

COLÁISTE NÁISIÚNTA ÉALAÍN IS DEARTHA

THE POWER OF ANIMATION

A THESIS SUBMITTED TO:  
THE FACULTY OF HISTORY OF ART & DESIGN AND C.S.  
IN CANDIDACY FOR THE DEGREE

FACULTY OF DESIGN  
DEPARTMENT OF VISUAL COMMUNICATIONS

BY  
ALAN BANKS

JUNE 1979



	Page No.
Illustrations	3
Introduction	6
Movement	
What is animation	
Major areas	
1. Commercial Animation	19
Development	
Entertainment value	
Computer animation	
2. Educational & Instructional Animation	37
Early Films	
Cost	
Split scan photography	
3. Propaganda & Public Relations Animation	62
During the War years	
Definition	
Development of the photograph	
4. Conclusion	82
Infancy	
Major areas	
Future	
Bibliography	87



No.		Page
1.	Wall painting in Lascaux, France	7
2.	A bison from the caves of Altamira	
3.	Cave painting, Lascaux	9
4.	Cave painting, Lascaux	
5.	Aborigine wall painting	10
6.	Running bear, Altamira, Spain	
7.	Victory through Airpower - Walt Disney	13
8.	Victory through Airpower - Walt Disney	14
9-12	Fritz the Cat - Ralph Bakshi	17
13	Animal Farm - Halas & Batchelor	18
a & b	American commercial for snowmobiles	19
14-21	7 UP Commercial - Streak Photography	21
22-29	7 UP with experimental new graphics	23
30-32	Detefon - Mata - Tudo - insecticide commercial	24
33	Local TV shop advertisement	
34	The Guardsman - commercial for Murraymints	25
35	Gnu - Typhoo tea	27
36-59	Animated sequences for French television	28
60	Commercial for Bacon- Halas & Batchelor	30
61	Commercial for Sunblest (TV Cartoons)	
62	Stew - Falstaff Brewing Corporation	31
63	Commercial for Vitalis Hair Tonic	
64	Tango Time - commercial for Guinness	32
65	Marathon Fuel Co.	
66-71	Cresta mineral drinks	34
72	Fox's Glacier Mints	
73	Antics - Newscientist magazine Vol. 81	35
74	Donald Duck - Walt Disney	37
75	The Cream Separator	39
76-81	The Bessemer Process	40



No.		Page
82-84	Tomorrow the Moon - Walt Disney	45
85-88	R.C.A. - Streak Photography	46
89	Energie - computer animation drawing	48
90	World War I planes - U.S.A.F.	49
91-93	2001 - A Space Odyssey - Stanly Kubrich	50
94	Cutaway - U.S. Air Force	52
95	Our Friend the Atom - Walt Disney	
96	Piston - U.S. Air Force	
97	The Great Migrations - Readers Digest Asc.	54
98	Water for Firefighting - Halas & Batchelor	55
99	Digestion - G.B.I. Productions	
100	Criticality - Atomic Energy Authority G.B.	57
101	The World that Nature Forgot - Halas & Batchelor	
102 - 114	Kinder wachsen nichth auf Baumen - Graphis	58
115 - 118	Conception & Contraception - Sex Education film	59
119 - 126	Franchise in the Republic of Germany - Graphis	60
127	Education for Death - Walt Disney	62
128	Education for Death - Walt Disney	64
129	Victory through Airpower - Walt Disney	66
130	Walt Disney at storyboard for V.T.A.	
131	Charley's March of Time - Halas & Batchelor	67
132	Victory through Airpower - Walt Disney	69
133	Abu's Poisoned Well - Halas & Batchelor	70
134	Springheeled Jack - Czech. state film	
135 - 138	Propaganda film - U.S. Air Force	72
139	Winged Scourge - Walt Disney	73
140	The Litterbug - Walt Disney	74
141	Goofy - Walt Disney	
142	Vietnam - World Newspapers Co.	76
143	Seal cub - Greenpeace movement	



No.		Page
144	Search for Oil - Shell Film Unit	78
145	Conquest of Flight - British Petroleum	
146	Conquest of Flight - British Petroleum	
147	Romance of Transportation.- National Film Board	79
148	Earth is a Battlefield - Larkins Production	80
149	Tom and Jerry - MGM Cartoons	84
Chart 1	list of fixed costs in animation	42
Chart 2	cost of television commercial (animated)	
Chart 3	Percentage break down of animated commercials.	



## INTRODUCTION





1



2



Movement is the essence of animation.<sup>1</sup> Both animals and human beings express themselves continuously through movement, and have strong emotional reactions to creatures and things that move. To judge from the earliest forms of graphic art known to us, it seems that man has always sought to animate his pictures. The great artists of pre-history, crouching with their rush-lights by the cave walls, especially of Altamira in Spain and Lascaux in France were, as far as we can see, urged by some undefined instinct to try and animate their pictures.

Movement seems to dominate these bodies with their splayed legs and heads bent with muscular effort of motion (fig: 1-5). In Altamira the boars and bison are poised with vitality equal to that of Lascaux and curious cinematographic effects are achieved by the superimposition of later paintings on earlier ones which have been partly worn away. These compound figures with six or eight legs in different positions achieve an additional suggestion of movement (fig: 6). These early paintings are the origin of animation today.

But what is animation now? Animation is that which a graphic artist recreates on paper or celluloid separate phases of movement which gives the illusion of continuous action when they are projected in sequence onto a screen.<sup>2</sup> The essential art of animation transforms that which is essentially static into something alive and moving. The animated film consists of photographing frame by frame, twenty four painted celluloid sheets and backing (backgrounds) which set by set make up one phase of movement lasting one second long.

The advantages animation has over live-action cinematography are many, but since the techniques of animation are exacting and costly, it makes sense





3







5



6



not to use it if it is possible to express the idea of the film as effectively or more easily by any other means. This leads us to one of the primary reasons for using animation, in that through animation, concepts can be put into pictorial form which cannot be presented adequately by any other medium. In animation we are limited only by our imagination and our ability to give an idea vital and communicative form, whereas in live action film we are restricted to what we can stage before the camera.

Animation makes it possible to depict processes which cannot be completely visualised by live-action film eg. the internal functions of the human body. The function of interrelated parts and critical areas can be pointed out, slowed down, speeded up, or lifted out of context for closer examination. Every dimension of line, form, value, colour and movement offered by motion pictures is at the disposal of the animator to present these processes clearly. Through animation we can simplify processes and ideas. The important details of a problem can often be singled out and logically isolated by animation. How could one explain the human nervous system simply, except through some form of animation. It is possible not only to show how things work, but also, what they mean. Ideas may be intangible, but they influence people's behaviour. Abstract ideas such as prejudice, tolerance, and freedom have all been used as subjects in animated film.

The reasons for animation's appeal are difficult to explain since it is a visual experience, but I would suggest that one reason is that since Walt Disney started production back in 1928 with Mickey Mouse, we have been accustomed or brought up to regard cartoons or animation as light-hearted fun, something you could sit down and enjoy. This enjoyment or entertainment value is one of the primary reasons for the success of commercial



animation. But animation is used in a much wider field, using its charm, grace, clarity, colour and visual power to stimulate awareness, to teach and explain and to arouse the spirit. This effectiveness was used in arousing a fighting spirit by embodying the forces of good and evil in Walt Disney's *Victory Through Airpower*, a World War II propaganda film, where the eagle represents America and a sinister looking octopus, the Japanese (fig: 7-8). The octopus is shown with its tentacles wrapped around the world with the eagle about to strike.

This thesis is involved with explaining how the power of animation is used today. By using its characteristics and appeal animation has divided itself into four major areas, each with its own specific purpose. These are:

- (a) Cartoon animation - entertainment
- (b) Commercial animation - selling
- (c) Educational animation - teaching
- (d) Propaganda animation - persuading

Each of these areas cover a chapter in this thesis, all except (a) Cartoon animation. In commercial animation, the sole purpose is to sell, win over and persuade the consumer to buy the product. Used at first as a novelty in commercials, only in the last 5 - 10 years, has animation been used for its unique talent to entertain whilst selling. The entertainment is usually provided by using humour and wit in the animated advertisement.

The development of educational animation has not been as swift as the commercial. The main reasons for this are (1) a lack of knowledge concerning animated educational films on the part of educational bodies,











(2) a lack of money to invest in this costly process and (3) the reason for (1), a lack of films readily available to these bodies to show what can be achieved, which in turn leads to a lack of demand. But whilst school and university animated films have suffered due to these reasons, instructional animation, a part of educational animation, has prospered.

Used extensively during World War II in instructing new recruits, it has progressed to being used in films explaining future modes, eg. transport, intersellar travel. It has been used in sex-education films to explain simply conception. In industrial films it is used to instruct engineers, scientists, demonstrating processes too complex to explain.

Propaganda is the art of biased persuasion. It was first used in animation during World War II, when Walt Disney produced films of every sort for the Armed Forces. But as the potential of the still photograph increased, animations progress decreased. The ability of the photograph to depict, shock or clarify such topics as cruelty to animals or save the seals, far outweighed what animation could hope to do. Its future now really depends on whether the old ideas of animated propaganda films can be cast aside, and new effective methods to combat the photograph are evolved.

I have included in the propaganda chapter, Public Relations animation. The difference between Propaganda and Public Relations is that, whilst propaganda gives a one sided view, public relations gives an overall view. Its purpose is to educate and give an understanding of what an organisation does, so that in the future, people will know what this service gives or does.

The reason why entertainment or cartoon animation has not been listed





9



10



11



12







## Chapter 1



a



b

COMMERCIAL ANIMATION



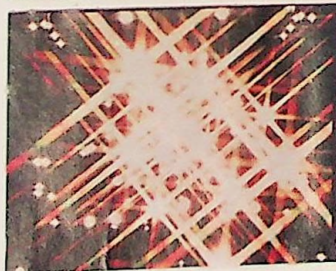
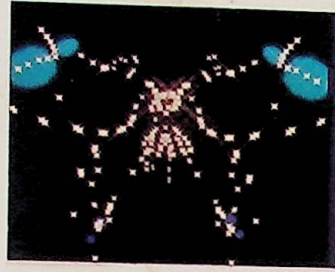
Commercial animation is divided into two main categories, animated advertisements (or commercials) for television and animated advertisements for cinema. The purpose of these films in the cinema is to sell a product by building up the goodwill of the audience through entertainment. The entertainment factor is an important one in the area of commercial animation and will be dealt with, later on in this chapter.

Animated advertising for the cinemas, is confined mainly to the Western European countries and is not greatly used in America. Its use began very early in the European cinema, and some of the earliest cartoons were advertising films. A tradition has been built up in Europe, that at some stage in the programme films of this kind will be shown. "These films must compete for public attention with the technical standards, showmanship and dramatic atmosphere of the feature and short films alongside which they are shown. It is essential, therefore, that they be well made, the equal in every respect of the normal theatrical cartoon film." <sup>4</sup>

Theoretically, this kind of effective advertising through animation can be expanded with advantage, even though it is very expensive, especially as it must keep abreast of current screen ratios and make effective use of colour. This can be seen in (fig: 14-21), illustrations from a commercial for 7 UP which uses streak photography, a system of animation more complex than computer animation.

However, in practice, the chances are that the competitive impact of television will discourage such developments. Cinema animations place is being gradually and more effectively taken by the television commercial, whose repetitive impact and wide coverage is bound to offer advantages.







If the film is to achieve its maximum usefulness as an advertising medium, then the story development must be closely connected to the subject matter itself, animation is used for the brand name or product itself. We see in this example of a 7 UP animated commercial (fig: 22-29) that the story is connected by shape and colour to the product, from the early experimental designs at the start, to the punch line with the product name. As in television commercials, the product must be featured at the close of the film - the pay off to the story climax.<sup>5</sup> But for the time being, it is television and not cinema animated films, that dominate the commercial entertainment world.

America was the first country to start commercial television in 1946 and since then it has developed on a worldwide scale. The motivation behind commercial television is to sell consumer goods and this can be at a national, regional or even local level. It contrasts strongly in this respect with the style of international cartoon film making for the cinemas. This can be seen clearly in the illustrations, one, a pest control commercial (fig: 30-32) is for the mass public, and it doesn't matter where it is shown, whilst the other (fig: 33) is for local television advertising a shop in town.

By the time British commercials began in 1955, it was natural that the technical experience gained in America would be studied and applied in the development of English commercials. But certain differences in the attitude of advertising for British and American audiences were kept in mind. The early commercials tended to be slower with a strong storyline that could easily be related, as in the Guardsman commercial for Murraymints (fig: 34).<sup>6</sup> It is a British story with British characters for a British company.

According to John Halas / Roger Manwell in their book, *The Technique of Film Animation* "British audiences are more susceptible to sales resistance and



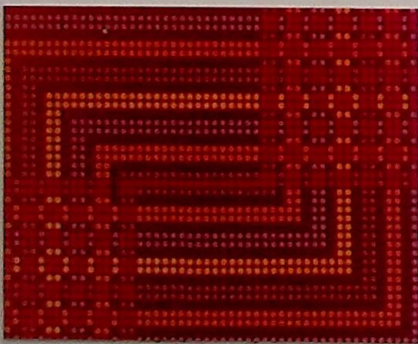
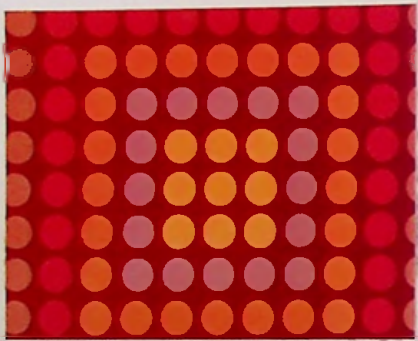
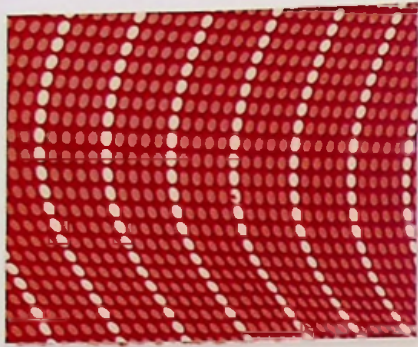
If the film is to achieve its maximum usefulness as an advertising medium, then the story development must be closely connected to the subject matter itself, animation is used for the brand name or product itself. We see in this example of a 7 UP animated commercial (fig: 22-29) that the story is connected by shape and colour to the product, from the early experimental designs at the start, to the punch line with the product name. As in television commercials, the product must be featured at the close of the film - the pay off to the story climax.<sup>5</sup> But for the time being, it is television and not cinema animated films, that dominate the commercial entertainment world.

America was the first country to start commercial television in 1946 and since then it has developed on a worldwide scale. The motivation behind commercial television is to sell consumer goods and this can be at a national, regional or even local level. It contrasts strongly in this respect with the style of international cartoon film making for the cinemas. This can be seen clearly in the illustrations, one, a pest control commercial (fig: 30-32) is for the mass public, and it doesn't matter where it is shown, whilst the other (fig: 33) is for local television advertising a shop in town.

By the time British commercials began in 1955, it was natural that the technical experience gained in America would be studied and applied in the development of English commercials. But certain differences in the attitude of advertising for British and American audiences were kept in mind. The early commercials tended to be slower with a strong storyline that could easily be related, as in the Guardsman commercial for Murraymints (fig: 34).<sup>6</sup> It is a British story with British characters for a British company.

According to John Halas / Roger Manwell in their book, *The Technique of Film Animation* " British audiences are more susceptible to sales resistance and

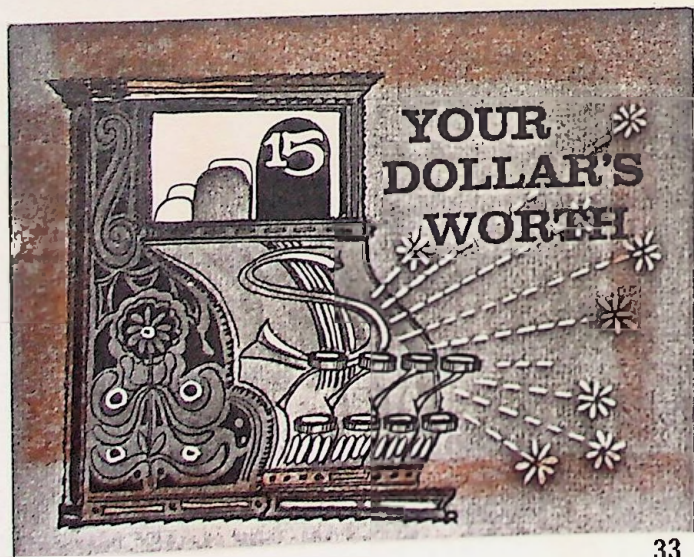






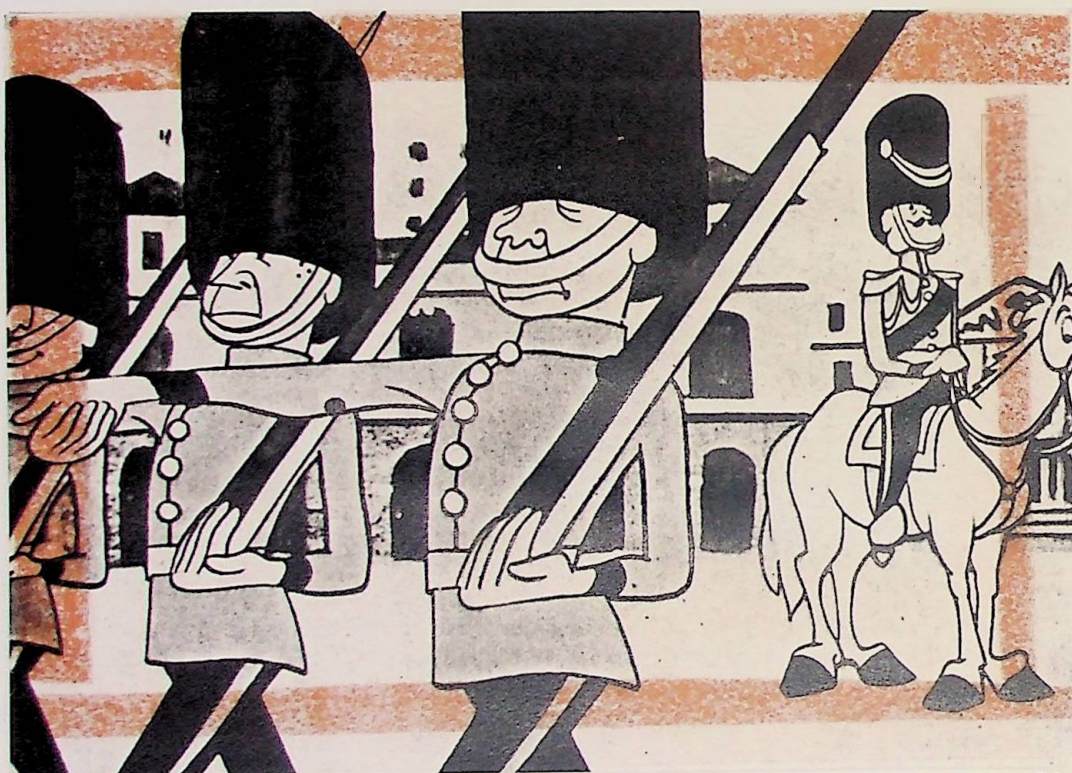


30-32



33







it was therefore more difficult for both the advertiser and the cartoonist to evolve effective methods of presentation which would not alienate audiences who from the start had been conditioned to suspect the more blatant Americal advertising method." 7

For most people it was a great novelty to see cartoons of any kind shown on their TV sets in their own living room. Perhaps the biggest surprise of all was that the much criticised musical jingles, became popular and seemed to be of some entertainment to the audiences in Britain. The idea behind the jingle was to leave in the memory, an inescapable residue of sound associated with the product. On the threshold between consciousness and subconsciousness the jingle tweeters on, pattering out its rhythms in little subtle beats so that the consumer may find himself naming the product without any conscious thought of it at all. 8 An example of this is the Gnu theme song for Typhoo Tea, of which the animated Gnu and the music are instantly associated with the product (fig: 35).

Other distinct stylists in commercial cartoon film making have been the French. Certain units there have developed a unique style of their own, and have produced considerable numbers of cartoons for use in British and American television. They have their own natural pictorial flair and invention, a true Latin quality in their elegance of design and considerable wit and glamour. The French also produce 1 -3 minute filler-ins as programme leaders, promoting their television station. There are no fixed storylines and often the animation is only there for visual entertainment (fig: 36-59).

The development of the animated commercial has been closely related to the changing attitudes and styles in entertainment animation. When commercial animation commenced, the effects of the U P A (United Productions of America) animation was evident. Advertisements in the style of Walt Disney were extremely costly and very few places in the world could even copy his rich style. U P A











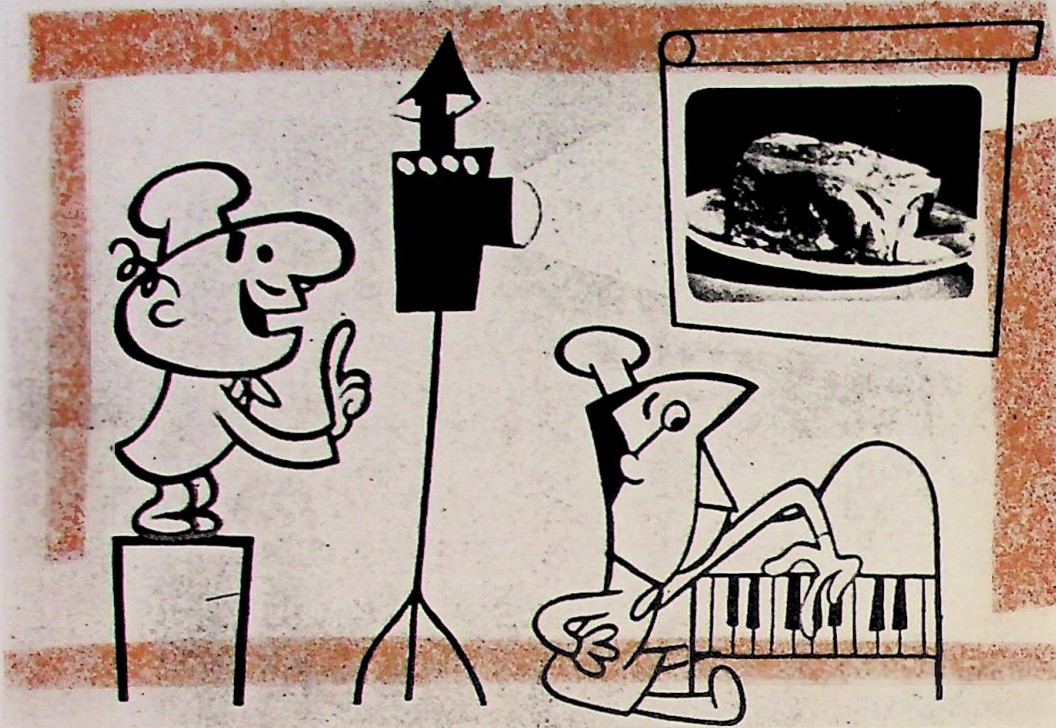
artists favoured simplicity of form and movement, the essence without the frills. The trend was then towards greater economy and towards a more appropriate use of the medium. This is very evident in the first four illustrations (fig: 60-63). These early animated commercials (fig: 60-61) have no backgrounds at all. The desk and the weighing scales are the only furniture in one scene. The characters are simplified and only the barest essentials are included (fig: 62-63) show the development of simple backgrounds, a stone wall behind the character in Falstaff Stew and a hilled castle and clouds in the commercial for Vitalis Hair Tonic.

With the closure of some of U P A's outlets and offices towards the end of the 50's, new small companies managed to get a foothold in commercial animation and freer animation styles appeared, such as Guinness's Tango Time (fig: 64). The animation is fairly loose and a foreground and correct diminishing perspective in the floor has evolved. The last illustration is an example of modern day animation in commercial advertisements with humour and wit. Marathon (fig: 65) has no detailed backgrounds or work around the characters.

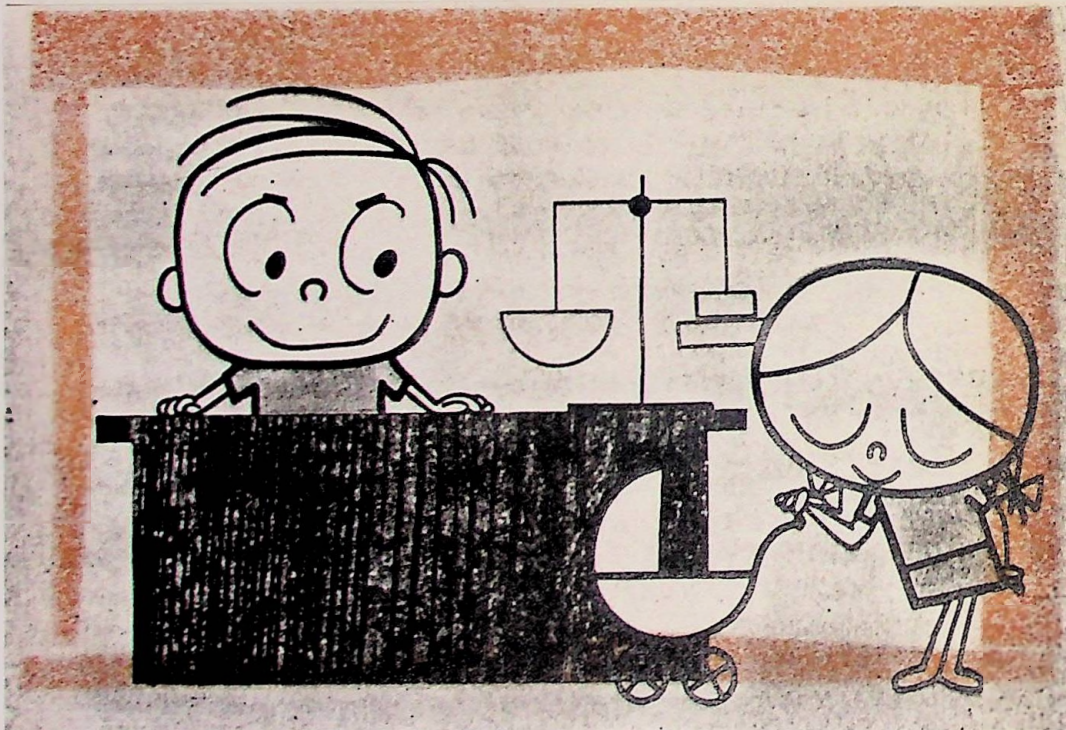
Frank Sinatra's 20 Greatest Hits LP promoted on television showed pencil line animal caricatures in black and white with only the appropriate eyes or whatever coloured in, in synchronisation perfectly to Frank's songs. It proved again that effective design and animation need not necessarily be time consuming and complex to do.

Only in the last ten years has entertainment or comedy been used in animated commercials. A cute or funny animated character is usually used for this purpose. Without this factor animation would be very dull. Since entertainment cartoons in theatres and on television started conditioning almost everyone to anticipate cartoons with pleasure, we expect to be entertained whilst watching a commercial animation. John Halas <sup>9</sup> says " A few seconds can add up to a little drama in a world of caricature in which the invention of the artist fills the audience





60



61



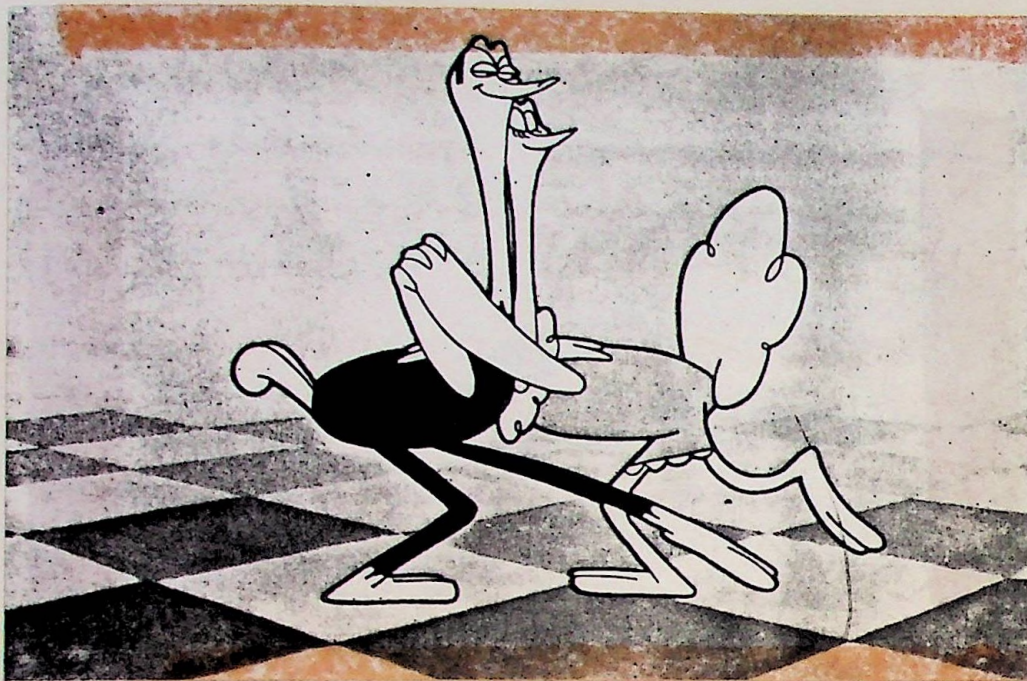


62

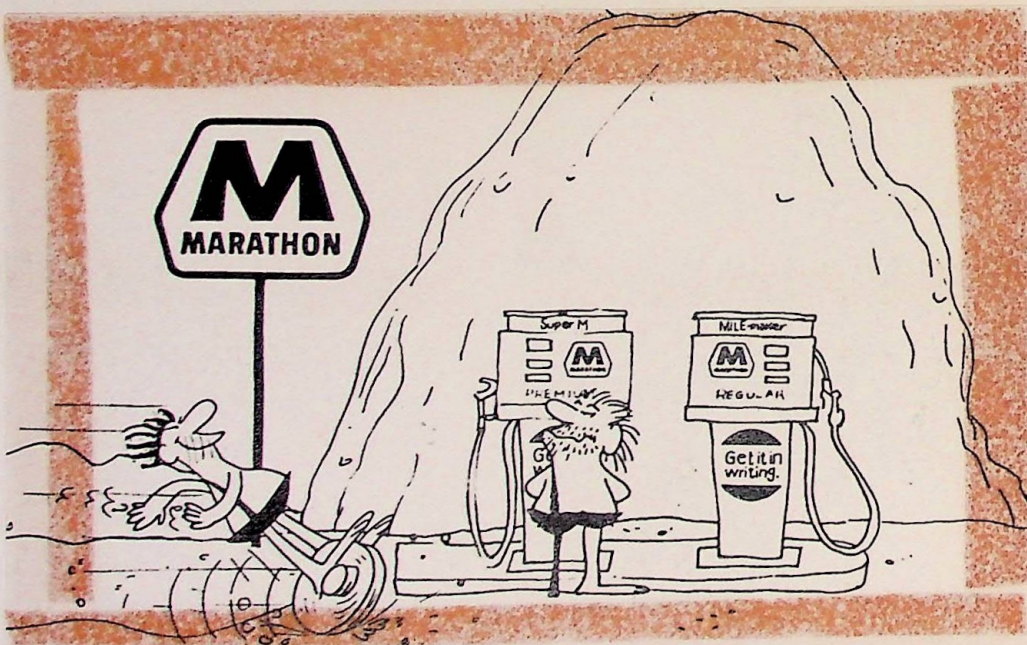


63





64



65



with delight and a desire to see it again for its own sake - which is also for the products sake".<sup>10</sup>

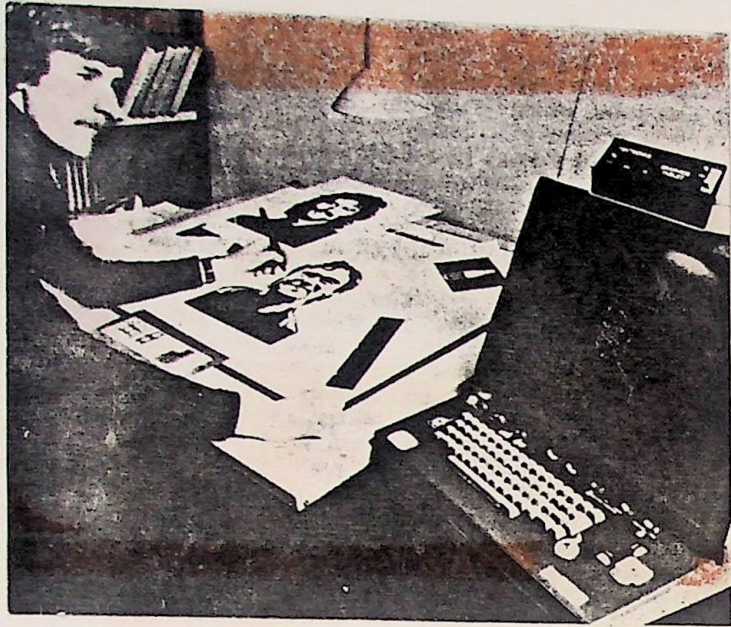
If an animated sequence entertains the selected audience, it is going to be watched again and again, like as one watches repeats of Tom and Jerry or the Roadrunner. Another method used to increase the viewing power of your animated commercials is to have a character which appeals. The cartoon character should have attractive human qualities which make the viewer identify with him and experience his feelings. A cartoon character's appeal is most effective when it has had long exposure to the target audience and his personality has become well known.<sup>11</sup> Characters which immediately spring to mind are, the bear in "its frothy man" Cresta mineral drinks and the fox and the polar bear in Fox's Glacier Mints (fig: 66-72).

This sort of comic animation produces a different kind of effect which is entertainment on the level of fantasy and puts the audience into a good humour which is immediately associated with the advertiser who has sponsored such a pleasant way of familiarising his product.

A cartoon character is not always used in commercial animation. Companies such as ESSO or SHELL often use computer animation to explain such things as how a new lubricant oil works in a car engine, or by car manufacturers to show new car designs.

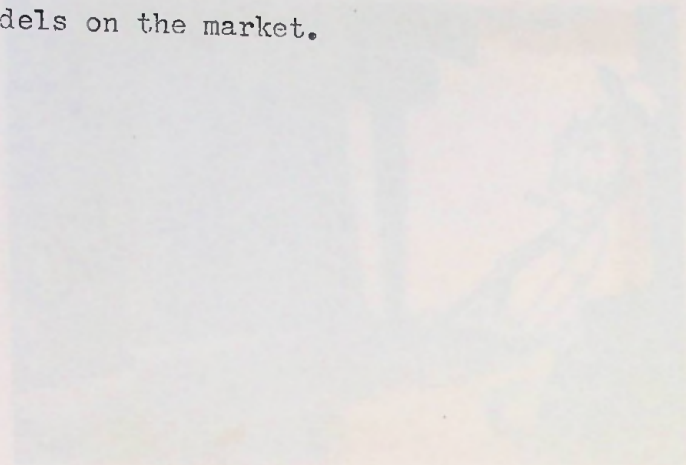
The method of computer animation works thus: a basic drawing is placed on the screen, where it is converted to all the 24 similar drawings needed for animation. The basic drawing can be made to move in a variety of different ways under the command of the artist. For example it can be enlarged, made smaller, rotated or made to jump or rock. So far there are 40 commands that can be used.<sup>12</sup> The image is displayed on a television monitor where the







artist can copy it onto the celluloid. The time will probably come when full colour animation can be done the same way, therefore eliminating the cost of time and labour. The model shown in (fig: 73) is called Antics and is one of the newest, compactable models on the market.



EDUCATIONAL & RECREATIONAL ANIMATION

<sup>4</sup> John Halas & Roger Manvell, The technique of Film Animation, (London: Focal Press, 1976 ), p.114

<sup>5</sup> Ibid, p.115

<sup>6</sup> Ibid, p.112

<sup>7</sup> Ibid

<sup>8</sup> Ibid

<sup>9</sup> John Halas, of...

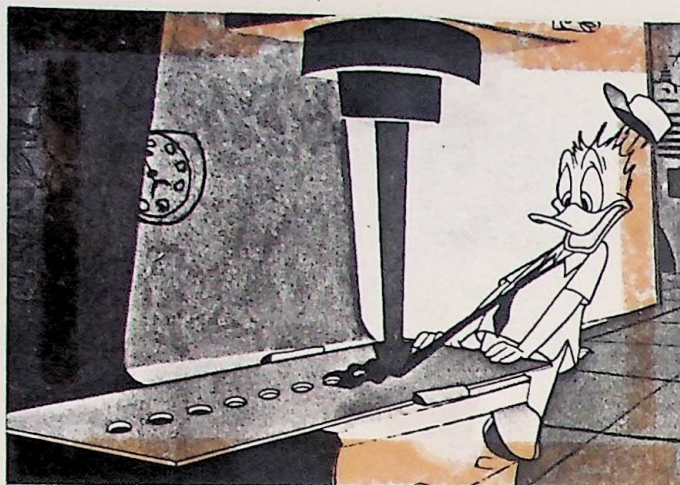
<sup>10</sup> John Halas & Roger Manvell, p.111

<sup>11</sup> Roy Madsen, Animated Film, (London: Interland Publishing Inc. 1969), p.103

<sup>12</sup> "Cartoon Antics" Newscientist, Vol. 81, p.771



## Chapter 2



## EDUCATIONAL &amp; INSTRUCTIONAL ANIMATION

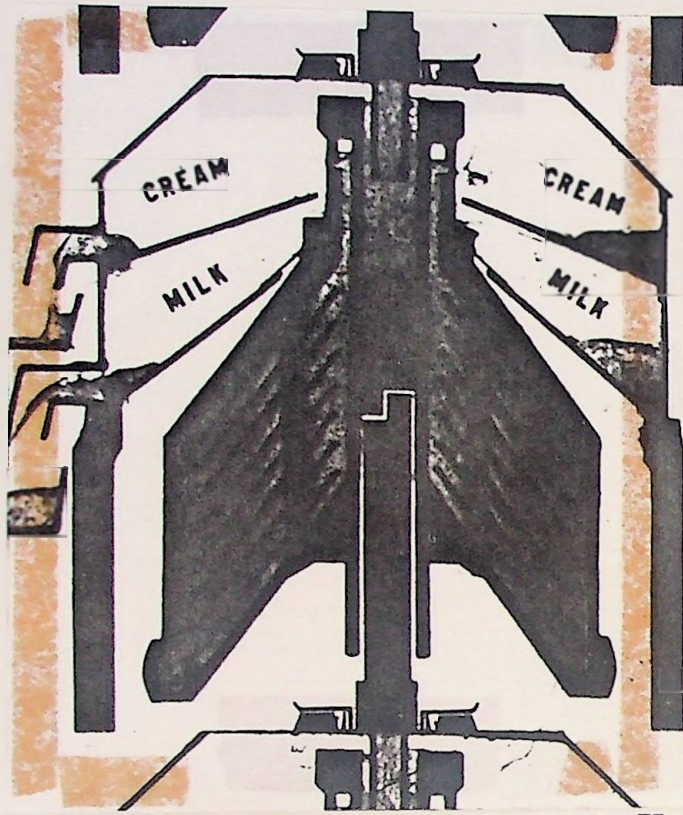


Animation for instructional purposes began in earnest with Thomas Edison in 1910. Edison regarded film as a revolutionary new teaching tool. He was so skeptical of its potential in entertainment that he would not spend the 150 then necessary to file a patent claim on his camera. This miscalculation later cost him millions of dollars. But his hopes for film and the motion picture as a teaching tool were quite unbounded. "I believe that the motion picture is destined to revolutionize our educational system, and that in a few years it will supplant largely, if not entirely, the use of textbooks in our schools".<sup>13</sup>

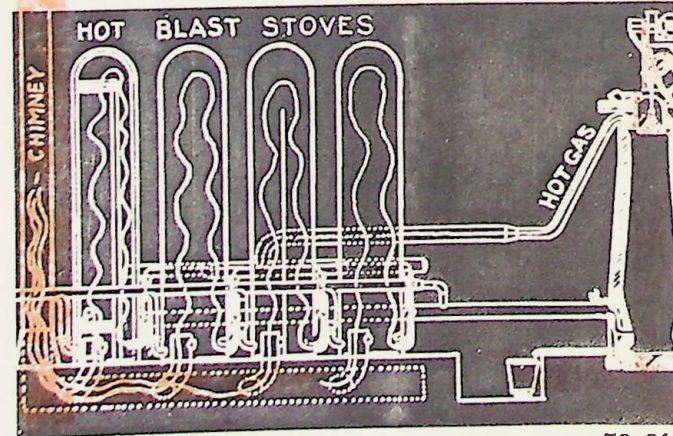
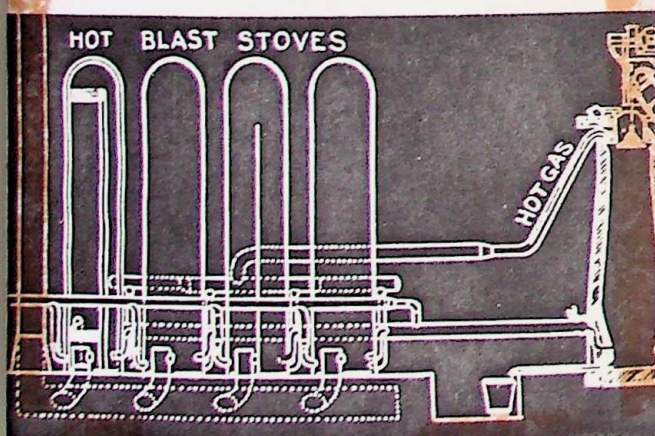
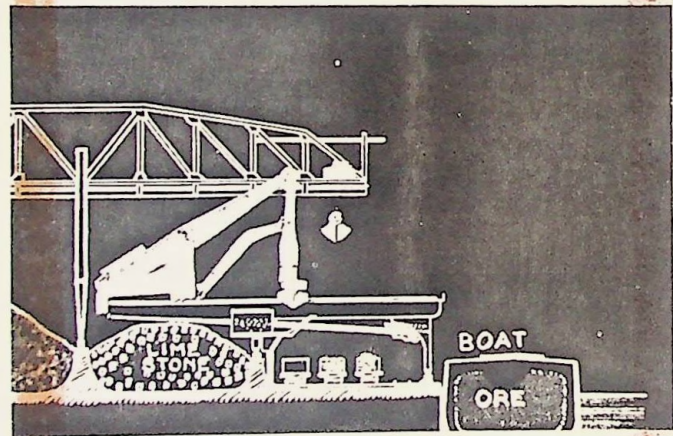
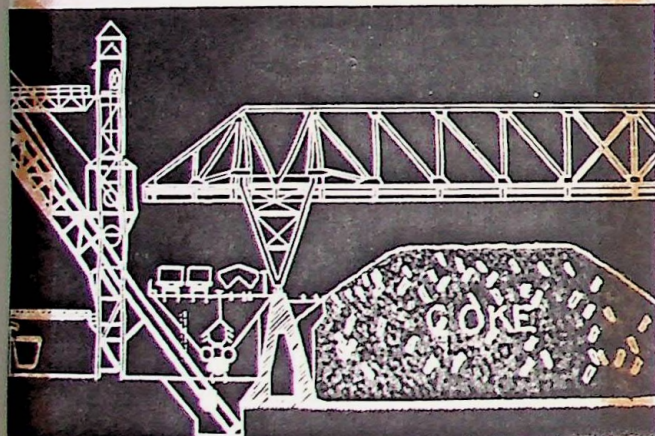
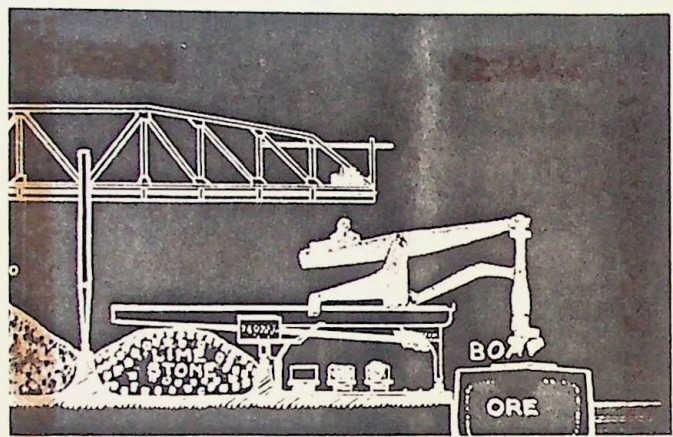
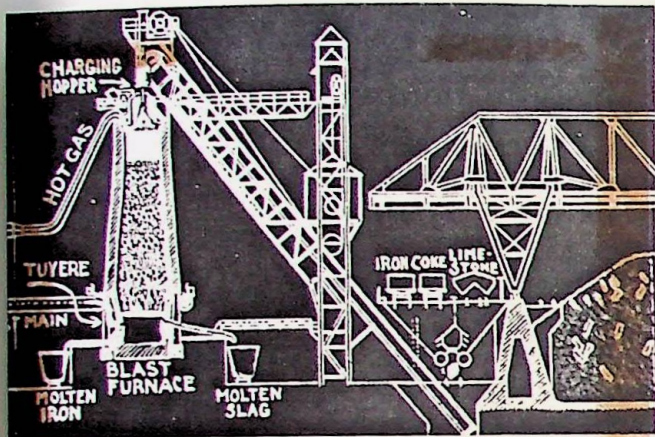
Edison's first instructional film, The Man Who Learned (1910), dealt with the dangers of using unpasteurised milk. Edison's films were essentially industrial training films, and he produced a series of technical films (Science Education, Magnets, Mechanical Advantage, Electricity, etc.) whose titles tell the story. These films were live-action films, with animation to explain difficult processes that could not be shown otherwise. His use of animation can be seen in an illustration from the film on a cream separator produced in 1912. (fig: 75).

Henry Ford, a close friend and admirer of Edison, was impressed by Edison's films and used his own financial resources to embark upon a film production programme that brought educational films to every theatre in the country. The Ford Educational Weekly (similar to the newsreels used in theatres during the '40's and '50's) began in 1916 and was soon releasing films for about 3,000 theatres each week. Around 1917 Ford produced an animated film which depicted the Bessemer steel process. This remarkably sophisticated film explained the complex technical steel manufacturing process through animation without the aid of narration. (fig: 76-81).











The Ford film unit reduced the quantity of its production as educational films began to emerge from other sources, but the unit continued in existence until the death of Henry Ford in 1947.

The Ford and Edison films spurred a general demand for animated sequences in industrial and public relations films in 1917. Bray Studios of New York opened a technical animated film department, a venture that proved so financially rewarding that animation film studios soon sprang up in all the major industrial areas in the States.

The use of animated instructional film grew very rapidly. Two major companies Eastman Kodak and Western Electric, stimulated the use of film in the classroom by producing educational films and making them available to schools. Between 1927 and 1942 the Eastman Teaching Films unit produced several hundred educational films on a wide array of subjects which were distributed to elementary and secondary schools all over the world. Careful research was done on every subject, and in more than one third of the films produced, difficult or abstract concepts were clarified by animation. 14

In 1932 (Electric Research Products Inc.), a division of Western Electric Co., began to produce educational films in conjunction with advisors from major American universities. E.R.P.I.'s most noteworthy series dealt with the physical and biological sciences. Animation was used throughout the series and the sequence made for Heart and Circulation contain classics of instructional film animation.

A major difference in film techniques exists between entertainment and



Composer's fee	Sound-film stock
Actors' fees	Picture stock
Studio hire	Artists' materials
Recording charges	Laboratory charges
Dubbing charges	Transport

Chart 1

<i>Duration</i>	<i>British Costs</i>	<i>U.S.A. Costs</i>
20 second	£1,800	\$10,000
30 second	£2,500	\$15,000
60 second	£4,000	\$24,000

Chart 2

PERCENTAGE COST BREAK-DOWN ON TELEVISION  
ADVERTISING ANIMATED FILMS

	<i>Type of Film</i>			
	<i>Complex Animation</i>	<i>Medium Animation</i>	<i>Slight Animation</i>	<i>Theatrical Film in Colour Complex Animation</i>
	%	%	%	%
Direction	8	15	20	8
Labour	30	24	20	40
Sound	17	20	25	17
Materials and Processing	8	7	5	8
Overhead	27	24	20	27
Profit	10	10	10	—
	100%	100%	100%	100%

Chart 3



instructional films. An entertainment film is most often either entirely live action or entirely animation, an instructional film, however, is likely to be live action in concept, but contains animated sequences to clarify concepts which cannot be otherwise explained simply. An instructional that is entirely animated is quite exceptional. This is due to the cost of animated sequences, which far exceed live film.

In all forms of animation, a large proportion of the work is done by hand. The costing of an animated sequence is usually determined by the texture of the animation, and this is the number of drawings involved in the film itself. If a film is only lightly animated, it may require as few as four drawings a foot. If the action is complex (involving several different characters all animated separately), then the degree of animation may be so high that a hundred drawings are required at certain stages for each foot of film. Labour costs are measured accordingly - not only for the drawings but also for checking and for rehearsing the photography when several layers of celluloid are involved. As well as the fixed costs seen in chart I, the producer has to determine his labour costs, overheads, and the profit he feels reasonable in view of the status of his unit. The better and more professional it is, the more he can usually charge his sponsor. In chart 2 we have the total cost in 1975 for TV sequences with full scale animation. Chart 3 is a percentage break down on television advertised animated films. Research in America has shown that animated sequences are used in one third of all live-action instructional films, a proportion that has remained constant from Edison's films to the present day.

World War II gave added impetus to the development and use of instructional film techniques. The Armed Forces found themselves desperately short of competent instructors to train recruits and turned to motion pictures to do the teaching job. After 1941, various sections of the American Armed



Forces (Navy, Marine Corps, Air Force, Signal Corps) had their own departments for instructional animation.

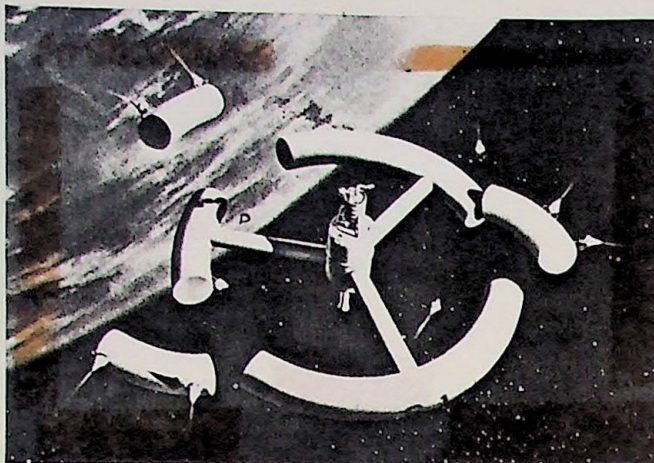
Special issues of the Movie Weekly (a news reel) were distributed to hospitalised veterans, using animation and cartoons to explain probable post-war trends and job opportunities. The animation was used for charts, etc. and the cartoons were developed on how an individual could get these jobs. The many uses to which animation had been put during the war greatly increased its postwar potential for instructional use. 15

From World War II to the present day, the military have continued their extensive use of animation. The rapid development of scientific and aerospace technology, has prompted the American Air Force to make increasing use of its flexibility. In fig: 82-83 we see the proposed construction and reassembly of space parts for workshops such as Skylab in outer space. Animation was found to be the best technique for explaining engineering problems, theories, the workings of enclosed mechanisms, or a proposed trip to another planet. (fig: 84).

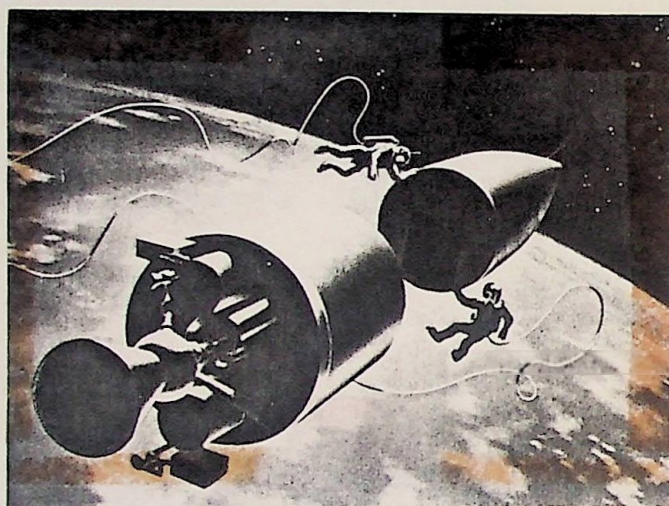
As technology has improved over the years, so has the standard of educational and instructional animated films. More complicated animation and visual effects such as Splitscan and computer animation are now possible. "Split Scan also called Streak Photography is used primarily in scientific flow or movement analysis, consisting of either long time exposures or by stroboscopic sequence, multiple exposures to show changes in shape, direction or velocity by exposing the entire movement onto a single film surface. (fig: 85-88). 16

The two methods described here are easy to understand with a little knowledge of photography. In the first method the shutter remains open for a length of time blurring the image until it stops. Where it does, it is clear as in fig: 85. In the second way multiple exposures are shot on the

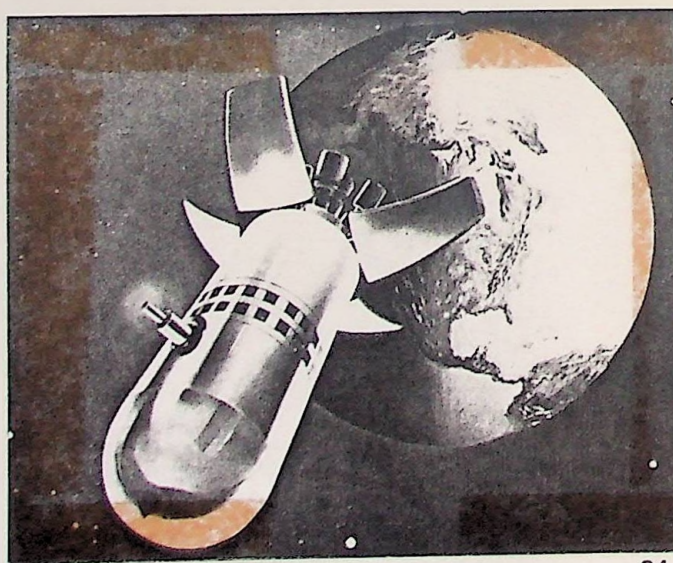




82



83



84





85-88



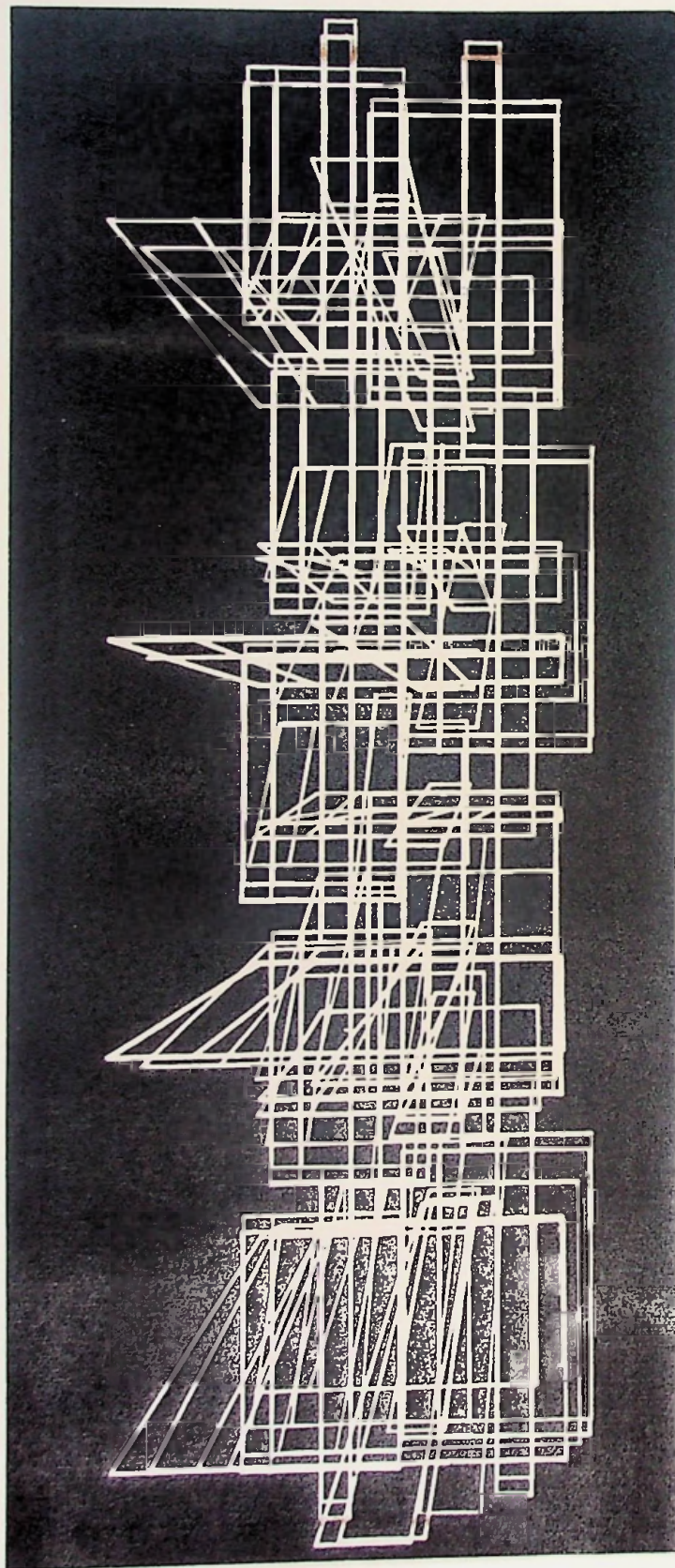
same film surface and by moving the object slightly and exposing or shooting the image again, the image is built up bit by bit until the required effect is achieved.

The visual graphics are stronger for a more educated audience. The combination of live-action and animation continued with the animation making the high class glossy shots of live-action. Fig: 89 is a computer animation drawing for the film Energie, a film which combines live-action and animation to explain the problems of the conservation of heat in buildings.

Scholars, universities and research groups have conducted tests to determine the optimum formulation of content for an effective instructional film. According to these tests, the objectives of an instructional film should be specific, limited in number and determined by the capabilities of the target audience. The viewer should be told at the beginning of the film what he is expected to learn from it. (Fig: 90) shows a scene from an Air Force film on the history of war planes which depicts two types of aircraft used widely during World War I. Their structural configurations are crisp and clearly defined for easy recognition and identification.

Realistic animation is used in instructional and education films when the target audience (i.e. audience the film is aimed for) has a low level of film literacy or a poor educational background. Realistic animation in these films can be understood and interpreted correctly by almost everybody. These scenes (fig: 91-93) from Stanley Kubrick's 2001 - A Space Odyssey show the extent of realistic animation. It is so well done that the stage backgrounds cannot be determined from the animated pieces. The waitress in fig: 93 circles under the influence of her own artificial gravity without losing a thing from her tray.

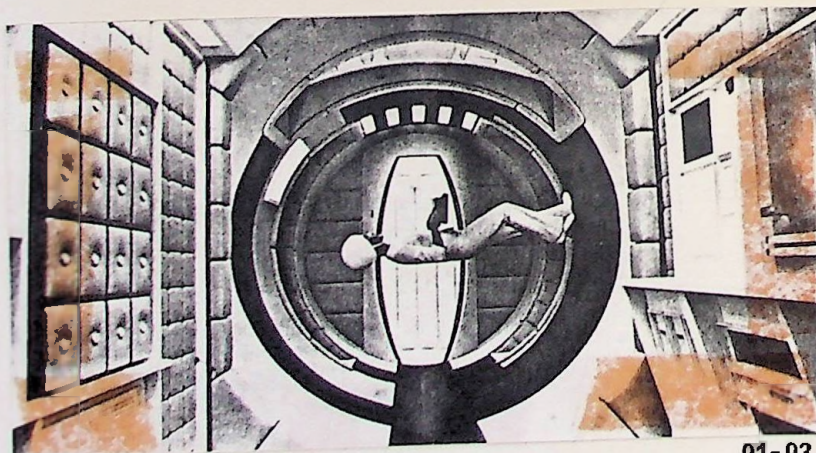
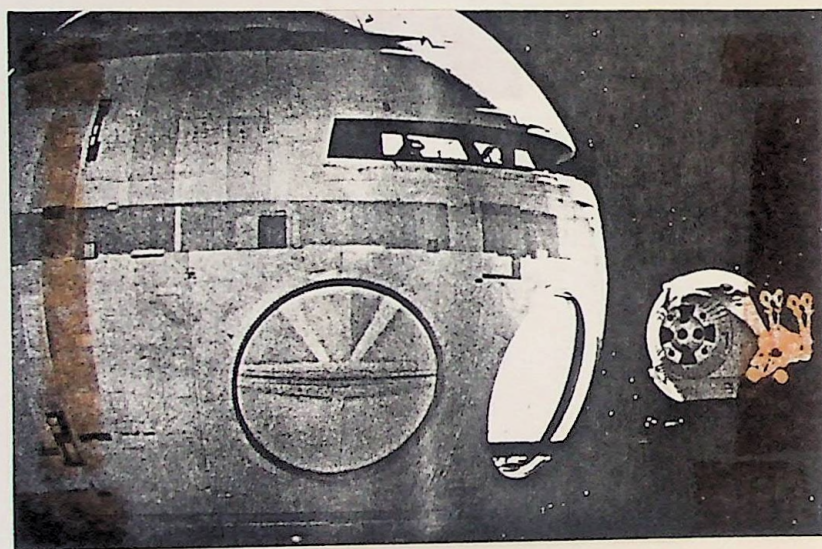
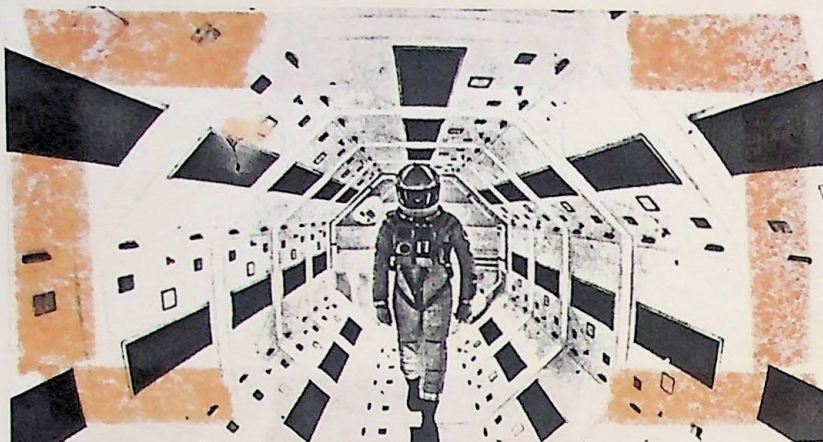












91-93



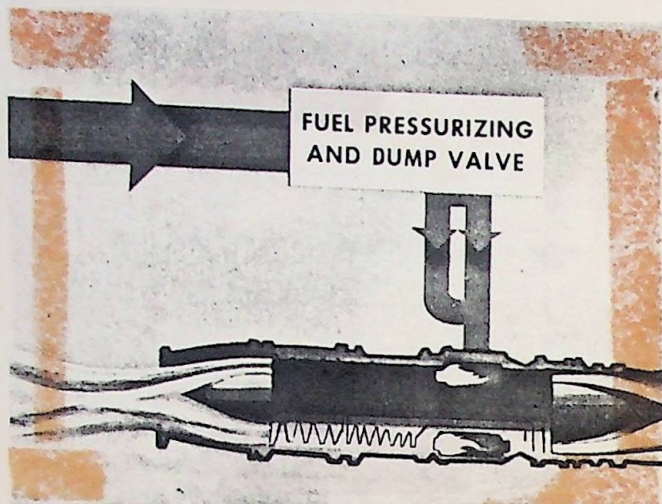
Schematic interpretation is a step away from realism. Any departure from realism requires some film literacy and subject matter sophistication on the part of the viewer.<sup>17</sup> The use of schematic animation is applied mainly when using cutaways to reveal hidden layers or the functioning of internal human organisms. In fig: 94 only a trained technician will understand all the schematically stated processes of this cutaway.

The use of symbols to represent functions and ideas is also used in schematic abstraction. Fig: 95 is a diagrammatic treatment of the medical use of tracer atoms. In this scene (fig: 96) we go beyond commonly recognized symbolism and knowledge to a schematic interpretation of a piston engine and looks like a piece of abstract art. This is purely for qualified technicians who could recognise the subject.

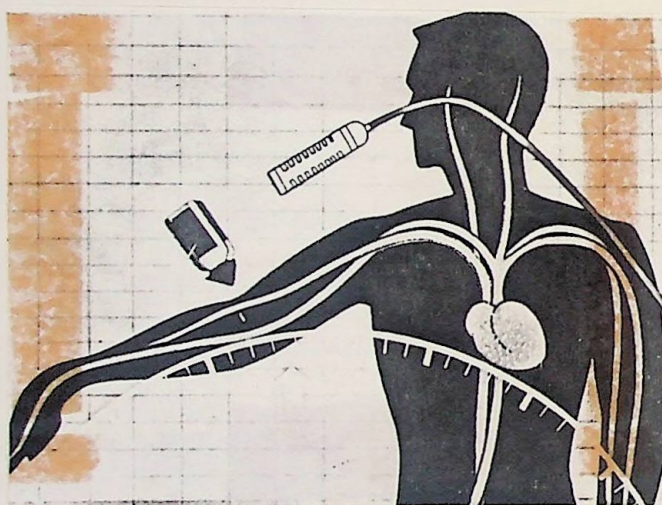
The instructional and educational film with animation narrows down the subject matter to achieve a specific purpose - practical teaching. In the specific teaching film a complicated process or argument can be presented in the simplest, basic terms. The fact that animation is expensive means that few animated instructional films are produced for schools. Most of the animated instructional films which have been produced are intended for technical education in science and industry.

According to John Halas, head of one of the world's leading animation organizations Halas and Batchelor, "there is now no doubt at all that the carefully planned instructional film can add to the efficiency and clarity of teaching. The eye is the quickest sense through which the student can

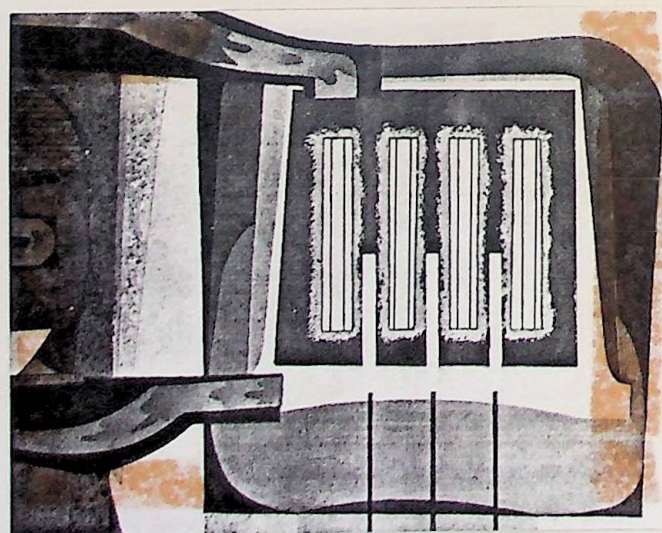




94



95



96



both learn and memorise technical details, especially when the significance of what is being seen is reinforced by words and sounds." 18

Animation adds its own analytical clarity by simplifying down to their essentials, processes which in reality are either too complex, too fast, too slow or too concealed to be seen clearly when photographed in live-action. Animation can focus attention on the basic movements and bring the diagram into action when the more realistic representation of a process is less clear or memorable.

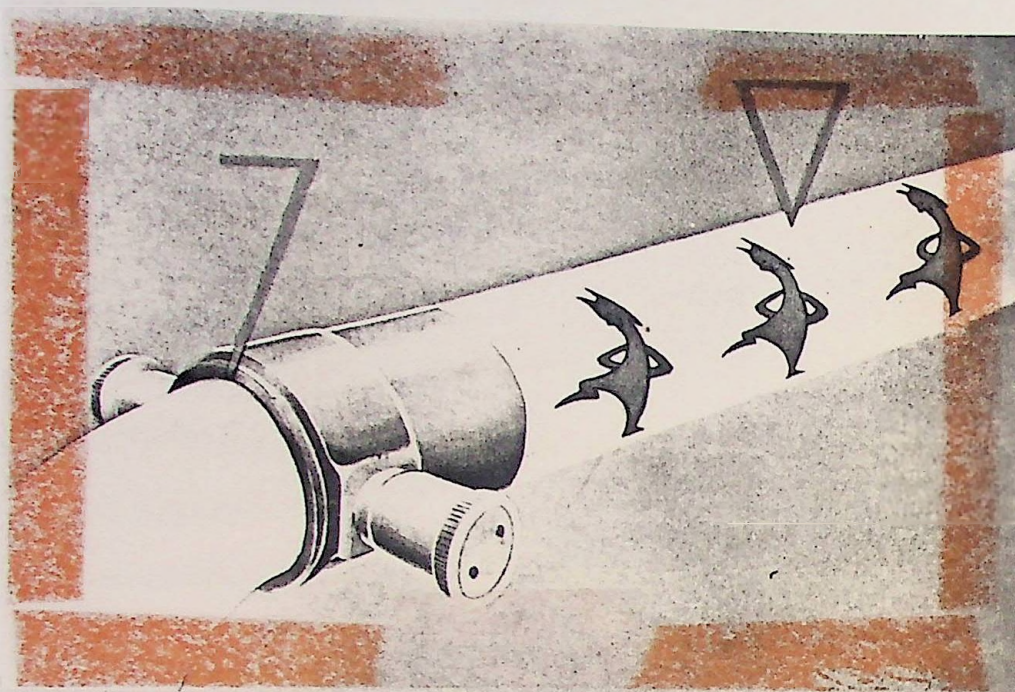
It has been proven by experience that the shorter the film the more effective the instruction is likely to be, because of the intense concentration which the student must give to what he is both seeing and hearing at the same time. 19 The element of design in the graphic style of the film can itself be an aid to memory through the use of striking shapes and colours. There is a definite relationship between the visual presentation of facts and figures and their retention in the memory. In fig: 97 we have a powerful illustration showing the Great Migrations. Each barbaric horde is differently coloured and is easily identified with the tribe and its migration trail. The key moments in the animation of mechanisms and processes can easily be isolated to be made up into film strips or still photographs to accompany the instructional film as part of a visual teaching unit.

The following illustrations are examples of animated instructional films. (Fig: 98) Water For Firefighting is a film using three dimensional simplified models, with a form of animated shorthand to show how the forces of water deliver change in relation to the pressure applied by the pumps and the length and dimension of the hosing. (Fig: 99) Digestion is a film

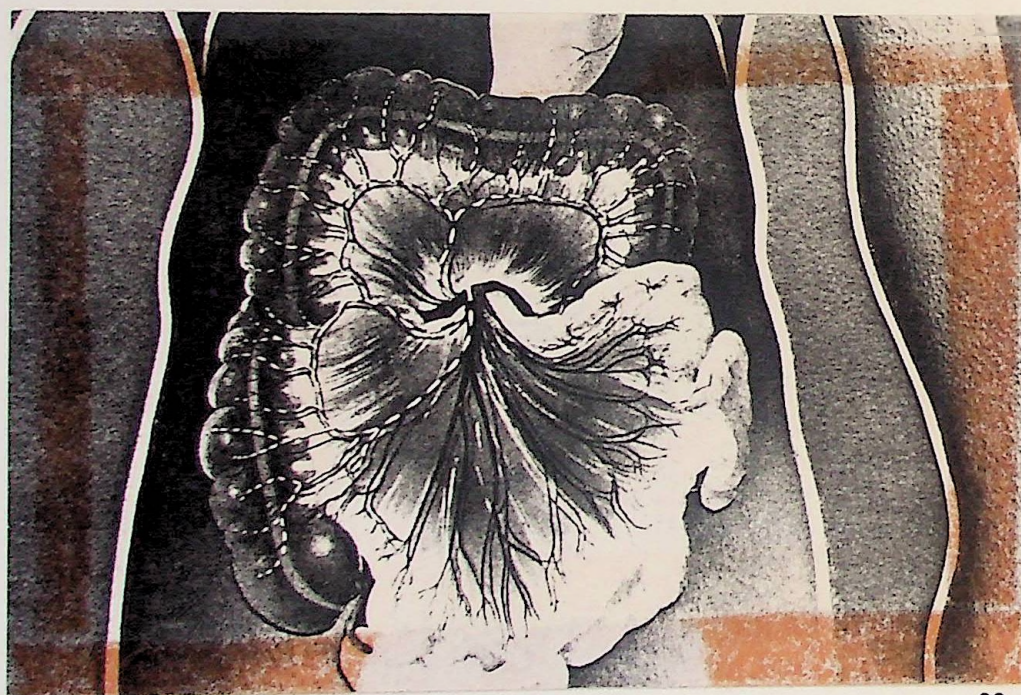








98



99



which uses a graphic demonstration of the process of digestion in the human body seen in section, in a way impossible if the film-maker were dealing with living organs.<sup>20</sup> In addition to full-scale animated instructional films, normal live action films frequently have animated sequences to make some point of demonstration clear. Examples of these are (fig: 100).

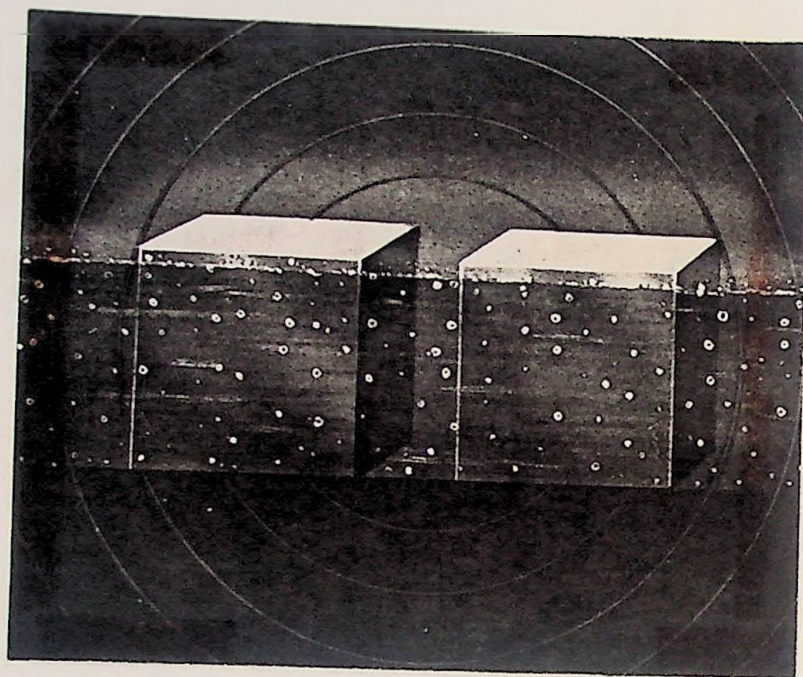
Criticality where diagrams show how criticality is reached in an atomic pile, (fig: 101). The World that Nature Forgot in which certain sequences using 3 - D symbolic models explain the molecular construction of plastics.

The common factor of all these animated films or sequences in live-action films, is the use of simple graphic symbols to represent matter in motion or action, or the forces behind some physical phenomenon or even to symbolise the nature of the action. Walt Disney did this in a film of a beating hammer used to represent military power in the invasion of Germany.

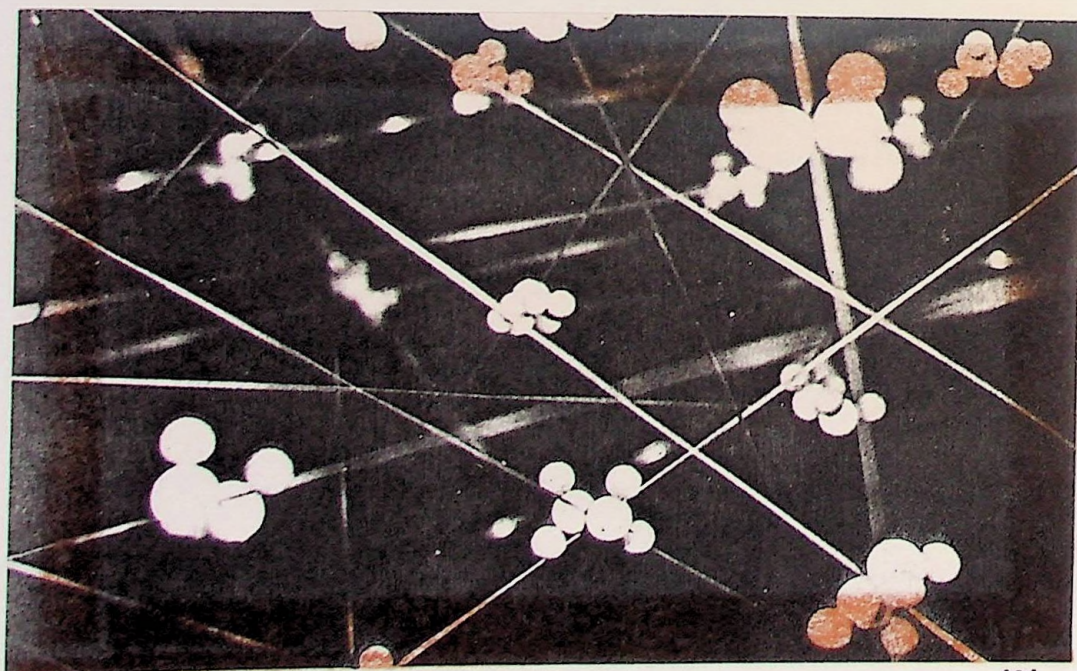
Common symbols such as those of volume, weight or measurement which are frequently used in books can be actively utilised in an instructional film. According to John Halas & Roger Manwell "the volume of a submarine in relation to its displacement of water can be symbolised by a weight and a counterweight balancing against each other. A complex phenomenon is simplified then not only by the nature of the symbol itself but also by the nature of its movement."<sup>21</sup>

An animated educational film will work if it is carefully planned, simple and colourful. This can be seen in the two sections of storyboards, one from the West German educational authorities on Sex Education and the other, the Education Centre in Massachusetts, U.S.A. (Fig: 102-114) Kinder Wachsen nicht auf Baumen (children don't grow on trees) is directed for primary school education and is as simple as it must be for children. (Fig: 115) is more advanced. Conception and Contraception has simple and



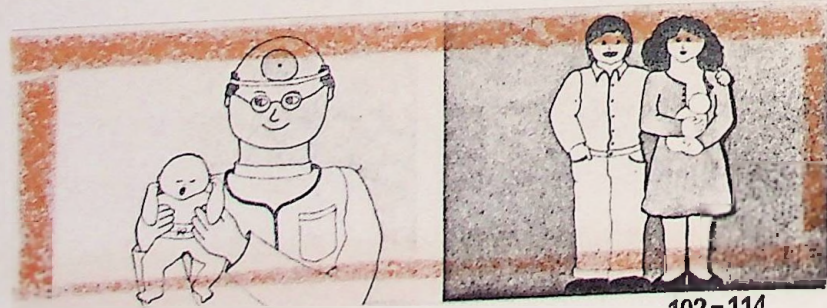
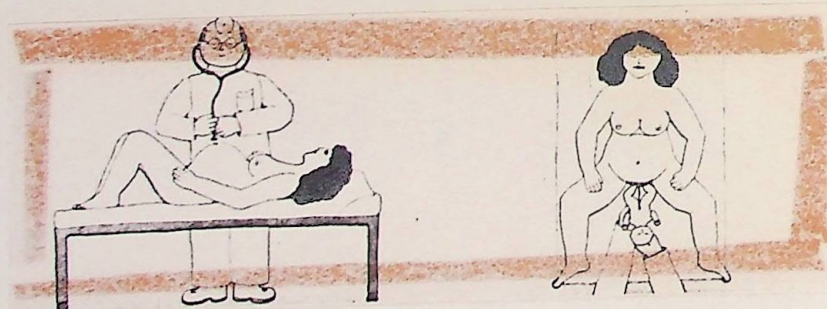
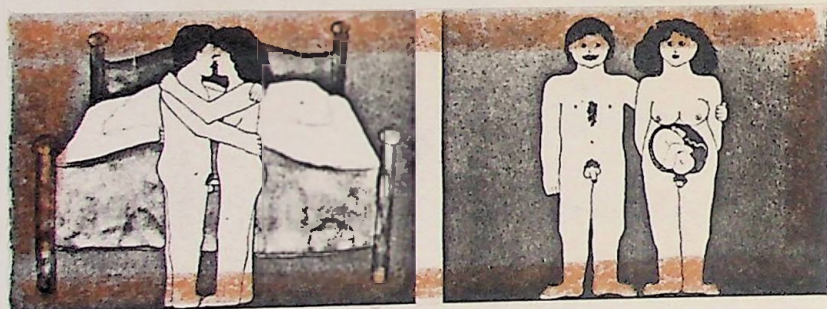
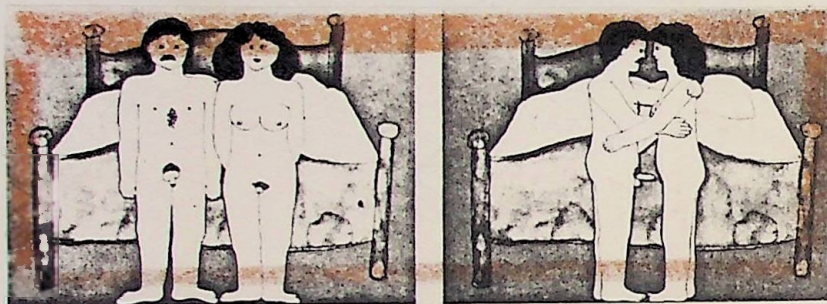


100

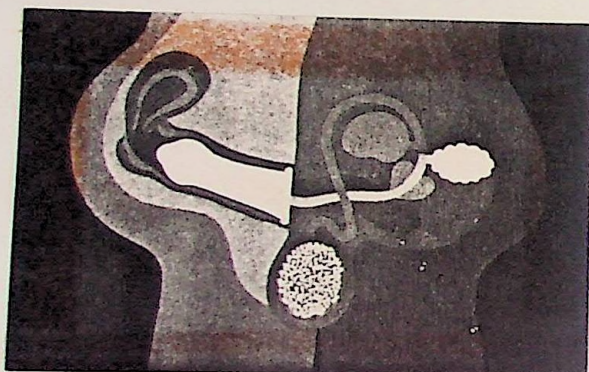
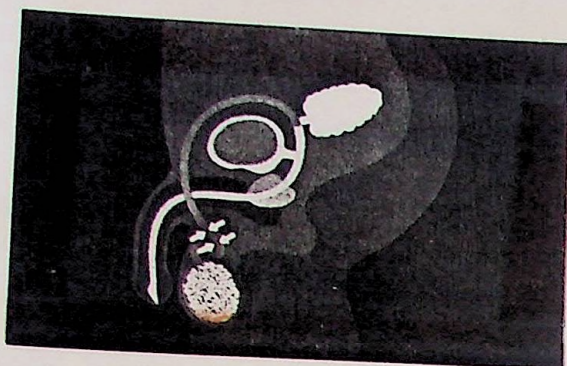


101

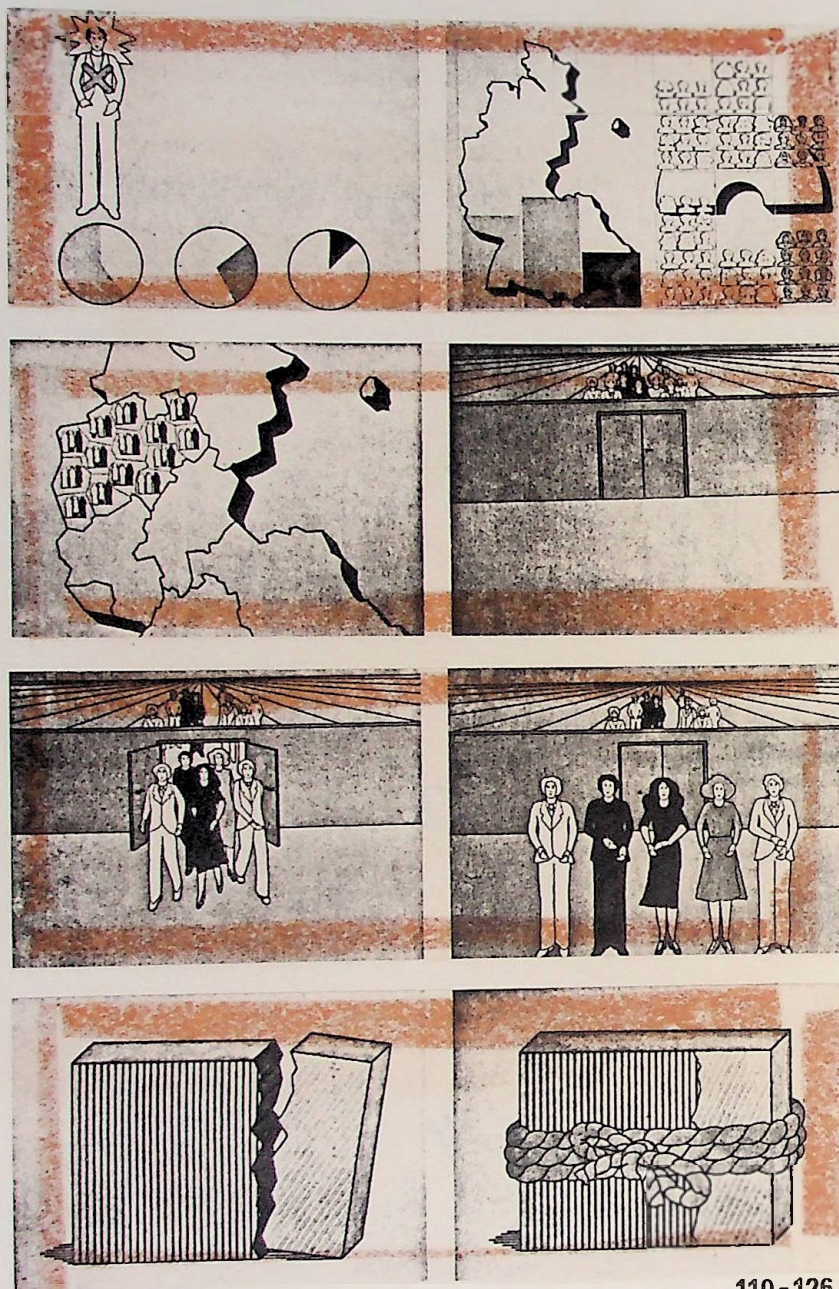












119-126



clear drawings and sets out the principles of its subject matter. It is intended as additional information for courses and conferences. Opposite to this we have a film that fails in its purpose to explain. A storyboard must explain what the film is about, and if it is intermittent or too complex the viewer can be easily confused. In (fig: 119-126) Franchise in the Federal Republic of Germany we see a storyboard which tries to explain the voting and election system in Germany. The theme is not clear and the reasons for certain scenes are too complex to understand (e.g. are the brick scenes symbolic for East and West Germany, or is it an individual joining the crowd?), the idea of the people coming along the corridor also isn't explained. As doubts gather, the effectiveness of the film diminishes.

<sup>13</sup> Roy Madsen, Animated Film, (London: Interland Publishing Inc. 1969), p. 12

<sup>14</sup> Ibid, p. 15

<sup>15</sup> Ibid

<sup>16</sup> "Luminetics" Graphis, August '76 p. 8

<sup>17</sup> Roy Madsen, p. 97

<sup>18</sup> John Halas & Roger Manvell, The technique of Film Animation, (London: Focal Press, 1976), p. 135

<sup>19</sup> Ibid, p. 136

<sup>20</sup> Ibid

<sup>21</sup> Ibid, p. 137



## Chapter 3



127

## PROPAGANDA &amp; PUBLIC RELATIONS ANIMATION



The public relations and propaganda functions provide an additional outlet for animation. For many years animation had been used solely for entertainment (Walt Disney) and in instructional and educational films (Edison and Henry Ford). Public relation films were only produced from the fifties onwards and propaganda films from the war years (W.W.II).

The kind of film service developed by the documentary movement in Britain during the 1930's at first did not offer any place for the animated cartoon. But gradually the spirit of experiment that inspired the best sponsored documentaries in Britain at the time, extended until it drew in the cartoon itself. This began initially during the 2nd. World War when animated propaganda films were first produced.<sup>22</sup>

In America Walt Disney's films made during the war years were very successful. Throughout the end of the Thirties the Disney Studio steadily grew in out-put and manpower, far surpassing in size, equipment and efficiency any other animation studio in the world. It was the biggest and the best. During the war, Disney's Corporation had over three thousand employees and a gross income of ten million dollars a year. Many orders came to the Disney studio from the Armed Forces, the Navy for Aircraft Carrier Landing signals, the Agriculture Department for Fool Will Win the War, the Army for a film to indoctrinate airplane spotters in the W.E.F.T. system (wings, engine, fuselage, tail).<sup>23</sup>

Many of his animated films were made to arouse a fighting spirit by embodying the forces of good and evil in animated form. This was dramatically shown in Education for Death (fig: 128) depicting how German youth were converted into Nazis. Here Disney used a simple low perspective shot, a dominating central figure with sinister, overpowering eyes to symbolise the threatening menace the







Armed Forces faced. Dr. Roy Madsen says in his book "Animated Film" that "as a rule, any character viewed from a low perspective conveys an image of strength, power and menace. And the closer to the animated character the view is photographed, the stronger is the connotation of power".<sup>24</sup> This can easily be seen in illustration opposite. In many of these films we take the side of the oppressed or underdog through the visual images and are moved by our feelings into rebellion.

Clarity is one of the important features in propaganda animation. If you cannot recognise by the film, which side you are on, then it has failed in its purpose. Propaganda animated films are therefore straight forward, leaving no doubt about the purpose for which the film was produced. In Victory through Air Power (fig: 129) a Walt Disney World War II film, one background presented the topographical features and contours of China and Southeast Asia, labelled for clear recognition. The dark border along the coast of China signifies the area of Japanese control. The shuttle of planes over the Himalayas is fully animated. This illustration is a clear succinct presentation of a problem of military strategy. Victory Through Airpower was released in July of 1943, only 14 months after Disney had first talked to Alexander de Seversky, author of the book of the same name. The Disney selling force steadfastly avoided the term 'propaganda', but that's what the film was. Through its dramatic sequences (fig: 130) it succeeded in exerting a vast influence on the thinking of both the public and policy makers. This played an important role in the decision which was taken, to give the D - Day invasion of France sufficient air power.

After 1941 the Army Pictorial Service developed the cartoon character Private Snafu, who was to serve as the arch fool of the Armed Forces. Because cartoon can convey an argument with wit and clarity, it has been extensively used in propaganda. The idea behind 'Private Snafu' was much the same as the British version named Charley (fig: 131). He was to represent the ordinary,



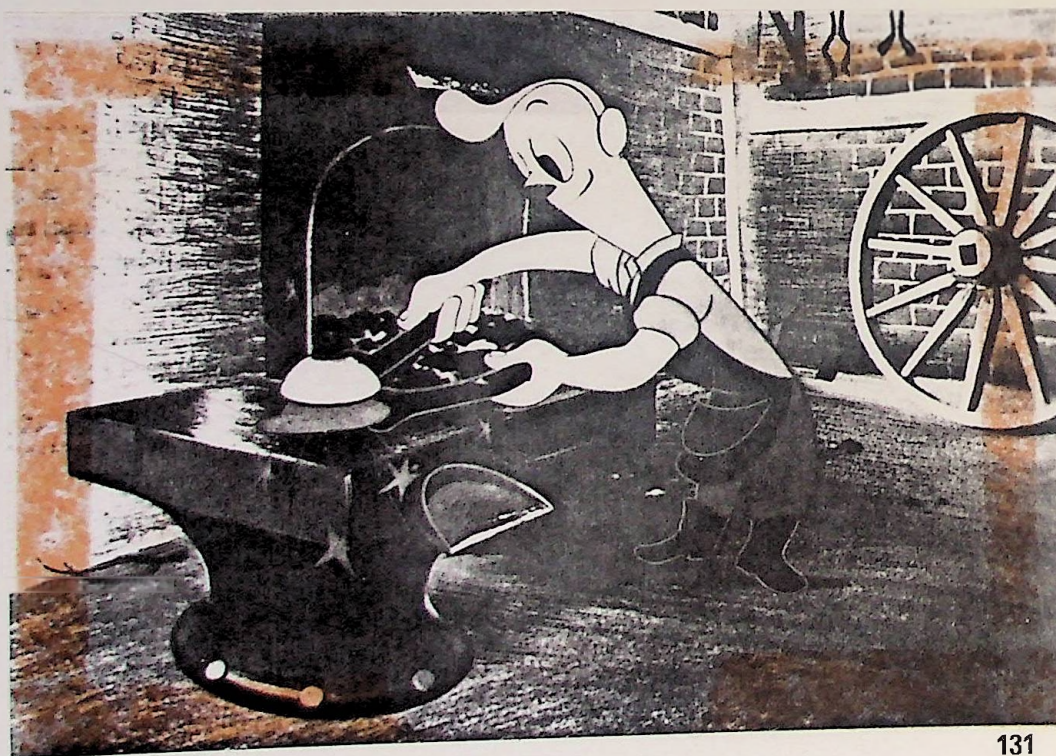


129



130







sensible, intelligent and hardworking Englishman to show in a good-humoured way how the tasks of post-war Britain had to be faced. 'Private Snafu' was a soldier character who could do nothing right and had to pay the consequences.

In Japan, artists began to experiment with animation during the Thirties and Forties, and because their country was then involved in protracted war, Japanese animators were from the beginning involved in propaganda work. In Germany there had been a tradition of experimentation in animated films stemming from the avantgarde art movement of the Twenties (the Bauhaus) which was uninfluenced by the government. But when the first shot was fired in 1939 in the invasion of Poland, animated film was diverted as in Japan, to the ends of war and propaganda.<sup>25</sup> In Britain, anti-Nazi cartoons were made in film form for British troops fighting in the Middle East.

Humour and symbolic characterization were extensively used in these anti-Nazi films. In (fig: 132) Victory Through Airpower this illustration differs greatly from the others (fig: 7-8). This one now has humour as the German pilot sees that in his eagerness to shoot down an enemy plane, he has shot off his propellor. In "Abu's Poisoned Well" and "Springheeled Jack" (fig: 133-134) two examples of symbolic menace are shown. One has the swastika, the other a flag for the 'SS', which clearly define the enemy. Sir Stafford Cripps, when he became Chancellor of the Exchequer, personally initiated the "Charley" series, which ran from 1945-'48. Only after World War II was there a resurgence of independent creative work in either Japan or Germany.

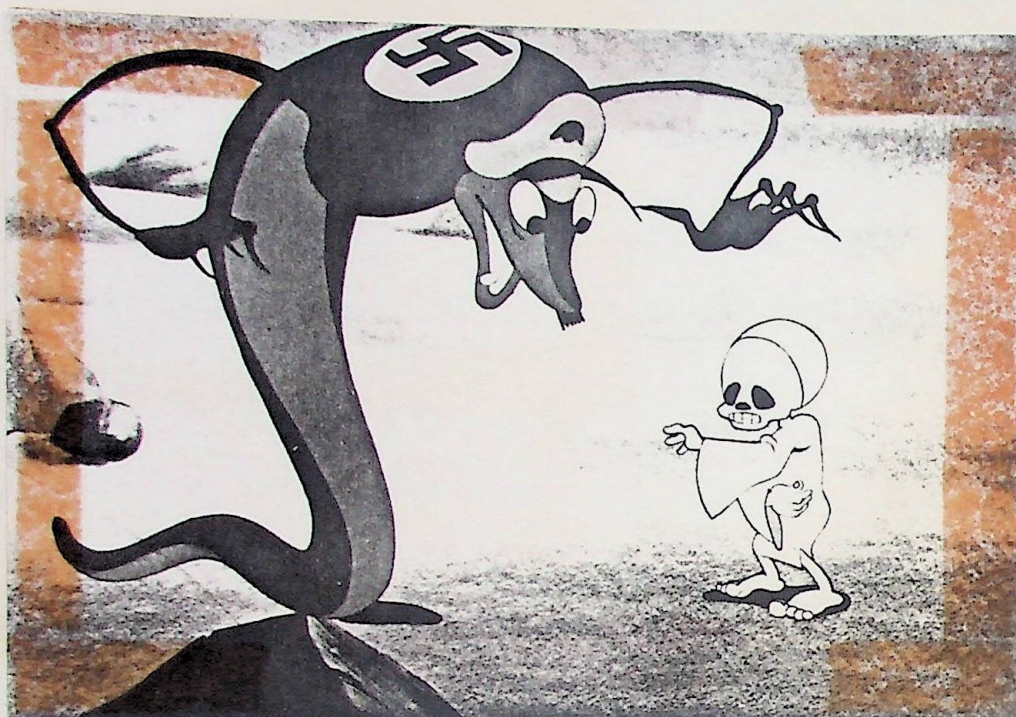
World-wide propaganda now has many different uses, and the uses of the word are many. One can propagate the Gospels and one hears of the Nazi propaganda machine. There is propaganda for cannalsis and against it, for a united Ireland, for smoking and anti-smoking. Propaganda has to do with



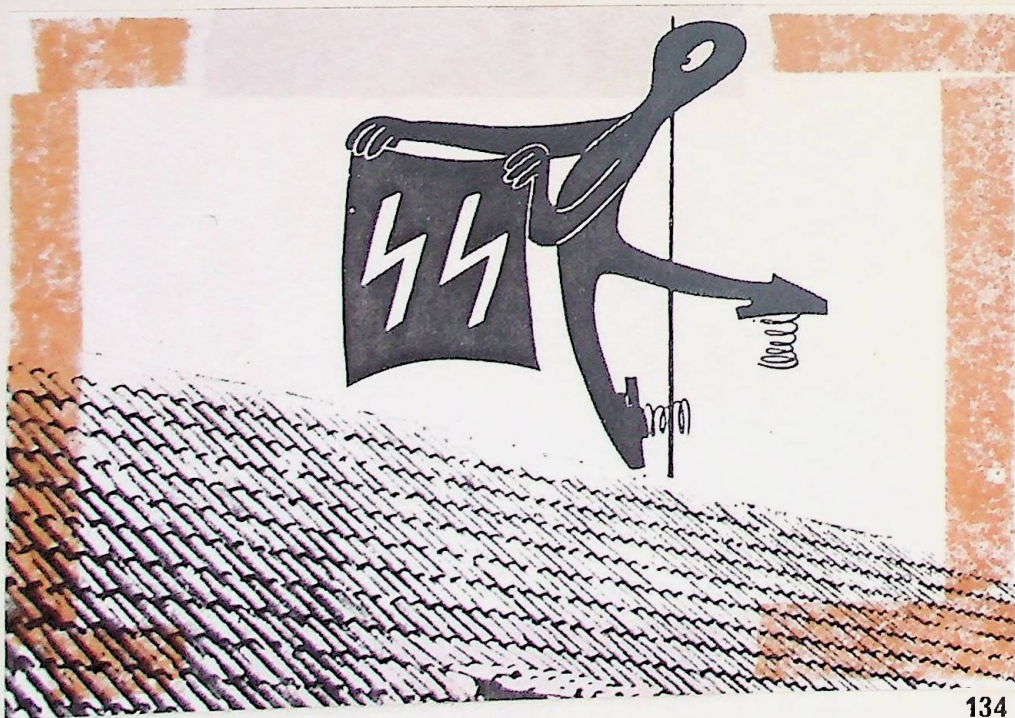


132





133



134



ideas, beliefs, convictions and opinions. The definition of 'Propaganda' is the means of making known in order to gain support for an opinion, creed or belief.<sup>26</sup> Propaganda is biased in favour of whatever it is promoting, be it for or against Bloodsports. It often depends on what side we are on. This is proven by animated films made during the war years for propaganda. (Fig:135-8) are storyboard illustrations showing an attack on a Japanese harbour base. As well as being a propaganda film on how this base was successfully destroyed, it was also used as a public relations animated film, showing the effectiveness of the American Air Force, on 'getting the job well done'.

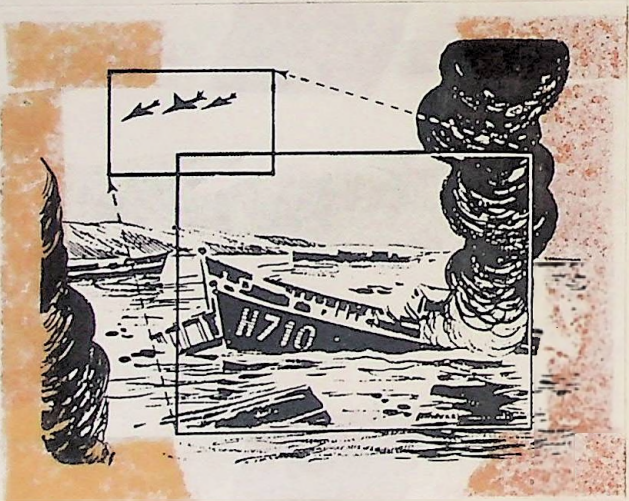
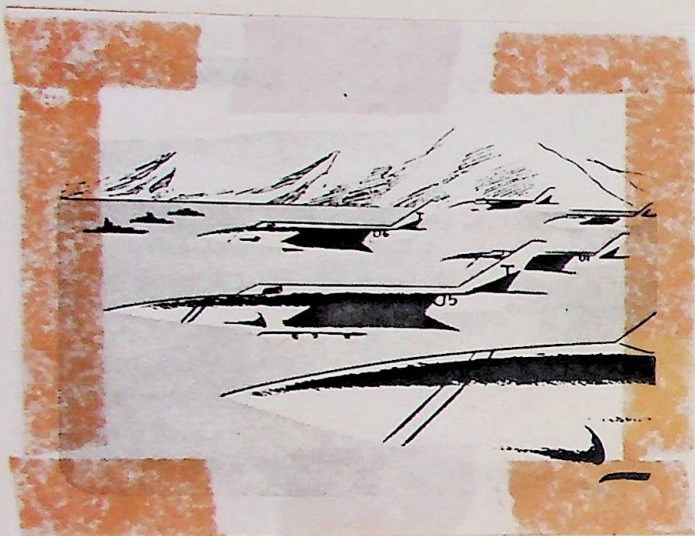
Like perspective, distortion is also used widely in propaganda animation. The more intense the dramatic moment, the more gross the distortion. In "The Winged Scourge" an animated film portraying the transmission of Malaria by the mosquito and depicts the consequences of infection to a family of farmers (fig:139). The tiny mosquito which has been shown biting the forearm of the breadwinner in the previous scene becomes, through its power to carry a deadly disease, a gigantic monster sucking the life blood and livelihood from the home of a once vigorous family.

Humour and wit used well, are most effective when used to punch home a message. In "The Litterbug", a Disney film (fig: 140), it shows the disgust of the wild animals at the rubbish left in the forrest by litterbugs.

A lecture full of statistics is probably less effective in reducing pedestrian mayhem, than is the sight of 'Goofy' beset by savage automobiles (fig: 141). These sort of films try to win the sympathy and good humour of the public.

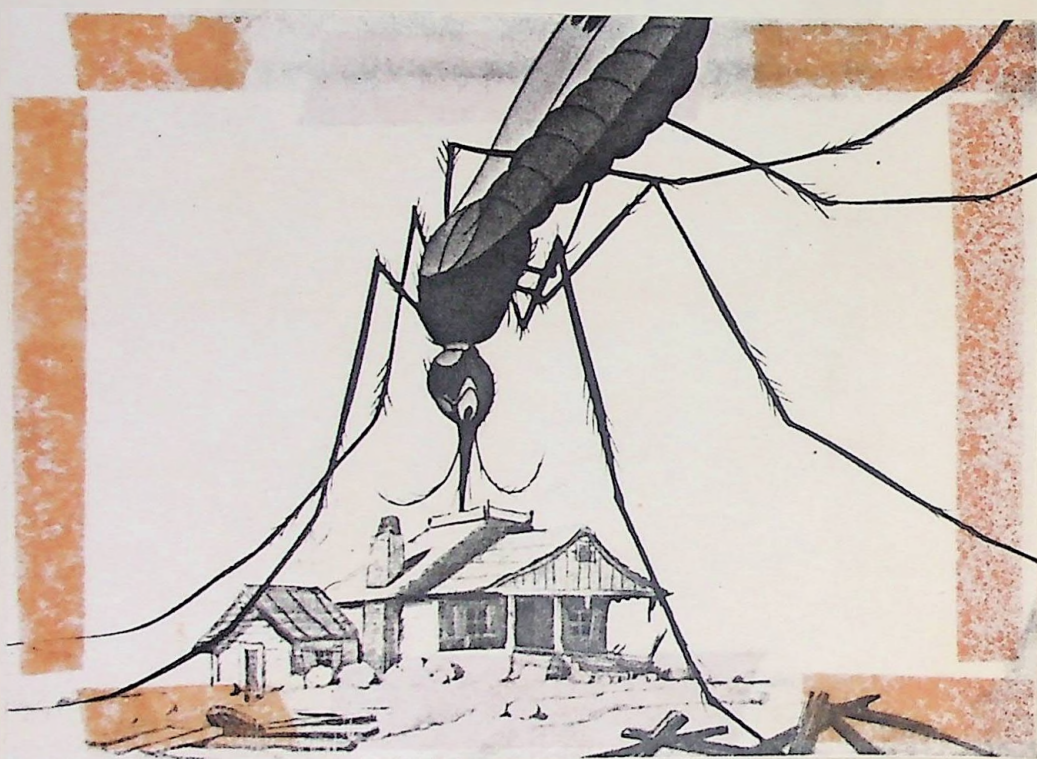
Since World War II, propaganda has changed its image as technology advanced over the years. With the development of the hand camera for still shots (photographs) and the lighter models of cine cameras, propaganda has been



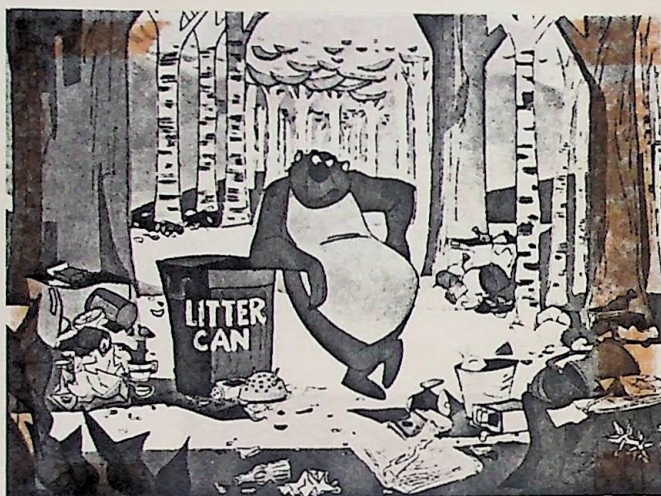


135-138









140



141



directed by these instruments. The large cameras used by Disney during the war for live-action, gave way to smaller and simpler 16 mm and 8 mm hand cameras. This meant that one or two people could go out and shoot what previously required a full camera crew to do. Organisations against blood sports and such names as the R.S.P.C.A. and the Greenpeace movement can now make good live action films showing the horrors and tragedies of cruelty to animals to back their claims that these atrocities happen.

Animation has been left a bit behind in this field. Some of these organisations rely on donations from the public to fund their work, and just cannot afford to sponsor an animated film on an aspect of their work. It is far easier, less costly and less time consuming to shoot a live action film than an animated one. But by far the biggest impact has been the use of the photograph. Our immunity to the reality of life outside our own sphere has increased greatly. Most of us only believe what we have seen with our own eyes to be true.

The photograph has brought us the joy, tragedy and horrors of the world around us. In (fig:142) we see that in war it is inevitable that the innocent are those who suffer. These South Vietnamese children flee in terror from a napalm bomb attack - launched by mistake by their own army. This picture of war could never have been adequately or effectively shown by animation, nor could the meloncoly and sympathy of two seal cubs lying together awaiting their slaughter on the ice floats off Canada. (fig: 143).

A new branch of animation has developed in England in the past 15 years and in the States since the 1950's. B.P.(British Petroleum) sponsored a whole series of cartoons promoting the evolution of oil and a history of motoring and flying. (fig: 144-146). These three illustrations cover a diagrammatic scene from





142



143



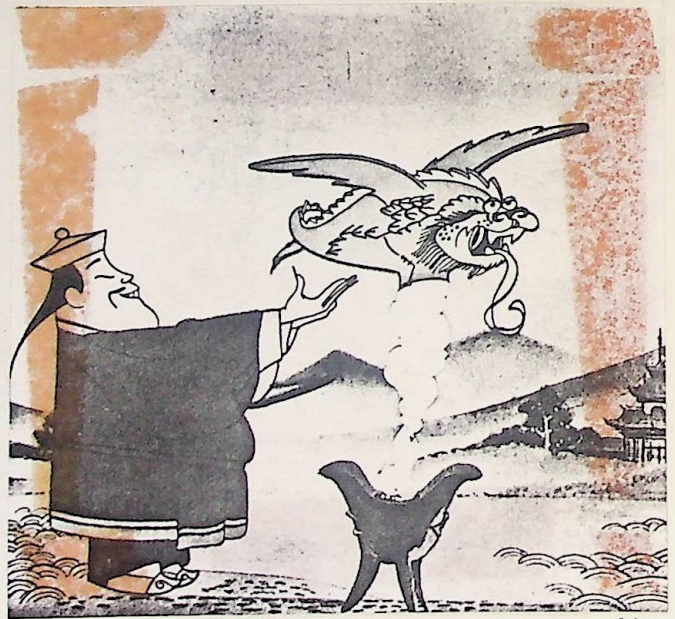
The Search of Oil to two illustrations depicting the Chinese efforts of flight to a muddled effort by the Wright Bros. At the same time as being educational they also served as public relation films promoting and identifying the company. These films inspired the National Film Board of Canada to produce Romance of Transportation a charming and cute film about the growth of transport in Canada (fig: 147).<sup>27</sup> In certain cases a feature film documentary is more effective than a short commercial with production, print and rental costs. For example a documentary film would be more effective in the case of the Irish Lifeboat Association, showing how the service works, the people who brave the storms, and the dangers involved, than a commercial showing or telling you to support the flag day. The Royal Navy and the Royal Air Force both have live-action public relation films of very high standards on television at the moment. One is the HMS Ark Royal in service in the Mediterranean, promoting the challenge and life of the Navy and the R.A.F. film is that haunting, eerie film of shots of the Hawker Harrier hovering over tree tops.

The purpose of the public relations film is to educate or give an understanding of what an organisation does, so that in the future, people will know what this service gives and does. A beginning has been made in this field. As individuals we live in a physical world which is in reality very small and confined. What we see and hear<sup>is</sup> limited. Animation well used can help to explain what is going on outside our own sphere, and it can often do this more clearly than is possible in live action films, which suffer from the same limitations of eye and ear. The animation analyses and presents its subject through graphic symbols. In Earth is a Battlefield (fig: 148) we see a young leader ordering weapons for war, with his people totally confused. This public relations film asks the reasons for war, and the effect of war for the innocent bystanders. It also has the advantage that the dialogue can be changed to another language for showing in many countries. In two many live-action films, their use is limited to the people it represents and scenes of

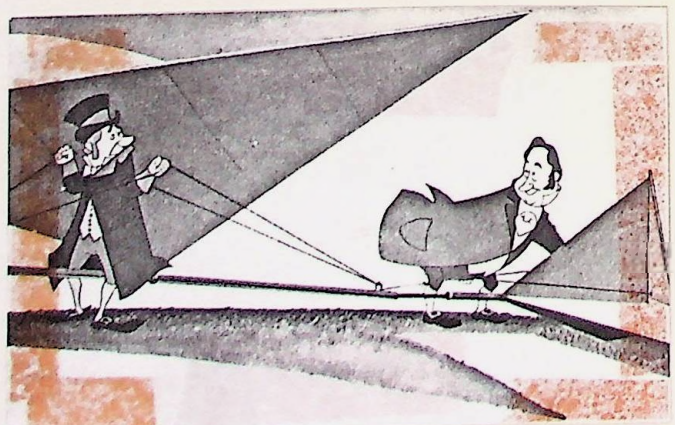




144



145



146











a particular country - e.g. if the Eiffel Tower is in a scene it represents Paris or France. In this illustration it represents no particular country either by its scenery or characters. So where live-action particularises, animation generalises, and makes what it seeks to explain universal.

<sup>22</sup> John Halas & Roger Manvell, The technique of Film Animation, (London: Focal Press, 1976), p. 116

<sup>23</sup> Bob Thomas, The Walt Disney Biography, (New York: New England Library, 1977), p. 139

<sup>24</sup> Roy Madsen, Animated Film, (London: Interland Publishing Inc. 1969), p. 115

<sup>25</sup> Ibid. p. 20

<sup>26</sup> Frank Jefkins, Advertising made Simple, (London: W.H. Allen, 1973), p. 23

<sup>27</sup> John Halas & Roger Manvell, p. 133





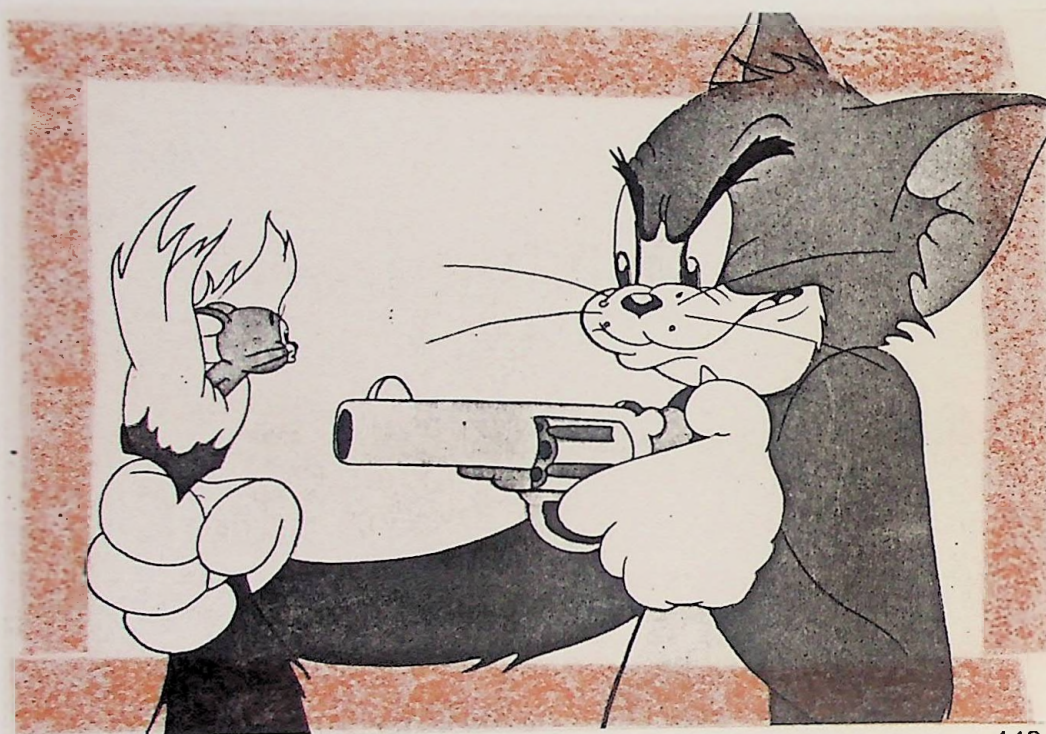


Animation's progress, from the beginning of the twentieth century to to-day, has not been easy. It has been full of costly pitfalls and technical film production problems to overcome. One stumbling block has proved to be the cost. Animation is the most expensive form of art, commercial or otherwise that there is. The cost of materials and equipment alone, forced many colleges and universities to leave it off the curriculum. But it has been held back mainly by its own successes. It succeeded so well in establishing the "crash, bang, wallop" cartoons, such as Tom and Jerry (fig: 149) that it seemed doomed to remain at this level of infancy.

But thanks to some perceptive artists and very perceptive sponsors who saw that animation's characteristics and appeal could be used in different areas other than just in the entertainment field, it received the recognition it needed to establish itself as an important communicative medium. As it broke down the cost barriers, animation equipment found its way into schools and opened new doors of knowledge and comprehension. Its new power was only limited by the imagination and the ability of the artist to give his idea vital and communicative form.

Animation's increased use began to establish it in new fields. In the commercial world, it is used in two major areas: animated commercials for television and animated commercials for cinema. Due to the mass media appeal of television most of the commercial animation is used there. The cinema commercial animations have to be of the same technical standards and class of the films along side which they are shown. This makes it much more expensive than the television commercial. The animated television commercial use the "entertainment value" and comic animation for its purposes. This means that you are being entertained by funny or witty animation whilst the advertisement







is being sold to you. Often comic characters such as the Gnu of Typhoo tea, or the baby in Johnstons Cotton Buds or the Ballymore Grouse Shooters in Mc. Kewan's Lager are used for this. But it is animation's ability to entertain whilst selling, that will continue its use in commercial animation.

In educational animation we have perhaps the most expansive use of animation in recent years. Its power to clarify and teach in educational and instructional films, has been known from the earliest films made by Edison in 1910. It has now become unquestionable not to have any animation in an educational film. Most educational films are live-action film with only animation used to explain complex problems. Because this film is to teach and clarify, the visual graphics must be strong. The strength of the graphics is determined by the literacy of the target audience. Diagrams and processes understood by a scientist, would probably be beyond a scholar. Animation adds its own analytical clarity by simplifying down to their essentials, processes which in reality are either too complex, too fast, too slow or too concealed to be seen clearly when photographed in live action, and since the eye is the quickest sense through which one can both learn and memorise technical details, the animated educational film adds to the efficiency and clarity of teaching.

Propaganda animated films are straight forward, leaving no doubt about the purpose for which the film was produced. Clarity is therefore one of the important features of propaganda animation. Symbolic characterization is used extensively for this purpose, the eagle represents America, the lion with a bobby's helmet, England. Humour helps keep attention focused on the film, whilst the message is punched home. Propaganda animation is biased in favour of whatever it is promoting, be it for or against. It is now less used than in the war years and this is due to the increasing power of the photograph. A good photograph can tell the story by itself, making it far less expensive than an animated film could. What we see with our eyes we expect to be true,



and the picture is an extension of our sight, frozen in time. I think the future of propaganda animation lies with the live-action film, where like the education film, part of the propaganda film will contain animated sequences.

The public relations film is really a documentary. It gives an overall view, educating and giving knowledge. Most of these films are either made for television or by an organisation for its members. Animation's use is a necessity in these films. An example of this is the recent film about Einstein with Peter Ustinov on B.B.C. television. Here they used animation to show the change in time during long distance space travel and the change of time of the planetary clocks. The effect black holes have with light rays also could not have clearly been explained without animation. The use of animation has only just begun in this field and will continue for many years.

With the development of computer animation and new methods of photographic animation, expensive to buy, but cheap in the long run in time and labour, animation's use will increase if the sponsors and the public are wise enough and enlightened enough to give the good animator as open a field and respect that it gives painters, writers and composers. Animation's success and future development will depend not on the newest methods of animation, but in the inspiration and talent of the animator. With the start of animation in colleges and universities, its future has only just begun.



## Bibliography

- Madsen, Roy  
Animated Film.  
New York and London: Interland Publishing Inc. 1969.
- Hurrell, Ron  
The Thames and Hudson manual of TV Graphics  
London: 1973.
- Halas, John & Manvell, Roger.  
The Technique of Film Animation.  
London: Focal Press 1976.
- Stephenson, Ralph  
The Animated Film.  
London: Tantivy Press 1967.
- Jeffkins, Frank  
Advertising Made Simple  
London: W.H. Allen 1973.
- Herdy, Walter  
Graphics - Film and TV Graphics  
Zurich: Graphis Press 1978.
- Hayward, Stan  
Scriptwriting for Animation  
London: Mercer Press 1977.
- Godfrey, Bob  
The Do It Yourself Film Animation Book  
London: BBC Publications 1974.
- Bloomer, Carolyn M  
Principles of Visual Perception  
New York: Van Nostrand Reinhold Co. Ltd. 1977.
- Readers Digest Association  
The last 2,000,000 Years.  
London: 1974.
- Thomas, Bob  
The Walt Disney Biography  
New York: New England Library 1977.
- Walt Disney, Art of  
Abrams New England Library.
- Petzold, Paul  
All in - one - cine Book  
London: Focal Press 1976.
- Perisic, Zoran  
The Focal Guide to Shooting Animation  
London: Focal Press 1978.
- Graphis  
(Zurich) August 1976.