AIRBRUSHING AND TEXTURE

A THESIS
SUBMITTED TO THE DEPARTEMENT OF
GRAPHIC DESIGN
AND INSTITUTE OF FINE ARTS
OF BİLKENT UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF FINE ARTS

BY
AKİN CANKO
JANUARY, 1994

AIRBRUSHING AND TEXTURE

A THESIS
SUBMITTED TO THE DEPARTEMENT OF
GRAPHIC DESIGN
AND INSTITUTE OF FINE ARTS
OF BİLKENT UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS
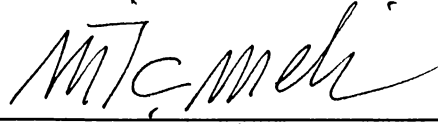FOR THE DEGREE OF MASTER OF FINE ARTS

Akın Canko

tarafından bağışlanmıştır.

BY
AKIN CANKO
JANUARY, 1994

I certify that I have read this thesis and that in my opinion it is fully adequete, in scope and in quality as a thesis for the degree of Master of Fine Arts.

_____

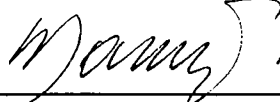Prof. Mürşide İçmeli (Principal Advisor)

I certify that I have read this thesis and that in my opinion it is fully adequete, in scope and in quality as a thesis for the degree of Master of Fine Arts.

_____

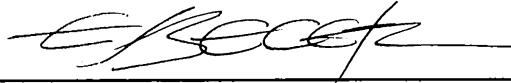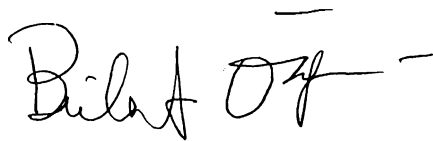Vis. Prof. Witold Janowski

I certify that I have read this thesis and that in my opinion it is fully adequete, in scope and in quality as a thesis for the degree of Master of Fine Arts.

_____

Assoc. Prof. Emre Becer

Approved by the Institue of Fine Arts

_____

Prof.Dr. Bülent Özgüç, Director of the Institute of Fine Arts

ABSTRACT

AIRBRUSHING AND TEXTURE

AKIN CANKO
M.F.A. in Graphic Design
Supervisor: Prof. Mürşide İçmeli
January, 1994

By the explaning the airbrushing technique, the texture in airbrushig is shown as examples. In this thesis, it is explained that this techniques can be used by a freehand or by using different materials to create new textures and effects. Airbrush technique can be used with the richness of texture which can be achieved by softer aparts from static forms method.

Key Words: Airbrush, texture, masking.

ÖZET

PİSTOLE VE DOKU

AKIN CANKO
Grafik Tasarım Bölümü
Yüksek Lisans
Tez Danışmanı: Prof. Mürşide İçmeli
Ocak, 1994

Pistole tekniği açıklanırken, bu teknikle oluşturulmuş dokular örnek olarak gösteriliyor.
Bu tezde, pistole tekniğinin serbest el kullanım ve değişik objelerden yararlanarak
yeni dokular ve etkiler elde edilmesi açıklanıyor.
Pistole tekniği statik formlar dışında daha yumuşak tarzlarla elde edilebilecek doku
zenginliği ile kullanılabilir.

Anahtar Sözcükler: Pistole, doku, maskeleme

TABLES OF CONTENTS

LIST OF FIGURES

1. INTRODUCTION

Airbrushing today is an integral part of the graphics industry in all its many facets. Over the past century, the world of graphics has undergone a revolution; the airbrush has been one of the important catalysts in this development.

In the traditional view, graphic works are those executed with drawing media, a pen or pencil for example, and by printing techniques. That part of a painter's output which is termed graphic work usually consists of minor studies compared to the major oeuvre of full-scale oil paintings. Recently, however, categories within the fine arts have been subject to redefinition and the use of acrylics, collage and drawing media in major works by many artists has removed some of the mystique attached to oil painting.

The graphic arts comprise all forms of illustration and two-dimensional design and decoration. The traditional association of graphics with drawing and printing media derives from the fact that such work has usually been intended for reproduction and relatively wide distribution and was therefore tied to techniques suitable to particular processes of reproduction. But, as in the changes taking place in fine art, categories in graphics have broadened. Printing methods for books, posters, broadsheets, magazines, papers and packaging are now sophisticated and reliable and there are ultimately no limitson the media and techniques which can be used by illustrators and designers. Within specific design areas there are naturally restrictions imposed by the nature of the project or the medium (Martin, 1983).

There is no single definition of the term graphic which adequately represents its full associations. A graphic description is one which conjures a clear and vivid mental picture of the subject. In another sense, graphic strictly means relating to writing; the study of handwriting is "graphology". To a mathematician the term denotes the presentation of information as a chart or diagram, a form which can be plotted on a graph.

The variety of interpretations of the term are reflected in the broad spectrum of applications

of graphic art. Graphic work is now required in numerous contexts, including film and television, and the range of imagery involved is often known as "visual communications". This heading sums up all aspects of graphics - direct association with writing and typography, diagrammatic presentation of statistical or systematic information, figurative and narrative illustration, and the necessity to communicate immediately through symbol and image required by advertising and public information resources. The graphic image spans a range which includes simple, internationally recognizable symbols, such as those used to indicate the facilities available in airports or large railway stations; the multiple forms of packaging for consumer goods; advertising of all kinds on smaller large scale; all types of books from comics to encyclopedias; plans and guides for transport systems, buildings or cities; the title credits of films and the overall design of full-length animated features (Martin, 1983).

What all these things have in common is that they are required to speak directly to the viewer to convey a specific message or idea. There is no obligation on a painter to communicate either directly or indirectly, and a painting may hang in a gallery for years without any two people having the same reaction to it. But graphic work is produced specifically to communicate with other people and it fails in its function if it gives no instruction or information, or if it arouses inappropriate associations.

By its nature then, much graphic work deals with letter forms and words-the visual symbols of language itself. This presupposes two conditions; one of these is that the viewers have a language in common, the other that within the audience there is quite a high level of literacy. Although certain associations can be evoked by purely visual means, such as colour and tonal contrasts, the vital function of written elements in graphic design is demolished if the audience is unable to read. Even in the most technologically advanced societies, mass literacy is a relatively recent phenomenon, so the written word has long been associated with political power, since it bestows the ability to approach a wider range of ideas and to communicate on an impersonal level. The growth of visual communications media has been inextricably linked to the increased perceptual capacities of its audience and it is hard to say which has been cause and which effect.

2

In most societies picture have spoken louder than words and it has been the function of the artist to channel communications. Until the Renaissance, art was closely associated with tribal and religious purposes and did bear an obligation to communicate. The frescoes and sculpture of medieval churches and cathedrals, for example, were not commissioned for purely decorative purposes. They were also the only way in which many worshippers could obtain a vivid description of the stories attached to their religion, since they could not read the Bible. The designs on pottery and metalwork have served the same type of function in other societies and eras. Religious paintings also had a political function, in that a portrait of the patron might be included either as a peripheral figure or as model for a figure in the story. The status of the patron was established and his wealth made apparent, since his inclusion was recorded proff that he had commissioned the work (Martin, 1983).

With the development of printing media and a greater availability of paper from the fifteenth century onwards, mass distribution of information became possible. Woodcuts and engravings were the early mass media forms and the process continued through the invention of other printing processes, gradually assuming a broader political function than the earlier religious associations. The political upheavals of the eighteenth and nineteenth centuries in Europe and the United States, coupled with and partly caused by the massive move towards industrialization in the Western world, set a pattern which has culminated in the current global extent of modern communications (Martin, 1983).

The average Western viewer has gradually received a highly sophisticated visual education through graphic arts, mainly through advertising resources, including film and television. The artists and imagemakers can now play on that complex under-standing even if the audience is not formally aware of its own capacity. Examples include advertisements which are deliberately obscure in some respect, forcing the viewer to interpret them through his or her own store of knowledge. In some instances, advertising imagery has become so representative of a product that the verbal or typographical information can be cut to a minimum. One prime example is the well-known British advertising campaign for Benson and Hedges cigarettes. The smooth gold packet is presented in a variety of unexpected,

associative situations and the product name is barely noticeable. Once this format was established, the style of the images themselves were enough to put across the message of the advertisement. A direct replacement symbol was employed by Kodak in using the human eye as a simile for the camera shutter. In this case the focus on display of the company name could be minimal once the association was programmed into the viewer's mind. The Kellogg's K is a straightforward use of the same type of assumption (Martin, 1983).

Advertising is always cited in discussions of the power of graphic design because it is ubiquitous, well understood and ranges from the very subtle to the crashingly obvious. There are other design areas which are perhaps worthier, but are less recognized. The mechanics of advertising design have been exposed and appreciated, but when the result is displayed in a magazine, the reader is less likely to consider the work which has gone into designing the page where it appears, and by extension the whole magazine. The same applies for books. All illustration can be appreciated as a skilful or engaging image in its own right, or as adding to the reader's perception of the narrative it accompanies. But the precise placing of the illustration on the page, its physical relationship to the text, the shapes and combinations of letter forms used for text and headings-these are all elements which have been thoughtfully chosen and designed as a group. At the same time, each of these elements has been designed previously in another context altogether.

A sign, symbol or image may be intended to have universal meaning, or to take on different associations a according to its context. A major factor in the expectations set up in the audience is the style of image presented. In the style of image presented. In the second half of the twentieth century, photography has emerged as the natural medium of information, as still photographs or as film. To modern audiences, the photographic image is a vehicle of truthful information and it also seems immediate and up-to-date. When choosing to communicate by other pictorial means, by paintings, drawings or diagrams, the designer must take account of the different associations these forms provoke. Fashions in design which are based on nostalgia particularly depend on this aspect. Hand-drawn can equal "old-fashioned", aquality which may be designed to appeal to warm emotions or to a feeling

4

of superiority. Graphic design is, like all other arts, self-referential - fashions come and go and are later revived. But each time the designer is also communicating to a new audience, who may not remember or recognize the origins of the style, so it is also linked to current conventions. A hand-drawn image can also push the viewer forward in time. Drawing may be the only way to represent a futuristic image whichsuggests something vastly superior to current availability: the image cannot be photographed because it does not yet exist. Here too conventions develop, because of the wide distribution and influence of graphic work (English, 1989).

The work of graphic artists is influenced to a high degree by the market - the manufacturers and publishers who commission artwork, and who constantly have in mind the market for their own goods; and the artists' agents, art editors and advertising consultants who stand between the business and art worlds and manipulate to some extent supply and demand. Artists are there-fore sometimes forced to recognize that the work they want to do may be different from the work they have to do. Changes in graphic style may be slow or sudden, instigated by the client's search for a new image or ideal, or by the artist's persistence in promoting work which may initially meet with an unwelcoming response. Graphic work is subject to fashion in other aspects of contemporary life - in recent years it has been closely connected to styles of presentation in film, television, music, fashion clothing and photojournalism. Graphic art always reflects the feeling of the times, although in service of clients it is also called upon to lead public taste or is occasionally held back by unnecessary conservatism among those who pay for the work.

The role the airbrush plays in this subtle process of image-making derives both directly and indirectly from its close association with photography. As a tinting and retouching tool, the airbrush has its place in the range of photographic techniques. But at the same time, because airbrushing can be used on its own to simulate "photographic" realism, an entirely different type of graphic image is made possible. In advertising and illustration in general, the airbrush is crucially important as the means for creating the imaginative, fantastic, or even absurd images so familiar in the repertoire of graphic art.

5

2. AIRBRUSHING

2.1. A HISTORICAL PERSPECTIVE

Through the symbols, engravings and painting of prehistoric man, we are not only made aware of our natural instinct to communicate visually, but of the earliest - albeit primitive - form of airbrushing. On the walls of the caves of Lascaux in southwest France there is a recurring image of the 'negative hand' created by Aurignacian man. Experts are positive that these images were created by placing the hand against the wall and painting around it. The texture of the paint shows that the area was sprayed by a primitive mouth diffuser, probably made from hollow bones.

This technique is still in use today, but the airbrush as we know it was first patented by Charles Burdick in 1893 in the UK. However, a patent for an airbrush case was registered in the USA in 1888. This must mean that a tool already existed to fit into it, and it is interesting to note that Burdick was an American who moved to the UK around that time. The reason for its development was most likely due to the invention of the daguerreotype. The problem with these 'instant pictures' was the poor quality of reproduction and the fact that they were monochrome. To overcome this, photographers were forced to retouch their end results (Buchan, 1991).

Until the 1920s the airbrush was mainly used in photoretouching, and it opened up huge possibilities for magazines and journals to illustrate stories successfully. In New York a magazine called The World sensationalised its crime reports by hiring actors to pose and recreate the 'fateful moment'. A photographer would then shoot the scene, and once developed the retoucher would erase the actors' faces, replacing them with those of the victims and accused. In London, with the invention of the halftone printing process, retouched photographs were good enough for reproduction, and The London Illustrated Weekly was the first to use them. From photographs to original artworks, it was clear that the smooth tones achieved by the airbrush were perfect for reproduction (Buchan. 1991).

E. McKnight Kauffer was an American artist who travelled and worked throughout Europe. Along with Cassandre in France, he is considered one of the first people to introduce symbolism into advertising, rather than merely presenting the products in a realistic way (Fig.1). In 1921 he returned to the USA with his new art', but at that time his efforts to convert the advertisers failed and so once again he returned to Europe. In London the director of London Underground's newly formed advertising department, Frank Pick, had noticed Kauffer's work and commissioned him for a whole series of travel posters that are now considered classics (Fig.2) (Buchan, 1991).

(Fig. 1)

7

POWER

NERVE CENTRE
OF LONDON'S
UNDERGROUND

(Fig. 2)

In Paris a Russian designer called Alexey Brodovitch, who had escaped his country's revolution, also came into his own with the new school of thought. He started as a set designer for the Ballet Russe, but was greeted with international acclaim when he won a major poster competition. In 1934 he was appointed art director of Harper's Bazaar where he stayed for 25 years, attracting such unknowns as Cocteau, Bresson and Penn to work for the magazine.

At his time in Vienna an artist by the name of Joseph Binder turned his hand to posters. Although airbrushing was incorporated into the 'new moderns' posters, Binder's work was depicted totally in airbrush. He went on to design corporate identities, creating company logos, trademarks and shop fronts. In 1922 he opened his own studio which, like the Bauhaus, was a place of pilgrimage for students worldwide. Ironically, through his airbrush work he developed tennis elbow and was forced to take some time off, and this made him turn his hand to teaching. In 1933 he was invited to lecture in the USA, but unlike Kauffer's unsuccessful return in 1921, America had now seen the birth of advertising and was ready for change (Buchan, 1991).

By the 1930s manufacturers were making so many products that they could no longer handle all the advertising by themselves, prompting the first advertising agencies to set up. With the growth of advertising and the public demand for more sophisticated magazines, airbrush art went from strength to strength. At his time glamorous women were attracting notice everywhere, and with the rise of the motion picture — even though there was an economic depression — women, and life generally, were illustrated as 'perfect.

The two main artists who specialised in depicting beautiful women were George Petty and Alberto Vargas. Petty's women were to be reproduced internationally, but were slightly stylised. Vargas, on the other hand, stuck to realism and perhaps this is why the airbrushed female form is always associated with Vargas. His was the 'all American girl', hence the expression 'the Varga Girl'.

Vargas' illustrations appeared in many men's magazines, but were first popularised in Esquire. His were the ultimate pin-ups and when the Americans went to war, it was the Varga Girl who embellished the boy's planes and became a status symbol (Buchan, 1991).

The late 1940s and 50s were a quiet period for the airbrush. The world was recovering from a war, and with the advent of television as a new advertising medium, 'poster art' faded into the background. It was still widely used in animation, however, and, of course, for technical illustration, where airbrushing will always be important. Technical illustration really grew at the same time as advertising. People were not only interested in what the new machines they were buying looked like, but also how they worked (Hodnett, 1987).

Suddenly in the 1960s a new revolution took place. Photography, which had taken over from the airbrush during the previous decade was considered too real and formal. From the mid-1960s, influenced by the use of hallucinatory drugs, the images for the new art posters were not just surreal, but went way beyond the stretches of the imagination. The airbrush was as popular then as it ever had been, and it was used not just for posters but for another new concept, the record sleeve (Reznicki, 1990).

The mood continued throughout the early 1970s, although, as with all periods of wildness, life generally was beginning to settle down. Visual images also became calmer, and even though fantasy was still at the fore, the scenario was more of a fairy-tale nature. Many people who rejected conventional religion were searching for an alternative answer to life. Fantasy evolved into science fiction and with man's quest to reach other planets, so the representation in art was of UFOs and space beings. The airbrush proved its worth by being eminently capable of producing fantastic space scenes and landscapes, as well as depicting other life forms.

The popularity of the airbrush continued throughout the new, rather cold era of the materialistic 1980s. Money and possessions seemed to be the main aims of this decade, and because the masses no longer considered it obscene to accumulate wealth, advertising hit new peaks. Not only was the airbrush perfect for rendering gleaming technology, but manufactures wanted hyperrealism again. This was not only restricted to objects, but because the airbrush was ideal for creating the subtle tones of skin, glamorous, long-legged women were illustrated to strengthen the idea that money could buy the perfect world (Buchan, 1991).

10

2.2. ART AND AIRBRUSHING

2.2.1. THE SPRAYED IMAGE

The airbrush is, without question, the most sophisticated and versatile of all spraying tools. Sprayed colour has always had a powerful appeal, both because of its appearance and its method of application.

The sprayed image is as old as painting itself. In the cave paintings at Lascaux in France, the outline of a human hand recurs, created by pigment dispersed over and around the hand. The pigment was probably blown througha hollow stick or bone and the technique represents the first use of masking and spraying, exactly the same in principle as work done now with far more sophisticated equipment. The precise techniques of the cave painters are still a matter of speculation, but it would seem that broad areas of colour were sprayed in this way, applied into black and brown outlines sketched in with primitive brushes made of moss or hair (Martin, 1983).

A more recent use of spray painting has been the wide spead appearance of spraycan graffiti in large towns and cities. Much of it has little romance or style and here the aerosol can, originally sold for retouching car bodies or painting household objects, is merely a device for drawing or writing quickly on a large scale. The thoughts expressed in the graffiti may be blunt, witless or unoriginal but even in these cases the soft power of the aerosol spray has an arresting quality - it draws the eye. In a further development, occuring in the New York subways during the early 1970s, sprayed lettering and designs spread across whole walls and over the subway trains themselves, in an explosion of colour and texture rivalling the products of more professional artists. Whether it is a protest or a celebration of urban life, the aesthetics are instinctive and are enhanced by the shimmering edges between bands of colour. These have a luminosity lacking in the solidity of brushed paint .

11

2.2.2. THE GRAPHIC INFLUENCE

The distinction between fine art and the graphic arts is not a matter of a simple clear definition. Neither is it clear why this division often implies a judgement of relative values. The airbrush is often regarded as a designer's or illustrator's tool; its mechanical nature still offends many traditional artists and those who hold traditional views about painting. An illustrator can work in oil paint, a painter with an airbrush, but this type of crossover remains relatively uncommon. Despite obvious differences between graphics and fine art, with respect to function, scale, display and dissemination of works, there is no firm reason why such a split should persist.

Two major movements in twentieth century art have confronted this division of artistic disciplines directly, however, and have achieved some fusion of ideas in terms of principle, technique or image-making. The Bauhaus was a major influence on European arts in the 1920s and subsequently in the United States, when many of the Bauhaus teachers left Germany under the threat of the Nazi regime in the 1930s. Pop Art is a style which arose independently in Britain and the United States in the early 1960s, when a number of young artists realized that their traditional pictorial conventions had lost touch with the changing world around them. It introduced as subject matter the numerous, everyday incidental items which are so much a part of life that hardly anyone cares to remember who designed them, or when, or why. These two movements had quite different intentions and are certainly represented by very different results, but both challenged accepted standards of the role of fine art in a fast-moving atmosphere of social and technological change (Martin, 1983).

12

2.2.2.1. THE BAUHAUS

The work of the Bauhaus was geared towards combining the best efforts of designers, artists and technicians to create an indissoluble link between the functional, technological and aesthetic properties of work in the arts. The areas of concern included graphics, textile and furniture design, ceramics, theatre, architecture and stained glass, as well as painting and sculpture.

The Bauhaus teachers, while having special skills of their own, conducted experiments and analyses with their students in a number of different disciplines. Under the leadership of Walter Gropius (1883-1969) a comprehensive study cirruculum was developed to give the students practical experience of all the available techniques and to equip them with a proper understanding of visual principles and conventions. Gropius himself was responsible for ideas which became fundamental in contemporary architecture; Joseph Albers (1888-1976) developed the colour studies which formed the basis of his later work The Interaction of Colours (1963); Paul Klee (1879-1940) and Wassily Kandinsky (1866-1944), teaching drawing and painting, promoted an understanding of abstract form and its relationship to three-dimensional construction; Laszlo Moholy-Nagy (1895-1946), Lionel Feininger (1871-1956) and Johannes Itten (1888-1967) were among others on the staff. The Bauhaus was an extraordinary and exciting combination of great talents in one establishment, dedicated to generating its own principles of art and design, in theory and in practice (Martin, 1983).

The Bauhaus had three different phases, one at Weimar, 1919-25, the other at Dessau, 1925-28 and the last one at Berlin, 1931-33. The school survived the departure of Gropius in 1928 and ran until 1933 when it was closed by the Nazis. A major figure in the Dessau Bauhaus was Herbert Bayer (b. 1900). He had studied with Kandinsky in 1921, having already trained in architecture, and then, after aperiod spent in travel and painting, Bayer rejoined the Bauhaus as a member of staff, teaching advertising, layout and typography (Fig. 3) (Martin, 1983).

13
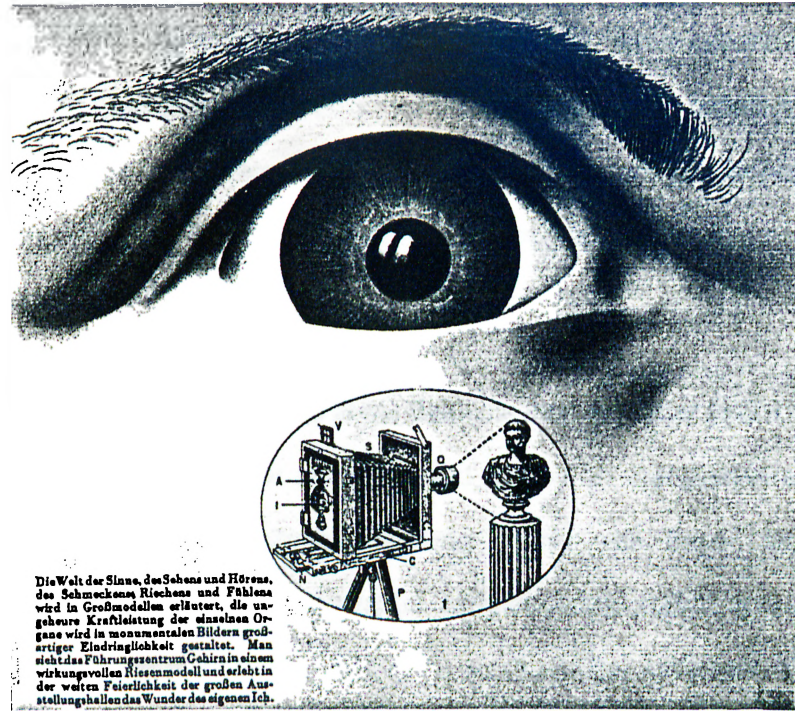
(Fig. 3)

Bayer was an inventive force in the area of graphic design, constantly questioning the conventions of visualization and even of written language itself. His poster designs and layouts demonstrate his belief that graphic art should be simple and direct, commanding attention immediately, communicating its message and remaining in the viewer's memory. He made good use of tone and colour contrasts and of two-dimensional representation of spatial structure. The latter was expressed through dynamic line and carefully arranged differences in the suggested scale of various pictorial elements. This interest in relative size he also applied to figurative imagery, using stylized face on a grand scale in a hoarding advertisement, for example, or including a tiny figure in a geometric design suggestive of vast space.

The emphasis on technical possibilities which was such a feature of Bauhaus teaching is clearly apparent in Bayer's work. He included airbrushing with collage, photography and montage, typography and a full command of conventional drawing and painting techniques. Airbrush painting suited the huge, echoing spaces invoked in some of his designs, and the

14

surface texture of his peculiar, mask-like renderings of human faces. His inventiveness was displayed not only in the coursework of the Bauhaus and formal commissions for graphic work, but also in the lighthearted side of school life - posters for parties and festivals and personal tokens such as the screen designed as a birthday gift for Gropius. This included kisses, the imprint of the lips of each student, and typography carefully arranged to give the birthday message (Martin, 1983).

The airbrush was no more celebrated at the Bauhaus than any other available technique, but it was used without hesitation or prejudice, and formed an important strand in the visual vocabulary of artists and designers. Working closely with Bayer, Moholy-Nagy was responsible for building up the photographic facilities in the school, and encouraging the students to experiment with the potential of the medium. The work here included montage and retouching, in which the airbrush was a vital tool. Moholy-Nagy well understood the power of the photographic image and was equally aware of the artist or photographer's ability to manipulate the camera's capabilities.

Such was the influence of the Bauhaus that much of the teaching in art and design to this day still functions along guidelines similar to those it originated, whether or not the current participants are aware of these influences. Products made in the Bauhaus workshops and by Bauhaus teachers set standards for modern design which are now taken for granted. When the school finally closed, the artists left for other countries and jobs, and the principles of the Bauhaus spread rapidly, especially in the United States where Albers, Bayer, Gropius and Moholy-Nagy all went to work, live and teach. Bayer settled in the United States in 1938, after a period as art director of German Vogue magazine. He continued his own work as a designer and also became a design consultant to several large companies, perpetuating his influence on the living art of the twentieth century (Martin, 1983).

2.2.2.2. POP ART

Pop Art it is a product of the era in which graphic design discovered the breadth of its influence. The term "Pop" refers to a desire to confront and reinterpret the ubiquitous manifestations of consumer culture. Few movements in art have a coherent, communal identity in the manner of the Bauhaus. It is more common that the same, or a similar, idea strikes a number of artists within a brief period of time and their work gradually dictates trend (Osterwold, 1991).

The many artists who can be categorized under the Pop Art label had different reasons for choosing that form, and also carried out their ideas by different techniques. Pop Art was not simply engaged in borrowing the images and products of a consumer society. What emerged was a common acceptance of the accoutrements of a society bent on instant gratification. Consumer products and the means of their promotion, advertising, were recognized as parts of contemporary life and therefore as appropriate subject matter for artists.

Pop Art was witty, celebratory and very much in tune with the times. For this reason some of it has dated, obtaining the curiosity value which contemporary ephemera eventually acquires. The major artists of the Pop period, however, fully understood their fascination with the fast and fashionable world they lived in and their work retains its capacity to surprise and entertain. Painters know only too well that there is a difference betweenmaking a graphic image and making a painting of one. The work comments as much on the conventions of painting as it does on the appearance of the world outside (Osterworld, 1991).

Although Pop Art borrows the forms of commercial design it less commonly makes use of the techniques by which the originals were made. One reason for this is the emphasis on scale in fine art - its relevance to the human scale of the artist and the usual size of the subjects portrayed. Much Pop Art is on a grand scale, epitomized by Claes Oldenburg's grandiose projects for publicmonuments in the shapes of such items as lipsticks, electric plugs and even the ballcock of a lavatory cistern (this to be floated on the River Thames). Few of these projects have been realized or sited, but the principle of a fundamental change of scale

which releases the imagery from its normal context is a widespread feature of Pop Art (Martin, 1983).

A painter whose style derives directly from experience as a commercial artist is James Rosenquist (1933). While he was working on abstract paintings, Rosenquist was also earning a living as a billboard painter on the streets of New York. Such work is by nature representational, but Rosenquist realized that the vast scale of the work gave each section of the image a totally abstract quality by divorcing it from its normal associations. He used this idea in his own work, producing paintings with jumbled, fragment images of different types of objects. His painting is 3 by 26 m, divided vertically into panels. The subjects change every few feet, although they are linked by the streamlined jet hurtling through the whole image. A painting of a bomber plane may seem unextraordinary at this scale, but at the righthand end of the painting the viewer is confronted by a 3 m wall of spaghetti. Above the Square (1963) speaks directly of his time as a billboard painter. It is a section showing part of a pair of silky smooth legs, no different from those seen every day in advertisements for stockings and tights, but these legs are 2 m tall, and this only from knee to ankle (Fig. 4) (Osterwold, 1991).

(Fig. 4)

17
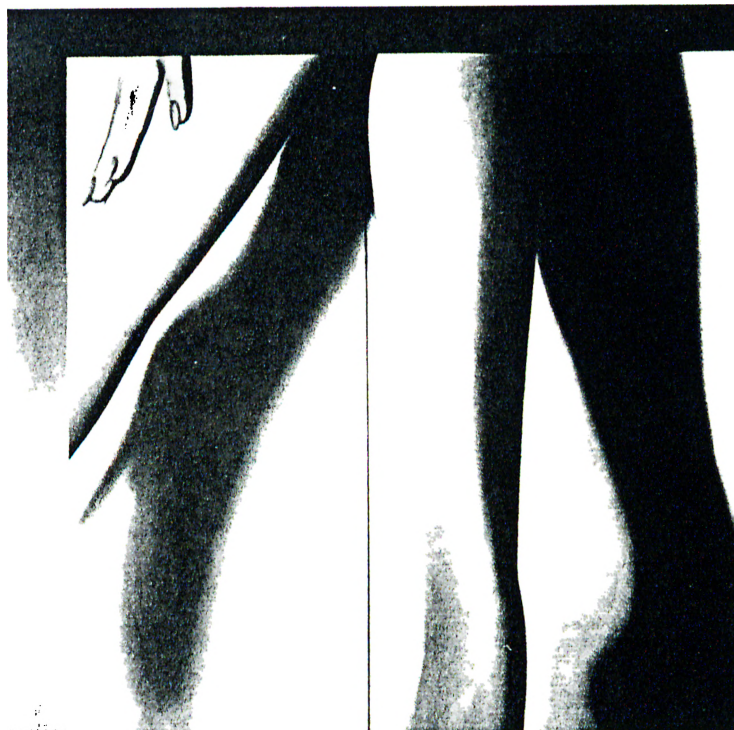
Such images - silky legs, moist spaghetti, aluminium and chrome machines - are all common photographic images or airbrush illustrations in magazines and advertisements. When a painting is reproduced on the page of a magazine it takes on much the same appearance as graphic work scale and texture are almost obliterated. The graphic techniques used for such images may be inappropriate to the artist's concerns in a huge painting. A large part of the importance of Pop Art was that it reassessed the graphic images through traditional painterly concerns. Rosenquist remains a brush painter, as he was when working as a commercial artist.

By contrast, the British artist Peter Phillips has embraced both the style and technique of the graphic image. His work also consists of a careful structuring of interconnected images but its flavour is quite different from that of Rosenquist's paintings (Collins, Welchman, Chandler, Anfam, 1987). British Pop Art arose independently from the American version and had a more whimsical, Surrealist tone. It is often concerned with jokes about the nature of the arts and the style of massmedia imagery. This is reflected in Phillips' work by series of paintings running under titles such as Art-O-Matic or Custom Painting. His subjects include glossy machinery, car advertising, and the sleek forms of animals, paralleled by those of female advertising models. In the paintings these are represented in composite images, some in vivid colours with a high-shine, illustrative finish, others more fully representational. (Martin, 1983).

2.2.3. DIRECT APPLICATION

It is interesting to discover why some artists do make a deliberate choice to use airbrushing and in what ways it is appropriate to the concepts involved in their work and the required surface appearance of the paintings. Several artists who have incorporated sprayed paint in images have not needed a tool as precise as the airbrush. Aerosol cans of paint, spattering from large decorator's brushes and simple mouth diffuser sprays have all been used and found adequate for certain results. But there are several artists to whom the airbrush is as vital as it is to an airbrush illustrator, and the character of airbrushed paint and of the tool itself forms a significant strand in the conception and execution of the work.

Charles Burdick, the inventor of the airbrush, was himself a watercolour artist; his skill with the airbrush is evident from a very fine freehand portrait, the only remaining example of his airbrush work. Freehand use of the airbrush is more common in painting than in illustration, again mainly because of scale. It is easier to manipulate the spray, without masking over a broad area of canvas than it is on a compact illustration board. Another earlyairbrush painting which shows a fluid, painterly style is a seascape by Sydney. G. Winney, which won a competition for airbrush paintings held in Paris in 1904. The existence of this competition suggests that there was considerable interest in airbrush painting, though it was not welcomed in traditional art establishments, either as a skill to be taught or as a technique for exhibition pictures. At that stage the prejudice against mechanized art was strong and widespread (Martin, 1983).

One major artist who became very interested in the potential of airbrush painting was Man Ray (1890-1977), the Americanborn painter, photographer and film-maker. Man Ray lived in Paris between the wars and was prominent among Surrealist artists. He wished to shake the conventions of fine art and experimented endlessly with various media. A large part of his work in Paris centred on photography; he invented Rayographs, images made by reaction of light on film but without use of a camera (Martin, 1983).

Before this Man Ray had experimented with airbrush painting, calling the resulting work

19

aerographs. He enjoyed the similarities with photographic images and felt that his unconventional intentions were enhanced by working with a tool which did not touch the picture surface. Although he found the results very satisfying, he was less impressed by the reaction to his work. The airbrush was again firmly rejected in art circles and his aerographs provoked hostility and accusation. Despite his desire to flout accepted attitudes. Ray was clearly either too discouraged by the response or was too quickly diverted to other work, for he did not continue to promote the technique.

A number of rapid changes took place in painting after World War II. Focus shifted from Europe to the United States, and from figurative to abstract painting. Abstract Expressionism flooded the art audience with huge vistas of colour and texture; the substance of paint gained a more important role and unconventional techniques gradually infiltrated, eventually achieving a general acceptance. Artists began to experiment with different types of paint produced for industrial purposes, and found new ways of applying the material (Martin, 1983).

A major catalyst of this period was the work of Jackson Pollock (1912-56). In 1936 Pollock joined an experimental workshop set up by the Mexican painter David Siqueiros (1896-1974). Siqueiros had used spraying techniques in his mural paintings and the workshop contained spray gun and airbrush equipment. Pollock tried out these tools, but ultimately developed his characteristic technique of dripping and pouring paint onto large canvases spread on the floor. This formed the basis of all his later work. The paint was thick and applied in a linear tracery - not a style which would be suited by an instrument as delicate as an airbrush - but some control of the medium was necessary. One of the devices which Pollock tried was a large basting syringe, albeit a primitive mechanism compared to the airbrush, but similar in that it preserves some distance between the tool and the surface and maintains a continuous flow of medium (Martin, 1983).

At a slightly later time, another artist was experimenting with unconventional painting methods. The French artist Yves Klein (1928-62) attacked painting traditions by exhibiting canvases

20

covered all over with a plain, vibrant blue. In other work he reinterpreted the traditions of figure painting by working not from a live model but with the model. He covered nude women with paint and directed them to press their bodies against the canvas, this support being, like Pollock's, spread on the floor. In some of the paintings in a series called Anthropometry, Klein also sprayed round the models as they lay on the canvas, forming ghostly, distorted silhouettes around the marks made by the figures' imprints (Martin, 1983).

Splashes of publicity accompanying such new developments at first drew public antipathy and some fairly superficial curiosity. But in the wake of these technical innovations and the broader approach to subject matter introduced by Pop Art, painters have largely been left to proceed in any way which seems to them appropriate and convenient.

2.2.3.1. ABSTRACT PAINTERS

The British painter Bernard Cohen (b.1933) pursues very welldefined intentions in his work. The emphasis is on the process of mark-making and the series of decisions which the artist must make to direct the way the paint surface develops. In paintings made during the early 1960s Cohen developed certain pictorial symbols and painting techniques which he tested in various ways. Although relating to specific themes and images, these paintings gave the viewer no overt clues as to their origins. Some have a geometric form while others seem to have grown organically. The common factor is the attention commanded purely by surface effects - by colour, shape and texture on the canvas (Martin, 1983).

In 1962 Cohen first sprayed paint onto a canvas to establish a ground for the subsequent linear marks. This paint was applied with a perfume spray, which produced a broad, relatively uncontrollable, hazy line. Spraying became an important aspect of his technique, a means of modifying colour and altering painted marks as well as a way of achieving soft linear effects to contrast with the more definite brushwork. In the following year, he began to use an airbrush. This reproduced the physical character of the earlier sprayed work, but with far more precision and control, increasing his capacity to make decisions about the quality of different elements within the painting.

Throughout the 1960s, Cohen frequently limited himself to working in monochrome. Some of the paintings are a sophisticated development of simple concepts, such as Klee's notion of "taking a line for a walk". Cohen's work is far from random, however, and unlike many other artists, he does not believe in concealment and deceiving the eye. What appears in his paintings is what is meant to appear, since he is under no obligation to create pictorial illusions of any kind. In works using vibrant colour he sometimes developed a tangled web of marks to fill the picture surface completely, while in others only a proportion of the canvas is occupied by evidence of activity.

Another British artist who has used the airbrush in purely abstract painting is Peter Sedgley (b. 1930). His work has a wholly different emphasis from that of Cohen. Sedgley has been

22

involved continuously in experiments with colour, light and movement. Lately, he has developed these preoccupations in constructions which emit coloured light, with changing patterns triggered by sound or movement in the immediate environment. In his previous work, he experimented fully with the optical effects of colour in static pieces, through paintings and prints investigating different colour relationships (Fig. 5).
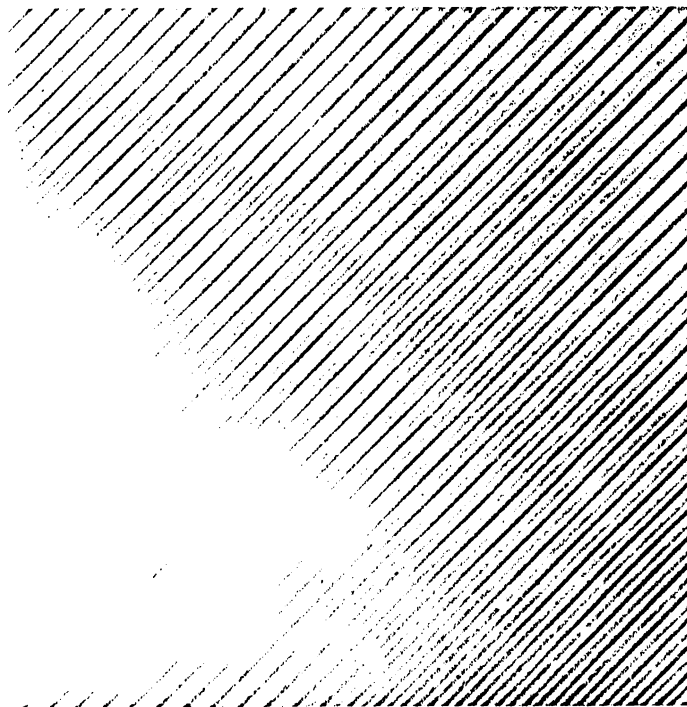
(Fig. 5)

2.2.3.2. FIGURATIVE PAINTERS (HYPER-REALISM)

"Super Realism" is a style of painting which is based on and imitative of photographic images. A number of major artists' have emerged under this label, all making paintings which are breathtaking in their precision and detail, but each preoccupied with a different type of realistic imagery. As in the relationship of Pop Art to its subjects, Super Realism closely recreates the photographs on which the paintings are based, but the techniques applied and the context or form in which the work is displayed demand a new perspective or response from the viewer (English, 1984).

One of the most startling manifestations of this capacity to reinterpret two-dimensional form occurs in the work of the American artist Chuck Close (b. 1940).

The impact of a head 2.7 m high, reproduced in faithful detail, is bothdisturbing and intriguing. Because of the scale, tiny details such as beard stubble or eyelashes become huge and crudely shaped in the finished painting. The effect of, Close's work is lost when a painting is reproduced in a book or magazine, because the image is immediately translated back to its source - the colossal audacity of the artist's original concept cannot be appreciated in print.

Audrey Flack also works with the airbrush on a fairly large scale, although her imagery is not as stark and aggressive as Close's portraits. Instead, she creates a kind of twentieth-century iconography - demonstrating a fascination with religious symbols, decorative statues of the Virgin and Saints, and making pictures which act as cluttered shrines to contemporary symbols. Her painting Marilyn (1977) consists of two self-focus pictures of Marilyn Monroe surrounded by lush fabrics, jewellery, make-up, glass and china, a lighted red candle and a single red rose. The persistent use of harsh red gives a premonition of violence and tragedy, contrasting with the richness and comfort of the material objects and the optimism of youth portrayed in the photographs. Solitaire (1974) is an equally crowded image, but less personal in tone. It shows the paraphernalia of gambling - cards, cigarettes, drinks, a coffee cup and sugar bowl - but the evidence of human involvement is represented only by a disembodied

24

hand at the foreground of the painting, which holds the King of Hearts (Fig. 6) (Martin, 1983).
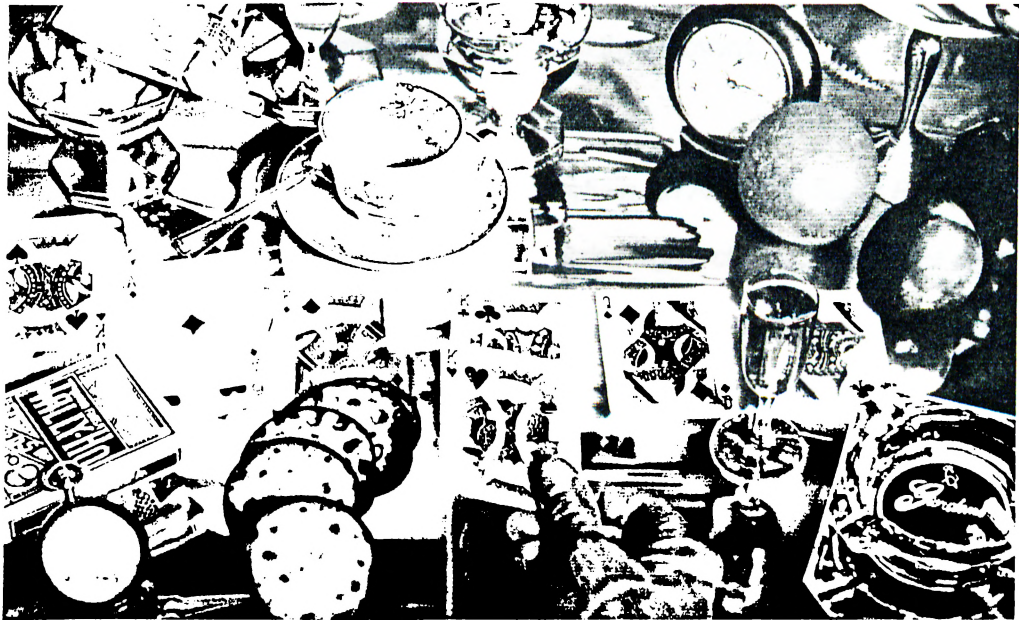
(Fig. 6)

Detailed display of lush texture and contrasting surface effects is typical of all Flack's paintings, including the series showing religious statues which the artist observed in European towns and villages. She uses the airbrush in a controlled and systematic way, similar to techniques of illustration but on a far larger scale. Each part of the image is worked to a high degree, sections and particular shapes being masked with large sheets of paper while she concentrates on other areas. Both oil and acrylic paints are used to achieve the highly finished rendering characteristic of her work (Martin, 1983).

John Salt, a British-born painter living in the United States, has said that he started working from photographs in order to eradicate the influence of other artists on his work. Interestingly, he is prepared to admit that he finds it easier to deal with photographs than with real objects because the form is already reduced to two dimensions. He uses an airbrush for soft-focus effects and smooth tonal transitions. His work portrays cars, usually wrecked or abandoned, and he likes the connection between airbrushing and the surface finish of the cars which themselves have been painted by spray techniques. In common with many of the Super Realist artists, he is dealing with images of contemporary life - but the damaged, isolated condition of the cars gives the paintings a timeless character and the imagery makes a peculiarly ambiguous appeal to the emotions.

It is interesting to note that Robert Cottingham, an American Super Realist whose work deals with reflective surfaces and advertising signs, chooses not to use airbrushing as a painting technique. This is not through unfamiliarity or prejudice, since his background as an artist was in graphic design and advertising (English, 1989:98).

Super Realism is largely an American phenomenon, but Ben Johnson is a British artist who also uses airbrushing in the creation of an exact, photographic style of work. Johnson has worked on a variety of subjects, but architecture is a recurring theme - both interior and exterior views. In recent paintings, he focuses on details of particular architectural features - lift gates, windows and doors. There is a rather haunted air about these buildings- there is evidence of human occupation but no figures ever appear. In the window paintings he

concentrates on texture - the materials of the window frame, the fabric of curtains - and his painting technique is masterful in its control of subtle variations of tone and colour. Similar themes appear in the work of Brendan Neiland, a painter of urban landscape also working with airbrush and spray gun. Neiland is fascinated by the impersonal qualities of modern architecture and the reflective surfaces which interrupt the symmetrical forms of the buildings (English, 1989).

The work of British artists Boyd and Evans is unusual in several respects Fionnuala Boyd and Leslie Evans work as a team and do not feel the need to explain who does what in developing the paintings. On the use of photographs and airbrushing they state their aim is "to develop a technique in which our own separate handwriting was not evident and to point the viewer away from painterly concerns toward "the subject matter".

The images are composites, traced from slide projections to construct particular events. The rectangular shape of the canvas is not always respected - the canvas may be tipped on one corner or cut through by a diagonal composition. Spray painting is a major part of the technique, though in recent work the artists have also used thick, textured medium to give the paint surface a relief effect. Boyd and Evans deliberately demand the participation of the viewer. The narrative of their work is enigmatic; though it is suggested that there is a story behind the picture, it is no more precisely explained than is the nature of their working relationship. They emphasize that the importance of the work is as a visual, not verbal or literary communication (Martin, 1983).

Equally disturbing in effect, though quite different in character, are the paintings of the German artist Paul Wunderlich. His compositions are figurative, but he invents spectral, not human, figures which may be a combination of human and animal forms, or figures which draw on cultural myths and literary concepts. The fluidity and smoothness of airbrushing enhances the other-worldliness of the images and Wunderlich employs subtle tonal variations in the background to render ambiguous space which suggests a blank infinity (Fig. 7) (Martin, 1983).

27

Today, airbrushing is more generally accessible — an ever-increasing range of tools and simple propellant devices are now available. It is as yet not such an integral part of the painter's techniques as it is of graphic artists, but this selection of painters represent some of the different styles and concepts in which airbrushing is employed (Martin, 1983).

(Fig. 7)

28
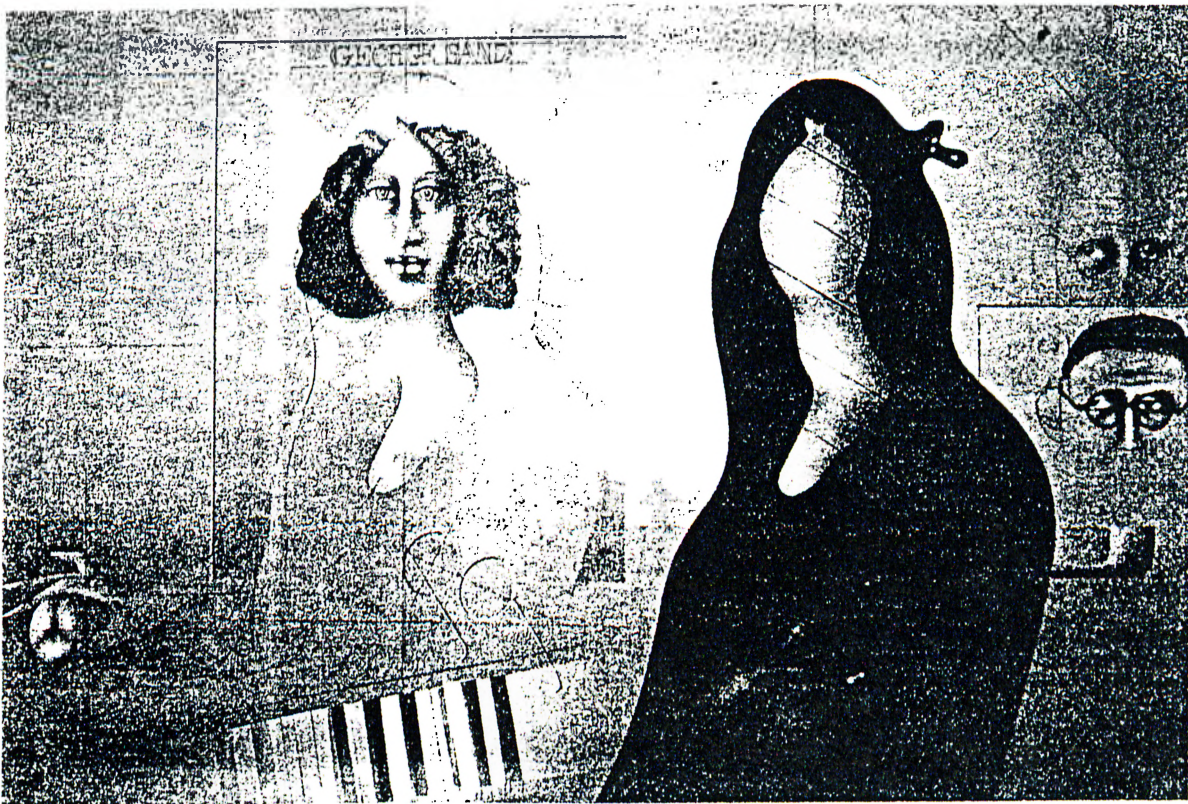
2.3.WORKING AREAS

2.3.1. PAINTING

In painting with an airbrush the emphasis has been put on realistic styles. The airbrush, however, is used in all styles of painting, each with its own particular technical and aesthetic problems and solutions. In this discussion of painting, several approaches to develop both realistic and abstract images are explored.

Certain unique problems arise in realistic work because of the effects desired, which include no evidence of brushstrokes, intricacy and photographic illusion, The most important elements in achieving a smooth, nonbrushed look is the surface of the ground. The texture of the surface to bbe painted on must be right before painting begins. The sprayed paint from the airbrush will reveal and enhance the texture of the surface being painted on. A smooth, tight-weave canvas surface is a must for the degree of detail required in the airbrush of a re-alist painting. The smoother the texture of the surface, the more photographic the airbrushed effect (Paschal and Anderson, 1985).

2.3.2. PRINTMAKING

The airbrush can be used to create a print, enhance an existing print, or both. Lithography, etching, and silk screen all lend themselves to airbrush technique.

Although for most of its history the airbrush has been widely employed in the preparation of work for photographic reproduction, it is only within the last few years that its uses in the sphere of artists' prints have been developed. Artists' prints are a specialized and prestigious genre where an artist has a hand in the method of their production; he will make the engraving, or apply ink to his own lithograph, or carry out his own colour separations. In general, he will be responsible for originating the design so that it is ready to be produced, and he will possibly even print the design himself. However, the presentation of a piece of artwork to a printer for photographic separation and reproduction does not result in artists' prints, just in reproduced artworks.

This area of airbrush applications is young and new possibilities are being developed all the time (Curtis and Hunt, 1980).

In lithography the airbrush is used to spray liquid tusche onto a stone or plate. Plates are preferable because they are portable and easy to store, and are more durable and less expensive than stone. Both stencils and vinyl friskets can be used on plates or stones, but any adhesive residue must be thoroughly removed. Opaque paint can by sprayed onto sheets of Mylar and used as a positive or negative to place over photosensitized litho plates. Mylar is well suited for this because it will not tear or stretch during handling and thereby affect registration. These plates are exposed to light through the Mylar blockout, developed, and printed. This process can be used for plates or offset press. This same process is used to separate colors; a different Mylar blockout is made for each color.

Another way to use airbrush technique in lithography is with the transfer paper process. Litho transfer paper allows the image to be developed away from the print shop (in the airbrush studio) and later transferred to the stone or plate on which it will be printed. This material is

30

available in several types of surfaces and sizes and can be used on plates or stones. The surface will not hold up to adhesivebacked frisket films, so it is recommended that a 5-mil acetate be used for stenciling (Paschal and Anderson, 1985).

In etching, a number of spray processes can utilize an airbrush. An etching plate can be completely covered with an acid-resistant coating such as enamel or asphaltum, either with an airbrush, spray gun, or spray can. After the coating dries, the image is scratched through with a needle, bitten into the plate with acid, and then printed. By airbrushing the material onto the plate rather than brushing it on or applying it with a spray can, the artist has the opportunity to work with controlled dot patterns. Gradations can be achieved by varying the size of the dots and the distance between them. This is done by cutting down the air pressure for stippling, changing head assembly sizes, or using overspray. A negative image can be developed by spraying the acid resist directly onto the plate either freehand or with stencils. A positive image can be achieved with a sugar-lift process: make a solution of two parts corn syrup to one part black poster paint and reduce with water to a sprayable consistency. To create an image, spray the solution directly onto the plate; allow it to dry, and cover it with a thin coat of etching acid-resistant material. The sugar lifts is water-soluble and therefore dissolves in a water bath. A heavy coat of resist material would prevent this dissolution. The black paint is added to the sugar lift to make it visible. After the acid-resist dries, soak in awater bath until the sugar paint dissolves. Dry   the plate and place it in the acid bath to be etched. In this process the image that was airbrushed onto the plate will be the image that will be printed.

In silk-screen printing the airbrush can be used to develop a positive or negative image. The mesh size of the screen has to be fine enough to capture the dot of the spray. A negative image can be developed by spraying the blockout directly onto the screen. Use water-soluble glue as a blockout for oil-based inks and lacquer as a blockout for watersoluble inks. These combinations prevent the ink from dissolving the blockout. Use a glue blockout wherever possible because it is nonflammable, less toxic, and water-soluble, making it easy to work with and clean up. A glue blockout can be made with watersoluble glue, a small amount of poster paint to act as an indicator, and enough water to achieve a sprayable consistency. To

31

develop a positive image, spray with a watersoluble glues as described above. When the glue is dry, give the screen a thin coat of lacquer and allow it to dry. Soak out theglue,and the original imagewill open up (Paschal and Anderson, 1985).

The airbrush can also be used in printmaking to enhance prints. Color can ba sprayed into areas that have already been printed.

2.3.3. MIXED MEDIA

The airbrush is well suited to mixed media because of its ability to apply various paints onto various surfaces without touching the work.

Under the general heading of mixed media falls collage, the process of gluing one element over another to create a design. The airbrush can be used in collage to enhance the work; for example, to indicate shadows or highlights. It can also be used to develop the actual image to be collaged. The image is airbrushed on paper and arranged into a composition. The background of a collafe can also be painted with an airbrush. In photo collage, photographs can be arranged and visually joined by retouching the spaces that separate them. Photographs can also be used in conjunction with other materials to make a collage. These photographs can be retouched or tinted with the airbrush. Another type of collage that has surfaced since the advent of acrylics is a paint collage. Shapes of acrylic paint are made on a sheet of glass, peeled off when dry, and glued onto the surface of the work. The airbrush can be used to establish shadows on the acrylic shapes or to paint shadows that the shapes might cast onto the background.

2.3.4. ILLUSTRATION

Airbrush illustration has had two distinct phases of popularity, one lasting from the late 1920s to the mid 1940s and the other beginning in the late 1960s and continuing today. In the intervening period it simply went out of style, for no easily definable reasons. Perhaps, in the period following World War II, there was a general move to rebuild and reassess which discarded graphic associations with the previous difficult years. In any event, when airbrush art returned to popularity it was above all bright, celebratory and fun. Many of the artists of the 1960s who experimented with the airbrush only gradually realized the extent of its previous history. The re-emergence of the airbrush was part of a phenomenal expansion in graphics. Always an eclectic art form, illustration has fed since then not only upon current trends but also upon its own past, to produce the widest range of imagery ever available on such a large scale. Owing to global communications and multinational corporations, graphic art has spread worldwide, absorbing a wealth of common influences to create an international pool of imagery which is drawn on for public display (Breckon,1987).

The main applications of the airbrush in its first full phase of development were in poster art and magazine illustration, much of this for advertising purposes. Posters and hoarding advertisements are now so ubiquitous that it is difficult to realize the novelty and freshness of this type of art during the 1920s. An influential figure of the period was Joseph Binder, who worked first in Vienna, then in the United States, often using the airbrush to create his deceptively simple, striking imagery. Binder was one of the first artists to recognize the birth of a new art form and to investigate a new technique which expressed the symbolic and aesthetic messages he wished to convey. He worked from his own studio as earlyas 1924 and in addition to poster work he also designed what are now known as corporate identity products, trademarks and logos which become the public symbols of particular companies. Binder is quoted as having said that the would rather be a "Number One Designer of Posters than a Number Two Picasso". This marks a real understanding of the coming importance of graphic art, and the fact that it would have to develop its own theories of presentation and execution, building into these its own standards of excellence in a context guite

34

different from that offine artists (Martin, 1983).

European influence was strong in this period of graphic development. E. McKnight Kauffer, American-born but pursuing a career in London, and A.M. Cassandre (Adolph Mouron), working in France, both shared Binder's approach. Distilling a form to its basic essentials, developing symbolic images rather than realistic representations of objects, and heralding above all the arrival of the machine age, and the speed of modern travel and communications, these artists formed their individual, characteristic styles which heavily influenced the graphic art of the 1930s.

McKnight Kauffer returned to the United States in the early 1920s to attempt to resettle there, but his style was not well received. It was later, in London, that he became widely known for his series of posters for London Transport. His work showed an attitude to formal representation drawn from fine art movements such as Cubism and Futurism (Martin, 1983).

In this period the graceful linear style of Art Deco became highly popular, typically showing geometric forms and soft, striking colours, as well as perfect qualities of surface finish. Cassandre's art, like Kauffer's, was fully cohesive in conception and execution. All of the early poster artists stressed the same requirements in their work-an image which was immediately arresting, fully descriptive and also wholly memorable. Cassandre's version of his idea of poster art was "brutality perhaps, but also style". Other European artists made their presence felt in the newly developing field of graphic art. In Paris, a Russian emigre, Alexey Brodovitch, made use of ideas gathered during his time as a set designer for the Ballets Russes under Diaghilev. His attitude to technique was to experiment continually, replacing the conventional artists' materials with instruments of the new technology, embracing any product of his age which could contribute to the form and texture of his art. In 1934 Brodovitch became art director of Harper's Bazaar and many major talents in photography and design were given an outlet under his direction (Martin, 1983).

A lighter kind of imagery, but no less demanding can be found in the work of the pin-up painters of the 1930s, most notably George Petty and Alberto Vargas, Petty evolved a style halfway between realism and caricature.

His pin-up girls had fun-they played tennis, went dancing, spent hours on the phone to beyfriends, and specialized in titillating poses in which the figures, though always at least partially clothed, leave little to the imagination. The style depended on a highly plastic rendering of form and perfect surface finish. Alberto Vargas had a highly individual approach. He had studied in Paris and claimed influences as wide-ranging as the-paintings of Ingres and the popular magazine illustrations of the early years of this century. Working painstakingly on his paintings, he employed the experience of many years of investigation in conventional artists' techniques: watercolour, oil painting and pastel drawing. He used an airbrush only to impart a delicate finish to finished brushwork. Despite all his study, Vargas was occasionally carried away and created a figure which was an anatomical impossibility - these only delighted his devoted fans all the more (Martin, 1983).

Both men worked for Esquire magazine, Petty from its introduction in 1933 until 1941 and Vargas from 1940 to 1946. During this period, Esquire developed the centre page foldout, a combination of poster and magazine illustration, and both the Petty girls and the Varga girls (the "s" was dropped) appeared on calendars and became symbols of American culture in their own right, far exceeding the original intentions of the magazine publishers.

Vargas' association with Esquire ended badly. Through naivety or goodwill he allowed himself to become tied to a contract which demanded a minimum of one painting a week for 10 years, and which made over the rights of his work entirely to the magazine. When Vargas stopped working for Esquire in 1946 he began four years of legal action to recover his rights, a dispute he eventually lost. Vargas later took similar work with Playboy magazine and this, and the earlier work of both Vargas and Petty for Esquire, set fashions which have survived despite the more common use today of photography for such illustrations (Martin, 1983).

The Varga girl became a treasured symbol of the United States during the war years. She appeared accompanied by various patriotic slogans and even dressed in army uniform, to encourage the troops overseas who received copies of the magazines and calendars. A grimmer kind of patriotism was expressed in posters meant to caution and encourage those left at home. In Britain, many of the finest examples were produced by the artist. Abram Games, working directly for the War Office from his appointment in 1941. His posters exhorted the able-bodied to fight and those at home to be aware of the need for endurance, secrecy and defence in the fight against demoralization and disease, which had come to Britain with the destruction caused by widespread bombing (Fig. 8) (Martin, 1983).

(Fig. 8)

37

Games used the airbrush as a major feature of his technique and his imagery shows understanding not only of current graphic conventions but also of the haunting qualities of the Surrealist and Metaphysical styles of painting which had been predominant in the 1930s. Games, like Vargas, was the son of a photographer, which perhaps accounts for the familiarity of both men with use of the airbrush. The airbrush again proved its close connection with photography in highly finished images which were as truthful and immediate as photographs, but which could be strictly designed to direct the viewer's attention towards a desperately urgent message. The typographical instruction of Games' posters and its integration with the imagery is evidence of his comprehensive design ability.

Countless propaganda posters were produced by both sides in the war, many leaning heavily on the qualities of airbrushing for their impact and symbolism. The airbrush had also been used as a tool in political illustration of the 1930s, notably in the work of Italian-born artist Paolo Garretto. Garretto studied art in Rome and later moved to the United States. His caricatures, of major figures such as Gandhi, Hindenburg and Kemal, and in another field Stravinsky and Toscanini, are strangely evocative. In the smooth, inhuman qualities of the airbrushed finish each portrait looms in isolation from the page.

The end of the war basically marked the end of the first great flourish of airbrush art, though the airbrush was still used as a basic designer's tool in illustration for book jackets, comics, music sheets and in advertising and packaging. It was also used in photo retouching, but for a period during the 1950s and early 1960s, the inventiveness of previous years was lost.

During the late 1960s new style in illustration arose from developments in the arts and general culture in the 1960s and early 1970s. This was a boom period economically, when spending was fast and free, and advertising rapidly invented new images to match the variety and technical sophistication of its products. Two important developments occurred which stimulated the production of airbrushed imagery in this context. One was the explosion of youth culture, and its particular expression through rock music. The other occurred when poster art partially freed itself from its graphic obligations and became a wilfully decorative art form. A general boom in advertising and publishing created a demand for more styles of illustration (Martin, 1983).

Quite why airbrushing became so intimately connected with these cultural expressions depends upon one of those mysterious collisions of circumstances which are from time to time responsible for sudden changes and inventions. Airbrush manufacturers can trace a considerable rise in demand for airbrushes dating from the early 1970s but by that time the airbrush had already been available for over 70 years. Time and time again, major contemporary illustrators describe how they found a neglected airbrush in a college or graphics studio, or rediscovered a tool which had been an earlier gift and had lain disregarded for years. They all realized that the airbrush had potential for a new expression which was directly suited to the time. Once airbrush work was brought to public attention, a self-generating demand was created (Martin, 1983).

Dave Willardson is an American illustrator who was one of the first of the new generation to discover the importance and versatility of the airbrush. Willardson had owned an airbrush for years, and one day picked it up when he needed to produce asmooth gradation of tone in a piece of work. The airbrush obligingly solved his problem; thereafter he actually began to submit airbrush work for publication without payment, simply to promote the use of the tool. During the quiet period of the 1950s, the airbrush had collected an old-fashioned image and had again become associated more with photoretouching than with original artwork. During the next few years a number of artists started to use airbrushing to convey their own stylish imagery. Bob Zoell and Charles White III in the United States and Philip Castle and Alan Aldridge in Britain were leaders in the field. White and Willardson worked for a time in partnership as a design team. Aldridge produced a good deal of work in collaboration with the expert airbrush colourist Harry Willock and later in his own design studio, "Ink" (Fig. 9).

(Fig. 9)

As the new airbrush generation discovered their heritage they were able to draw on the exemplary expertise of artists such as Bayer, Binder and Cassandre, but because the character of the age was so different, so too was the imagery it produced. During the early 1970s, airbrushing acquired its association with the slick, highgloss, instant impact imagery which has proved both a blessing and a curse. Vargas had warned artists using airbrushing: "Don't try to make it do what you should have done..." and British-born Mick Haggerty, now a successful illustrator in Los Angeles, has said, "The airbrush is like a gun... in the hands of an amateur it's a deadly weapon." The airbrush is a means of expression which applied to an excellent concept produces excellent results. Although there are enough examples to show that many illustrators fail to recognize this plain fact, there are also many highly imaginative and extremely skilled airbrush artists whohave not achieved the status of a Philip Castle or Charles White III.

Airbrushing is used in a variety of styles of work. Among other major American artists, Doug Johnson notably uses it in conjunction with other painting and drawing techniques to form fluid, glittering representations, often of standard American symbolic figures-the Statue of Liberty, Uncle Sam, the American footballer. Taki Ono, working in collaboration with photographer Lisa Powers, makes free, colourful interpretations of photographics images. Bob Zoell has applied airbrushing to cartoon figures of his own invention, and paralleled the work of artists of World War II by producing a new propaganda - protest - for a new war, Vietnam. Robert Grossman has developed a style of political caricature and social commentary, while others work simply to visualize the feelings and fantasies running under the rapid pace of everyday modenl life (Martin, 1983).

Music and cinema, the major entertainment industries of the twentieth century, have provided a number of outlets for contemporary illustrative talents. Record album covers are an industry and an art form in themselves. Many are purely airbrushed paintings, others sophisticated combinations of new photographic techniques, retouching and conventional design methods.

By combining ihe image of a band, the actualappearance of the musicians and the imagery expressed through the song lyrics and their free associations, artists can exploit any graphic, photographic or painterly style in their interpretations. The major personalities of music, film and television are also subjects for poster art, whether in promotional material or as modern icons (Charlesworth,1990).

Alan Aldridge produced some of his finest work in this context. He was responsible for an illustrated book of lyrics from The Beatles' songs and has developed his style through countless illustrations and his style through countless illustrations and his own illustrated books, such as The Butterfly Ball. Aldridge's work of the 1960s was typified by lush, descriptive colour and heavily highlighted modelling of forms. Philip Castle's fantastic but convincing composite images include the exotic portraits of photographic models and actresses, fully equipped with perfectly painted mechanical parts. The smooth finish of airbrushing enables him to combine flesh and metal as if they were organically connected. In

41

recent years Castle has moved more towards pleasing himself in his creativity. He has exhibited his airbrushed paintings rather than taken on graphic commissions, though in the past the latter have been many and various.

The range of airbrush work from fact to fantasy is seen both in advertising art and book and magazine illustration. In advertising it may be used to present the product in a perfect state, to make it appear even more stylishly necessary than it really is. This is most clearly seen in a number of advertising campaigns for automobile manufacturers, a long tradition in advertising which has lasted through from the 1930s. Airbrushing is also used to render unexpected juxtapositions or to impose the product name on a slick, desirable object related only by the structure of the advertising and promotion business itself, as in the image showing the racing car promoting John Player cigarettes. While such objects can or do exist, and could be photographed, airbrushing is used to add a unique quality to the image which underlines the message - this product is special (Charlesworth,1990).

Fantasy in illustration reached one peak in the 1930s with the early popularity of science fiction and horror magazines. Science fiction, being both wholly imaginary and based on current sciences fact, is an area particularly fertile for airbrush illustration. The characteristic effects of airbrushing, the high shine of metal and perspex, the bursts of cloudy spray which can represent unearthly light all add to the creative range (Martin, 1983).

Airbrushing is also used more prosaically to present facts and offer straightforward educational information. Technical illustration is one aspect of this a subject treated full in the following chapter. Within the past ten years there has been an increasing fashion in publishing for books which explain the structure and function of all sorts of objects and processes - industrial and technological, biological and medical. Many of the illustrations used in this type of work are essentially diagrammatic. They are designed to explain gigantic physical systems, such as railway networks, in a simply assimilated form, or to show the historical development of the form of an object or process, or to reveal the inner workings ofn machines and man-made structures, as well as organic structures in humans, animals and plants. General ideas and systems can also be illustrated - population densities, trade and

distribution systems, economic theories. It is possible to build up purely visual representations of all these subjects by either compositing objective and photographic reference, projecting from plans and graphs, oriventing diagrammatic analyses. The airbrush is used in this context both as a simple colouring tool, for its speed and even spray texture, or in order to vary the expressive qualities in different parts of the design, to use texture, highlighting and shading as parallels for different aspects of the object or idea being illustrated (Charlesworth,1990).

2.3.5. ANIMATION

A separate area of graphic design in which airbrushing has been well and consistently used is film animation. This work originally started early in the century. The major innovative work of Walt Disney's studios, with Pinocchio in 1939 and Fantasia in 1940, proved the value of airbrushed effects in full-length, high-budget animated features. Disney himself singled out the airbrush as a vital tool in his studio's creative processes and underlined the necessity of having highly skilled airbrush artists participating in animation work (Thomas and Johnston,1984).

Animation depends upon the production of a separate image for every minute change in the action of the film. These images must be absolutely accurate and exactly matched one to another. Artists must be capable of developing the form and movement of a specific figure through thousands of different views and attitudes. The original principle of animation was to produce the series of images on transparent acetate sheets which were hole-punched and registered so they could be assembled in strict alignment as a running sequence. Images can be superimposed and techniques of film photography are, like still photography, developing all the time, but animation is still a long, laborious and highly crafted process. The use of the airbrush remains important for its speed, consistency and range of effects (Martin,1983).

Although it is impossible to predict what innovations in technique or subject matter may occur in the future, both artists and clients agree that there is great potential for future development in airbrushing. New materials and equipment are undergoing research; fashions change constantly.

44

2.3.6. PHOTO RETOUCHING

Photo Retouching is one of the most important thing in airbrushing. It is mostly used in advertising industry. It has the ability to be used on print, film, negative and transparency. Retouching is not normally used to improve a poor photograph, but to sharpen the impression of the subject of the shot. We can either take something out of the photograph or put something in or we can do them both. Advertisers, for example, give importance to portray their product in its best light. Trying to take a photograph of a bottle is very hard because of some unwanted reflections on film. These can be eliminated in the airbrush retouching. Same problem is valid while trying to take shots of machines at work on its factory floor. In both cases it is easier and cheaper to photograph the machines as they are and than a retoucher can brighten up the paintwork and remove any blemishes (Owen and Sutcliffe, 1985).

Newspaper editorial photographs are often retouched to clarify the image, so that it reproduces better in newsprint. The retoucher heightens the differentiation between gray tones to make the photo more black and white. Unlike advertising photographers, photojournalists often have only one chance to get their shot. If we shot is of poor quality with retouching skills theycan make it printable (Vero, 1983).

Retouching has been used to cange phographs totaly and sometimes the actual photo is distroyed so it is not always recommended (Breckon, 1987).

Photo retouching is a creative process that relies on human expertise and the human eye for its ultimate effectiveness.

The techniques and the materials for retouching are basicly the same as those for airbrush illustration.

Although, now it seems unnecessarily laborious and messy many retoucher of the old school still maintain using liquid masking. Quality masking film doesnot pull emulsion off the print

45

when raised and also being transparent. It revels the entire print when in position. This is very important in retouching because the whole object is to spray in blanded tones that exactyl match the original photograph (Breckon, 1987).

To use the flatter blades for this work that gives us more cotact with the surface we are cutting is better than the long-pointed type that cut a shallow angle. We must definitely avoid using a blunt blade because the less sharp it is the risk of dealing with the white score marks on the printed underneath increases (Breckon, 1987:107).

To create a variety of styles the color retoucher can use an airbrush. There will always be work offered by the publications wanting color photographs when they only have black and white to hand (Ünsal, 1987).

It is easy to find sets of colours for colour retouching. When the oil based colours can only be applied with a brush, the water based colours which come in strong, intense, bright colours can be used with an airbrush. As well as inks and water colours. The airbrush is especially useful for larger areas of soft or flat colour and shaded backgrounds. It is also suited to colouring materials such as glossy prints and chrome (Breckon, 1987).

46

2.4. TOOLS & MATERIALS

2.4.1. PAINTS

The major medium for airbrush is paint. Some paints are designed specifically for airbrush use; others are not especially for airbrush work but can be used if thinned.

Prereduced Paints

Airbrush Colors—Prereduced paints, designed specifically for airbrush use, are available in a viscosity suitable for spraying through an airbrush without further reduction. Prereduced airbrush colors, fairly new to the airbrush art market, are the easiest to use, and produce the best results of any medium available for the airbrush. Some examples are Badger Air-Opaque and Shivair. They are sprayable, opaque, colorfast paints designed especially for the airbrush. The opaqueness of these paints sets them apart from inks and dyes, most of which are transparent. They are also colorfast, unlike fugitive inks and dyes, so they can be depended upon to hold their color over the years. The color range offered by the manufacturers is somewhat limited in comparison to other water-soluble paints, but since the colors can be mixed, virtually any color can be obtained. These paints are quick-drying, thus enhancing their use in any application where repeated frisketing is required.

Airbrush colors are available in copolymer or watercolor base, either one of which can be worked with and mixed into paints that are not prereduced but have the same base (tube, jar color, acrylic, gouache). The copolymer-base airbrush colors dry water-resistant, allowing the artist to use a paintbrush over the airbrushed surface without moving sensitive airbrushed paint. With these colors, however, movement of the paint may occur when artists' acrylic paint is brushed over dried copolymer airbrush color because the acrylic tends to reconstitute the dried copolymer to a liquid state. The watercolor-base colors dry water-soluble. This means they can be worked back into wet-in-wet as in watercolor technique, but of course it will not be possible to apply paint with a brush over the already

47

airbrushed surface without picking up dried paint (Paschal and Anderson, 1985).

Airbrush colors are generally worked upon paper surfaces, photographs, acetate, or polyester film (Mylar). They also can be worked on a gessoed surface with some care as adhesion of this paint to the gessoed surface is not sufficient to hold up when self-adhering frisket film is lifted. Finished pieces on gessoed surfaces should be displayed varnished or under glass. Regardless of surface support, it is recommended that the original artwork be sealed with varnish, either that made especially for airbrush colors or one made for acrylic paints. Acrylic varnish should be sprayed, not brushed on. If you wish to brush-apply varnish, use airbrush color varnish, which will not disturb the tenuous airbrush surface (Vero, 1985).

Both types of airbrush colors come in easy-to-use bottles that allow the artist to fill the airbrush directly from the bottle of color. The copolymer colors can be used to tint any acrylic simply by thoroughly mixing a few droplets into the paint. Since these paints are already filtered and thinned, and since the amount of paint sprayed onto the surface determines the amount of opacity, they can be worked either transparently or opaquely.

Inks, Dyes, and Liquefied Watercolors—The general category of inks, dyes, and liquefied watercolors includes several different types of media. They are grouped together because the methods in which they are worked with the airbrush and the end results are similar. Some of the more common names for these materials are India inks, drawing inks, liquefied watercolors, airbrushing dyes, and concentrated watercolors. Their common characteristics are: (1) they are all in an airbrushable state when purchased and do not need to be reduced further (though they can be thinned for particular effects); (2) except for black and white, the colors are inherently transparent and may have a tendency to bleed one through the other; (3) most, but not all, have a less-than-desirable amount of colorfastness. This may be a deterrent if the longevity of the original art is important.

Inks, dyes, and liquefied watercolors can be relied upon to give an extremely fine, granular spray in which the dots are virtually undetectable. This makes them ideal for illustration in

48

which a tight gradation of color is required or when the original artwork is to be reproduced rather than itself being used.

Inks, dyes, and liquefied watercolors can be airbrushed on several different materials, but are most often used on illustration board and paper. The types of illustration board and paper are unlimited, although it is wise to work on two-ply rag surfaces, either hot or cold press. Choose illustration board and paper that will hold up well under frisketing. The tooth or texture of the material must also be considered since the atomized spray of inks, dyes, and liquefied watercolors is so subtle that it has a tendency to emphasize the texture of the paper or illustration board being worked upon. In the case of rough-textured watercolor paper, for example, the result may not give the appearance of an even spray (Paschal and Anderson, 1985).

Inks, dyes, and liquefied watercolors hold up reasonably well under frisketing, particularly when vinyl frisket film is used. They may all be used on treated or wet-media acetate, since the surfaces of these acetates are designed to be painted on. Special self-etching inks are available for use on standard acetate. Mylar polyester film is another material that can be worked on with inks, dyes, and liquefied watercolors. This is approached the same way as working on acetate. The major problem with both acetate and Mylar is that frisket film has a tendency to adhere so well to a smooth surface that some of the sprayed color may lift when the film is removed. Inks, dyes, and liquefied watercolors are also used for retouching photographic prints and negatives. When sprayed directly onto the photo surface, they will tint, but not opaque out any images. They hold up to frisketing fairly well on a photographic surface (Paschal and Anderson, 1985).

To correct mistakes and create special effects, these colors may be lightened or eliminated altogether with household chlorine bleach.

Water-based Permanent Media

Three water-based paints that were not initially designed for airbrush use—artists' acrylic

49

colors, vinyl paints, and fabric paints—can be easily adapted for the airbrush.

Artists' Acrylic Colors—The medium most frequently utilized in the fine arts for work with an airbrush on primed or unprimed surfaces is artists' acrylic colors. They are also used in illustration as a substitute for gouache, particularly where drying time and permanency are important. Designed primarily as a quickdrying alternative to oil colors, these paints have qualities that make them compatible with airbrush technique (Paschal and Anderson, 1985).

Artists' acrylic colors are synhetic paints made up of a pigment suspended in an acrylic emulsion. They are water-soluble, thus making them safer to work with than oils, which require paint thinners and oil media that are extremely toxic when inhaled. Because there is no combustible solution, either in the paint or the solvents used for thinning, the overspray is nonflammable. Also, cleaning the airbrush is much simpler—only a detergent is required.

Another advantage of acrylic colors is their ability to dry quickly. This allows the artist to stencil or frisket previously painted areas quickly, whereas one must wait for oil paints to dry before restenciling. The opacity of acrylics can be modified to suit the artist the more the paint is thinned, the more transparent it becomes. Acrylic paints are nonbleeding so mistakes can be corrected simply by painting them white and repainting over the white; the underpainting will not bleed through (Paschal and Anderson, 1985).

Because of its plastic base, acrylic paint is very flexible when dry. Depending on the ground, acrylic paintings can be rolled for storage or shipping without cracking. Dried acrylic paint is very durable even when sprayed in thin layers with an airbrush.

Additional advantages of acrylic colors are that they are relatively odorless, are available in various consistencies, can be applied in any conceivable method, and are less expensive than oil paints. They do, however, have to be reduced before they can be used in the airbrush (Vero, 1985).

Acrylic medium is used in the reduction of acrylics to ensure they do not lose their elasticity

and adhesive properties. Over-thinned acrylics may become unstable, cracking or flaking off the surface of the work. Because acrylic medium is thinner than the paints and somewhat thicker than water, a mixture of water and medium thins the paints at the same time as it adds elasticity. Medium comes in either gloss or mat finish. The gloss medium serves the additional purpose of giving a high or smooth finish to the surface of dried acrylic for improved adhesion when self-adhering frisket film, masking tape, or drafting tape is used. This improved adhesion ensures against bleeding and produces hard-edged lines (Paschal and Anderson, 1985).

Acrylic colors normally come in three consistencies: high viscosity (usually found in tubes); low viscosity (available in jars); and prereduced (available in squeeze bottles). Depending upon the consistency used, the method and formula to reduce for spraying changes. The most popular acrylic for airbrush technique is low viscosity, commonly called jar color, made by Liquitex. As a rule of thumb, the reducing agent for low-viscosity colors is one to two parts water to one part gloss or mat medium, thoroughly mixed. Add as much reducing agent as needed to bring the acrylic to the sprayable consistency of light cream required for airbrushing. The actual amount will vary with the color. High-viscosity acrylics (such as those made by Grumbacher, Winsor & Newton, and Liquitex) are manufactured with a thickening agent that will retain the impasto of the brushstroke (imitation oil painting); it may also clog the airbrush. To reduce these colors use the fifty-fifty solution of water and medium to which is added 10 percent water tension breaker (such as those made by Winsor & Newton or Kodak) (Paschal and Anderson, 1985).

Prereduced acrylics are less permanent than high - and low-viscosity acrylics, and they do not always produce the most satisfying results when used in the same manner as jar color acrylics. If built up to a thick layer, some tend to crack when dried. Also, the viscosity may change from one color to the next, and some colors may need further reduction to be sprayable. These colors should not be confused with prereduced copolymerbased airbrush colors.

51

Artists' acrylic colors may be used on any surface common to the fine and commercial realms as long as there is a surface tooth for adherence. One of the more compatible surfaces for acrylic work is canvas, primed or unprimed, synthetic or natural. Unlike oil-based paints, acrylics contain no solvents to attack the fiber of the canvas. Paper or illustration board (either hot or cold press), Mylar, wet-media acetate, plastics, metal, ceramics, and etched glass may also be used. The pigments used in acrylic paint are colorfast and will hold up to outdoor exposure better than many industrial paints.

Since acrylics are waterproof, they can be exposed to the open air without protection by glass. Acrylics may be affected by alcohol solutions, so surfaces should be cleaned only with soap and water. After the painting is thoroughly dried, application of a nonremovable acrylic varnish to protect the painting is highly recommended (Paschal and Anderson, 1985).

Other auxiliaries that are available for work with acrylics are media gels for thickening color, acrylic primers for preparing surfaces, and drying retarders to allow longer working time with the paints.

Acrylics can be sprayed through any airbrush or spray gun available and should be thought of as truly an airbrusher's paint.

Vinyl Paints—Although not as popular in the United States as in Europe, where they are more easily available, (vinyl paints have characteristics similar to acrylics). They are water-soluble, fast-drying, flexible, colorfast, waterproof, and cost about the same as acrylics. Unlike acrylics, they dry to a very mat finish and have a limited color range. They are packaged in what is considered a low-viscosity consistency in tubs and jars, not in tubes. A prereduced variety called cel vinyls or cartoon colors has been used in animation for may years, the application for many years, the application for which they were originnally designed. Since they flow evenly, they are ideally suited for back-painting acetate cels (Paschal and Anderson, 1985).

Like acrylics, vinyls periodically clog the airbrush. Acrylic varnish can be used for varnishing surfaces painted with vinyl. Vinyl can be painted over or lie under acrylic paints, but the two

should not be intermixed; curding may result. Some vinyls may become brittle with time.

Fabric Paints—There are two categories of fabric paints: those initially designed for work on fabric, which hold up to repeated washings; and those used by T-shirt designers in applications where speed and convenience are important. Only the first category should be considered for professional work. They come in various consistencies—unreduced for airbrushing, such as Deka fabric paint; prefiltered but unreduced for airbrushing, such as Deka fabric paint; prefiltered but unreduced for airbrushing, such as Versatex; and prereduced, such as Versatex; and prereduced, such as Badger Air-Tex. For those paints that require reduction for spraying, either water or alcohol can be added. These materials are worked primarily on fabrics with a natural fiber content for guaranteed results. All three types must be heat-set for permanency. (The color-fastness is not enhanced by heatsetting.) Heat-set either by ironing the fabric at a medium setting with a piece of brown wrapping paper over the painted area or by placing it in a commercial production dryer used in the fabric industry. If using a home dryer, refer to the paint manufacturer's instructions for setting and length of drying time. When airbrushing these materials onto a completed garment, work on a mannequin or stretch the fabric in a single layer over a piece of board; this will prevent paint from traveling through one side onto the other (Paschal and Anderson, 1985).

Artists' acrylic colors, though not considered fabric paints, can be used on fabric. These, too, should be heat-set for permanency. Other materials sometimes used for special colors and effects are automotive lacquers and enamels; however, these are not recommented because they are toxic and change the texture of the fabric (Paschal and Anderson, 1985).

Fabric Dyes—Fabric dyes are available in a large variety of colors. They are manufactured in a sprayable consistency but can be further reduced with a mixture of equal parts water and alcohol. The alcohol helps the fabric absorb the dye, and reduction will lower the intensity of the dye if softer colors are desired. Fabric dyes are transparent and must be steam-set for permanency. Most fabric dyes are designed for application on natural fibers. Some, such as Supen Tinfix, are intended for use on silk and wool; others, such as Tincoton, are for use on

53

cotton, linen, or vegetable fibers. French dyes will work best on natural fibers, although some success can be had with synthetics. Fiberreactive dyes are used for synthetic fabrics but are extremely toxic in their dry state. This is of significance when they are sprayed, as dry particles are thus put into the environment. Proper precautions should be taken before using dyes.

When using fabric dye, use the same precautions as when using fabric paint. Bleeding from front to back of a garment should be prevented by using a block such as paper or cardboard. Unlike fabric paints, steam, not heat, sets fabric dyes. Use a steaming oven, a handheld steamer, or the steam blast from an iron. Whether using fabric dye or fabric paint, correction of mistakes is not possible; once the paint is applied, it cannot be removed without staining the surface of the fabric (Paschal and Anderson, 1985).

Aqua Media

Aqua media refers to a group of paints that are soluble in water and must be thinned for use in the airbrush. These include tempera, poster paint, gouache, tube watercolor. Liquefie watercolor, the sort that comes in jars, is not included here; it is a fugitive dye and was discussed previously under the heading Inks, Dyes, and Liquefied Watercolors. Aqua media as a group are only minimally toxic, finely ground, and quick to dry. And except for watercolor, they are opaque. These characteristics make aqua media suitable for airbrush use. They also have good adhesion and will stand up to some masking. Gouache, for example, holds us well to vinyl frisket film, whereas frisket paper may present problems.

They are available in a wide range of brilliant colors in blocks, jars, tubes, and powder form. Gouache, probably the most popular of the aqua media for airbrush use, is also available in a line of value-coordinated grays for photo retouching. They are numbered zero (white) to seven (black) with six grays in between, to be identified by the camera. They are also available in warm, cool, and neutral to match the tone of the photographic paper . These grays can be used to develop a metallic sheen in technical renderings.

54

Aqua media are compatible with paper, illustration board, acetate, Mylar, photographs, canvas panel, in fact, any prepared or unprepared surface other than metal. Gesso or polymer medium is recommended for canvas board and wood panel preparation; no preparation is needed for paper. Before painting, Mylar and acetate should be wiped clean with rubber cement remover to remove dirt and grease. Photographic surfaces need to be clean and prepared (Paschal and Anderson, 1985).

Aqua media are reduced with water for spraying to a consistency of light cream. They are reworkable except when mixed with a binder such as polymer medium and varnish that becomes waterproof when dry. The polymer medium binder will also give the surface some elasticity so that it is much less likely to crack. Pure aqua media, however, must be painted on rigid supports as they are fairly inflexible when dry. Surfaces should be built up as is done with acrylic, with each layer allowed to dry before the next is added. Spraying gouache too thickly increases its chances of cracking. It is essential to equip the airbrush with a moisture trap when using aqua media, as spotting may occur from water in the lines (Paschal and Anderson, 1985).

Most aqua media are displayed unvarnished under glass. Nonetheless, varnishes may be sprayed on without disturbing the surface to afford more permanency. Oil or acrylic varnishes may darken the paint and affect its brilliance and opacity. Some experimentation is necessary if the work must be varnished. Unvarnished surfaces may be cleaned with a solvent that contains no water.

As aqua media are the least toxic and easiest to work with of all media, both thinning and cleaning up with water, they are the medium most often associated with airbrush technique.

Body-painting or temporary tattooing can also be achieved with the airbrush and food colors. As the colors are nontoxic, spraying them onto the skin presents no hazard, as spraying paints and dyes may (Paschal and Anderson, 1985).

Artists' Oil Paint—Oil paint is a mixture of dyes or pigments with a binder of linseed oil. The binders oxidize and form a solid layer with an even distribution of pigment when the paint is dry. Oils are slow to dry, allowing the artist more time to manipulate the surface and eliminating the problem of paint drying on the tip of the airbrush. The slow drying time may interrupt the flow of work, however, as each layer of spray must be dry before the next is applied. As with traditional brush painting in oils, not following this rule may mean that the paint film will crack in the future. Airbrushing oil paints is, nonetheless, considerably faster than brush painting since the paint is applied in very thin layers, which dry faster, and the airstream itself accelerates drying.

Oil paints are compatible with canvas panels, stretched fabric, paper, illustration board, Mylar, acetate, ceramics, glass, metal, and plastics. Canvas and panels should first be primed with acrylic gesso. Wood panels may either be gessoed and worked upon directly or else covered with a thin muslin or paper (glued to them) over which gesso is applied. Either acrylic-or oil-based gesso can be used. One hundred percent rag paper can be painted on without priming. Copper, zinc, brass, and aluminum may be used as a ground for oil without priming; steel should first be given a coat of red oxide or zinc chromite primer. Light sanding is recommended for all metal surfaces to provide a tooth for adhesion of artists' oil colors.

Oil paint is available in tubes and can be reduced for spraying with turpentine or a prepred painting medium. Some media improve flow and drying time, but they also add hazardous vapors to the air, so safety precautions are called for. Media such as copal, opal, stand oil, beeswax, and varnish may be added to oil paint to alter viscosity, opacity, and drying time. Impasto shapes can be formed with a palette knife using gel media; airbrush work can then be done on them. Consult the label information as well as the manufacturer's literature (Paschal and Anderson, 1985).

Final varnishes to protect the surface can be bought in either gloss or mat finish. The surface of a painting protected with mat varnish should not be buffed, as the wax in the varnish may give the surface a bit of a gloss. The painting must be chemically dry before varnish is

56

applied. This means that the surface is not only dry to the touch, but that all oxidation has taken place and the paint is cured. Six months should be adequate for a thin airbrushed surface, but more time should be allowed for thicker applications. All oil-painted surfaces should be varnished for protection.

Solvents for oil paint are turpentine and white spirits. Clean airbrushes and other spray equipment with white spirits, paint thinner, or a turpentine substitute (which leaves less residue than turpentine). Do not allow oil paint to dry inside the airbrush as it will be most difficult to clean.

Alkyd Paint—Alkyds are made up of a pigment and as a binder a resin of plant origin consisting mainly of alcohols and acids. Hence the name al-cid, or alkyd. The paint is highly adhesive, pale in color, and transparent. It is soluble in petroleum solvents when wet, yet resistant to them when dry. Alkyds dry more rapidly than do oil paints and form a more flexible surface. Reduction for spraying is done with turpentine or mineral or white spirits in quantities to achieve a sprayable consistency.

Alkyd paint is available in tubes and is compatible with gessoed canvas and panel, rag paper primed with acrylic gesso or polymer medium, plastic, metal, and sealed plaster. Avoid highly polished or waxed surfaces; however, if they are used, surfaces should be roughed up with steel wool to provide some tooth for the paint. The preparation for most surfaces is acrylic gesso or polymer mat medium.

Spray by slowly building areas to opaqueness. Each layer should be dry before another is applied. Glazing can be achieved by extending the paint to make it more transparent, using a painting medium for oil such as Liquin or other oil media. A moisture trap is very important here so moisture does not affect the paint (Paschal and Anderson, 1985).

Alkyds are the paint of choice when spraying and an oil-based paint is required, because they dry quicker than oils. They are generally dry in forty-eight hours, but this time can be cut in half if spraying is done in thin layers. They can be completely mixed with artists' oils, which

will expand the limited palette of alkyds. Alkyds mixed with oils, however, will not dry as quickly as pure alkyds. Keep in mind that there are toxic vapors present whenever anything other than a water-based substance is sprayed. Excellent ventilation and a carbon-filter respirator are required.

Varnish

Varnishes are transparent solutions or emulsions used as coating for finished paintings to protect them from moisture, pollutants, and physical damage. Most are removable so cleaning and restoration of varnished paintings is possible. Varnishes are manufactured in two types: acrylic polymer and oil. It is recommended that acrylic varnish be used with water-soluble media and oil varnish with oil-based media. Both are available in gloss and mat finishes, which are intermixable within each type to provide a uniform finish of varying degrees and sheens. The ideal spraying consistency for varnishes is at least as thin as light cream, thinner if shorter drying time is desired. To achieve the proper consistency, some thinning may must be avoided, as it disturbs the chemical structure of the varnish, which may result in poor adhesion. The thinner for polymer varnish is water, and for oil varnish a mixture of one part mineral spirits to one part turpentine.

Although removable varnishes are available to facilitate cleaning, restoration, or reworking of the painting, it is recommended that acrylic paintings be coated first with a permanent varnish to protect the painted surface from varnish solvents (Paschal and Anderson, 1985).

58

Bleach

Bleach is used in commercial art and in photo retouching to adjust the value and intensity of color. It is effective on watercolors, dyes, inks, and color or black-and-white photographs. Diluted household bleach may be used; there are also commercial bleaching solutions for photo retouching that combine several ingredients with the bleach for specific effects (feathering, vignetting, and highlighting). Bleach is generally applied with a brush or cotton swab but may be applied with an airbrush for a specific effect. A stipple pattern, for example, or gradual reduction in color intensity can be achieved by spraying bleach on the work (Vero, 1985).

Mount the work on a horizontal drawing board so that bleach will not drip or run into other areas. Dilute household bleach with at least half as much water. The process is fast-acting, and dilution gives a bit more working time.

It is always advisable to test the colors used with the bleach solution before applying it to the work. Once bleach is applied, the effect cannot be reversed. Lightly mist the areas of interest, watching the effect closely. If further reduction of color is desired after the first application is dry, another application may be necessary. Certain colors are more reactive to bleach than others and may lighten more quickly. Colors that are resistant to bleach may have to be lightened with white gouache or acrylic. Areas that need highlights may be dotted with a drop of bleach from a brush handle or toothpick.

Bleach works to lighten areas of all types of photographic prints. Color prints, however, present a special problem, in that bleaches tend to be color-specific. That is, certain colors will react and lighten when bleach is applied, leaving residues of other colors in the print. Retouching Chemicals Company offers a bleaching solution called All-Off, which will lighten all colors in an evenly controlled manner without color shifts or residues.

Bleaching solutions are also available for specific colors, as well as black and white and for specific types of prints (Paschal and Anderson, 1985).

59

Both household bleach and commercial bleaching solutions are corrosive and reactive with other things besides pigments and dyes. Some bleaches may soften the acetate or vinyl on friskets and stencils. Test the materials before use. The paper board, too, may be softened if the bleach soaks in through any deep cuts from the stencil knife. Maintain a light touch in cutting stencils so the frisket is only scored and the board is not cut into at all. The airbrush also will suffer some corrosion from the bleach if not flushed well with water after each application.

Bleach is an eye and skin irritant, and the artist is advised to take proper precautions when following the above procedures. Good ventilation and the use of a respirator are essential when spraying bleach (Paschal and Anderson, 1985).

2.4.2. BOARDS AND PAPERS

For the illustrators the ideal ground is flat, smooth,hard and very white. Fine line art boards usually fulfil these needs perfectly and there are several makes availeble from most graphic supply stockists. Composed of a strong, thick surface paper, dry-mounted to a supporting board with a pre-stressed backing to maintain flatness, they provide a ground that is tough enough to to withstand scraping or erasing, yet will not discolour or react chemically with the applied medium.

Bristol and Shöller boards are an alternative favoured by many illustrators because the softer surface finish also lends itself to brush and wash applications which may be used together with airbrushing. However, for pure airbrush work with much use of masking film this surface will prove too soft and liable to 'plucking' (where fibres in the board loosen and lift awey), leaving white marks in previousyl sprayed areas.

Watercolour papers and boards have a textured surface which will be picked out and exaggerated when paint is airbrushed across them. This can be used to positive effect if it is prefered a free approach to paint application and masking. But these papers are relatively soft and fibrous and will suffer from 'plucking' when adhesive masking films are used.

If an illustration is to be used in montage, or if it must be flexible enough to be wrapped around the drum of a scanning machine for four-colour reproduction, it may be necessary to work on paper (Breckon, 1987).

61

2.4.3. AIRBRUSHES

The airbrush is no more than a development of a very basic principle which dictates that air forced at high pressure over a hollow tube causes liquid to be drawn up from a reservoir where the air pressure is lower.

Any type of airbrush falls into one of two essential catagories:

Single and double action.

Whit single-action, the user effectively controls only the flow of air. The supply of paint is adjustable, but it must be preset and cannot be varied while actually spraying. Double-action provides continual fingertip control of both air flow and paint supply. This dual flexibilitiy is naturally far less limiting than single-action.

Single-action airbrushes

Single-action, external mix

This is the simpliest of all airbrushes, similar in effect to an aerosol can spray but allowing the user to exercise a modicum of control. This consist of the facility to vary the spray width from about 2cm to 5cm by adjustement of the paint tip at the front of the tool (Owen and Sutcliffe, 1985).

Single-action,external mix with needle

Itis equipped with a nozzle that directs the air jet and a needle carrying paint to air, both components being adjustable for greater or lesser paint supply. Although it delivers a much more consistent flow than its needle-less counterpart, it suffers the problems inherent with all external mix airbrushes, notably spatter and woolly-edged lines. On the credit side, most models are designed to resist solvents and paint chemical for a prolonged working life.

Double-action airbrushes

The independent double-action models, there are no mechanical preset grades of flow; the pressure of the artist's finger regulate supply. These types of airbrushes have a touch-sensitive control over both of the amount of air and the amount of paint passing through the two.

Independent double-action

This all-purpose tool is the most versatile and popular airbrush available. Its successful use requires a delicate balancing act in operating the finger control to achieve the desired combination of paint and air.

Fixed double-action

This type is easier to operate than the independent double-action models since the trigger, although still controlling both the air and paint, does so to a fixed and preset ratio (Owen and Sutcliffe, 1985).

There is also some specialized airbrushes:

The Spray Gun; smaller version of the industrial sprayers.It is useful tool for laying down large flat areas of colour for backgrounds, or for use on murals, or large three-dimonsional pieces.

The Turbo Airbrush; it is the most precise airbrush available, capable of producing the very finest of hairlines, but also the most difficult and demanding instrument to master. The turbine, from which it gets its name, is propelled by the airflow, accelerating up to 20,000 revolutions per minute (rpm), and drives the front-mounted fluid needle back and forth, at equally high speeds, at right angles to the airbrush body (Breckon, 1987).

The Airbrush Eraser; one method of achiving highlights in airbrush illustration is to remove already applied paint to leave the white surface showing through. This can be done by scratching with a sharp tool, or rubbing with an eraser. Both of these methods are a little crude and can damage paint around the area being removed. An eraser, on the other hand, does a much finer job and since its qualitys are similar to that of the airbrush, the finish it achieves is much more sympathetic to the artwork. In simple terms the air eraser works like a sandblaster, but uses a very fine pumice powder in the airstream to erode the paint surface (Breckon, 1987).

3. TEXTURE

3.1. FEELING OF TOUCHING AND SEEING

Rendering a simple geometic object relatively easy, but to imagine various objects made of the infinite variety of textures in the material world requires an additional effort that invariably begins with observation. For example, the play of light on an object's, structure usually identifies the material from which it is made. Often an artist's analytical observation of structure must go to the microscopic level. In such cases, it is necessary to differentiate between looking and seeing. It is one thing to look at an object and know that it is made of wood, but to understand what makes us so sure about our realization we must see. Looking is related to primary perception and emotional response, whereas seeing is related to logical analysis. You should practice observing analytically the detail that gives life to a realistic rendering.

For example, rendering reflections on mirrored spherical surfaces made of highly polished metal requires a profound understanding of spherical projective geometry, which is, of course, beyond the scope of this book. It is sufficient to say here that such surfaces are airbrushed not so much as solids but as distorted reflections of the objects around the observer and around the surface. When such a rendering is required, the best thing to do is to study a mirrored, curved surface, make a detailed drawing of it, then render it with the aid of masks (Vero, 1985).

Polished metal surface reflect light strongly, but a dull finish softens the contrast between light and shadow to an almost velvety uniformity. Note that in the treatment of metals, the counterlights about the edges have been neglected in order to keep the visual explanations simple. Study hardware and metal appliances around the house in order to verify and better understand these metal-light interactions (Vero, 1985).

Cloths such as velvet and silk reflect light in very different ways. Velvet is covered with short hairlike threads that reduce the light reflection; on the other hand, ail is formed of very smooth fibers that reflect light more strongly.

64

The main difference between cloth and metal lies in the geometric rigidity of the metal as opposed to the nongeometric softness of the fabric. Thus, rendering metal requires the airbrush mask, whereas fabric can be rendered most freely using the airbrush shield and free airbrush. An exception to this general rule would be when you are rendering a metal object that includes fabriclike folds, such as a draped metal sculpture. In such a case, the use of an airbrush shield and free airbrush would dominate, and the identifying factor becomes the uniform color of the metal used for the fabric and for other components of the sculpture (like the skin) (Vero, 1985).

Texture involves the tactile sense, the sense of touch. As infants we touch before we see, and through the years the role of texture in our lives remains a vital one. People react to textures in different ways and much of the interest and livability of our environment results from its variety of texture.

Texture and pattern are inevitably intertwined. A pinecone has a distinct pattern and also a texture that feels rough to the hand. A patterned fabric gives us a visual sense of texture, making us "feel" surface variations even when none exist to the touch. In a desing sense, pattern is created when a unit is repeated, whether the unit is felt or seen. A unit thus repeated as a thematic element becomes a motif (Bevlin, 1987).

Numerous adjectives describe textures—rough, smooth, prickly, fuzzy, grooved, bumpy, and so on. Because of the psychological element that makes us "feed" textures that we cannot actually sense with our fingers, we make a major distinction between tactile and visual textures. All other descriptions of surface quality fall within these two main categories.

Actual changes in plane that can be felt by the fingers result in tactile textures, whereas variations in light and dark on smooth or unsmooth surfaces produca visual textures. A chunk of porous lava rock has definite tactile texture; if we pass our fingers over it, we can feel bumps and hollows. A smooth granite pebble also has texture, but it is more a visual texture resulting from flecks in the composition of the stone. Similarly, a glaze on pottery may be

65

smooth to the touch yet be textured to the eye by fragments of chemical oxides suspended in the glaze (Bevlin, 1987).

> *Textures are so much a part of our environment that we generally take them for granted. The clothes we wear, the homes in which we live, and the world in which we move are all a collection of textures. The textures of different foods add immeasurably to the pleasure of eating, and good cooks make use of that fact, adding crisp croutons to soups and salads, smooth sauces to fibrous vegetables, and crunchy nuts as toppings for desserts* (Bevlin, 1987:100).

TACTILE TEXTURE

Tactile textures in nature have long been a matter of survival. Scales, whether on dinosaurs or fish, provide protection while allowing for movement, much as the wearing of chain mail fortified centuries of warriors. The mountaineer's life depends literally on the projections of rough rock with which he or she can gain a foot - or handhold. The grooved bark of trees provides sustenance for birds through the insects that inhabit the crevices, and the roughness of root and hollow log make it possible for small animals to construct shelters.

Few human textures are as rugged as those found in nature, but some examples demonstrates an extremely rough texture that has become a part of contemporary humen life. The crushing of obsolete automobiles into disposable blocks of metal has solved a problem that reached major proportions as junk car lots proliferated on the perimeters of cities and towns all over the United States. This particular example was displayed as a work of art in the 1960s but its counterparts are no longer novel. What is novel is that the texture is not actually as rough as it appears. Running one's fingers over it would inevitably result in a feeling of smooth metal in some areas, a tactile smoothness, to be sure, but not what one would expect from the appearance of the piece. It is not the metal itself that actually creates the texture but the deep shadows of the crevices resulting from the crushing process. The visual element thus becomes as powerful as the tactile one, though psychologically we feel that the texture is unmistakably tactile.

Tactile textures are nearly always visual as well. Irregularities in a surface cast shadows, and roughness becomes immediately obvious. There are exceptions, however. A piece of marble may look smooth until we run our fingers over it, discovering ridges and hollows undiscernible to the naked eye. Similarly, some textiles feel more interesting than they look. Weavers rely heavily on the textures of fibers for the design quality of their work, speaking of the "hand" of a textile, which may have considerably more character than a casual glance reveals.

Handcrafted objects are particularly appreciated for the variety and warmth of their texture.

People who live close to the earth are masters at producing fascinating textures. Native Americans of the Pacific Northwest wove textiles from the shredded bark of native cedar trees, using them for clothing, rugs, and blankets. People in the Pacific islands beat and steep the bark of the paper mulberry tree, dyeing it in distinctive patterns of tapa cloth. The Incas of Peru made garments of brightly colored feathers, and the Navajo rugs woven by natives of the American Southwest have become collectors' items for their distinctive patterns and earthy textures (Bevlin, 1987:103).

VISUAL TEXTURE

The smoothness and frequent superb finish of visual textures makes them a natural choice for elegance. Palaces and impressive public buildings are replete with gleaming marble and inlaid floors, whose innate patterns and textures seem even more impressive when combined with satin-smooth surfaces. Cabinetmakers of the 17th and 18th centuries spared neither time nor effort in their painstaking efforts to create masterpieces, inlaying woods imported from all over the world for their decorative qualities.

Many of the most famous paintings of the Italian Renaissance are actually frescoes, wall paintings in churches or castles, in which the pigment is applied in a solution of lime water directly to the wet plaster of the wall. When the plaster has set, the painting is thus a part of the structure, and any tactile quality results from the structural surface of the wall itself.

TEXTURE THROUGH STRUCTURE

Many of the textures we have mentioned are a result of irregularities in material or surface application; others are deliberately planned for interesting effect. Some of the most fascinating textures result from structure, which in turn derives from imaginative use of certain materials.

Weavers use this knowledge as the keynote of their work. Fibers and yarns weight, and it is the manner in which the weaver combines them, seeingrovide a vast assortment of widths, thickness, color, variations in "feel," and imaginative possibilities, that results in the ultimate textural quality of a work. The same may be said of stitchery. There is an entire repertoire of possible stitches, fibers, threads, and materials for backing, but the combination of these,-perhaps with quilting or appliqué, forms the actual textural quality through its very structure (Bevlin, 1987).

69

TEXTURE THROUGH LIGHT

Although light obviously facilitates perception of any kind, the quality of tactile texture depends to a large extent upon its role in casting shadows. The Greeks developed this knowledge into consummate skill, enriching their temples with ornaments and moldings carefully designed to capture the brilliant Mediterranean sunlight and dramatize it by casting deep shadows. Even the fluting of columns was a device for playing light against shadow.

The architects of the Middle Ages installed magnificent stainedglass windows in their cathedrals not only as agents of light but of color. The panes, created by melting certain minerals and cooling them to colorful solidity, poured a mosaic of brilliance into the dark stone interiors, infusing the entire structure with a mystical quality. A 20th-century adaptation was used by Le Corbuseir when he designed his chapel of Notre-Dame-du-Haut at Ronchamp. Both exterior and interior walls are rich in tactile texture, but even more interesting is the visual texture provided by the light admitted through windows of varying size, shape, and placement. The windows themselves, set deep into thick walls, add interest to the surface and, throughout the day, as the light changes, texture the interior with mottled light. Some of the windows are painted with casual designs and inscriptions in red and blue, hinting at the effect of stained glass but in no way imitating it (Bevlin, 1987).

TEXTURAL SYMBOLISM

Our associations with texture are never more personal than in interior design. Here they have acquired their own symbolism, which has much to do with our physical and emotional comfort. Generally speaking, smooth textures in an interior can seem cold, and when they predominate, as in a hospital, they may feel not only chilly but impersonal and ominous. Rough textures, on the other hand, seem close to the earth, and they have a warmth about them that makes most people feel at ease. The variety of texture is a important as any specific texture, for the environment is enhanced by the changing sensations offered to the eye and hand (Bevlin, 1987).

Twentieth-century artists have added textures to their work by actually imbedding materials in the paint. One of the best-known methods is known as collage, the French term for pasting. Beginning with playing cards and bits of paper, collage has evolved into a technique by which artists use all kinds of visual symbols. Some artists even incorporate three-dimensional objects into their work, obscuring the dividing line between painting and sculpture. Such works are often referred to as constructions.

TEXTURE & PATERN

A single brick has texture, but a wall of textured bricks creates a pattern. This does not mean that repetition is a requisite of pattern. It is only one of the means by which pattern is created.

Pattern as Repetition

In an allover design, no single feature predominates. For that reason a repeated pattern lends itself to backgrounds such as wallpaper, fabrics, and decorative wrappings. It can also be effective as package design. Using only the name of the product in a distinctive type style with color contrast, such a pattern can fulfill two requirements: improving the appearance of the merchandise and impressing the name of the product on the mind of the buyer.

Many of the streets of Europe are patterned with cobblestones, carefully chosen as to size, shape, and color to produce intriguing patterns. Drainage gulleys may be outlined in one size and shape of stone and sewer covers lie like the center of a flower in a radiating pattern. The basic units, the stones, are similar, and many of the motifs are repeated in different places, as in the stripes of different size and color of stones composing the streets outlining the buildings. Here again, there is repetition, but it is so varied that it could never be considered mechanical (Bevlin, 1987).

Pattern as Surface Design

Although 20th-century cities seldom exert such effort on their busy thoroughfares, texture and pattern are being appreciated increasingly for their ability to relieve stark walls of concrete, metal and glass.

Interacting Patterns

Frequently there is an element of surprise in pattern. Units placed inrepetition or in combination with other units over a large area inevitabl create new units that even the designer may not have foreseen. Often these are the result of unpredicted negative space playing through the pattern. Within the allover pattern, new shapes become apparent between the units, becoming ovoid shapes that change with the viewpoint. Seen in the illustration, against a light background, the pattern seems almost dominated by the negative shapes or spaces. Any artist who creates an allover design is, in fact, making two designs: the individual motif and the design that results from its repetition or combination with other motifs. Often the placement of motifs in relation to one another is a major decision of the designer. Any of the allover patterns shown above would change character if the motifs were placed at different angles or different distances from one another (Bevlin, 1987).

Texture and pattern are actually two aspects of the same element. Their variations and relationships represent one of the most basic human impulses, the need to decorate objects, the human body, and the environment in which we live (Bevlin, 1987:112).

The are two kinds of texture: tactile, which can be felt by the fingers, and visual, which is seen by the eye. Both overlap in many instances. A motif is a unit that is repeated to form a visual texture or pattern. Textures are created in many ways: by the use of textured materials; by the use of light, which casts shadows; and by the ways in which human hands manipulate materials. Textures have symbolism for us in the way we decorate our homes and in the ways we interpret textured surfaces such as paintings. Pattern and texture differ only in degree. A texture may be a pattern and pattern becomes visual texture. Pattern can be used as design in repetition, as surface design, and in interacting patterns that create new designs.

3.2.MASKING TECHNIQUES FOR NEW TEXTURES

Movable Materials

Movable masks are usually faster to use and can normally be reused. They include a broad range of shapes, materials, and thicknesses, and can be flimsy or rigid, flat or raised.

With thick or raised masks, the angle of spray to the surface can be an important factor. When movable masks are very light or not flat, it may be advisable to use weights to hold them down; artists often save type slugs, washers, and other flat objects for this purpose. When it is not feasible to use weights, allow less air pressure to hit the painting surface, either by gradually building up paint with little air or by holding the airbrush high above the surface so that the air pressure is dissipated by the time the painting medium reaches the surface (Fullner,1983).

Papers and boards

Heavy papers such as stencil paper and parchment paper, and light boards such as tagboard and chipboard are often used in making stencils. They can be cut with a knife or scissors, or torn in irregular or frayed edges are desired.

Light, inexpensive papers attached with tape are used as large masks and to protect areas from overspray. However, even light papers such as bond or newsprint can be used to quickly prepare masks that do not require precision placement. It is sometimes useful, for example, to cut or tear paper into a variety of shapes before working on subjects such as clouds (Fullner,1983).

74

Artist-prepared acetate stencils

Although stencils can be made out of a variety of materials, clear or frosted. 005 mil acetate sheets work very well for this purpose, unless, of course, a torn, frayed edge is desired. Acetate retains its edge, does not buckle when wet, and is easy to wash off.

The easiest way to prepare masks with this material is to tape down the acetate over a drawing of the shape desired. Must be used a very sharp knife when tracing the contour, being sure to retain the line of the cut with each stroke . Rotate when cutting in order to always retain a good arm motion. It is not necessary to cut completely through the acetate because the stencil will break away when the sheet is bent along the cut; bend carefully in areas with sharp curves or angles. Smooth the cutout with fine sandpaper (Fullner,1983).

Raised masks

A raised mask is simply a mask whose leading edge is above the surface of the painting. It is used where a guide is necessary to produce a degree of softness or gradation at the edge of a sprayed area; or, it is used where it may not be wanted to place a mask directly onto the surface. It may be used flat or tilted at an angle (Fullner,1983).

Found Objects and Aggregates

Found objects and aggregates can contribute to the uniqueness of the work. The process of discovering new images through experiments with these materials can also be a lot of fun. Possibilities in this area are so varied that it is difficult to provide useful categories; however, the following may be helpful.

1. Stamped cutouts such as gaskets, washers, and paper doilies.

2. Small tools and gadgets.

3. Small objects that are not flat but are small enough to serve as stencils (nails, screws, wire, string, fastener). These objects often leave interesting combinations of sharp to gradated areas.

75

4. Aggregates of objects. Small rocks, pellets (various sizes and materials), eraser shavings, and sequins. By holding the spraying tool high above these materials and allowing the spray to fall to the surface, it is possible to spray without air pressure moving the materials around. With this technique it is even possible to get good definitions of such objects as feathers.

5. Plants, including leaves, blades of grass, small twigs, seed pods, and flowers.

Netting Techniques

Screen, netting, and other mesh materials can be used to create simple textures and patterns. Greater complexity can be created by moving them and then respraying, or by overlapping screens between sprayings. The designs in handmade or machine-made pieces of lace, crochet, eyelet, and other materials provide interesting decorative stencils. Handmade pieces are increasingly hard to find but offer the most unique designs. Machine-made yardage pieces come in a broad range of designs and can be purchased in fabric stores (Fullner,1983).

It is secured these materials flat against the support before spraying. Experiment with different amounts of air and paint to find the right combination for the particular material and design selected. Also, after creating sprayed designs with these devices, try working into these areas with additional spraying or with brushed and mixed-media techniques. These stencils can be cleaned with soap and water if a paint such as designers' colors is used, or with the proper solvent for other media.

Materials can also be glued to netting or screens to set pieces into a design or to produce more intricate designs than are normally produced with cutouts. Prepare these stencils by arranging on a protective sheet of plastic, the flat stencil materials then laying the netting over the stencils. Brush white glue through the screen onto the mask, keeping the glue away from the edges of the mask. A similar technique can be used in which a thick mixture of acrylic medium and powdered paint (the consistency of heavy syrup) is applied to netting that has been evenly spread over a plastic sheet. When dry, the stencil pulls away from the

plastic. Large, complex, and flimsy stencils cut from heavy paper or light boards can be reinforced with small pieces of netting. If the netting shows up on the painting and is obtrusive, it can usually be sprayed over and eliminated (Fullner,1983).

Large, Artist-Prepared Screens

Masked screens of this type are most commonly used in screen printing (serigraphy, silk screening). Instead of using a squeegee to force medium through the screen, as in screen printing, the airbrush or air gun is used to spray a more diluted medium through the screen. The resulting layer is usually not as thick as ink applications in screen printing.

The mesh of the screen may show, and there is a paint build up on the screen that will clog unless removed quickly. In spite of these problems, this process offers potentials to the artist who is interested in a masking process that allows a sprayed image to be repeated over and over again. An advantage of this process over regular serigraphy techniques is that, through spraying, intricate changes of color and gradation variations are easily obtainable either during the spraying of the screen or afterward.

With this process the following factors should be noted.

1. Sources on serigraphy should be reviewed for methods of preparing serigraphy screen frames, masking of fine screens, and for photo serigraphy techniques.

2. A serigraphy screen can be used where fine detail is desired or necessary (here the masks used in serigraphy are appropriate). A larger mesh screen, which is needed when acrylics are used, calls for masks made of paper or artist-prepared liquid mask.

3. This is not the precision process found in normal serigraphy. After spraying through screens, detail can be achieved through other airbrush painting techniques.

4. It is necessary to be able to wash the painting medium off the screen without harming the mask. Check the relationship between the binder used in masking and the painting medium.

5. This process is appropriate for producing a series almost identical paintings (prints), a series of related variations, or for producing a series of backgrounds or base paintings on

77

which other techniques are applied. The appeal of this process is that after having done the series of "prints", the time and energy used on the detailed or finished processes that lead to the finished work can be focused. the beginig point can be of departure.

6. Acrylic polymer is suggested for larger works using this process. Other media, such as designers' colors, work well for works to be placed under glass. An interesting variation is to spray the "printed" stage of the painting with acrylic polymer and then use designers' colors over the print. The advantage of this technique is that most mistakes with designers colors can be washed off while the acrylic underpainting will not wash off.

7. Large screens may require the use of a regular air gun or retouch air gun rather than an airbrush. The air gun expels more paint and exerts more pressure to force paint through the mesh.

Applications for spraying that are variations of common serigraphy techniques can be derived easily from sources that cover this area of printmaking. Because of this, only two approaches, primarily for fine artists, will be discussed here. The first is a process involving the development of a single-screen and the second incorporates a series of screens. The single-screen technique is faster and the screen can be thrown away after the last color has been applied. With the mutiple-screen process, the artist can reuse the screen at any time to create a new painting or series of paintings (Fullner,1983).

For both, an inexpensive netting commonly referred to as bridal veil is suggested, which has a large 1/16 - to 1/8-inch mesh. It stretches and rips easily, but can be repaired quickly. Also suggested is the artist-prepared liquid masking material described later in this chapter. The frame is constructed so that the screen will lie flat on the surface of the painting.

Single-screen technique

For the single-screen technique, the screen should be attached to the frame with staples.

1. To begin, it can be workd directly with the mask or a preliminary painting or drawing can be prepared. However, the approach suggested here is to first make a preliminary painting

78

the size of the final work. Place a clear plastic sheet over the preliminary painting, then lay the screen flat over the plastic.

2. The masking material can then be applied to the screen placed over the preliminary painting. After the mask is thoroughly dry, remove the protective plastic layer and clean the plastic before reusing it.

3. After proper registration points have been established, begin by spraying the surface with the first color. Then use the screen with the first mask and spray the second color. This isolates the first color area. After preparing the second mask on the screen, spray the third color. Repeat this sequence until all the color areas have been sprayed.

4. When spraying through the stencil, try spraying vertically or at a consistent angle. Resist applying too much paint. The screen should be hosed off (out-doors) immediately after spraying in order to minimize paint buildup on the screen.

Multiple-screen techniques

The same masking techniques may be used with multiple screens. With this approach the screens must be used in sequence because each screen progressively blocks out added colors: the first screen masks the first color, the second screen masks the first and second colors, the third screen masks the first, second, and third colors, and so on. A more advanced technique is to isolate each color area on a separate screen. Begin with either the white of the support or a background color and then spray the color for the first area through the first mask, the second through the second mask, and continue the cycle until each of the masked areas has been completed. The base color is important because you may not be spraying all of the painting through the masked screens; it should be thought of as an integral part of the color scheme (Fullner,1983).

It can be reinforced the edges of screens with canvas strips and grommets that fit over nails on the frame. These screens should be hung to dry when other screens are being sprayed. When storing, place them together so that they will not crease easily. When removable

screens are used, exact registration is difficult because of the stretchy characteristics of netting; however, for most fine art needs, simple adjustments should prove adequate.

Dry Adhered Masks

Some masks are attached to the surface to ensure greater precision, secure placement, or better overspray protection. There are generally two types, dry and liquid.

Tapes

Tapes are used separately as masks (especially when linear masking is needed) or as the adhered leading edge of a larger mask, which may be scrap paper.

Drafting tape: This type of tape is usually recommended for working on good quality paper or cardboards such as illustration board because it should properly adhere but not rip when carefully removed.

White tape: This tape adheres like drafting tape. It has a smooth, white paper surface that can be used as a painting surface. It may also be easier to cut with a frisket knife than drafting tape when preparing special contours for masking.

Masking tape: Artists using acrylic polymer on canvas or hardboards should use masking tape. It is a stronger sticking tape than drafting tape. It is also good to use in taping nonpainting surface areas, as when it is necessary to tape down protective paper.

Charting and graphic art tapes: These tapes are available in various widths and shapes. They are good for detail work. The crepe type is excellent for making curved lines.

Friskets

Friskets are masks made of relatively thin paper or plastic coated with an adhesive. Because their tacky surfaces create a weak bond with painting supports, they can be easily removed. They can also be easily cut with a frisket knife.

Frisket materials: Both paper tissue and vinyl or acetate cellulose frisket film are available. Paper friskets have been used successfully for years; however, it is easy to find the newer vinyl or acetate type easier to use because it resists buckling when wet. It can be purchased these materials treated or untreated. Commercially prepared friskets are coated with a stronger adhesive than the type you prepare yourself with rubber cement.

Pressure-Sensitive Dry Transfer Materials: Because pressure-sensitive transfer materials can be removed easily, they can be used as ready-made friskets. A variety of letters, numbers, objects, and symbols is available. However, complex designs with delicate parts may transfer on a clear film. They cannot be used as masks for spraying because the image cannot be removed from the film background.

Dry transfer material is very thin and may be difficult to remove if heavy layers of paint are sprayed over it. Because medium easily leaks under it, develop your image by slowly building up layers of spray. For maximum adhesion and to reduce cracking, burnish transfers with the appropriate sizeburnisher. It is used the burnisher lightly when transferring the film to the support; then, with the use of a protective cover sheet, burnish it again.Before removing the sprayed mask, loosen the material with rubber cement thinner applied to the painting. The mask can then be removed either by lifting the edge with a knife or by gently pulling it off with tape (Fullner,1983).

Liquid Masking Materials

Liquid masks are normally used in specialized situations and should be tried only after some experimentation.

Commercially Prepared Liquid Masks: The two most commonly used types of commercially available liquid masks are designed for two different purposes. Artists working on porous or semiporous surfaces should use such preparations as Miskit, Maskoid, and Pink Peel. This material can be used on papers, cardboards, prepared wood hardboards, and prepared canvas. It can be applied with a pen or a wet brush (preferably wet with soap). Try a ruling pen when precise lines are needed. A liquid mask is normally covered with water-based paint. If acrylics are used, 'do not build up heavy layers over the mask. This material should dry a few minutes before being sprayed. Remove the mask by peeling or rubbing it off with a soft eraser.

The second kind of commercially prepared liquid mask is designed for nonporous surfaces commonly used on sign faces (acrylic, cellulose acetate butyrate, styrene, and polycarbonate). It can also be used on other nonporous surfaces, such as glass and Mylar. Although this material is normally used by sign painters, there are also potential fine art applications. An acrylic lacquer paint is used with this masking material when it is applied to plastic. Check with a paint store or an outlet specializing in sign supplies to be sure that the correct paint is used on other surfaces. This product isnormally sprayed onto the full surface of the painting support. The mask isthen cut with a stencil knife and the areas to be sprayed are peeled off. After spraying, the rest of the mask is peeled off (Fullner,1983).

Artist-Prepared Liquid Masks: Artists who work with acrylic polymer may wish to experiment with their own preparations of the liquid mask, which are washed off after use. They may be used by fine artists interested in large-scale use of liquid masks without the high cost of commercial preparations. The solution is made with powdered paints and liquid dishwashing soap or glycol. This combination produces a water-soluble masking material that can easily be remoistened. This solution can be diluted slightly to permit detail. It may

82

be difficult to remove when applied in minute detail. This liquid is applied to a surface that will hold up under rubbing and, possibly, the water pressure from a garden hose.

To remove the mask, it must be waited until the paint is completely dry and then use water and a sponge to vigorously wash off the mask . Better yet, take the painting outside and hose off the masked area. When hosing, hold the nozzle close to surface to achieve maximum pressure. Stubborn areas can be scratched with the fingernail or a pointed wood stick (Fullner,1983).

Sequential applications of sprayed masked areas can be developed either by removing the mask after each spraying or by removing the mask aftersuccessive layers of masking and spraying. The second method works as long as the acrylic buildup over the first layer remains thin enough to be removed.

Wax: Batik is a process of dyeing fabric after designs have been applied to the surface with hot liquid wax. When the wax is removed, a "print" of the waxed area is left. The dye can be applied in various ways and the process is often repeated a number of times before the work is completed. Airbrush techniques, spraying fabric dye, allow the following when combined with traditional batik techniques: subtle and controlled gradated areas; various degrees of dye saturation; spraying only specific areas; small-area spraying; and complex color relationships. Airbrush painting may be done at any time in the batik process. Artists interested in this technique should consult sources on batik or fabric design (Fullner,1983).

3.3. THE IMPORTANCE OF COLOR IN TEXTURE

With the majority of the media used in airbrush or spray technique, color is a major concern. Color theory and the interaction of color apply, of course, to media that are sprayed on as well as those that are brushed on. There are some differences, however, in the way the color is perceived.

Basic color theory begins with the principle that color is light. It is light that carries color, not paint. The pigments in the paint or colorant absorb certain colors from white light and reflect others. This reflected color is perceived by the viewer as red, for example. But how is this red differentiated from other reds? Paint manufactures assign arbitrary names to the colors, such as rose or scarlet. The artist, however, must be more specific in identifying color to ensure color continuity and accuracy. The system by which colors are classified and named uses the attributes of color—hue, value, and chroma. Every color can be accurately described with these three attributes. Hue refers to the name of the color. This does not mean the name of the dye or pigment used to make the color, such as hansa yellow or cadmium red, but a generic name such as red. Value refers to the lightness or darkness of a color, its position on a scale of grays from white to black. Chroma, the final attribute of color, is its relative brightness or intensity. A specific color, therefore, can be light and bright or dark and dull, and so on. For example, the color named cadmium yellow is a light (value), bright (chroma) yellow (hue); raw umber is a dark (value), dull (chroma) yellow (hue).

Many color systems are used to describe hue and chroma graphically. The basic three-primary-color system is set up as an equilateral triangle within a circle. Three primary hues—red, yellow, and blue—are located at the points of the triangle. Theoretically, all other colors can be approximated through mixtures of these three. Mixtures of two primary colors (such as yellow and blue) will result in a secondary color (green), and mixtures of a primary and secondary color will produce an intermediate color (blue green). The chroma or relative brightness of a color is located within the circle. The center of the color wheel is a neutral or gray area where all colors tend to converge. As a line is drawn out from the center toward

84

a hue location on the outer rim, that hue becomes intense. A bright fireengine red, for example, will be located on the outside rim of the circle while a duller brick red might be located halfway toward the center. Mixtures of two colors always result in an intensity lower than that of the brightest color. The brightest forms of all colors are commercially manufactured. It is advantageous, then, to stock as many colors as possible, even though you are able to mix them. In its brightest state, a hue can be used as is or reduced in intensity, as required. This is done by mixing small quantities of the complementary color, that color exactly opposite the hue on the color wheel. As the complement is added, the resulting color more closely approaches the center toward the gray area. If more of the complementary color is added, it will begin to take on the characteristic of the complementary hue. Mixtures of the three primary colors or combinations of any three colors that are equidistant on the color wheel (for example, a mixture of orange, green, and violet) is known as a tertiary color. These tertiary colors are dulled hues that are relatively neutral and tend to harmonize with all other colors (Paschal and Anderson, 1985).

The dimension of color value is not located on a flat color wheel such as described, but if the color model is made into a sphere, value can be indicated. The value of a color indicates its relationship to black or white. It should be noted that colors are manufactured in their brightest states at a specific value for a given color. Bright yellow, for example, is a light (high-value) blue is a bright blue. As colors are mixed and the value level changes, they lose their intensity.

An additional aspect of color to consider is its psychological impact. Reds and yellows are associated with the sun and warmth, and they tend to advance in two-dimensional space. Blues and greens, on the other hand, are associated with cold and serenity and will tend to recede.

Color does not exist in itself. It is the most relative medium in art and is dependent on its environment. A color of a certain hue, value, and chroma will change in appearance if its

background or surrounding colors are changed. This is significant in airbrush or spray technique since color combinations are made optically instead of physically when sprayed. Although the previous color theories still apply, the artist using an airbrush must deal with the fact that new colors are created when dots of different colors are placed side by side. Even though the artist mixes the desired color before putting it in the airbrush, the final mixture takes place on the canvas. Experience will be the best guide in this matter, although much can be learned about optical mixtures (and applied to spray technique) from the pointillist painters. The surface, or ground, the transparency or opacity of the medium, the type of spray equipment used, and the size of the dot will also affect the color, and must be accounted for (Paschal and Anderson, 1985).

3.4. TEXTURE IN AIRBRUSHING

An object reflects or absorbs light not only by its position in relation to the light source but also according to its texture and substance. The clearest example of this is in the difference between two metal cylinders, one shiny and one matt. The shiny surface has high tonal contrasts and sharp divisions between the tones, while the dull finish is characterised by a closer tonal range and smooth gradation from light to dark. These differences can be achieved technically by the use of different types of masks. A mask which is at a adhesive or absolutely flat to the surface gives the sprayed area a hard linear edge. A loose mask held slightly away from the surface gives a definite edge, but it is softer and fuses into the underlying tone. To give the impression of a matt surface with minor tonal variations, no extra masking is needed with in the basic outline shape. Careful control of the width and density of the spray bands across the shape is all that is required to give it form (Buchan, 1991).

Although there are certain basic rules which can be applied to the rendering of tone and texture, it is important to observe real objects and assess their characteristics. Light reflection and shadowing and surface detail essentially describe particular forms. Cast shadows, on a flat surface or of one object against another, help to emphasize three-dimensional space and edge qualities. If there is a secondary light source, for example day light from a window as well as artificial light, ther is a lighter, fuzzed edge to the shadow which may also modify its shape, depending upon the direction of the light. Translucent and shiny surfaces are subject to modifications of color and tone caused by reflection or transmission of colour. Subtle use of reflected light on the edge of a plane surface gives extra definition to a form (Buchan, 1991).

There are various ways of achieving different textures in airbrushing and one is by using the capabilities of the airbrush itself. In independent double-action models the texture of the spray can be altered, since air and mediumsupplies are seperately controlled. A higher proportion of medium to air gives a coarse, slightly spattered spray. Experiment with the lever control will reveal the range of texture which can be achieved without the need to alter the consistency of the medium.

87

When simple shapes are understood, the principles of light and shade can be applied to more complex forms, which should be seen as composites of the basic shapes. The tonal structure can be identified even where there is a change of fabric and texture. Although a certain amount of basic practice is needed before starting on fully rendered illustrations and before investing in expensive materials for finished work, it is best to make up some composite shapes early on the exercises will serve as models for skills which need improvement (Buchan, 1991).

There are many materials from which the cube, cylinder,sphere and cone could be made, and probably just as many ways for each type of material to be illustrated. There are also many techniques, mostly stylizations simplifications designed to be easily understood rather than be literally truthful - by which they can be represented. It is necessary to have to decide whether or not to accept the pre-determined stylizations, some of which may have become tired cliches, or whether to experiment and discover individual methods of describing these materials.

There are some basic textures in airbrushing:

Matt steel- if the material has no striking characteristics, other than its dull metallic sheen, it can be dealt with using soft vignettes with no masking other than for the outline shapes. The grey tones should be sprayed first, leaving a fair amount of contrast, which can then be filled and softened by a more bluey tone. The dull metallic finsh of matt steel has little more than a slight sheen. It does not pick up much reflection and consequently the overall colour content is minimal.

Chrome - chrome, being bright and reflective but without a general colour of its own is chameleon-like in nature, taking on the colours of its surrondings, and reflecting back a distorted version of the objects around it. This can be a commotion of visual imagery in reality, so a samplication is offten required with only the sky, in a rich blue, a dark, often black horizon and a smooth vignette of browns to represent the ground around it. This still requires foresight, or research, to describe where these elements begin and end on any one shape, otherwise the effect will be less than convincing. The high degree of reflectiveness in the surface demands sharp contrasts between light and dark areas, so fixed masking or else

88

a loose mask held tightly against the art work will be needed to create the division between sky and horizon.

Glass- placing a glass object in an enviorement will require a great deal of thought into how other objects may look through it or indeed how they would affect its appearance. Glass attracts a myriad reflections. A glass object does not present too many problems for the airbrush artist, as the predominant colours are blues and greens. If the reflective qualities of glass is wanted to be emphasized then the illustration becomes much more complicated.

Rubber- its like other manufactured materials, can be produced in any form, with many different textures, depending upon the compound used. The texture has been achieved with a spatter cap, but if the airbrush does not have this facility experimenting with very low air pressures, or even using the toothbrush method of spattering, can produce a similar effect. The black used as a base colour has been complemented with the addition scarlett to give warmth and body to the texture.

Stone- simply spray a spatter of yellow ochre and overlay a spatter of grey to achieve passable stone effect. To obtain a higher degree of realism spray back a white spatter to give the highlighted effect often found in many varieties of stone.

Wood- spraying a light base colour with attention to tonal shading provides the foundation on which the detail can be built. Cutting a wavy line down a piece of paper and pulling it apart to form a small gap will make a useful loose mask for this purpose.

This powerful graphic image by French propagandist Sevek was produced by a combination of loose and hard masking. The land masses and the sea were masked with frisket or tracing paper gummed to the surface and sprayed alternately, then an overall blue vignette added. A flat gouche was laid over the precise shapes of the figure and the aeroplane and shadows worked (Fig. 10).
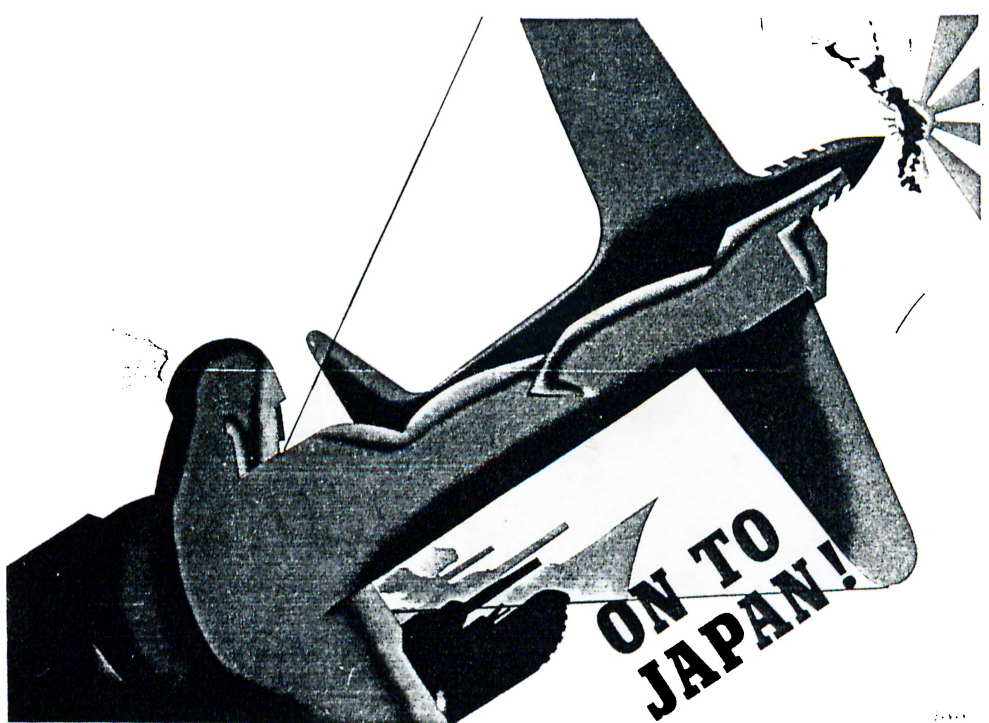

(Fig. 10)

Warren Beaty, Mick Haggerty. The grainy effect of spatter can be very striking in graphic work. A spattered texture can be achieved either by increasing the amount of paint and decreasing the amount of air or by using a spattre cap. With a double-action independent airbrush, pulling the lever back draws the needle out of the nozzle, making the aperture larger. By pressing the lever down slightly, a small amount of air will propel large particles of paint at the surface. Alternately, a spatter cap can be fitted replacing the nozzle cap: this will give the same effect. Spatter caps vary in size and shape according to the model of airbrush (Fig 11.).

(Fig. 11)

Cadillac, Ean Taylor. Hard masking is an ideal technique for representing the straight lines and angular shapes of machines and lettering. When hard masking is used to determine most of the image, a high degree of precision is demanded. Each shape cut form the film to expose the surface must be replaced exactly when spraying is completed so as not to create any areas of unwanted overllap. This illustration gains its brilliancy form the use of ink as a medium; it includes little hand-painted detail. Inks were used for their transparency to help heighten the whole texture and lift a realistic situation into the hyper-realistic, or even surrealistic. Because the reality was already there, this transformation into something outside of that reality was necessary to make an interesting, enjoyable and worthwhile image (Fig. 12).
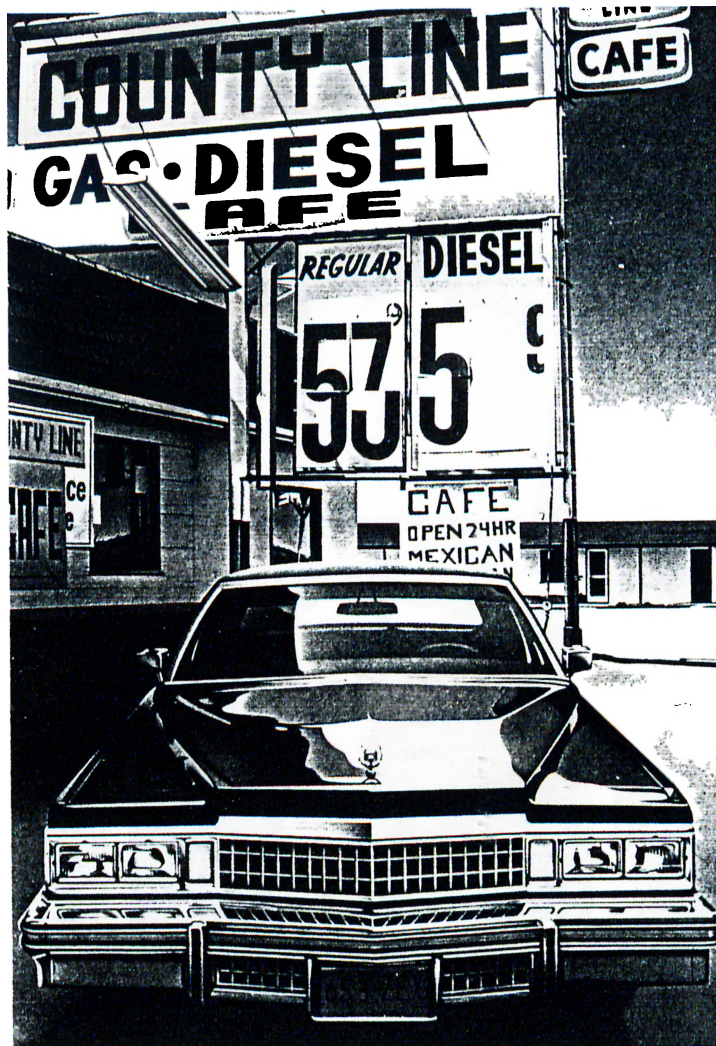
(Fig. 12)

Ben Jhonson's illustration Abierto. Airbrushing is used here in the context of fine art. Hard masking. in the curtains and the window frame, has been combined with softer textures and brushwork added for tiny details. The static composition creates a tranquil scene (Fig. 13)

(Fig. 13)

Bernard Cohen, the artist has used the airbrush technique in this painting to create soft, linear structures and also areas of vague, merging colour with graduating tones. The airbrush enabled Cohen to modify colours and marks spontaneously (Fig. 14).

(Fig. 14)

94

Ben Jhonson's illustration   Queen's House. Having made a basic linedrawing on gesso-primed canvas, Jhonson produced the well-defined lines by masking the edges with tape and built up the colours in many layers of acrylic paint using DeVilbiss spray guns. He utilized varying air flow pressures to create the different textures (Fig. 15).
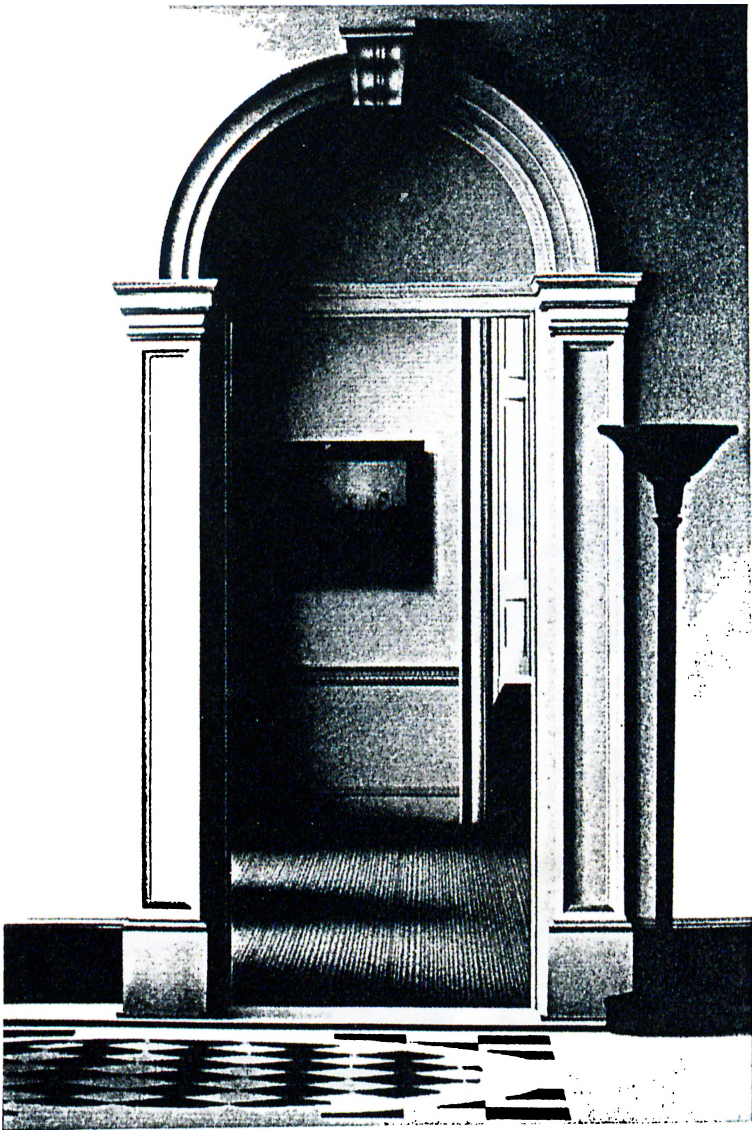
(Fig. 15)

95

One of the Anthropometry series, Yves Klein requested that the models lie down on the the canvas and then he sprayed on and round them with spray paint. The bodies were themselves acting as a type of loose mask (Fig. 16).

(Fig. 16)

Paul Wunderlich displays an impressive knowledge of the human anatomy in much of his works and employs a wide mythological vocabulary, both of which factors lend his surrealist images a certain reference. The sense of ambiguity inherent in his work is enhanced by the smooth vignetting and blocking in, achieved by the airbrush. The form of creatures illustrates the finesse possible in cotrolled freehand airbrushing. The artist uses many different techniques to manipulate the paints medium for the dramatic textures (Fig. 17).
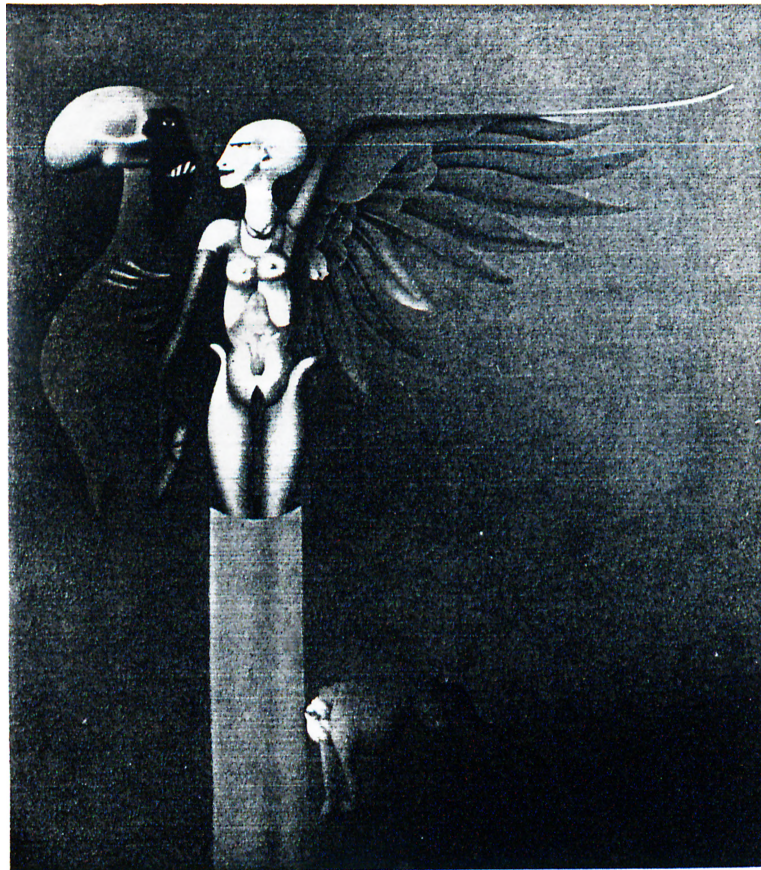
(Fig. 17)

97

The British graphic artist Abram Games produced some politic and social posters during the World War II. The range of effects and contrast of hard and soft edges suggest the use of differnt masking techniques; loose paper masks, cut stencils and masking film. The texture of the lanyard could have been achieved by using rubber adhesive. Blown-under spray diffuses the edge of the ear, suggesting volume and depth (Fig. 18).

COMMANDO MEDICAL SERVICE
VOLUNTEER THROUGH YOUR COMMANDING OFFICER
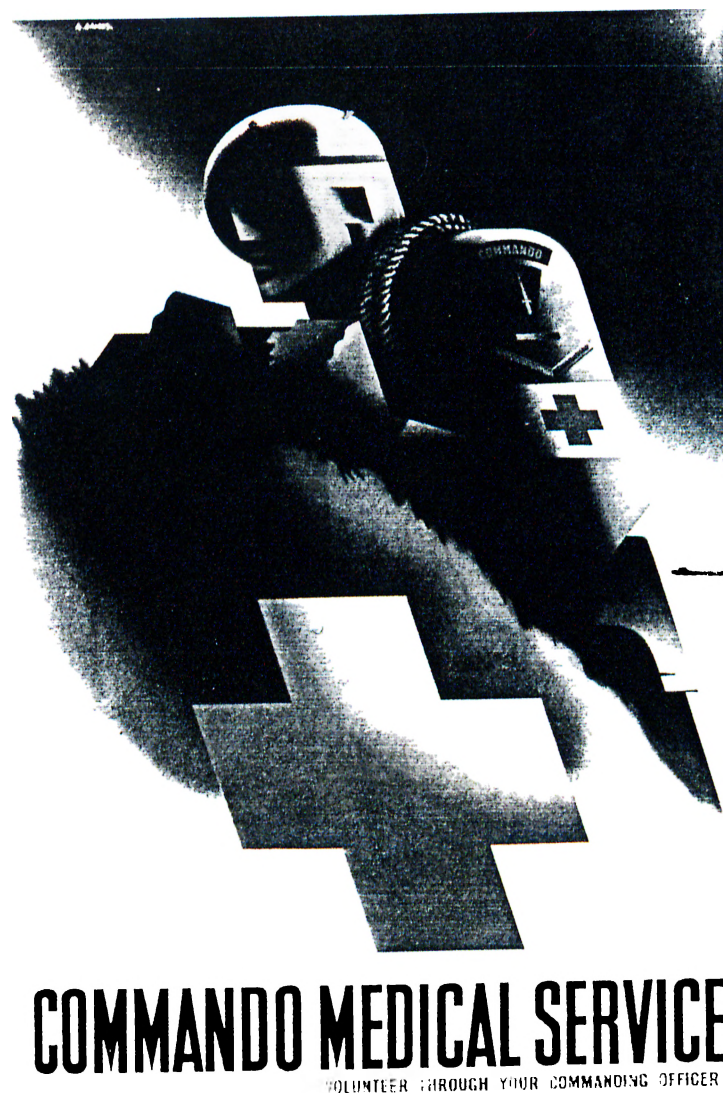
(Fig. 18).

This sensitive and finely executed illustration by Richard Manning is a good example of the use of watercolour. For the textured background, blue and ochre were each sprayed using a splatter cup. The tradename on the hammer was stippled with a fine paintbrush; the handle also includes brushwork (Fig. 19).

(Fig. 19)

Lament for a Pin-Up Pip (Esquire, November 1944), Alberto Vargas. The pin-up "Vargas" girls date from the 1940s, the most successful period of the artist's career. Vargas' work is highly finished blend of chalk, watercolour and airbrushing techniques. He begins with a detailed sketch in chalk, which is transferred to watercolour board. The board is soaked and dried and watercolours treated with glycerine to keep them wet. These techniques give a subtle blending of colours without hard edges. He uses the airbrush when the watercolour painting is nearly completed, to provide a soft finish. Frisket is used to block areas not to be painted. For edges, he has a number of curved templates (Fig. 20).

(Fig. 20)

No War Toys, Bob Zoell. The propaganda of Vietnam protest, Zoell's work exploits the airbrush's ability to create flat textures (Fig. 21).

(Fig. 21)

Brett Breckon's American Footballer was undertaken as a portfolio piece to demonstrate the possibilities of spatter cap illustration. The whole image was painted in gouache on a black background, using loose masks throughout(Fig. 22).

(Fig. 22)

This cutaway illustration of a suspension unit was airbrushed onto a solid black background so that the light metallic parts stood out in stark contrast giving them a higher visibility than they would have on a more usual white background. The opacity of gouache was used to buildup the solid whites over the black and then the subtle hues of watercolours were airbrushed over to add colour to the image, with their transparency making it possible to fade the tyre and other less essential parts into the background (Fig. 23).
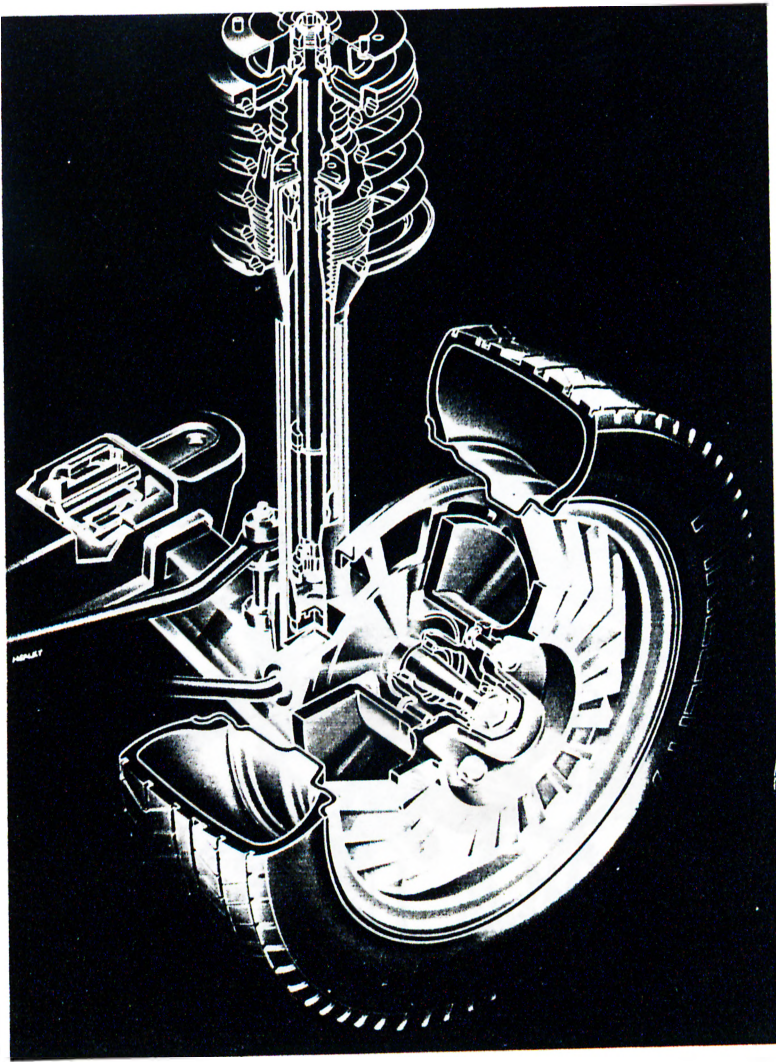
(Fig. 23)

In Doug Gray's illustration, the basic red tones, as well as the darker shades and shadows, were airbrushed in gouache, then the lighter reflective areas were sprayed in acrylic. Finally, the details of the surface texture were airbrushed and painted with a fine sable brush (Fig. 24).

(Fig. 24)

Letraset is one of the most convenient materials in achieving textures from proper forms by ready rasking. Letraset is applied to the background and then painting it and reapplying the same method.

As a result of this, though each letter can be distinguished they form the texture as a whole.

The labyrinth figure in these examples are formed by applying four colours with low pressure by hard masking technique. The contours of the design are used in order to soften the strict form of hard masking and to make it seem as a free-hand drawing.

105
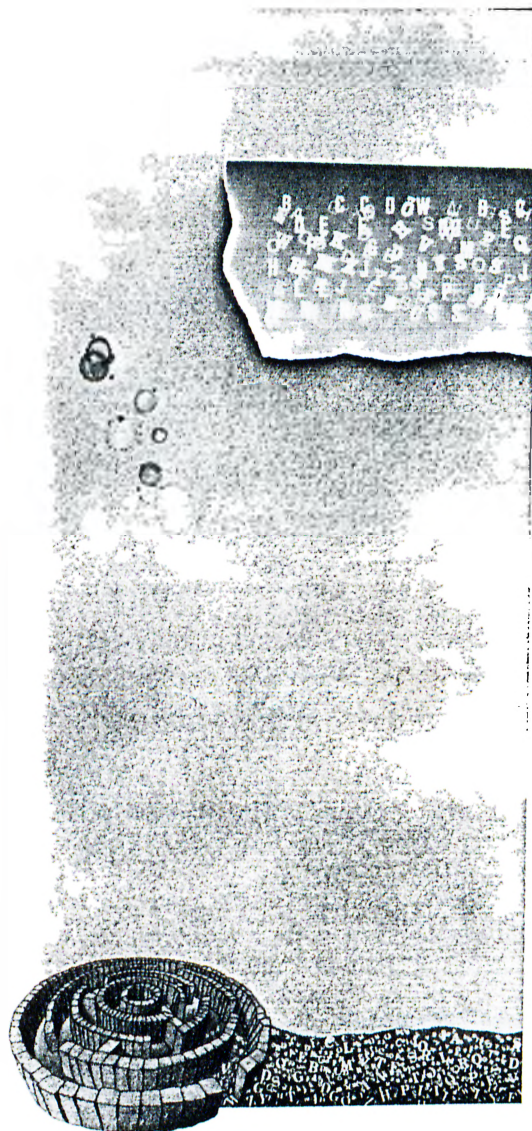
The hard cloth of "Terebentin" is a convenient material in forming cloth-like textures by loose-masking. Without sliding the cloth and by applying the colours from differnt angles, a texture may be formd.

Painting effect may be achieved by forming free objects by white pastel colour on to the black colour sprayed background and after that spraying acute angled colours.Tthis texture also gives the painting a three-dimensional perspective.

A texture with an under water effect can be achieved by using three different degraded colours and covering them with a special textured hand-made paper and applying white gouach on.
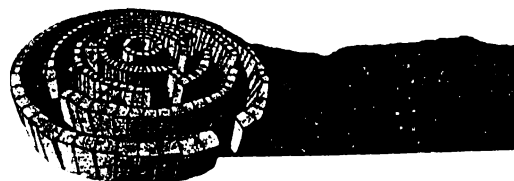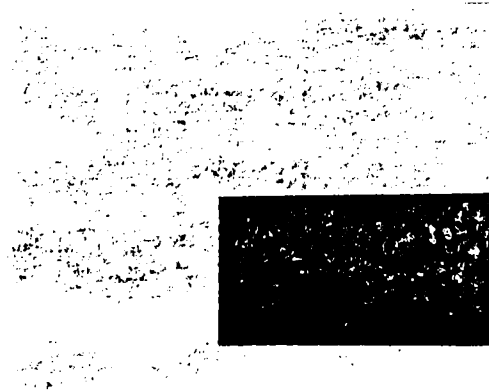
Bleach is a very useful in airbrushing technique. The bleach which is also used in photo-retouching frequently is a supplier in forming effective textures in free-hand airbrushing techniques. A texture is formed by spraying the bleach with low pressured air to the background degraded from both sides. The design, which is made by a brush covering with liquid masking, is repeated by being applied in different colours.

The colours being ecolin forms are effective transparent lithography texture. Different textures can be formed by applying large particles of send with five different colours in different combinations.

Again the transparent effect of ecolin enables to form this texture. The objects that are found are the most convenient objects for free airbrushing.

Application of bleach to the straightly degrading backgrounds, mostly enables us to form stone textures. If seven different transparent colours are applied to a proper form, a new form and texture can be achieved withoud damaging the characteristics of the found object. Thus, it is not a necessity that the found objects should have a proper form. A pointurist texture is formed by applying colours to the form, which is achieved as a result of brush touches in liquid masking, removing the mask and reapplying this method by using four different colours.
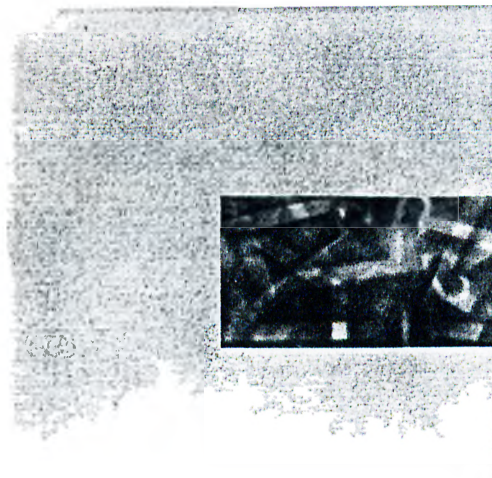
A softer texture having painture effect can be achieved by applying gouach to the top and spraying water to the wet background after spraying the transparent ecolin with low pressured air.

A dramatic cloud can be made by free-hand or feeble cotton and paper. The free tonage which is formed by the feeble characteristic of the cotton helps to form the texture of the dramatic cloud.

A cloth-like texture is formed by spraying white gouach to the bandage put on the background on which pastel colours are applied.
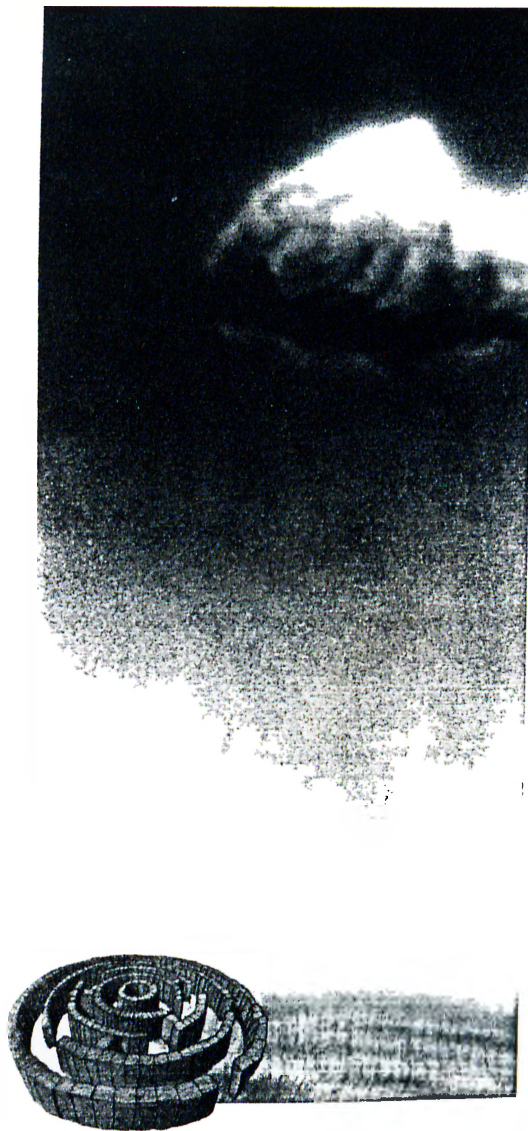
In order to form a new texture, any kind of object can be used. A texture which has a semi-three dimensional effect, is formed by applying three different degrade colours on to the needels. In order to stabilize the needles, airbrushing should be applied from a higher position so that they will not be moved by the air pressure. This application is obligatory for many ligth objects.

The repetitive form of a chair forming a composition in a background can be enough to form a new texture. Computer illustration effect can be formed in a texture which is applied by one colour, which is achieved as a result of brush touches in liquid masking, remaring the mask and reapplying this method by using four colours.
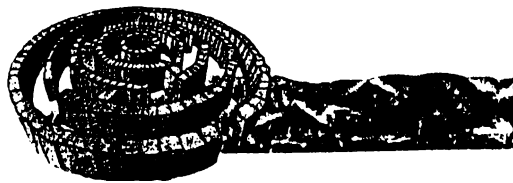
The texture which is formed by applying the texture of hand-made silk paper as loose-rashing, can soften the general strict application of airbrushing technique.

Metal coins, as they are heavy may be the most useful objects which are found by hard-masking effect. This may be formed by replacing the and painting with different transparent colours.

By spraying paint with low pressure to the texture formed by a proper form of a paper holder, a different kind of texture may be formed.
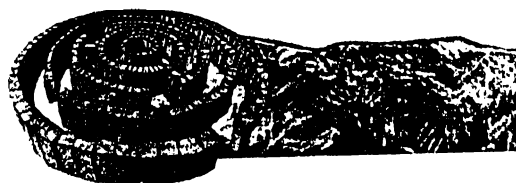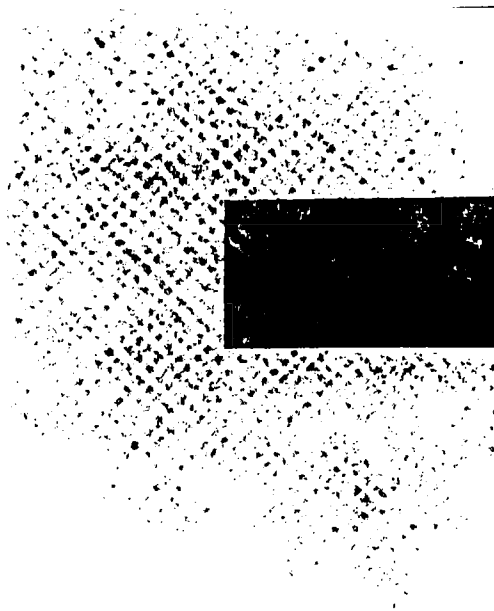
The cloth texture which is formed by sliding the "Jüt" cloth and applying different colours, may also have a solarize photographic effect.

Though scissors may seem so big for forming textures, they may form a proper object texture by repetition.

A feather may be used to form a flame like texture by applying high pressured air.
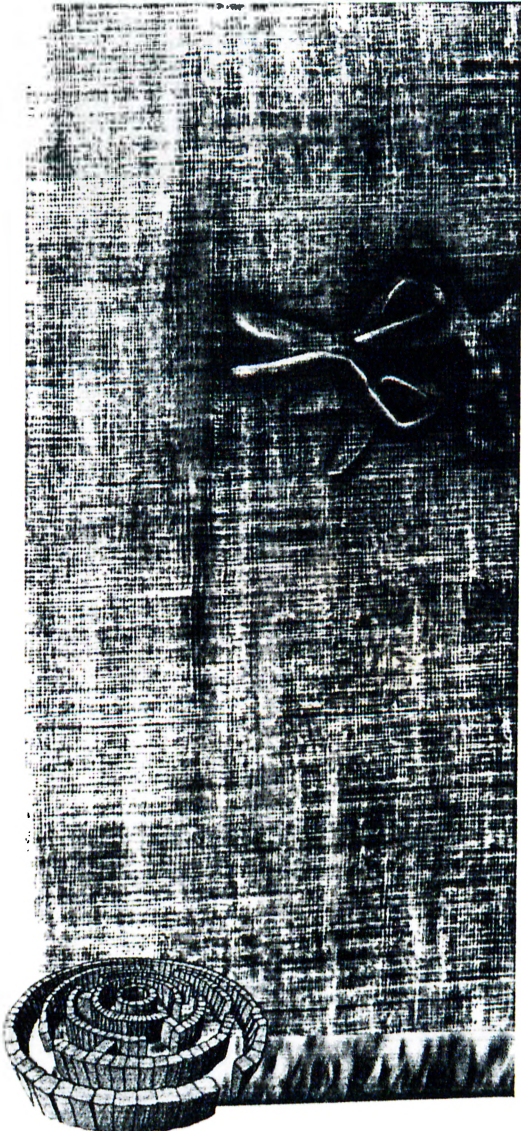
In this work, the background consists of four different colours which were applied by degrading low pressure. As well as the low air usage, a second chance of spraying may be achieved by airbrushing. Before this application, the lightest colour in the background is used being degraded by normal conditions.

Straight lines are firstly bulked and three different colours are sprayed with a very acute angle. By this application, the texture of a metallic object is achieved.

The part, that is similar to "Ebru" if formed by a rubber cement. The texture is formed by applying firstly rubber cement than airbrushing and than removing rubber cement and re-peating the same method to the background.
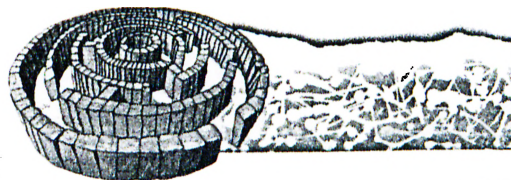
4. CONCLUSION

If we differentiate between the elements that make up the media as visual and audial, the visual part takes the biggest part. For the sake of communication, plastic arts are used along with written material.

The plastic image used in graphic arts, exhibits a wide range of possibilities in technique, style and field of use.

The airbrash is used by many graphic artists and illustrators simply as one of a range of tools. As such, airbrashing is combined with other techniques and may be only a minor, if crucial, part of a graphic image. It may be, for example, the quickest way to lay in a background tone, over which an image' can be hand-drawn or brush-painted. It may also be used to lay in a hazy tone which softens the overall effect of a brush painting, to achieve a splattered texture on a flat ground or to add sparkling, illustrators, from the many copetent artists who simply earn a living to the most influential and sought-after figures of the graphics world, derive their style from the technique of airbrushing and use the full range of its potential as the prime feature of the work.

In this context, the consideration as to the nature of airbrash, its field of use, its facilities and efects have to be made.

For graphic arts, the choice of technique as well as design is complementary factor in forming meaning. In this sense, airbrash, with its individual visual and technical properties proves it self as conventent.

Airbrash, which is also used in painting, sculptures, ceramics and other arts still has not saved itself from being cosidered as a commercial-technical aid.

However, Texture, which constitutes one of the main elements of an art object can be done with airbrash, too.

Special textures which can not be maintained in plastic arts is possible with airbrash technique.

If we consider which cannot be maintained in plastic arts is possible with airbrash technique.

If we consider the fact that texture changes or contributes to the meaning of art work, the importance of airbrushing with respect to the forming of texture becomes evident.

The airbrush is, without question, the most sophisticated and versatile of all spraying tools.Sprayed colour has always had a powerful appeal, both because of its appearance and its method of application.

Its interesting to discover some artists make a deliberate choice to use airbrushing and in what ways it is appropriate to the concepts involved in their work and the required surface appearance of the paintings.Several artists who have incorporated sprayed paint in images have not needed a tool as precise as the airbrush.

Abstract and figurative painters use the airbrush as a technique. Super realism is the most common part of figurative painting.It is a style of painting which is based on and imitative of photographic images.In the relationship of popart to its subjects, super realism closely recreates the photographs on which the paintings are based, but the techniques applied and the context or form in which the works is displayed demand a new perspective from their viewer.

The techniques of airbrushing are as many as the number of people that use it. Airbrushing changes according to materials used for base and types of paints.

Also, in airbrushing , one of the most important thing is masking.The masking gives different effects to the texture to the work.

With the majority of the media used in airbrush or spray technique, color is one of the major concerns. Color theory and the interaction of colour apply, of course, to the media that are sprayed on as well as those that are brushed on. There are some differences, however, in the way the colour is perceived.

The major medium for the airbrush is paint, some paints are designed specifically for airbrush use, others are not especially for airbrush work but can be used if thinned. For example, bleach is used in commercial art and in photo-retouching to adjust the value and intensity of colour. Its effective on water colours, inks, coloured and black-white

115

photographs. Bleach is not a common material for graphic art it is a very helpfull material to create different effects and textures.

The use of airbrush techniques are very wide ranging. In painting with an airbrush the emphasis has been put on realistic styles. The airbrush, however, is used in all styles of painting, each with its own particular technical and aesthetic problems and solutions. The most important elements in achieving a smooth, nonbrushed look is the surface of the ground. The texture of the surface to be painted on must be right before painting begins.

The sprayed paint from the airbrush will reveal and enhance the texture of surface being painted on. The smoother the texture of the surface, the more photographic the airbrushed effect.

It is not difficult to achieve the three-dimensional effect with the airbrush. The airbrush can be a usefull tool in producing or emphasizing real or implied texture.

To create various kinds of textures it must be applied in different techniques, materials and paints.

Airbrush technique can be used with the richness of texture which can be achieved by softer aparts from static forms methods.

Airbrush can be a useful technique as far as the artists imagination lets it.

REFERENCES

Behrens,Ray R..,Illustration As An Art, New Jersey: Prentice-Hall, 1986

Bevlin, Marjorie Ellitot., Design Through Discovery, New York: Holt, Rinehart and Winston, 1987

Breckon, Brett., Airbushing and Photo Retouching, New Jersey: Chartwell Books, 1987

Buchan, Jack., Airbrushing, London: Hamlyn, 1991

Charlesworth, Andy., Airbrushing and Human Form, Cincinati: North Light, 1988

Charlesworth, Andy., Airbrushing, London: Dragon's World, 1990

Collins, J., Wechman, J., Chandler, D. and Anfam, D.A., Technique Of Modern Artists, London: New Burlington Books, 1987

Curtis, Seng-gye Tombs and Hunt, Christopher., The Airbrushing Book, London: Macdonald Orbis, 1990

English, Michael., The Anatomy of Illusion, London: Dragon's World, 1989

Fullner, Norman., Airbrush Painting, Massachusetts: Davis Publications, 1983

Livingstone, Marco., Pop Art: a continuing history, New York: H. N. Abrams, 1990

Martin, Judy., Metallic Surfaces, London: Macdonald Orbis, 1988

Martin, Judy., Highlights, London: Macdonald Orbis, 1988

Martin, Judy., The Complete Guide To Airbrushing Technique and Materials, London: Thames and Hudson, 1990

Misstear, Cecil and Scott-Harman, Helen., Advenced Airbrushing, London: Orbis, 1984

Osterworld, Tilman., Pop Art, Cologne: Taschen,1991

Owen, Peter and Sutchliffe, John., The Manual of Airbrushing, London: Thames and Hudson, 1985

Paschal, Robert W. and Anderson, Robert R.., The Art of The Dot, New York: Van Nostrand Reinhold, 1985

Peacock, Ian., Airbrushing and Spray Painting, London: Argus Books, 1984

Thomas, Frank and Jhonston, Ollie., Disney Animation, New York: Abbeville Press, 1984

Ünsal, Bülent., Airbrush, Grafik Sanati, Istanbul: Mas, 1987, 8th-9th issue, p. 50-58 and 55-58

Vero, Radu., Airbrushing, New York: Watson-Guptill, 1985

Westphal, Uwe., The Bauhaus, London: Studio Editions, 1991