the bizarre. Many different aspects were experimented in. The development of better lenses, film and emulsions opened doors to improvement and creativity.
During the 1860-1880, Oscar J Reijlander started with compositions of unrelated subject matter. He produced complete photographs from separate single negatives. This required intricate section-by-section printing. These composite photographs was time-consuming and tedious, but evoked vast interest even from His Royal Highness Prince Albert.
In the 1900-1920s, Alvin Langdon Coburn experimented with abstract photographs. He began to "investigate the hidden mysteries of nature and science"(Time Life Library 1973: 125). He also did multiple exposures like the multiple-image style he did of Ezra Pound in 1916. Pound was known for his multisided nature and thus found the portrait fitting his personality (**Figure 3**).
Through the 1920-1940s, Lázló Maholy-Nagy produced a variety of images through photomontage, negative printing, double exposure and double printing like the work "Jealousy" 1927 (**Figure 4**).
Ernst Haas often used panning or intentional jiggling of his camera to blur the colours of his subject to those of the background. He achieved the effect similar to that of a painter. The result is controlled colour impressionism (**Figure 5**).
One of the biggest transformations in photography was definitely the quest to freeze motion.

Henry Fox Talbot took the first true stop-action photograph in 1851 in a surprisingly modern method. This inventor of our modern photography negative-positive system realised that his shutters, lenses and emulsions could not stop the blurring of motion.

Figure 1
Charles Negre, 1851. Horse collapsed in road
(Time Life Library of Photography 1973: 31)

Figure 2
Thomas Keith, 1855. Edinburgh.
(Time Life Library of Photography 1973: 37)

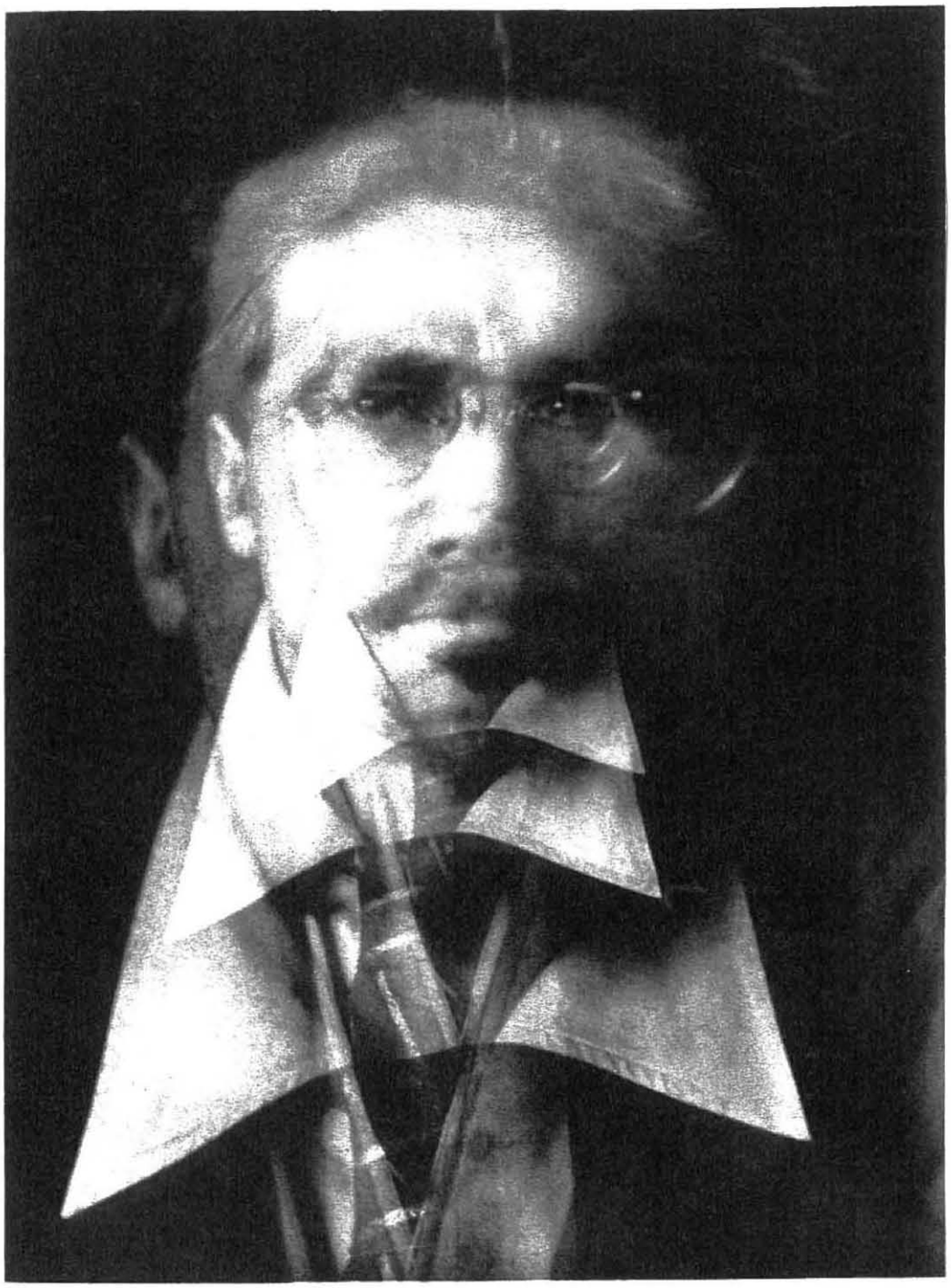

Figure 3
Alvin Langdon Coburn, 1910. Ezra Pound.
(Time life Library of Photography 1973: 125)

Figure 4
László Moholy-Nagy, 1927. Jealousy.
(Time Life Library of Photography 1973: 159)

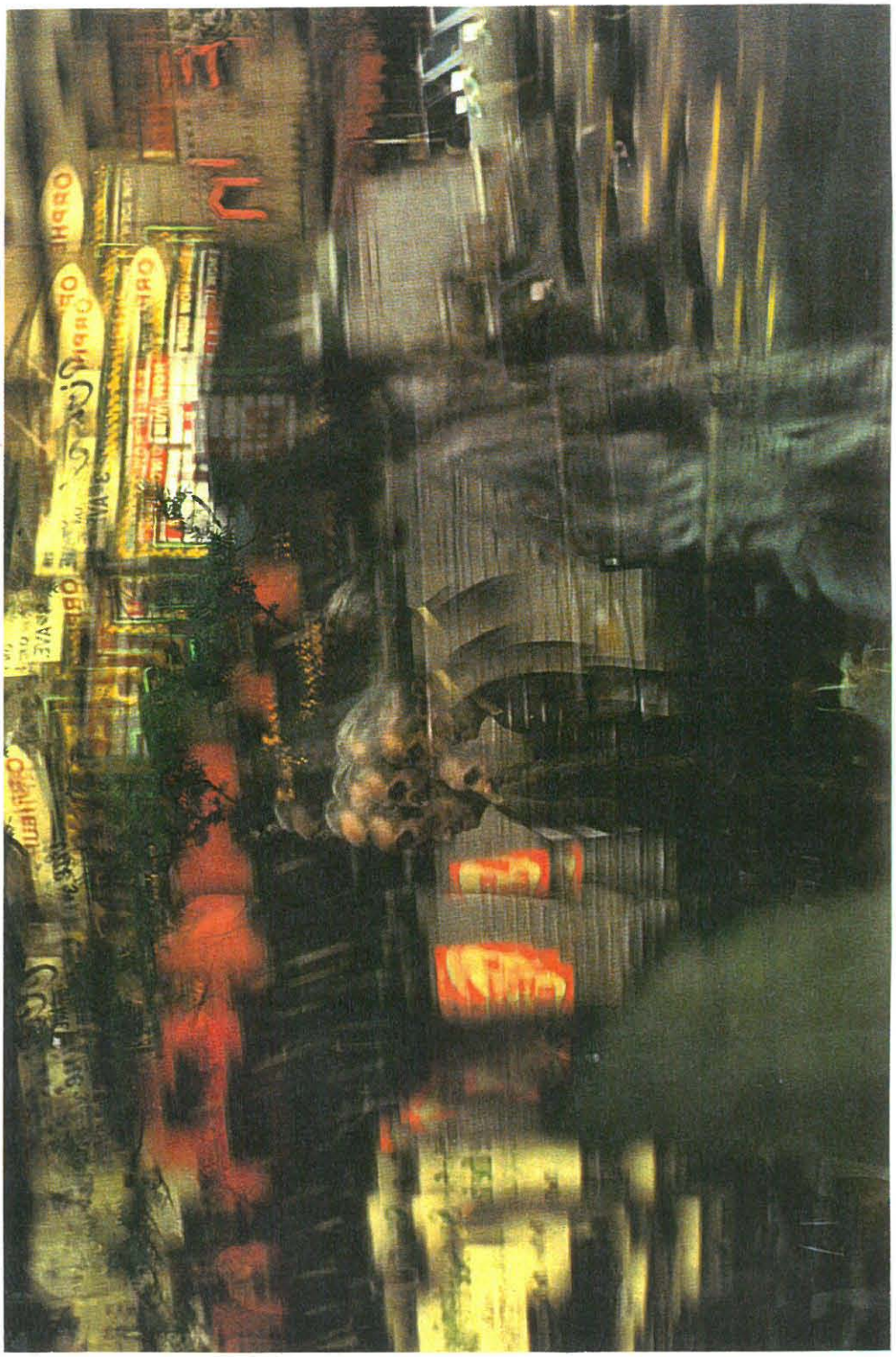

Figure 5
Ernst Haas, 1970. New York.
(Time Life Library of Photography 1973: 234)

Even with a very rapid shutter, his lenses emitted too little light and his emulsions were not sensitive enough to record an image with a brief exposure. Not even with sunlight. He needed a light source that went on and off very quickly.
So he set up a camera with an open shutter in a darkened room and illuminated his subject with a short flash of light that came from a spark produced by a linked series of Leyden jars.[1] It produced a short flash of light (±1/100000 of a second) bright enough to illuminate a nearby surface. Talbot found it was short enough to "stop" a moving subject.

Only in the 1880s the Austrian physicist, Ernst Mach (the *aerodynamic* term denoting sonic speed were named after him), build another powerful spark apparatus, and was capable of taking pictures of bullets leaving the muzzle of a gun. The bullet closed a circuit between the spark electrodes and photographic plate, which tripped a spark of light that cast the bullets' shadow on the plate. The idea of building up a powerful electrical charge in a capacitor and suddenly releasing it to cause a brilliant flash is the basis of modern high-speed photography. Strobe photography was not used until the 1930s.

The gradual improvement of lenses, shutters and emulsions made it possible for cameras to take reasonably clear pictures of moving objects outdoors- using sunlight as illumination.
The most famous pioneer of this field was Eadweard Muybridge. In 1872, railroad magnate, Leland Stanford, hired him. Stanford had argued with Frederick Mac Crellish about whether or not a trotting horse ever had all four hooves off the ground at the same time. Muybridge was paid to prove that this was true through means of photography. He achieved this by setting up a series of cameras alongside the racetrack. The shutters were fired by trigger mechanisms set of by the horses. Many attempts were made to increase the brightness of electric sparks. Professor A.M.Worthington of Britain created spark photography in 1900, but it was only powerful enough for mini scenes.

The flash bulb was introduced in 1929. It supplies a bright burst of light that can last up to many thousandths of a second. It can be used for really high-speed photography, but has to be teamed by a high-speed shutter.

The biggest breakthrough in high-speed photography came in 1931 when Harold E. Edgerton (an electrical engineer) found that the available light devices to make motion stop did not work to stop motion of an electrical motor. He set out to develop a better one. The result was the strobe light.

One of the first photographers to work with the strobe light was Gjon Mili in 1937. He began working with Edgerton and the result was a long series of striking high-speed

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[1] A *Leyden jar is merely a cylindrical glass container coated inside and out with metal foil. The glass separates the two foil surfaces so that they act as a capacitor. When an electrostatic machine is connected to the foil, it pumps into it an electrical charge. When sufficiently strong a bright spark jumps across the gap between the electrodes connected to the foil surfaces. It gives enough light to illuminate a nearby surface.*

Surrealism was a way of life rather than a set of stylistic attitudes. They were anti-rationalist and mainly concerned with creating effects that were disturbing and shocking. Unlike dada, surreal art was positive in spirit.
Their main influence came from Sigmund Freud's theories concerning the subconscious. It was a need to release the creative powers of the subconscious mind, breaching the dominance of reason and conscious control. It gave a sense of reality to scenes that make no rational sense.

Many artists and art movements/mediums found surrealistic ideas stimulating and were highly influenced by its imagery.
Surrealist art was also a great influence to the special effects side of photography. It seems always to have limitless creative possibilities like the unusual juxtapositioning of ordinary objects. The placing of things that is not possible in reality added a reality to every image, broadening the scope of our imagination. There are various methods in creating effects in photography. Some of which is done by simply adding filters, other being more complex and requiring equipment. The urge to create special effects and unreal compositions has become much simpler with the invention and development of computers and digital effects.

To create special effects one needs some special, relatively inexpensive equipment. The biggest investment in special effects photography will be creativity and time.
Special effects let you invent your own reality as you create colours and even scenes that do not actually exist.
Changing film chemicals, zoom blurs, photomontage, hand painting and rear projection is a few simple examples of methods.
Anything goes in photographic creativity. No idea or stretch of imagination should be overlooked or discarded as it might well end up producing a remarkable image/abstraction. One must learn to take all your innovative ideas seriously. The biggest challenge in special effects photography is coming up with innovative visual concepts. When a seed of an idea presents itself it must be embellished and altered until it pleases you.

Five main groups of special effects

1 ***Physical effects*** *actually* occur in front of the camera

When using this technique various equipment can be used like hidden suspension atmospheric fog and smoke, prosthetic make-up, miniature models and sets and painted backgrounds. Also making use of forced perspective and commercially manufactured props can produce various creative images.

2 ***In – camera effects***

With this there is a difference between what the human eye sees and what the camera perceives and records like multiple exposure, object glows, rays, stars and movement.

pictures. Firing the strobe repeatedly and creating multiple pictures have also gained startling effects
As strobes developed, they gave more and more light in less and less time providing no limitations. It was a marvellous new tool in analysing even the subtle actions of living creatures.
In most high-speed photography you need to have a camera with a shutter that stays open ± 1/1 000 000 of a second. No ordinary mechanical shutter is fast enough.

A rotating mirror that casts light successively onto many small lenses, so that each acts as a separate camera can provide a shutter-like effect.

An Electro-optical shutter is another option. It has no mechanical moving parts to limit speed. These shutters depend on the fact that magnetic and electric fields can affect light passing through certain materials.
It can act as an ultra fast shutter at 100 billionths of a second. The best-known Electro-optical shutter is the Kerr cell.[1]

Today there are a variety of strobe lights available, but every one is used for something different.
Each unit contains the following:

A tube (or several) of strong glass with a metal electrode at each end.
Air is drawn out of the tube and replaced by xenon gas. Xenon is a poor conductor of electricity, but is used to carry electricity between two electrodes.
A high voltage pulse is passed through and is enough to affect few of the gas atoms, unbalancing them electrically causing a net electrical charge. They surge violently from positive to negative ionising other atoms.
The presence of the ions makes the gas a conductor and enables the heavy charge of electricity (stored in capacitor) to flow between the electrodes.
The current heats the gas so fast that a brilliant flash is achieved.

With the development of flash lights special effects were created, such as:(Langford 1974: 136)

- Freezing movement with flash

Flash used instead of fast shutter

[1] Named after John Kerr who discovered that when an electric field is applied to a substance, its molecules will align in a way that entering light waves would refract in two different directions.

- Stroboscopic effects

  Dark background
  Firing the flashes quickly after each other
  Up to 20 flashes per second
  Only the subject is lit
  It transforms a moving subject into an overlapping sequence of frozen images

- Light painting

  A source of light (torch) is aimed at the areas that requires lighting
  This takes place during a long exposure

- Multiple flash

  A series of flashes are fired at a model during a long exposure
  There will be slight signs of subject movement that will give the image unusual quality

The basis of photography is light. Light can be manipulated to transform the eye's view of the world. Light can change colour, form brilliant contrasts with shadows and through flash and high-speed photography can form spectacular imagery. Special effects photography was initialised and developed through this.

Special effects photography

What are special effects?
It is techniques used by photographers to alter reality.
To make less realistic pictures of real things and to make completely realistic pictures of impossible things.
Many aspects of life have always influenced art through the ages. Art has also evolved into many different movements and groups.
With the invention of photography artists of the time was totally against it. They would not recognise it as an art form. They believed that photography was going to replace art. Instead, many artists used it as an aid. Soon many artists actually took up photography. Photography also influenced some art movements like Superealism, and pop art.
Special effects photography was greatly influenced by the surrealistic art movement of the 1920-30s.
The bizarre and the irrational mainly fascinated surrealism. It was very closely related to Dada in the way they revolutionised the mode of thought and action.

Surrealism was a way of life rather than a set of stylistic attitudes. They were anti-rationalist and mainly concerned with creating effects that were disturbing and shocking. Unlike dada, surreal art was positive in spirit.
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3 ***Optical effects***

This depends mainly of the physics of light. It is done through filters, gels, and vignetting. Masking and front and rear projection is creative ideas.

4 ***Laboratory effects***

Produced in the darkroom one can achieve high contrast, colour saturation, grain, Polaroid ™ transfers and masking.

5 ***Digital effects***

These are electronic image manipulation done on the computer.

With an introduction of increasingly sophisticated computer graphics the old ways of creating special effects have begun to loose appeal. With technology's' evolvement through time (and the perpetual development of technology), it is no longer necessary to do these special effects in the studio or the darkroom. It is replaced with easy and interesting software and digital manipulation. Today's high-tech still photography is growing constantly in amazing ways. One as to take care of precision and needs patience to be rewarded with wonderful creative possibilities.

Digital photography

Looking back at the rapid evolution of photography from Fox Talbot's crude salt prints of the 1840's to today's sumptuous colour prints, the question is why digital photography?

Digital imaging will never replace traditional photography just as photography never heralded the end of painting.

It will go some way to enable fine photography printing to be perceived as an artform rather than a complex technical skill.

A whole new vocabulary is entering the photography world. The word *digital* refers to a signal that represents changes as a series of discreet electrical pulses. This revolution is as profound as when glass plates were replaced by acetate film. Images are now recorded in digital form stored in an electrical form and loaded onto a computer. Here it can be enhanced or manipulated. Photographers still need the skills of lighting and composition, but now have greater control over the final image.

In August 1981, the photographic world was shocked to see Sony Corporation announce a revolutionary video still camera. It recorded 50 images on a stiffy and

could immediately be viewed on a television set. Unwanted pictures could then be erased. This magnificent little invention was called the Mavica.
It was still some years before it became available to photographers, but it sparked a rush of research by leading photographic and computer companies.

An electronic camera is used to "capture" an image, which is stored on a magnetic disk. The image is loaded onto a computer in digital form where it may be processed, modified, and enhanced or manipulated. It can then be printed onto film, paper or any other form of hardcopy.

Digital technology is very different with a whole new terminology to learn. Computers should be treated as a photographic tool in the same way enlargers and processing machines are. Electrical images have many advantages over conventional photography; for example, changes can be made to images before they are printed thus reducing the cost of paper. Electrical cameras can be used for previewing images thus illuminating instant film such as Polaroid™. Telephone lines and satellite links can transmit images rapidly. A whole new generation of telecommunication is being installed all over the world using fibre optic technology. Electrical cameras can also be "white balanced" to eliminate colour temperature problems as well as chemical waste generated by "silver based" photography.

The traditional roles of graphic designers, photographers and printers are being merged, but the traditional skills will not change e.g. one still has to be a master of lighting. The greatest change will be moving out of the darkroom.

Conclusion

In many instances photographers want to break free of reality altogether, seeking stunning and mysterious effects that are unnatural. Sometimes results of special effects can stir deep questions of the world and life.

Experiments with new and startling sorts of photographic visions have always been tempting and are evolving into new dimensions and means every day.

With all the different means and special equipment available today the only boundary to special effects is that of the photographers' imagination.

Reading List

Hunter, F. (1994) Illusion, USA: Hearst Books International

Livingston, K. (1985) Special Effects Photography, London: Columbus Books

Luciana, J. (1999) The Art of Enhanced Photography, USA: Rockport Publishers

Wright, T. (1999) The Photography Handbook, London: Routledge

Zucherman, J. (1997) Outstanding Special Effects, London: Focal Press

Bibliography

Editors of Time Life (1972) Time Life Library (Photography as a Tool & Great Photographers), USA: Time Life

Langford, M. (1974) Professional Photography, London: Focal Press

Sage, M. (1996) The Art of Special Effects, USA: Osborne

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Working Environment of the Special Effects and. Digital Photographer

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Contents

Introduction

After extensively exploring the various options and fields in photography, one makes the choice as to which direction you would like to excel in. When this decision has been made, you must be sure how to go about creating a successful and prosperous business. In the next section, I will discuss a few vital points and necessities as to what will be essential to a digital photographer in and around his working field.

Your main aims should be to produce high quality work in a chosen field and to make a reasonable profit from the business. The type of business/area you go into is important, since differences in areas of photography can be enormous in terms of requirements for size of premises, types of equipment and staff etc.
Skill, planning and hard work is required to produce a reasonable return on ones investment. Running your own business requires capital and equipment as well as abilities in selling, administration, communication and general business skills. A strong authoritative and demonstrative disposition is also of importance when working with the public. Another key to success is to skilfully market the products in such a way as to increase profitability.

With special effects and digital photography, I presume that the most profitable and popular direction to choose would be advertising and/or multimedia.

Multimedia

When people use the word *multimedia,* they are referring to digital multimedia - the mixture of various media within a computer environment. This mixture can comprise the combination of picture, video, sound and text.
Picture includes photographs, animations and illustrations; sound includes music, voice and sound effects; text is used loosely to imply language and includes on-screen copy, voice-over narration, and spoken dialogue between human or animated characters.
The rich most satisfying multimedia uses many media elements as creatively as possible. These elements must be chosen and used with a guiding intelligence. The product should result in a worthwhile and substantial experience that could not have been obtained by other media, such as books. The content of multimedia has come to be known as software you interact with for enjoyment or edification.
A number of genres already developed in multimedia are:

- "Edu-tainment" – informative entertainment for children
- Books and encyclopaedia recorded in multimedia on every subject imaginable
- Business uses multimedia in a variety of applications such as marketing their services and products also in training their employees
- Complex manuals are being put into multimedia

- Used for storing or archiving large amounts of information into a visual database e.g. art collections

Multimedia is still in its infancy and is yet to evolve into the future. People will discover that multimedia has inculcated itself into their lives whether they wanted it to or not, or are even aware that it has. School children will learn from it; business people will train on it; products will be marketed and purchased by using it; students will write term papers based on research in computers located in other countries; workers will telecommute using modems to send their work -graphic and text- across town and country. Grandmothers will receive e-mail photos of babies' first birthday; and kids will play intergalactic war games with friends they have never seen before (Josephson 1996:2).

Advertising

A simple definition of advertising aim is:

> *"A one-way paid for communication through mass media by an identifiable sponsor, directed at making a target audience (i) aware of a product; (ii) persuading them that they want and/or need the product; and (iii) reminding them about a product and their need of it so as for them to go and purchase the service or product"* (Pitt 2000: 149).

Brands obtain their value through the perceptions consumers have on them. The Advertisers job is to build and protect brand values. Advertising is building brand awareness and forming an image of the product in the minds of the target and actual consumer. Advertising should be used to target the required group and to persuade them to purchase the product.

The main aim of any advertising campaign is to *attract* the consumers' attention in such an enticing way so as to arouse *interest* in the target area. The objective is to create *desire* in the individual, which in turn leads him to the *action* of physically purchasing the advertised product. (Pitt 1997: 150)

Advertising currently offers the highest financial award where photography is concerned. Advertisers at any given time will demand a good photographer and pay for them.
An advertising agency's location is vital. They are generally situated in big cities.
The advertising photographer must be able to work with an art director, stylist, models, make-up artists, technical crew etc.
He must also be able to translate an accepted visual from a client into a picture that successfully conveys the intended message. He is almost always given a drawn layout of what is expected. Sometimes it is loose and at other times it might be a tight 'pack shot' planned down to every last detail in either case the client must be satisfied.
The layout illustrations generally consist of proportions, final reproduction size, method, type of paper and whether the advertisement will be on the left or right hand side of the page.
Advertising is a highly disciplined and meticulous job. Through and beyond this must come the spark of originality that sets the picture, and the product, above the others. The competition in this area is fierce; it is not a fluke that top advertising photographers and agencies are well paid. Campaigns run into thousands of Rands.

It is for this reason that location plays an important role. It is vital for clients to be able to drop in and see what progress is being made also to discuss any vital changes in the campaign.
Advertising photographers can either work as an individual where he then has to hire studios etc. or as part of an advertising agency where stability and assurance is insured.
Competition is always fiercer at the lower end of the market (Rose 1989:19).

I will now discuss the aspects concerned with the day-to-day photographic practice such as job handling, special techniques, organising premises, and later managing the business side, controlling staff and obtaining the work.

Developing one's creativity

Getting the creative process started

A single image can be artistically manipulated in dozens of ways. It is important though that the picture is able to stand on its own. It is seldom that one can take a bad picture and make it brilliant, but one can make a good image fantastic.
Visualise your pictures in an artistic way. A special effect is a composition of two pictures in a final composite. Unrelated pictures often have a magnificent effect. Use pictures with lots of colour, textures and patterns. It is a good idea to keep a stock of pictures at hand for future use.

Stimulating your creative juices

Place a combination of images next to one another and look at the possibilities. Concentrate on line colour texture and patterns. Many different types of special effects will become immediately apparent.

One has to really see things. Heightened visual awareness is crucial to all aspects of photography. Special effects require a different kind of acuity. One has to see beyond the data supplied by your eyes. Learn to use your imagination and to stretch each possibility to its limits.

A brief mention of some of the equipment:

- Zoom lens
- Transparent oils
- Compressed air
- Copy stand enlarger
- Photo floods
- Studio strobes
- Filters

Two steps to creating photographic special effects images (according to Zucherman 1997: 3).

1 Conceptual - have to see in your mind the image you Want to create
2 Actual – the equipment, materials and means to put the manipulation on film

The Studio

There are many questions and arguments about the importance of a studio, and the ownership of one can be debatable from sphere to sphere in the photography industry.
I personally feel that as an advertising photographer the need for your own personal base in which to experiment is important, build sets if necessary, accumulate props, modify equipment and work on you own time.
In a business where handling clients is the case, it is always useful to have a studio available on the premises. Above all the studio offers a working environment, which is completely under your control. It allows time to pre-plan and pre-test before shooting and it also allows seeing final results before dismantling the set. A studio provides privacy and technical convenience.

Studio size and layout

The general complaint is that no studio can ever be big enough for the amount of props, backgrounds, stands and lighting etc.
It is therefore essential to look at the type of work you will be doing and plan accordingly. The space should be large enough to be able to experiment and so not to be physically restrictive.
Shape is as important as size. It should be an unobstructed square or rectangle both of which provides maximum flexibility. Always have the general type of products/subjects in mind when working out the size of your studio. E.g.

$$\text{Focal length} \times \frac{\text{Height of subject}}{\text{Height of negative}}$$

Windows is of no importance in a studio, but it must be well ventilated through air conditioning. Make sure that all unwanted objects like doors, fireplaces, etc. are covered up, closed off or removed. Consider all studio walls as either reflectors or potential backgrounds.
It is essential that the studio floors don't vibrate so wooden flooring may pose a problem.
The most obvious and practical colour of your studio is matt white and/or matt black. Black allows more subtle control of lighting where as white can be used as extra reflectors.
The main requirement in your studio will be the electricity power supply of adequate capacity. The power will have to feed electronic flashes, tungsten lamps, trigger mechanisms, etc. and small appliances like fans, heaters, radios etc.

Studio location

The location of the studio or business is of utmost importance, as this will determine the type and amount of work you will handle. When thinking of location there is the following to keep in mind: (Langford 1974:69)

- How important is the quality of the address to your business?

- Is the studio close to the commercial centre - regular clients and supporting services such as banks, post office, laboratory, public transport, etc?
- Does you studio need a public 'front office'?
- How easy are your premises accessible to clients, products and settings? Keep in consideration parking areas, lifts, stairways, doorways, etc.
- Is there enough space and suitable services for ancillary rooms - darkroom, workroom, storage, office and 'usual domestic offices'?

These are all considerations and compensations to be made in any photographic unit within their own environment.

When **starting your own business** the following should be taken into regard:(Wright 1999: 65)

Approaching the bank
When you open a business you have to own some sort of capital to either make a loan or mortgage. When approaching you bank manager, be sure to assess him and the branch to their fullest potential in your favour. One must have a comfortable relationship with the bank to make future dealings easier. Remember that your capital will form part of the start-up finance for your business.

Business structure
The next decision to be made will be what type of structure your business will have.

Sole proprietor – the simplest form of business set-up, usually run in your name. Sole proprietors are personally and fully responsible for all decisions, agreements, contracts and debts incurred.

Partnership – two or more people responsible in the well being of the business. It is essential that a partnership agreement be drawn up by a solicitor to cover all aspects of business.

Private limited Company – the difference between a private limited company and a partnership is that, in law, the company has a separate identity than that of its owners or shareholders. Thus in a case of bankruptcy, claims are limited to the assets of the 'company' and not the personal assets of the directors.

When thinking of your *business name* you have to keep in mind the rules and regulations (Companies Act 1981) affecting your choice and decision.

For your professional business advice the following people is of utmost importance.

Solicitor

When you choose a solicitor you must bear in mind that he take instructions from you. You should tell him what you propose to do and he should then lawfully advise you to the legalities relating to it.

He should also draw up all legal documents and assist in the formation of your own limited company.

Accountant

Your accountant is the person that you will see the most frequent. His help and advice will assist the steady growth of your business and ensure that your tax liabilities are kept to a minimum.

Insurance broker

Buying insurance can be very expensive if care is not taken. Find a broker who is qualified and use him to get competitive quotations from different companies.

Essential insurance

1. Motor vehicles (all risk)
2. Equipment (all risk)
3. Premises (fire, flood, etc.)
4. Public liability
5. Accident and sickness

Necessary insurance

1. Life policy
2. Pension fund
3. Medical aid

Premises

When looking at you premises you have to make the best use of available space. Your aim is for the most productive workflow and least amount of wasted space.

Fitting out your new premises is always costly. To follow is a list of non-photographic requirements of some of the items needed when fitting out your premises:

Professional fees

- Surveyor
- Valuer
- Solicitor
- Architect
- Accountant

Tradesmen

- Building work
- Roofing
- Plumbing and heating
- Ventilation
- Electrical work
- Flooring and carpeting
- Furniture and decorations

Local regulations

Depending on the location of you property you will probably have to apply to your local council for planning permission and/or change of use. Also make sure to apply for the following:

Disposal of waste in local drains; water supplies; erection of signs; local building regulations; fire precautions and regulations; electricity and gas supply; refuse removal services; parking spaces; access or rights of way.

Equipment and consumable stock

When buying equipment always buy products with well-organised back-up service. The choice of equipment will be a compromise between your personal preference, choice of field and what you can afford.

Camera equipment includes different size camera bodies; lenses; film holders; extension rails; bellows; lens hoods; various filters; digital equipment: batteries, USB connections, storing equipment etc.

Lighting equipment includes bulbs; stands; synchronising cords; powerpacks; reflectors and diffusers; etc.

*Consumable stock*s like film; photographic paper; chemicals; stationery; packaging materials; etc. now with these consumables it is very important that when you do the stock control to adequately note the expiration dates and when taking stock to record the prices and price increases.

Employing staff

The amount and increase in you staff will all depend on the growth rate of your business. When recruiting staff there are things to take into consideration and knowledge thereof should be obtained either personally or through employment agencies.

When hiring someone a letter of employment should be drawn up according to the Employment Protection Act 1978.

Daily operation of the business

The basics of everyday operation are most neglected and potentially the most important. The systems and practices are as important as the choice of camera. They form a solid base for any business (Rose 1989:65).

Some examples are like the *telephone*. It is such an everyday object of use that one tends to forget its value. The telephone may be the first contact you make with a client and thus one should make a good first impression. People answering the telephone should do so with correct telephone etiquette. The way of running things and the business' way of taking appointments or bookings must likewise be dealt with correctly.

A professional approach should also be maintained when dealing with complaints and should flow through the right channels so as not to aggravate a customer even more.

Little details like handling *post* ought to never be overlooked. Through mail you will receive orders, invoices, cheques and miscellaneous, these all should be handled immediately so as not to miss deadlines or unpaid bills. With outgoing mail it is important to keep records of the packages that was sent as they always serve as back-up in the event of some unforeseen misfortune.

Keeping a business *diary* is a necessity in every sense of the word. A professional businessman depends on a well-planned schedule. Without one, things can go appallingly wrong.

Job cards and worksheets take various forms and perform a number of tasks. It also serves as a reminder or description of what is supposed to be done. Every little detail should be recorded on them as everything plays a role in the final outcome of a project or design.

A final aspect that can be of sustenance is the *inspection and despatch of finished work.* Be sure to check everything to make sure there is no imperfections whatsoever in any part of the final product.

Promotion and selling

First you have to establish a *company image* that attracts potential clients and customers. Factors playing a role are you premises, location, service, decor, personal image and other factors involved in forming good impressions.
Ways to successfully reaching you client is to promote yourself locally' have special sales promotions, advertise in suitable sectors, call on you prospects and form personal relationships and public relations. Once you have victoriously marketed and promoted your business remember that you can never be too perfect or too successful. Always strife to better yourself and make sure the competition stays at bay.

Financial records

The reasons for keeping a set of books or accounts are as follows: (Rose 1989:88)

1. To establish profit or loss
2. To prepare accounts for: (i) the tax inspector (ii) the vat inspector (iii) the bank
3. To provide a historical record of your company's growth (also helpful for budgeting and long-term forecasts)
4. To enable an audit to be carried out

Choosing a computer

When buying a computer there are many aspects to keep into consideration. The power of digital image creation lies in the computer. In order to evaluate a computers performance, understand its potential and gain a better idea of how to purchase one, you should have a basic

concept of what elements a computer consists of. Speed is of vital concern to the digital artist. You do not want to struggle just opening and closing a large colour image, as it can be a time consuming affair.
Digital data is in the form of binary signals. One item of digital data is called a *bit*. Two bits can give four instructions. (E.g. 'a' and 'b' can be configured in four different ways: aa; bb; ab; ba). A group of eight bits gives 256 possible combinations, and so forth.

8 bits = 1 byte*
1024 bytes = 1 kilobyte (K)
1024 kilobytes = 1 megabyte (Mb)
1024 megabytes = 1 gigabyte (Gb)

(* Strictly the term 'kilo' refers to a 1000, but are dealing with a computer binary system, the numbers operate in a doubling fashion: 2, 4, 8, 16, 32, 64, 128, 256, 512, and 1024) (Davies 1998:25)

Generally, computers are 32 bit processors, which mean it can handle 2^{32}
(4 294 967 296) bits at a time. Obviously the more bits your computer can handle, the more information it can store, the larger the files, the better the quality of your final image/product.

Components to keep in mind is the CPU (Central Processing Unit) RAM (Random Access Memory) adequate hard drive, appropriate colour screen, magneto optical drives CD- ROM monitors etc. (Greenberg, 1995: 16)

The Central Processing Unit

The computer is controlled by a microprocessor, which gives rise to the generic type of the computer. The higher the processor numbers, the more elements are available for communication and the more powerful it is. The speed is rated in *megahertz* (MHz). One MHz represents one million instructions per second (Greenberg 1995: 16)

Random Access Memory

The RAM is where all he functions are carried out. It is here where data can be viewed or manipulated. RAM is temporary storage and data must be saved on either the hard drive or other forms of storage, as all data will be lost when computer is turned off. The larger the RAM the easier and quicker tasks can be carried out (Greenberg 1997: 21)

The digital design and production process is as follows: (Greenberg 1997: 17)

Input (see **Figure 1**)

Flatbed scanner
Drum scanner
Slide scanner
VCR
Digital Camera
Video camera
CD -ROM or Photo CD

Image editing

Monitor
CPU
Mouse
Graphic Stabler with Stylus Pen
Removable storage device
Hard disk
Floppy Disk

Output

Colour printers
Black and white postscript printer
Slide-chrome output
Commercial printing output
Video output

Format

Electronically captured images must be stored as a particular type of file – this is called the file *format.* There are various different formats and working knowledge is necessary of at least the main ones.

A digital image often visits several graphic software packages before it is finally printed or presented. Typically the image may be shuttled from program to program for corrections, enhancements, or the addition of special effects. With this a file format with the general same properties are required. The following are examples of widely used digital graphic file formats (Greenberg 1995: 101).

JPEG

JPEG stands for *joint photographic experts group.* It is a popular file format used to compress files. It is a lossy format meaning that data is subtracted when the file is compressed causing loss of image quality.

TIFF

TIFF stands for *tag image file format.* Originally created ALDUS Corporation for use in storing and editing high-resolution images created with scanners. The format is frequently used to save both Mac and PC bitmap files. Unlike JPEG when the TIFF file is compressed, no data is subtracted; therefore, the end quality is much higher.

EPS

EPS stands for *Encapsulated PostScript* developed by Adobe as a way to embed a postscript file within other files. It is the most widely used graphic file format and can be used in both drawing and painting programs. Chiefly the EPS file can be used and inserted into other files without corrupting the file.

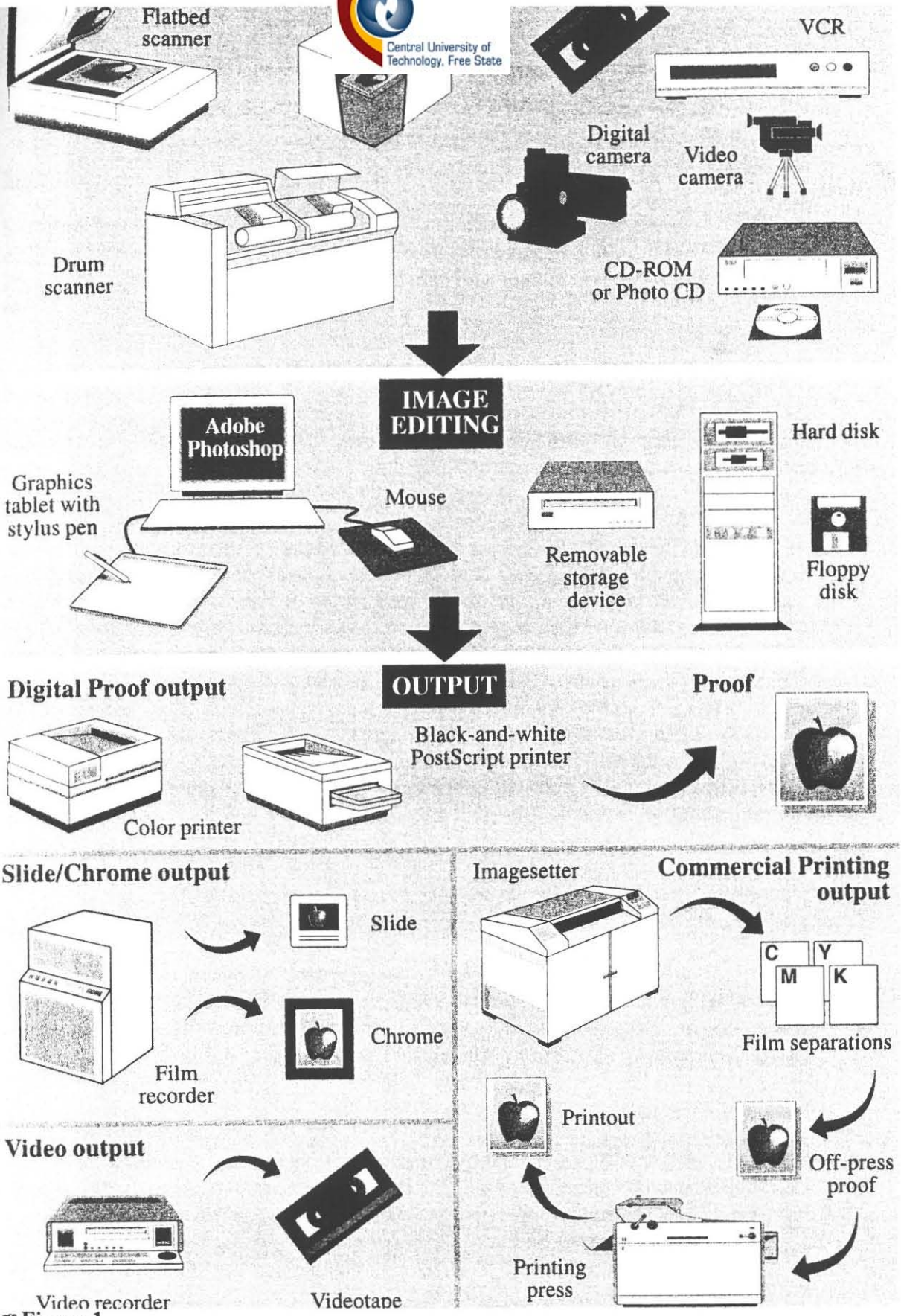

Figure 1
The design and production process
(Greenberg 1997: 17)

Software

Software lets you expertly improve and manipulate digital photographs. There are many different soft tools you can use to process your digital images.
Photoshop is unquestionably the most popular imaging software in the world. It is widely used by designers and photographers alike.

Scanners

Scanners are primarily used to digitise photographs, artwork and slides. They come in all shapes and sizes some produce sharp high quality images other producing output acceptable only for positioning purposes. When you are interested in purchasing a scanner, choose your equipment carefully.
Just as there are different levels of cameras, there are different levels of scanners. Apart from a scanner's optics, another crucial element is its CCD (*Charged-Coupled Device*). Array, which converts reflected light to digital data. When an image is scanned on a flatbed scanner, a light source moves across the image, much as bright light in a photocopier. The light is reflected back to linear array of thousands of CCD's. The number of CCD's in the array is directly related to the scanner's optical resolution. Which determines how much information (in pixels per inch) the scanner can capture. The more CCD's there are the higher the scanner's optical resolution. When evaluating scanners you do not need to worry about how many thousands of CCD's are built into a scanner instead look for high optical resolution.
A low-end scanner might have an optical resolution of 300 x 600 pixels; a mid range scanner an optical resolution of 600 x 1200 pixels and a high end flatbed an optical resolution of 1200 x 1800 or better (Greenberg 1995: 35)

Printer

When you print an image on a laser printer or image setter, output resolution is measured in dots per inch (dpi). The greater the number of dpi the higher the quality of the printout. Black and white and colour laser printers often output images at 300 to 600 dpi. Laser printers can output at 1200 dpi and an image setter outputs images from 1200 to way over 5000 dpi.
The following types of printers are available:

Colour ink-jet printer

Ink-jet printer works by using a cartridge that contains separate colour columns of cyan, magenta, yellow and black ink. The printer creates the output by thrusting dots of ink one at a time onto paper from the cartridge and through the print heads nozzles. A single page can often take several minutes and the quality is reasonably high but only at 360 dpi.

Colour laser printer

Colour laser printers cost more than ink-jet printers do because you pay for the quality of a laser. They print pages faster and at a much higher resolution than ink-jet printers do. They use laser and drum-scanning technology coupled with the use of different coloured primary toner bottles. Achieving a resolution of 1200 dpi and higher.

Dye sublimation printer

Dye-sublimation is literally a hot process it uses a thermal, heat-treating technique to output images to paper. Coloured dyes on a printer ribbon are converted from a solid state to vapours and then pressed onto a surface, where the vapours cool back into solid colours.

When printing CMYK colour is used. (Cyan, Magenta, Yellow and Black) the letter 'K' is used instead of 'B' so as not to confuse with the colour blue.

Digital Camera

The main components of a digital camera is:(Davies 1998:11)

1. The CCD Chip

Charged Coupled Devices is basically a matrix of light sensitive cells (or *pixels* which is short for picture elements) recorded digitally on a computer chip. The light reactive sensors produce an electrical charge proportional to the amount of light that strikes it. Pixels of digital images are the equivalent of film grain. The more pixels in an area the more detail can be resolved. The information on a CCD chip is temporary and need to be stored on more permanent basis.

2. The camera body

The CCD chip must still be mounted in a camera body with an adequate lens to focus the image on the chip. Some models of digital cameras have camera bodies with interchangeable lenses.

3.Analog to Digital converter or Interface Board

This can be either inside the camera or in the form of software in a computer. The camera records images as an electrical signal that cannot be 'read' by computers. The interface board converts the electrical signals into a specific format.

4. Storage medium

Once a format has been established the images are ready for permanent storage. There are a wide variety of choices available. It is possible to store data on a floppy disk, CD-ROM or on the computer hard drive. In some model cameras, the newest technology is memory sticks/cards that are available in different byte sizes and can be used for permanent storage.

Comparing digital cameras with traditional cameras:

Film photographs have extremely higher resolution and are more expensive to maintain because it uses film. Digital cameras use a total different type of photographic technology. It is specifically designed to capture and input computer images. In a way you cannot compare digital or film cameras as they have total different uses. Depending on the field you are in one must choose accordingly.

Conclusion

Once you have established all the manifold aspects involved in starting your own business, you can start looking at your resources and available assets to get you going. It is of vital importance to know what you are doing in order to run a successful business.
Beside the financial and managing side of the business, one must remember that life is hard and unpredictable. You have to be ready for the worst and be insightful with your earnings. A good personality can only be beneficial. You must know how to work with people and have patience with your clients.

Reading List

Livingston, K. (1985) Special Effects Photography, London: Columbus Books

Luciana, J. (1999) The Art of Enhanced Photography, USA: Rockport Publishers

Sawyer, B. (1997) Digital Camera, USA: Coriolis Group

Sinclair, R. (1997) The Advertising Book, South Africa: Thomson Publishing

Ziegler, K. (1999) Virtual Media, USA: Dimension Illustrators

Bibliography

Davies, A. (1998) Electronic imaging for photographers, London: Focal Press

Greenberg, D. (1995) Digital Images, USA: Osborne

Greenberg, D. (1997) Fundamental Photoshop, USA: Osborne/McGraw-Hill

Josephson, F. (1996) Careers in Multimedia, USA: Wadsworth Publishing Company

Langford, M. (1974) Professional Photography, London: Focal Press

Pitt, L. (1997) Marketing for Managers, South Africa: Juta

Rose, A. (1989) Photographic Business, London: Biddles Limited

Wright, T. (1999) The Photography Handbook, London: Routledge

Zucherman, J. (1997) Outstanding Special Effects, London: Focal Press

Central University of Technology, Free State

Digital Techniques

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An essay submitted for the subject
Visual Communication III

Faculty of Human Sciences

Technikon Free State

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Contents

Introduction

The techniques involved in digital photographic manipulation are vast and said to be endless. With the option of so many different computer software, your variations and possibilities are limitless. The design process can take many forms and can lead into a multitude of directions.

The most commonly used and easiest understood programme must be Adobe Photoshop.

> *"Photoshop is the most popular image-editing programme in the world. The program provides enormous flexibility in editing, manipulating and blending digital images. It is used for special effects, retouching and colour correcting and for separating images created as RGB colour files into CMYK colour files so that they can be output on a commercial printing press"* (Greenberg 1995:192).

> *"Photoshop is truly magical! Photoshop can make the wrinkles of age vanish magically - or create them where they have not yet appeared. It can transform a torn and discoloured photograph so that it looks like a flawless image taken by a master photographer. Moreover, Photoshop can turn your blank computer screen into an artistic masterpiece - a blend of photorealistic images fantastic designs, patterns and colours"* (Greenberg 1997:2).

Photoshop can be used in both Windows and Macintosh applications.

Digital techniques

Getting started

The basic set-up of Photoshop is extremely simple, such that without knowing anything about the program you will be able to fill the screen with assorted shapes, text colours, etc. But without a foundation of knowledge about Photoshop's tasks and operations, your creative drive will soon come to an end. One needs to be acquainted with the overall structure of the program and how it works.

Pixels

Every Photoshop image is composed of a grid of tiny squares called pixels. A pixel is the smallest picture element in your image. When you paint, retouch, cut, paste or alter any image in Photoshop, you are changing pixels. The more pixels per square inch, the sharper the image and the smoother the blend between colours when the image is printed.

The Photoshop Window

The Photoshop window, shown in **Figure1**, is very simple and basic. It contains all the necessary commands and information on your document/image.

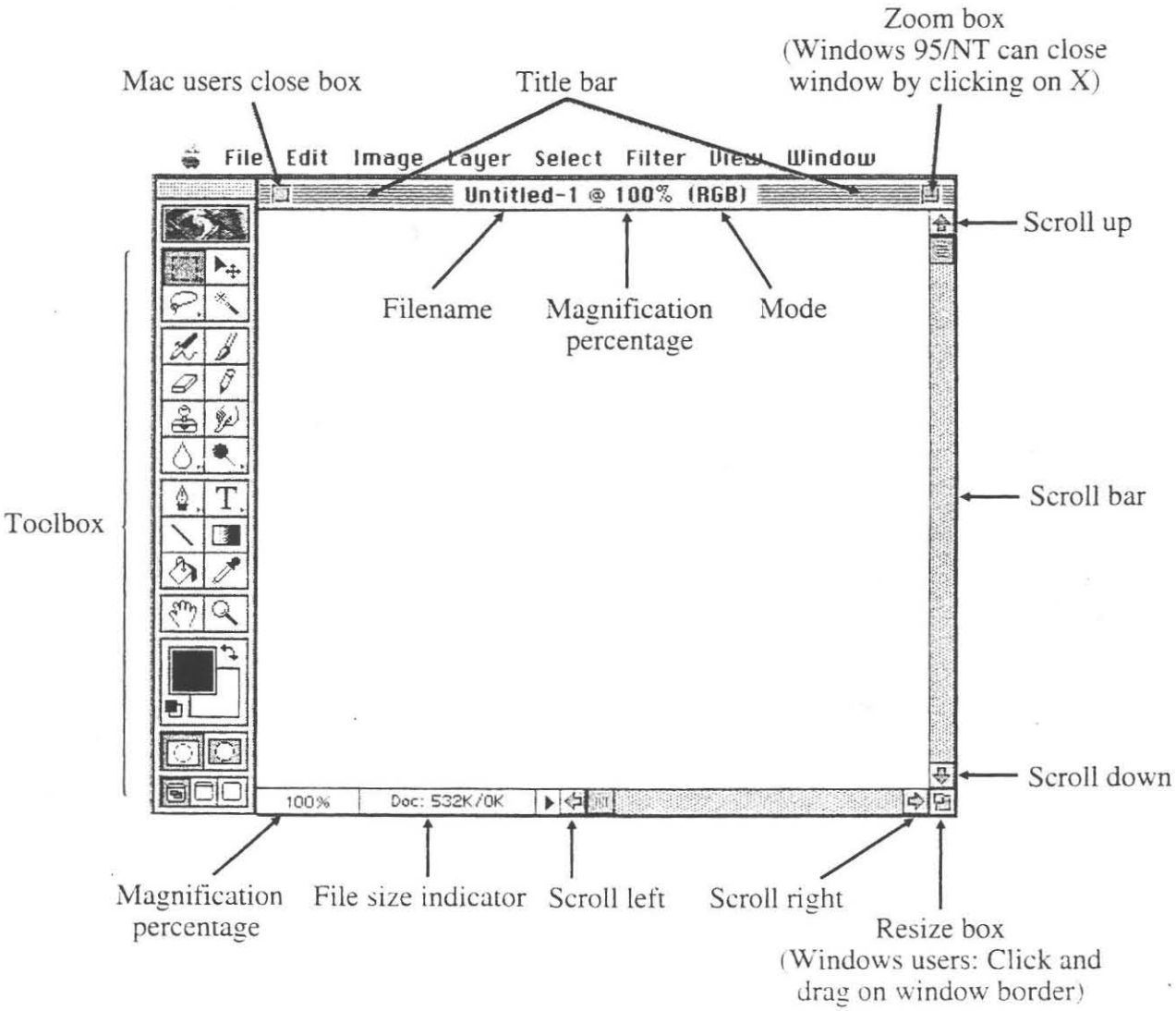

Figure 1

The Photoshop Window

(Greenberg 1997: 44)

The toolbox

The Toolbox (**Figure 2**) contains the essential tools for painting, selecting and editing graphics. An icon depicts each tool. One should understand the purpose and power of each tool. The Toolbox consists of various 'tools' each providing a specific utility to aid you. You only have to click on the icons to select a tool. In some icons, there are arrows to suggest more options to a tool.

The Selection Tools

These are used generally when you want to make changes to an image or specific parts of it. You will need to select the areas first with these tools to be able to work in/on them. You click on the desired icon, drag the mouse to the desired area and click to select.
The names of the different selection tools are:

Marquee Column
Marquee Row
Marquee Ellipse
Lasso
Polygon Lasso
Magic Wand

The Cropping Tool

The Cropping Tool is used to cut out a portion of an image and remove the rest. It can also be used to resize the image

The Move Tool

The Move Tool is used to move selected parts and layers. You only have to click on it and drag.

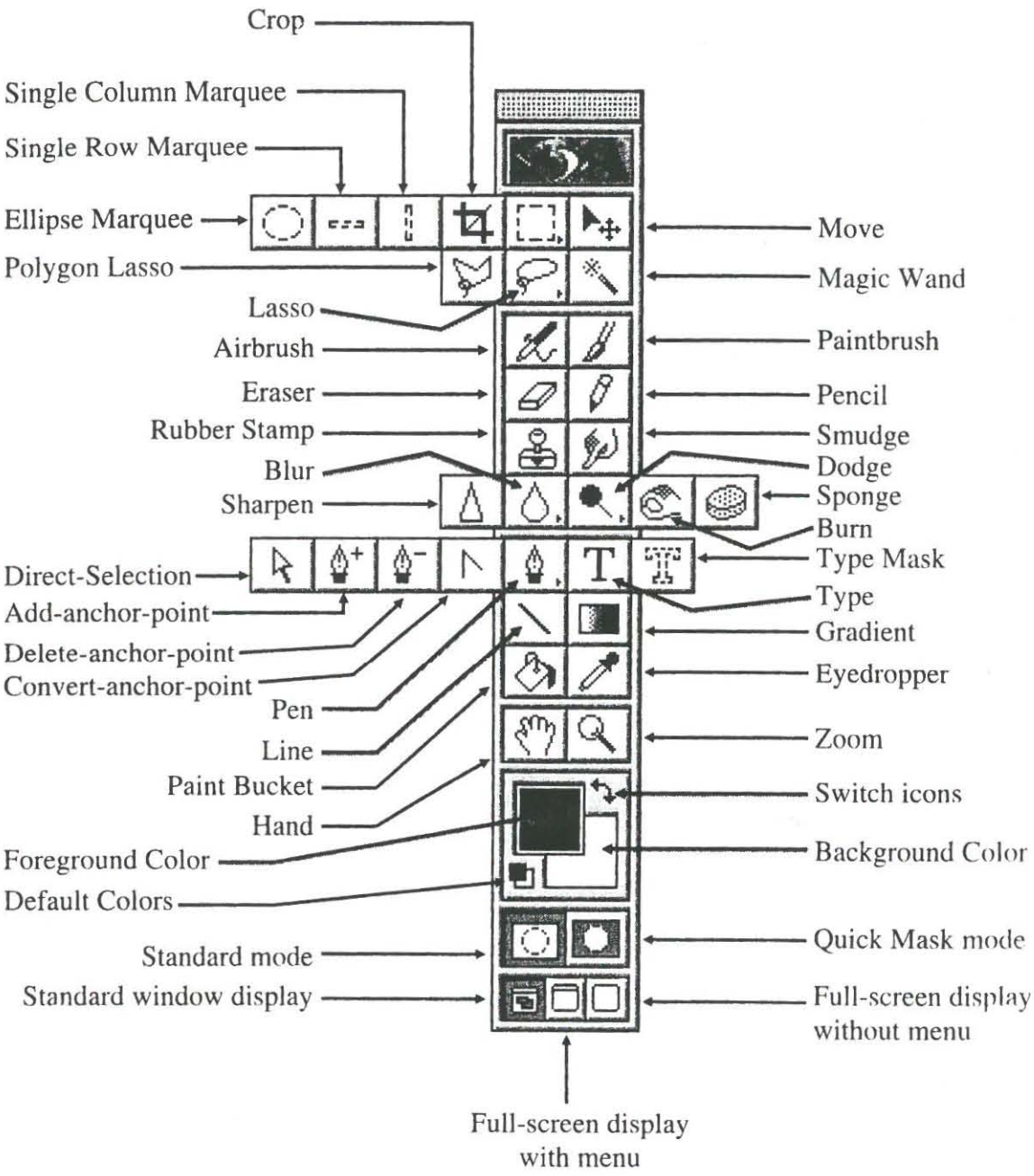

Figure 2
The Tool Box
(Greenberg 1997:48)

The Painting Tools

Paintbucket
Gradient
Line
Eyedropper
Eraser
Pencil
Airbrush
Paintbrush

In Photoshop painting is called the 'Foreground colour'. The 'Background colour' is the colour that can be used to erase parts of an image or to delete an entire object. The Paint bucket, Airbrush, Line, Paintbrush all paint with the Foreground colour. The Eraser can erase parts of an image so that the transparent background shows through. The Eyedropper is used to pick up the exact colour from an image to be used again.

Editing tools

Rubberstamp
Smudge
Blur/Sharpen
Dodge/Burn/Sponge

The Rubberstamp is a cloning tool. You can use it to sample an area and copy it elsewhere pixel by pixel. It is used frequently when retouching images or creating special effects.

The Smudge tool allows to create a watercolour effect. It smudges a colour to make it look like as if water has been applied to it.

The Blur tool softens hard edges and Sharpen Tool brings out more detail.

The Dodge, Burn and Sponge change the colour and tones in an image. Sponge allows you to saturate or de-saturate the colour in an image.

Dodge and Burns (as traditionally used in darkrooms) are used to correct exposure by lightening/darkening specified areas.

The Path-creating and Path-editing tools

Paths are often used to create shapes for masks. The pen tool allows you to create paths. A mask can be used to create an electronic stencil on screen that protects image areas from being changed whilst working on other areas.

The tools that allow you to edit paths:

Direct Selection
Add Anchor Point
Delete Anchor Point
Corner
Pen

The Type Tools

Type and Type mask tools are used for your text. The Type tool creates text in a new layer. The Type Mask tool creates a selection in a dialog/text box in order to change colour or create an outline in the form of letters etc.

The Hand Tool

The Hand Tool allows you to scroll through a document or image for easy viewing. It allows more control than the windows' scroll bars as you can click on a specific area and move the image around.

The Zoom Tool

It increases or decreases the magnification of an image. After zooming, you can use the Hand tool to reposition the image.

The Colour Control icons

These allow you to view and switch colours. The Foreground and Background icons display the current fore- and background colours. When you click on them the Photoshop Colour Picker dialog box appears from which you can change and pick your colours.

The Mode Icons

These Icons can create a Quick Mask mode, which lets you view your work through a tinted overlay from which you can edit selected areas. This Mask mode, in easier terms, works like when a painter uses masking tape to mask of areas to protect them when working on the surrounding areas.

The Screen Display Icons

These icons only change the window display mode on the screen from a window surrounded by tool windows to a full screen image with or without the tool windows.

objects of another. This gives you efficient means of compositing images and previewing their effects.

The Layer Palette allows you to create new layers, move from layer to layer, and rearrange layers and grouping or merging layers. The Opacity slider in the Layers palette also allows you to change the opacity of an image, thus blending them with one another. the Options also allows for special effects such as Darken, Hard and Soft light, Difference and so forth

The Info Palette

It functions as a densitometer (used to measure colour density), displaying the colour values as you move over them. The colour density will be displayed in either RGB or CMYK.

The Paths Palette

This palette allows you to edit and control paths created with the Pen tool. It can be used to outline or fill paths with colours or change paths into selections.

The Channels Palette

A channel in Photoshop is similar to a plate in commercial printing. The Channel palette allows you to easily view or edit an image in a channel. It will display separate channels for each of the Red, Blue and Green colour components of the image. (When making in CMYK it will be for Cyan, Magenta and Yellow) When you want to alter a component you click on the desired colour channel and make your changes.

The Navigator Palette

It allows you to quickly zoom in and out to specific image areas. It features a miniature version of your image in a view box to indicate the area viewed on screen. You drag the view box to the desired area and size to display the area to be seen. Only the area of the image inside the view box will be seen on screen.

The Actions Palette

This allows you to record you actions and play them back. Using the palette, you can create a sequence of actions that can be played back and applied to different images. The actions can be edited by dragging the action up or down in the palette.

FILTERS

> *"Photoshop's magical filters are designed to do what most digitising devices cannot do: enhance an image and disguise its defects. A filter can turn soft, blurred contours into sharp, crisp edges or soften an image that has jagged edges. Filters can also remove dust and scratches in digitised images and help eliminate colour banding (abrupt changes in colour values) and noise (randomly coloured pixels that can appear in scanned images)"* (Greenberg, 1995:354).

Many filters are designed to subtly improve images and others can create dramatic alterations, for example: twisting or bending an image, spinning into motion or creating blur etc. Filters can change a continuous tone image and make it appear as if made by 3-Dimensional blocks. Filters can create unusual, eerie or humorous effects.

The complex digital effects created by Photoshop's filters have their roots in photography. Photographic filters are used to filter out light, enhance images and to create special effects. But the effects of the digital filters and versatility cannot be matched. The possibilities are endless.

Each Photoshop filter produces different effects. Some work by analysing every pixel in an image or by transforming it in applying mathematical algorithms to create shapes such as tiles, 3-D blocks and pyramids etc.

The list of filter categories is in the menu window under Filters. You simply select one, look at the options and apply. The filter groups are: *Artistic, Blur, Brushstrokes, Distort, Noise, Pixelate, Render, Sharpen, Sketch, Stylize, Texture, Video and Other.* Sometimes the effects of a filter are so subtle you may wish to apply it again to enhance results.

Here follows a discussion of some:

The Blur Filters

Often used to smooth areas where edges are too sharp and the contrast too high. Also used to blur the background so that the image stands out.

Blur- light blurring effect to decrease contrasts and eliminate noise in colour transitions.

Gaussian Blur - allows control over the blurring from a slight softening to a thick haze in the Gaussian Blur box. You specify a value of .1 to 250 in a radius field to control the range of the blur. The higher the number the greater the blur.

Motion Blur- creates the illusion of motion. It imitates the effects of photographing a moving object with timed exposure. The motion Blur box allows you to control the direction and strength of the blur.

Radial Blur- creates very interesting effects. It can spin an image into a circular shape or make it radiate out from its centre.

Smart Blur- gives a variety of effects like blurring out wrinkles or folds.

The Noise Filters

Noise, or randomly coloured pixels, is occasionally introduced during the scanning process. The Noise filter blends noise with the surrounding pixels to make it less apparent.

Add Noise- the Add Noise filter adds noise to an image, blends noise into an image and helps diffuse colour banding that can occur in blends

Despeckle- this filter seeks out the areas of greatest colour change in an image and blurs everything except transitional edges; thus, detail is not lost.

Dust and Scratches - this filter hunts down small imperfections in an image or a selection and blends them into the surrounding image.

Median- it also reduces noise by blending the brightness of pixels within a selection.

The Sharpen Filters

The four sharpen filters clarifies images by creating more contrast and are often used to enhance the contours of scanned images.

Sharpen- it sharpens by increasing the contrast between neighbouring pixels.

Sharpen Edges- it sharpens only the edges of an image.

Sharpen More- it provides a stronger sharpening effect than sharpen.

Unsharp Mask- exaggerates the sharpness of an image's edges

Other filters include:

Lighting effects filter
Clouds filter
Lens flare
Pixelate filters
Distort filters
Diffuse glow
Displace
Glass
Ocean ripple
Shear
Spherize
Twirl
Wave.
Zig Zag
Stylize filters
Diffuse
Emboss
Extrude
Glowing edges
Solarize
Tiles
Wind

If and when you feel limited you can go to other software programmes for even more creative filters e.g. Filter Factory and Eye Candy.

Digitizing, Manipulating and Changing Image Size

Digitized images are the core of most Photoshop design projects, when digitising a visual image you are translating it into digital signals so that it can be broken down into pixels and loaded into the computer. Success of your work depends on digitising images correctly. The aim is to maintain image quality and ensure that colour is not flawed. Images digitised at too low a resolution may look jagged and blurred; too high a resolution may increase your file size beyond workable proportions.

Scanning

The most important thing one must remember is that different scanners produce output of different quality. A low-end scanner will suit your needs for low resolution scanning. The ultimate would be to use high-end digitising equipment as used by a service bureau. However, using a mid-range scanner will avoid the cost of high-end equipment and will produce highly acceptable images with ample colour information, and with sensitivity to the colour range of your image. Before scanning you should know the dimensions of your final image and calculate the correct scanning resolution accordingly. Scanning resolution is measured in pixels per inch. The more pixels packed into an image the more information it contains.

Calculating resolution and image size

If you are producing an output for a printing press the images resolution should be based on the printing resolution. Your scanning resolution (measured ppi) is directly related to the screen frequency. Screen frequency is determined by rows of cells composed of *halftones*. *Halftones* are built from the tiniest dots that can be produced by printers. When scanning, the following should be the general rule:

> "Two image pixels are needed for every half tone to produce high quality output of images" (Greenberg 1997:294)

Changing image size

If a new file size is too large for your system to handle you can reduce the file size by decreasing the dimensions of the image in the image size dialog box.

Rotate canvas demands

These are there to help you fix an up side down image. They are necessary post-scanning commands to adequately fix the image.

Rotate Canvas

This command is found in the Image menu and provides the options of rotating the canvas at 180, 90 ClockWise, 90 Counter ClockWise and Arbituary.

Flipping an image

This is found in the Rotate Canvas submenu and gives you the option to flip an image, making it face in a different direction. Two choices are: Flip Horizontal and Flip Vertical.

Adjusting Brightness and Contrast

Contrast is the difference between the lightest and the darkest parts of an image (Greenberg 1997:312).

Brightness is the degree of light that is reflected from an image or transmitted through it (Greenberg 1997:312). This command is found in the Image/Adjust sub-menu. It gives a dialogue box with the option of Preview (showing you immediately the effect the image will have when changing the brightness or contrast). You slide the Brightness/Contrast arrows until you obtain the desired effect.

Resizing an Image

You may need to increase or decrease the size of a digitised image so that it fits in a specific area when you print it. You will find the Image Size command in the Image menu. In the dialogue box, you change the dimensions of the image by entering a new value in the Width or Height field.

Increasing Canvas Size

This increases your work area on the computer screen. You will find the command under the Image menu. The dialogue box also allows you to indicate the placement of your image on the canvas.

The Transform Commands

The command is available in the Image/Rotate canvas submenu. Transform allows the following:
Scale command is to resize a part of the image.
Skew to slant an image to the desired position.
Perspective to create the appearance of depth in an image.
Distort to stretch the image in different directions.
Rotate and Flip commands of the transform menu are different from the others in the way that they allow you to rotate and flip a selection, an entire layer or non-transparent areas of a layer.

Working with Invert, Equalize, Threshold and Posterize

These are found in the Image menu and are used to remap or reassign pixel values in a selection or entire image.

The *Invert* command reverses your image turning it into a negative of the original

The *Equalize* command distributes light and dark values evenly and can be used to adjust dark scans.

The *Threshold* command converts the colour or grey scale image into a high-contrast black-and-white image.

The *Posterize* command can create some unusual special effects with making the grey contours in an image disappear and replacing them by large flat colour areas.

Converting modes for printing

Although RGB colour allows you to access the full range of Photoshop image-editing menus and commands, many Photoshop projects require that you convert images into other modes.

RGB Colour Mode
This mode is Photoshop's native colour mode. All colours are created by combining different values of red green and blue creating more than 16.7 million colours.

CMYK Colour Mode

A commercial printer uses this colour mode for viewing and editing images for output. The colour images are divided into four channels, one for each of the process colours use to create four colour separations: Cyan, Magenta, Yellow and Black. When the image is printed, the tiny coloured ink dots from each colour plate combine to create countless variety of colour. When you work in CMYK colour mode, you have a choice as to how the colours are displayed. Photoshop will display the colours as accurately as possible.

General converting modes (Greenberg 1997: 433)

Converting from RGB colour to CMYK colour
Converting from RGB colour to Indexed colour
Converting from a colour mode to Greyscale
Converting from Greyscale to Colour mode
Converting from Greyscale to a Duotone

The main advantage and reason for mainly working in RGB colour mode are that the computer processes it quicker therefore it is advisable not to convert a file to CMYK colour until all the image editing is complete.

Retouching and Colour Correcting

Photoshop images frequently undergo numerous transformations before it is finally output to the printed page, video or transparency. No matter what the project, an essential and often unavoidable step is colour correcting or retouching. These steps are critical to making the final design match the Photoshop artists' vision.

Colour Correcting involves changing an image's hue, saturation, shadows, mittens, and highlights so that the final output has the most appealing appearance as possible. Colour Correcting is often required to compensate for loss of colour quality as a result of digitisation. The process of translating your Photoshop image to the printed page makes colour correction a necessity as well. Colour correcting makes sure that an image's colours conform, and even improve, to those of the original.

Retouching not only improves the image by removing imperfections but can even make it appear better than real life. It is mainly necessary to " clean up" the image or make it better.

Retouching and Colour Correcting goes hand in hand.

Calibration and Output

No matter how exquisite you Photoshop images, it may all be in vain if the final output does not match the on screen image. To get sharp vibrant printed images, you need to understand the how they are produced and how system calibration output quality.

Printing proofs of your images

Before you actually print you, Photoshop project, you should view a printed sample, or *proof*, of your image. The proof will help you judge the quality of the final printing job. Proofs will be able to show you that colours are not correct and show you the degree of *dot gain* (*dot* gain is the expansion and contraction of halftone dots, usually due to ink spreading on paper) to be expected. With this knowledge beforehand you will be able to go and change the mistakes before printing.

You will have to proof an image as often as possible during a project. The earlier you catch problems with colour and design the easier it is to fix them. In attaining colour accuracy, another way to avoid problems is to properly *calibrate* your monitor and system. Doing this help to ensure that what you see on screen portrays the final output as accurately as possible. Calibration is necessary because monitors, scanners, printers, and printing presses vary in the way they render colour.

Printing options

Once you have an understanding of all the different processes, you can start to explore the options available in Photoshop Page Set-ups and Print dialogue boxes. These provide numerous output features, like:

The Calibration Bars -used to match a proof to the screen image.

Registration Marks -used to align pieces of film for printing colour separations.

Corner Crop Marks - indicates where paper should be trimmed.

Labels -used to print the document name on the page with the image.

Emulsion down - this is about film and photographic paper which have a photosensitive layer called emulsion.
Some print shops may require the emulsion to be up or down.

Interpolation -some postscript level two printers can improve the appearance of low-resolution files by interpolating pixels when printing. If you do not have this option, it will not change your output quality.

The print dialogue box.

After selecting the desire options in the page set-up box you go to the print dialogue box by choosing it from the file menu. The following options are important when printing:

Print quality -you may be able to set the number of dots per inch for output. Click on the pop up menu to choose a resolution.

Encoding - Binary is Photoshop default encoding format for outputting files. Only some networks will process Binary data. Encoding basically reads the data and transfers it to the output device.

Print selected area - use this only to print a selected area. Option is always available no matter what mode your image file is in.

Print in grey, RGB, Lab or CMYK - this basically lets you choose in which colour mode you want to print. If you have post script colour, Photoshop will convert the colours to any colour mode.

Conclusion

The general layout of Photoshop is in actual fact very simple, but to successfully apply the editing one needs to know in depth how everything works. To practically obtain the necessary knowledge you can go through the Tutorial software supplied with the programmes. For additional information, it is advised to get a Study Guide on the specific software/programmes.
The more you work on Photoshop the better you will get and the easier it will become to work with. As quoted, the Photoshop programme is amazing and it is often delightfully shocking what you can actualize with it. It is fun to work with and the challenges and potentialities are fast and never-ending. The digital era with all its new technology, jargon and possibilities, has just begun with amazing results. Technology is consistently advancing and one has to wonder what the future holds...

Reading List

Davies, A. (1998) Electronic imaging for photographers, London: Focal Press

Hunter, F. (1994) Illusion, USA: Hearst Books International

Josephson, F. (1996) Careers in Multimedia, USA: Wadsworth Publishing Company

Luciana, J. (1999) The Art of Enhanced Photography, USA: Rockport Publishers

Sawyer, B. (1997) Digital Camera, USA: Coriolis Group

Ziegler, K. (1999) Virtual Media, USA: Dimension Illustrators

Zucherman, J. (1997) Outstanding Special Effects, London: Focal Press

Bibliography

Greenberg, D. (1995) Digital Images, USA: Osborne

Greenberg, D. (1997) Fundamental Photoshop, USA: Osborne/McGraw-Hill

Central University of Technology, Free State

Discussion of Authors Work

By Diane Willson

An essay submitted for the subject
Visual Communication III

Faculty of Human Sciences

Technikon Free State

November 2001

Contents

Introduction

With the development of digital photography the creation of unimaginable compositions has become easier. Creating new and strange effects and enhancing your existing work has simplified to a point of 'Child's play'. The possibilities are everlasting. The learning process of Photoshop is an exciting and fun prospect, because each tool or command surprises you. Technology has enabled us to digitise almost anything and with that option the scope of creativity widens each passing moment.

Equipment used

- Pentax MZ-50, 35mm camera with a 30- 80mm lens
- Digital Still Camera, Sony Cyber-shot, DSC-S50, 2.1 Mega pixels.
- Large format: 6x7 Mamiya
- Computer: AppleMac, 6 Gigabyte Hard Drive,192 Mb, 333MHz
- Scanner: Agfa 1200 Arcis, 300 lpi
- Printer: Nashua Magicolor2 QMS, laser writer
- Software: Photoshop 5.5 – for Digital manipulation
  Agfa Fotolook – for scanning
  FreeHand – for printing

Figure 1 Untitled

Layer 1- background layer

Layer 2- eye

Layer3- car

A scanned in image of an eye was taken and the *Image/ Mode/ Variations* command
was used to change colour, and enhance the light spot in the eye. Then the *Edit/Transform/Scale* command was used to enlarge the picture to required size. The *Move Tool* was used to position according to will.

A blank layer was used to create the background. The *Paintbucket Tool* filled it with colour. The *Colour Swatches* was used to select desired colour. Hereafter, the filter "droplets" was selected from the added filter software,"EyeCandy". This filter gives you the options of droplet size, amount, opacity, lighting direction and highlight strength to choose from.

A 35mm colour negative was scanned in of the car. The *Magnetic Lasso Tool* was used to cut out the desired image. The added filter software "Xenofex" provided a *Plastic Wrap* filter, which was applied to create the Liquid Chrome-like effect (it appears to be chrome-like, because the original colour of the car is Metallic Silver). The motion effect was created with the Photoshop filter *Motion Trail.* With this filter you have the options of the distance of the trail, the direction of the trail and the option of it fading or not.

To create the final composition of the three layers, the *Move Tool* was used to position images together as desired.
The final product is one of total unreality, but creates an effective balance because of the bright and vibrant, warm colours. It also tends to create an extraterrestrial feel, which just emphasises the exclusivity of digital enhancement.

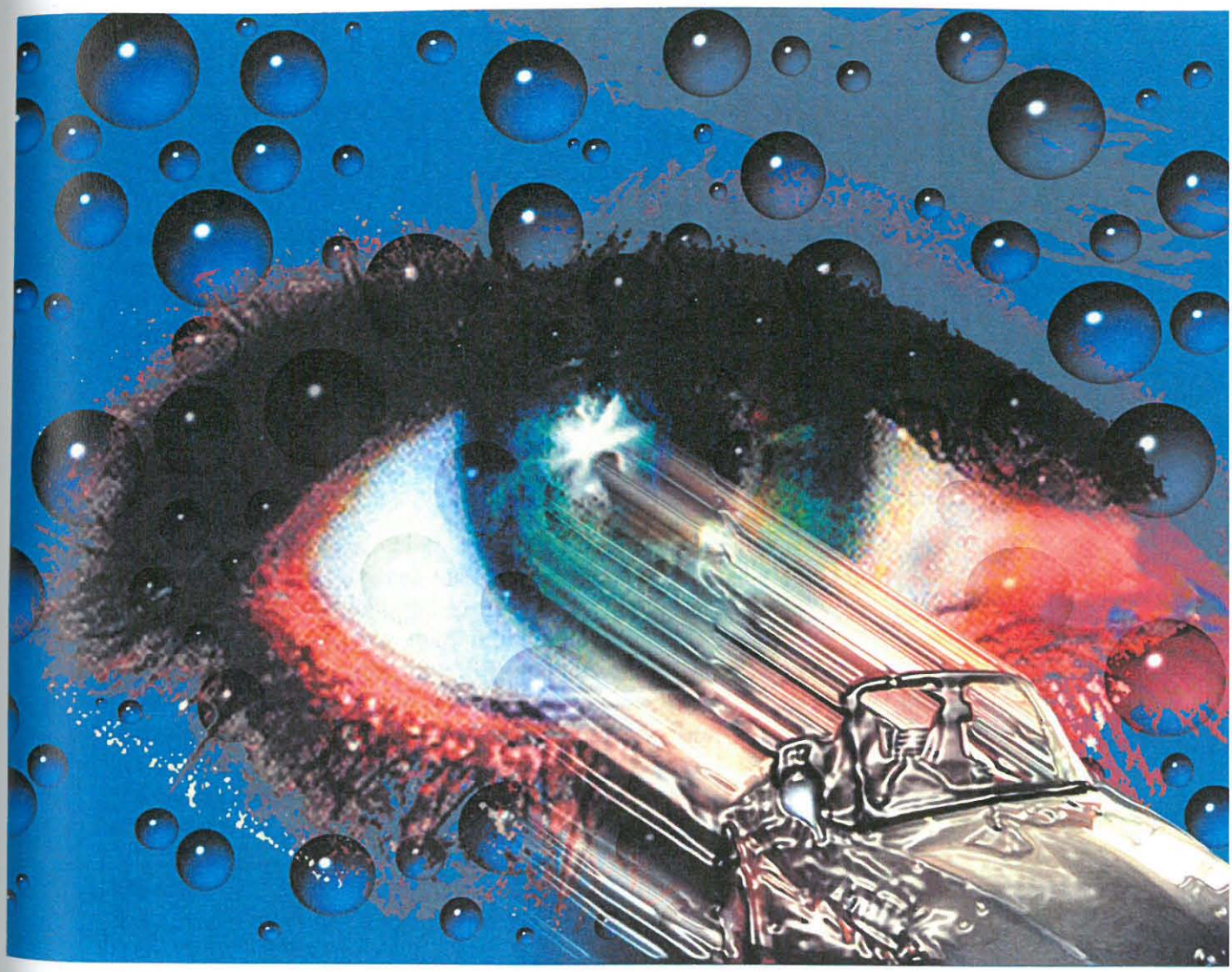

Figure 1
Untitled

Figure 2 Untitled

Layer 1- background layer

Layer 3- line art of wings 1

Layer 4- line art of wings 2

Layer 5- line art of wings 3

Layer 6- cut out of model

The background layer is a 35mm colour negative which was scanned in. the filter *Noise/ Despeckle* was used to remove any unwanted pixels in the image. Another filter applied was the *Noise/Dust & Scratches* filter to remove any irregularities, or 'spots', which might have occurred during the scanning process. The *Image/Adjust/Auto Levels & Auto Contrast* was applied to correct the colour balance. After this the *Sharpen/Sharpen* filter was applied to get details in focus. The layer was duplicated to make a cut out of the model for Layer6.
The *Image/ Extract* command was used to make a cut-out of the model that is the topmost layer to sandwich all the other layers between it and the background layer.

A scanned image of a 'fairy' drawing was scanned in under the *Image/ Mode/Line-art* mode, which just showed the outlines of the drawing. The 'fairy' was removed with the *Eraser Tool* and only the 'wings' were left. These were coloured in with the *Paintbucket Tool* using the *Colour Swatches Palette* to select the different colours of the different sections. The *Edit/ Transform Scale & Perspective* command was then applied to get the 'wings' in relation to the model. The *Move Tool* was used to move to desired position. The layer was then duplicated with the *Layer/ Duplicate Layer* command to make two exact copies.
On Layer 3 the *Layer/ Effects/ Outer Glow* command was applied to create the glow around the 'wings'.
On Layer 4 the opacity was changed in the *Layer Palette* by clicking on the *Opacity* block and adjusting the percentage level.
The "EyeCandy" filter *Chrome* was applied to Layer 5 to create the silvery outlines and dots. Showing these three layers together produce the magical 'fairy-like' feel to the 'wings,

The cut-out of the model is placed on top of all the layers, which places the wings behind her and makes it 'life-like'.
This image is pleasant because of the rich colour that Photoshop creates and the combination of fantasy and the real.

Figure 2
Untitled

Figure 3 Breast Cancer Advertisement

Layer1- background Layer

Layer2- text

Layer3- ribbon

Layer4- logo and address

Layer5- nude model

The model was taken on 35mm-slide film and was scanned in. The *Filter/Noise/Despeckle & Dust and Scratches* filter was applied to discard of unwanted pixel and spots that may have developed during the scanning process (as in figure 2). The *Image/Extract* command was used to remove the model from the original background. The *Edit/ Transform/ Scale* command was used to form the desired size of the image in relation to the background

The background image is a scanned picture from a magazine. The *Blur* filter was applied to remove the excessive pixels that occur from scanning a magazine print, giving it a smooth and eerie feel.

The logo, address and ribbon were scanned from a Breast Cancer Association pamphlet. The *MagicWand Tool* was used to select the text from the pamphlet and cut it out with the *Edit/ Cut* command and placed on the layer. The *Move Tool* dragged it to the desired positions.

The text was created with the *TypeTool*, which opens a window and gives you the options of type of text, size, form, colour and direction. The size can be changed according to will by clicking on the text layer, selecting the text and changing the size.

The image is creative, yet shocking as it shows nude breasts, which attracts the attention of the viewer. The background creates a feeling of an electrifying captor i.e. breast cancer. It also gives the feeling of being trapped or held by 'something' not quite pleasant. A definite message is sent in the advertisement and is carried across effectively. It is clear and simple and yet is pleasing to look at because of the colour. Adequate information is given.

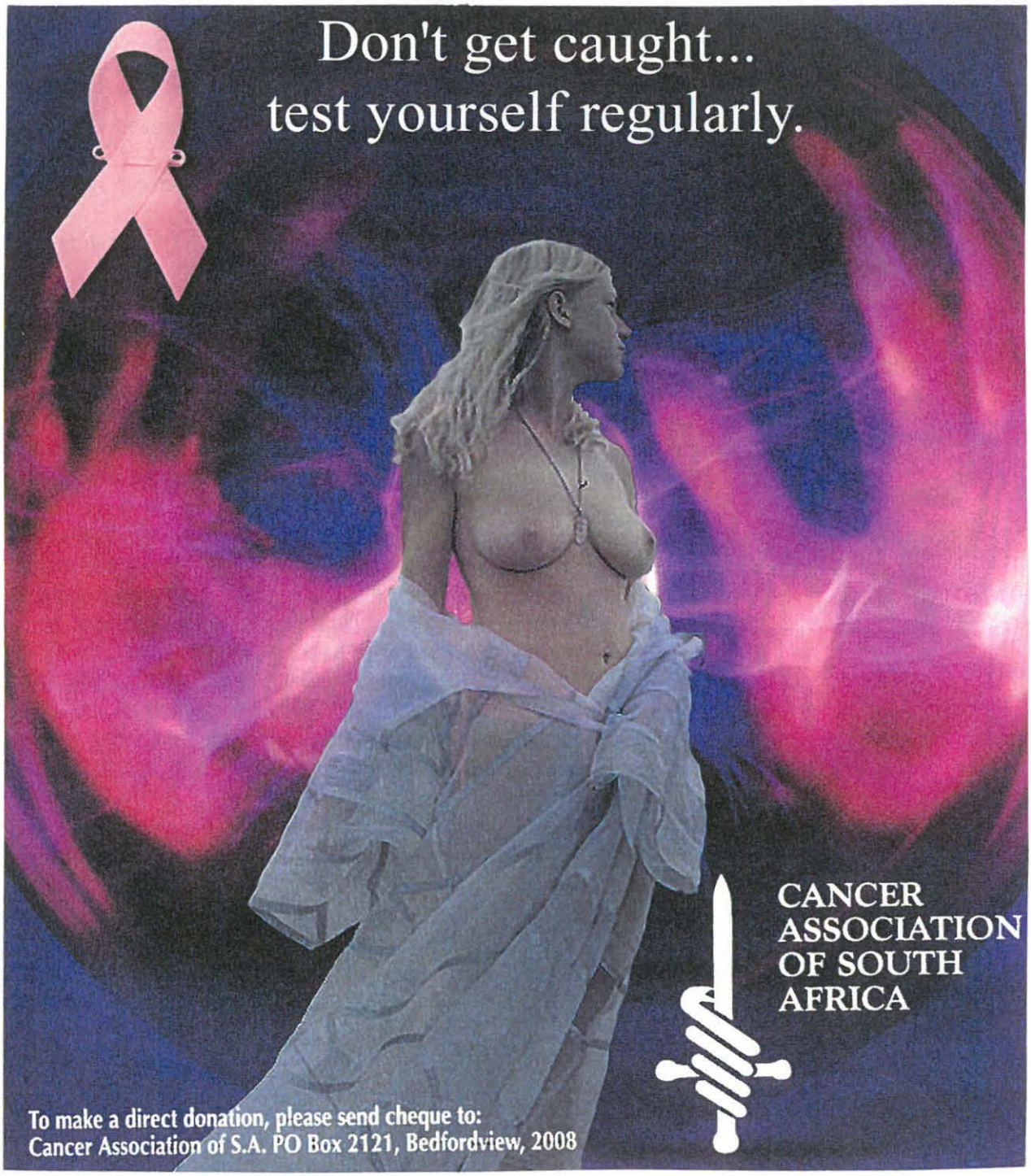

Figure 3
Breast Cancer Advertisement

Figure 4 Payot Advertisement

Layer 1- background layer

Layer 2- Image (initially four layers, merged together as one)

Layer 3- products

Layer 4- text

The background layer is a pattern that has been repeated to fill the whole canvas by using the *Pattern Stamp Tool*.

The products was scanned in from a magazine picture and cut out from the original background with the *Magnetic Lasso Tool* which selects the image, then uses the *Edit/Cut* command. The *Move Tool* is used to position at desired place.

The nude model is originally 6x7-slide film scanned in as a "Transparency". It was a dark background, so the *Magic Wand Tool* was used to separate the image from the original background. The layer was then duplicated three times. Each layer was individually transformed into different sizes, to give the idea as if the image is reclining. The opacity was also adjusted, 25% for the smallest, 50% and then 75% for the others with the front image at 100%. The layers were then merged together by clicking on the arrow in the *Layers Palette* and selecting the *Merge Visible* option. This pasted them in position onto a single layer.

Clicking on the *Type Tool* created the text. The glowing effect was created by clicking on *Layers/ Effects/ Outer Glow* and creating the desired glow.

The image is effective in the way that the feel is soft and goes with the products. The fading reclining figure suggests a renewal process that is associated with skincare products. The colours are dull and monotonous, but work with the advertisement as a whole.

Figure 4
Payot Advertisement

Figure 5 Purity Advertisement

Layer 1- background

Layer 2- angel wings

Layer 3- logo

Layer 4- text

Layer 5- cut out of baby

The original picture is a 35mm black and white negative scanned in. After applying the *Noise/ Despeckle & Dust and Scratches* filters, the image was converted from *Greyscale* mode to *Duo-tone*. The colour level was then set to create the sepia effect. A duplicate was made of the layer where the *Magic Wand Tool* was used to select the background and cut it the image with the *Edit/ Cut* command. The cut out layer is moved to be in front of the 'wings' layer.

The wings were scanned in from a magazine print and cut out by selecting it with the *Magnetic Lasso Tool* and selecting the *Edit/ Cut* command. They are resized with the *Edit/Transform/ Scale & Perspective* commands, in relation to the baby.

The Logo is also a scanned image of a 'Purity' advertisement. It was originally black, but was selected with the *Magic Wand Tool* and filled with black by using the *Paintbucket Tool.*

The baby cut-out is placed on top of the rest of the layers, placing the wings behind the baby.

Text is created wit the *Type Tool* and moved to the final position with the *Move Tool.*

The image is cute and grabs at the heartstrings. It is pleasant to look at. Different parents will interpret the baby angel in deviant ways, as all children's personalities differ. The message is that purity is a good baby food and this is portrayed in the angel. The colour plays a role as it shows difference also creating exclusivity.

Figure 5
Purity Advertisement

Figure 6 Untitled

Layer 1- Background

Layer 2- Image

The original picture was a double exposure taken in the studio with the 6x7Mamiya on 6x7 film. The main image was of a model taken from the front and second exposure a profile from the left.
The image was scanned into computer using the AgfaFotolook software in transparency mode at 150 lpi. Once it was opened in Photoshop 5.5, the *Noise, Despeckle & Dust and Scratches* filter was applied to remove al the irregularities. The colour balance was adjusted until it was natural, warm and pure. This command is found under *Image/ Adjust/ Colour Balance.*
The Image was duplicated with the *Layer/ Duplicate Layer* command, and the opacity of the second layer was changed to 50%. The *Move Tool* was used to move the second layer around on the background layer until an almost symmetrical image was created. The *Crop Tool* was used to crop out the unnecessary background space so that the impact of the focal point is stronger.

The image is striking due to the fact that at first glance you don' t immediately see the strangeness of the image and when you look again, you notice that it is not just a normal portrait. The image is weird and unexpected.

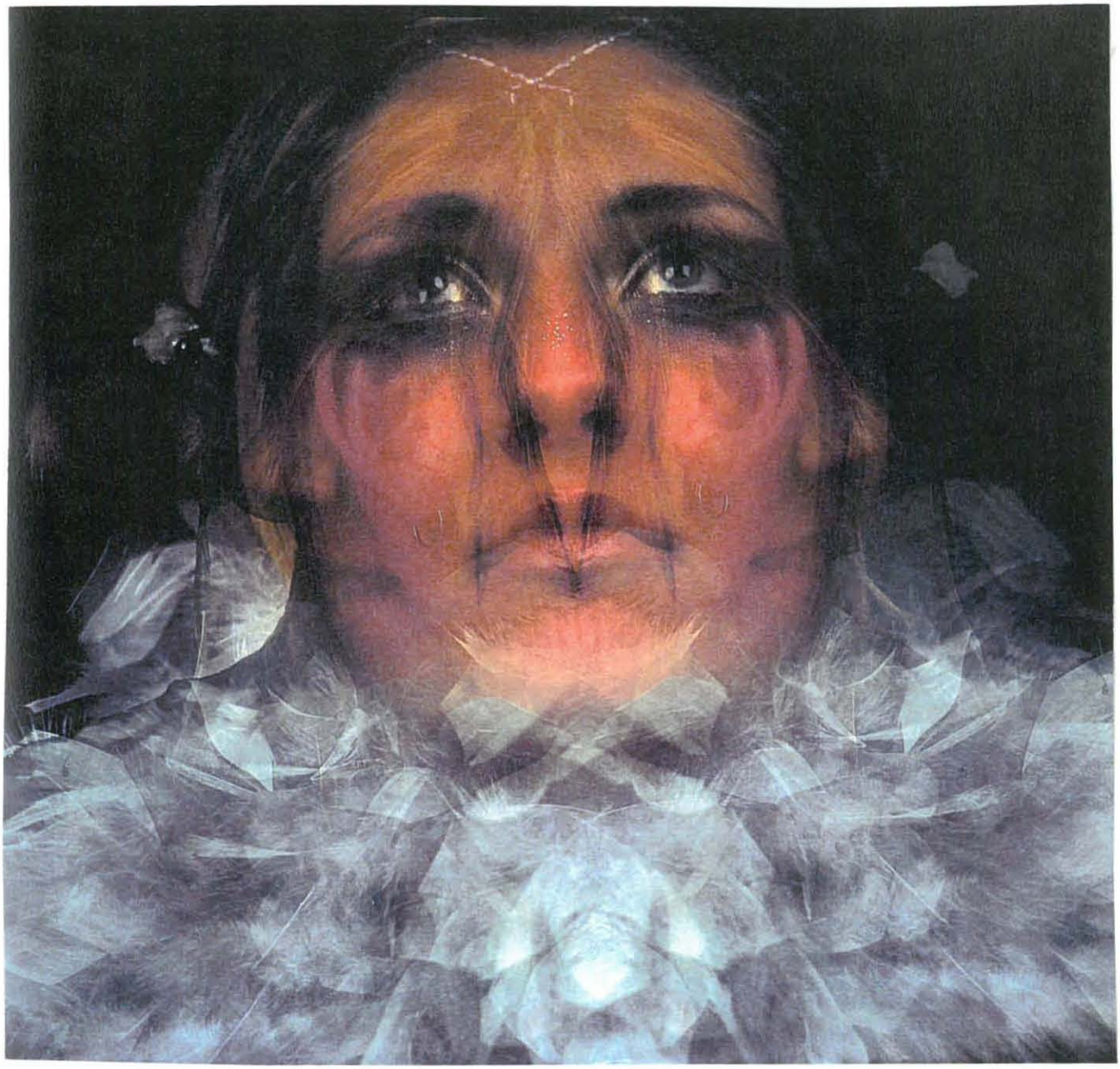

Figure 6
Untitled

Figure 7 BMW Advertisement

Layer 1- Background Image

Layer 2- small image1

Layer 3- small image2

Layer 4- small image3

Layer 5- small image 4

Layer 6- logo

The layers 1-5 were 6x7-slide films that were scanned in. The *Crop Tool* was used to crop them appropriately. The *Scale* command was used to resize Layer1 to desired size. Then the same was done to the other image layers; they were all transformed to the same size. Next the *Layers/ Effects/ Drop Shadow* command was applied equally to layers 1-5. The smaller images were then moved into place with the *Move Tool*. To identically space them, the *Rulers* in the *Guide* were moved to equally divide them. If the *Guide* is not available, go to *View/Show Guide* and select it.

The logo was scanned in from a BMW magazine and cut with the *Marquee Tool*. The *Transform* command was used to alter the scale and it was placed in the bottom left hand corner of the background layer

Simplicity plays a huge role in the effectiveness of this advertisement. It is straightforward and self explanatory.

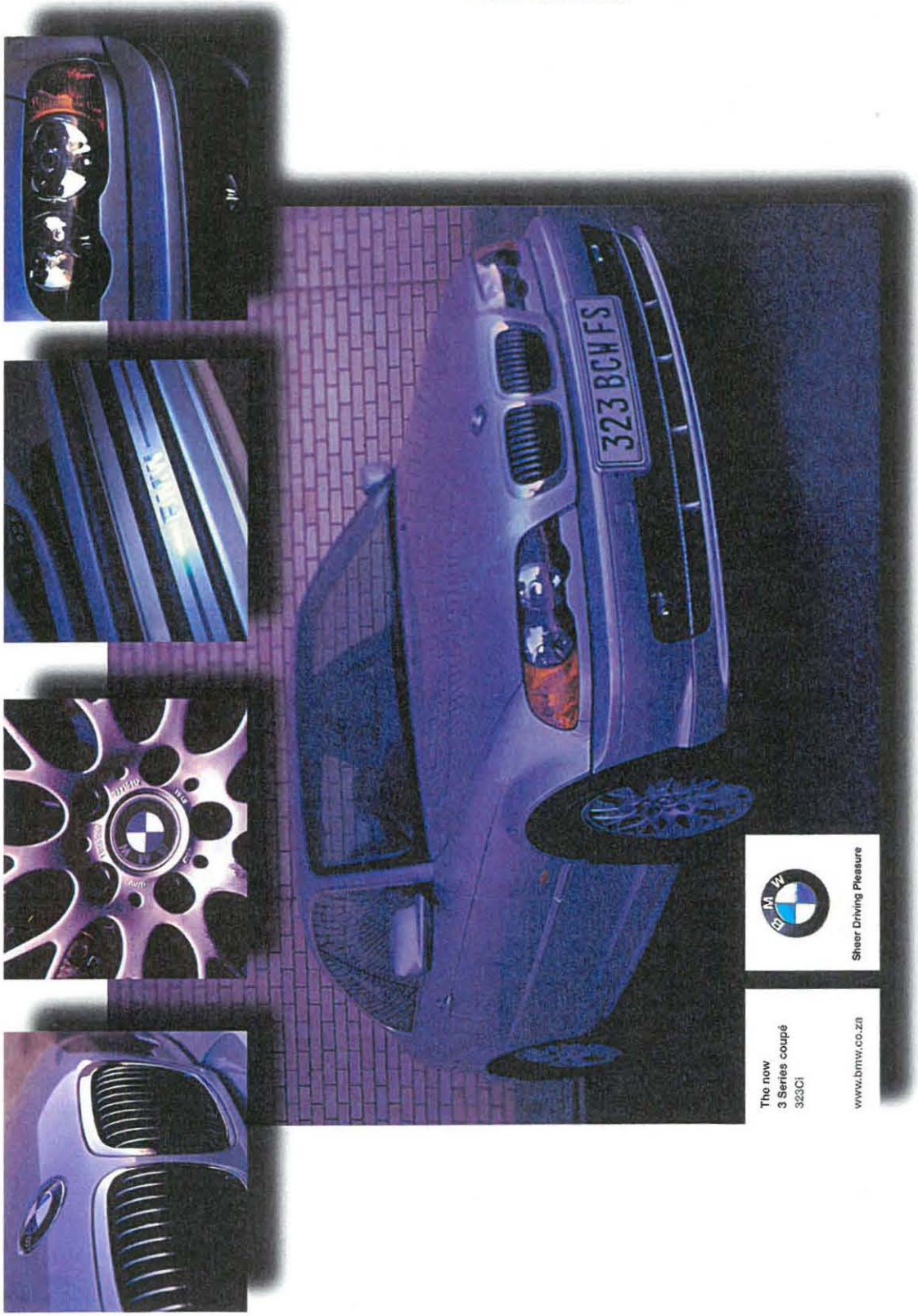

Figure 7
BMW Advertisement

Figure 8 5FM Advertisement

Layer 1- background

Layer 2- image

Layer 3- picture

Layer 4-logo

Layer 5- text

Creating lines with the *Pen Tool* and filling them with colour using the *Paintbucket Tool* created the background. The *Distort/ Swirl* filter was applied, creating the circular effect.

The dog was photographed using a digital camera. The image was removed from the original background by using the *Image/ Extract* command. The cut-out was placed on the background.

A magazine print of headphones was scanned in and the *Magic Wand Tool* was used to cut it from its original background. The *Edit/Transform/Scale* command was applied to enlarge them in relation to the dog. The *Eraser Tool* was used to erase parts of the headphones until it seems to 'fit' on the image. The *Edit/Transform/Distort* command was also used to effectively place the headphones realistically.

The logo was also scanned in and adequately placed on the image.

The *Type Tool* created the text.

The advertisement is cute and 'Funky' and fits perfectly with the 5FM campaign. The open mouth of the dog seems like a smile and adds to the message of the ad. The background is simple which emphasise the image. It is energetic and frisk.

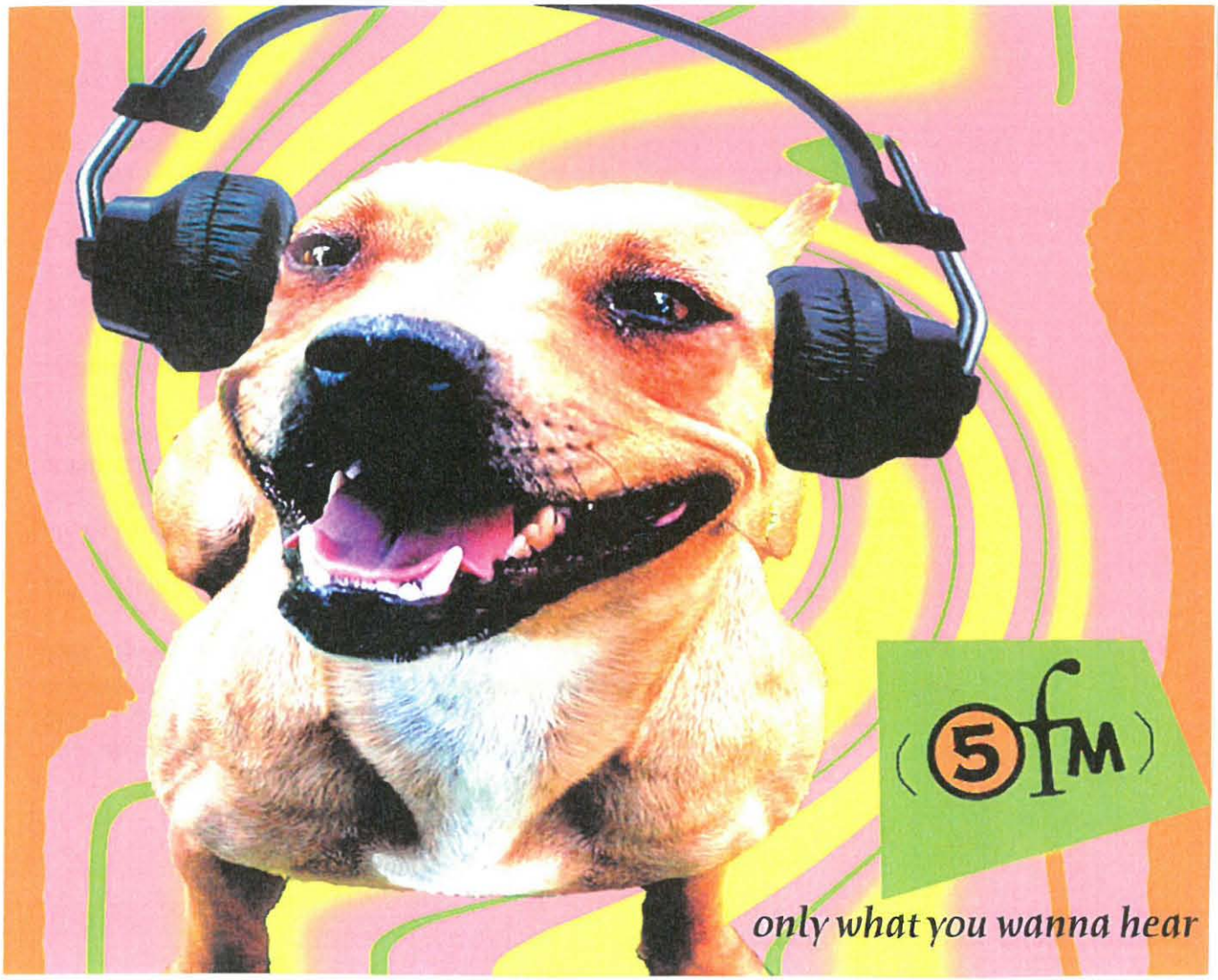

Figure 8
5FM Advertisement

Figure 9 Motorola Advertisement

Layer 1- background

Layer 2- layer mask

Layer 3- logo

Layer 4- text

The advertisement was made for a billboard. The canvas size was changed accordingly, using the *Image/Canvas Size* command. The original background was transparent and was filled white with the *Paintbucket Tool*.
The original Image was scanned in from a 6x7-slide film. The image was dragged from its original file to the billboard canvas. It was transformed to an appropriate size and placed along the left side of the canvas, thus creating white space on the right side of the canvas.

The eggs were coloured by creating a mask with the *Layer/Layer Mask* command. Using the *Paintbrush Tool* the various sections of the mask was painted with different colours. Once this was finished, the layer opacity was changed to let the texture of the eggs show through.

The logo was scanned in and the text was created using the *Type Tool*.

This advertisement accomplishes effect due to the strangeness of the coloured eggs associated with a cell phone. Displaying it with the eggs depicts the cellphone size and the colour of the eggs communicates the time of year that the ad will be on display.

Figure 9
Motorola Advertisement

Figure 10 Truworths Advertisement

Layer 1- background

Layer 2- picture

Layer 4-images (was initially three layers before merge)

Layer 5- Logo

The background layer is a new layer that was created with the *Layer/New Layer* command. It was then filled with the colour black.
A picture of the globe was scanned in and the *Blur* filter was applied several times to create the far-off effect. The *Layers/Effects/Outer Glow* command was applied around the edges.

The photographs were shot in studio on 6x7-slide film and were scanned into the computer.
Photoshop was used to *Image/Adjust/Equalise* the images to get the colours similar.
In the photographs there was a lot of dirt on the studio walls. This was removed with the *Rubber Stamp Tool.*
The images were equally resized, using the rulers and the *Scale* command. Once they were equally distanced from one another, the three layers were merged into one.

The logo was scanned in from an original Truworths advertisement. It was removed from the original image and placed onto the background layer. It was resized and moved into the desired position. The *Layer/Effects/Bevel and Emboss* command was applied to give the feeling of 3-D.

The advertisement adequately conveys the message and one immediately knows what it is about. The colours of the globe in the background work perfectly together.

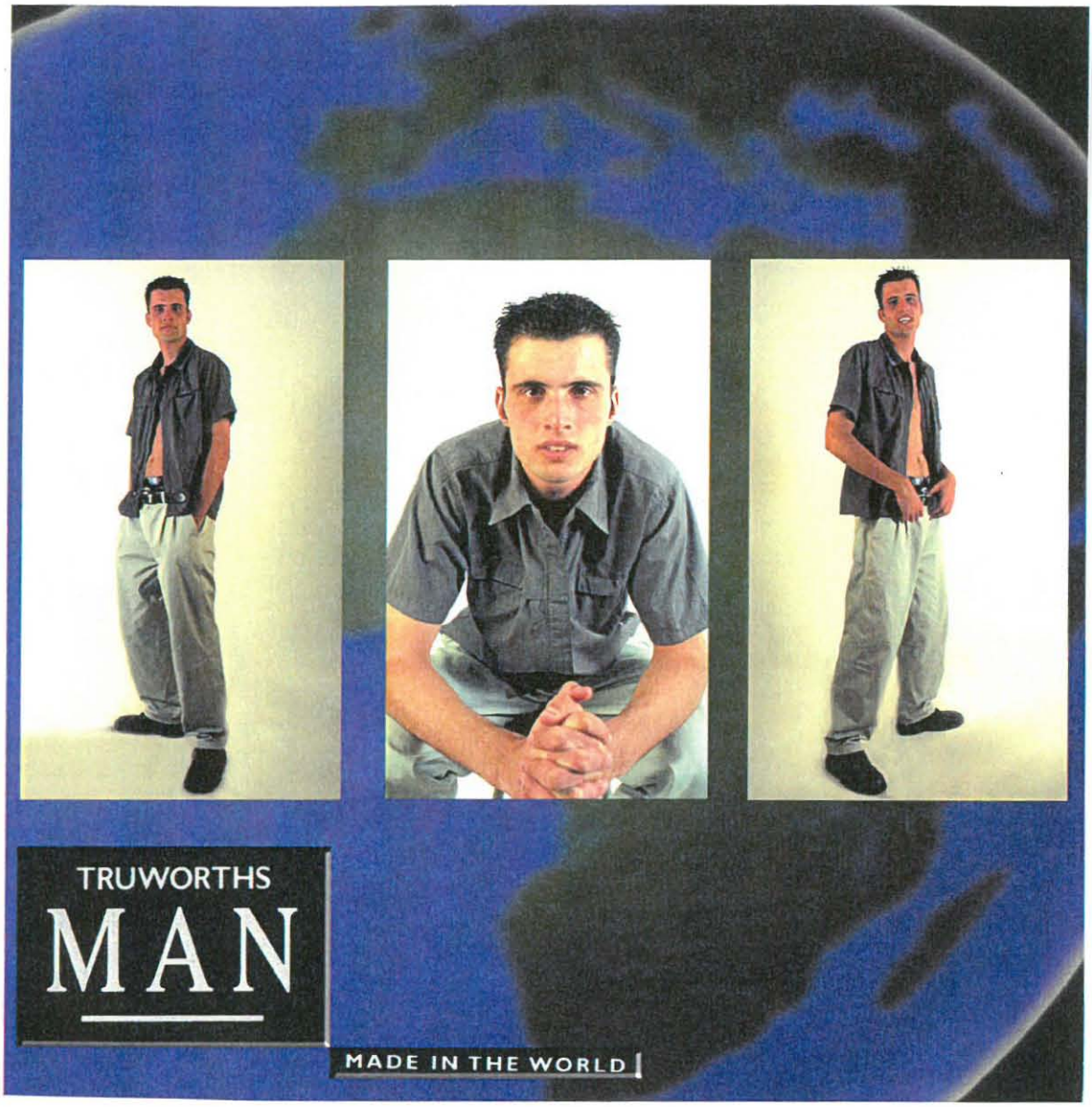

Figure 10
Truworhts Advertisement

Conclusion

The knowledge to do digital manipulation is precious. The ability to express yourself in ways that were previously unimaginable is a reality, one that is still evolving into new means and ways every single day. The available information is vast and extensive, and to truly be a master of digital manipulation an extensive course is necessary. The privilege of learning and using Photoshop was tremendous and dearly appreciated.