Pictorial composition in the cinema

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PICTORIAL COMPOSITION IN THE CINEMA

by

John Bennett Kuiper

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Arts in the Department of Speech and Dramatic Art in the Graduate College of the State University of Iowa

August, 1957

Chairman: Assistant Professor John Mercer
DEDICATION

To Ellen, Anne, and Paul
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INTRODUCTION

The true significance of the film will only appear in a much less confused and groping age than ours. The prerequisite for this revelation is, of course, the realization that a knowledge of photography is just as important as that of the alphabet. The illiterates of the future will be ignorant of the use of camera and pen alike.

L. Moholy-Nagy, 1936

This study is a result of the need to remedy the cinematic illiteracy of many students studying film and television at the State University of Iowa. The fact that this illiteracy exists today, twenty one years after Moholy-Nagy first suggested that photography was a necessary tool of human communication in our modern technological world, serves to emphasize the educational implications of the research findings of contemporary workers in the field of non-verbal communication. These implications are suggested by Ruesch and Kees in their book Non-Verbal Communication.

As our society is ordered, verbal language is indispensable. Without numbers and words, the cumulative body of knowledge of mankind could not have been codified. Consequently, the practice in higher educational procedure has been to spend some ten to twenty years indoctrinating the young in specific ways of reading, writing, speaking, and calculating. Unhappily, however, our verbal-digital education is not paralleled by a corresponding regard for training along non-verbal, analogic lines.

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Thus we continue to produce—as though completely to reverse the views of the Renaissance—more and more narrowly oriented human beings as well as increasing numbers of quasi schizophrenics, capable of grappling with the most complicated mathematical and technological problems but with no real understanding of the actions of human beings, their emotional expression, or even of gesture—all of which are so necessary for the understanding of speech.\(^2\)

**Purpose, Method, and Sources of this Study**

The purpose, method, and sources of this study may be stated as follows:

1. To describe the functions of pictorial composition of the cinema shot as they are indicated in the written material on cinema, design, and psychology in order to arrive at a working definition of pictorial composition for this study. With this definition in mind, to outline and define the bases of composition suggested by a study of the literature of these three fields.

2. Using the bases of composition outlined above as a guide, to point out the areas of agreement and of disagreement present in the literature of these fields.

3. To examine the needs of students for the study of pictorial composition in the television-film curriculum and to suggest a program for this study.

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4. Considering the approaches to pictorial composition found in the literature surveyed above, to prepare for the production of one basic training film on pictorial composition to be used by students of film and television.

Limitations of this Study

No complete bibliography of material on pictorial composition has as yet been published. The writer of this thesis had to limit his survey of the literature to those references he could locate by a careful study of available bibliographical material and current periodicals. Some of the literature is out of print and difficult to obtain. Fortunately, the library of the State University of Iowa has many of these volumes and was able to obtain many of the hard to get items.

In addition to the limitation placed on this study by the availability of material it is limited by its basic approach to pictorial composition. It is possible that a detailed analysis made from the results of viewing actual film presentations would reveal some information as yet unreported in the literature.

Another limitation of this study is inherent in its framework. It considers only the available reference material in the three areas of cinema, design, and psychology. This is a limitation inasmuch as all the literature that
deals with human visual communication must have some bearing on pictorial composition.
CHAPTER I
PICTORIAL COMPOSITION IN THE CINEMA

The Functions of Composition

The literature on the cinema contains a variety of definitions of pictorial composition. Each writer tends to develop a definition that places emphasis upon his particular interest. For instance, William Cameron Menzies, a scene designer, equates composition with the total productive act of producing a film when he writes:

As soon as the writer commences work on the scenario the composition of the picture begins... the cameraman in the direction of his lighting and the determination of his different points of view, photographs the composition to which many have contributed.¹

To Freeburg, composition means "bringing things together into a mutual relation."² Eisenstein defines it as consisting of "leading the spectator's attention through the exact path and with the exact sequence prescribed by the author of the composition."³ Lawson's concept of composition emphasizes

the dynamic nature of cinema. He believes that it "is not merely a commentary on the action. It is the action. There is a changing dynamic relationship between each person or object in the scene and the camera."\(^4\)

A survey of the written statements that define composition results only in showing that many differing yet equally valid definitions exist. The following general statement of Moholy-Nagy is typical:

Composition is the product of the highest subjective evaluation of elements and their relationships. This evaluation may even, in the course of the work, be changed by the introduction of new elements, which result in alteration of the total composition.\(^5\)

Moholy-Nagy also pointed out why the term composition applies to the fields of art, design, and cinema. He states that "painting, photography, film are parts of one single problem although their techniques may be entirely different. They belong to the same realm; that is, to visual expression, where cross-fertilizations are possible."\(^6\) Because they deal with visual expression, writings in the field of plastic art as well as those relating directly to the cinema have been


Composition theory is closely linked with communication theory. Ansel Adams, a well known photographer, calls composition "the basic rhetoric of pictorial statement." He considers it "a result, not a cause; the carrier of expression, not the expression itself." Mortimer Adler, in making such a comparison, suggests that "all the different ways of photographing the same thing are like so many synonymous words for saying the same thing." It should be noted that each different way of photographing the same thing represents a different composition. It has been recognized for some time that photographs communicate ideas and information because they are in themselves a pictorial and non-verbal language. Ruesch and Kees, for example, state that "the photographic document has assumed the position of a codification system, and indeed has approximated an external model of the world."


8 Ibid., p. 1919.


10 Jurgen Ruesch and Welden Kees, Non-Verbal Communication (Berkeley: University of California Press, 1956), p. 11. Note: Codification is defined by these authors as the technical aspects of expressing ideas in signs that are comprehensible to others. See p. 7.
The basic definition of communication that researchers in this field accept is one advanced by Warren W. Weaver. He defines communication as "all the procedures by which one mind may affect another. This, of course, includes not only written and oral speech, but also music, the pictorial arts, the theater, the ballet, and in fact all human behavior."  

Pictorial composition in the cinema has a primary function of communication. This does not mean that the information it communicates is presented to the viewer for his agreement. However, this function of composition does require that the viewer understand the content presented. Film makers recognize this function of composition as central to their task. Pudovkin, writing about "the achievement to which film directors strive," considers it necessary "to distribute the material shot and its movements in the rectangle of the picture in such a way that everything is

\[\text{References}\]


12 It is interesting to note that Ruesch and Kees classify such non-verbal forms of visual expression as cinema as analogic in method of codification (i.e., a method that suggests a mass of information by a model which represents only selected parts of the information to be communicated) and that they comment upon the fact that analogic codifications are used to create understanding, not necessarily agreement. See Ibid., p. 9.

clearly and sharply apprehensible."\textsuperscript{14} Visual designers also recognize the primary communicative function of pictorial composition. Richard Rathbone in his book \textit{Introduction to Functional Design} writes that the purpose of composition is "to express in the most effective manner the idea of the maker."\textsuperscript{15} Alexander Dean, writing from the viewpoint of a stage director, is careful to separate the meaning of a stage picture from its composition which he considers as its "form or design of the group."\textsuperscript{16} He assigns composition the task of achieving "clarity and beauty."\textsuperscript{17}

Clarity, beauty, and precision of meaning are the primary functional assets of a pictorial composition in design, film, and stage presentations. The Fieldmans in their book \textit{Dynamics of the Film} sum up the primary function of composition neatly by stating that "a film must have an exact meaning readily intelligible to every spectator -- the meaning, in fact, must be as clear and precise in its outlines as that

\textsuperscript{14}Ibid.  
\textsuperscript{17}Ibid.
of any literary work."  

The writers in the general area of visual expression clearly indicate that the primary function of composition is communication. However, they also stress that communication alone is not sufficient to make a composition function forcefully and carry meaning to the spectator with the intensity required by film makers. It is also necessary that any given composition be as expressive of its content as possible. As Eisenstein puts it: "The essence is in shooting expressively. We must travel toward the ultimate-expressive and ultimate-affective form and use the limit of simple and economic form that expresses what we need."  

The primary function of composition in the cinema is the communication of meaningful information and emotions as effectively as possible. A survey of writings in this field also discloses other important functions that can be assigned to it. Eisenstein indicates one of these by using the term "ultimate-affective form." He is referring to the fact that the way a thing is presented conditions both the spectator's attitude toward the thing portrayed and his


concept of its nature. According to him an important function of composition is that of presenting an attitude toward the thing portrayed. He states that "one of the most active means of portraying this attitude is in composition." Eisenstein felt that this function of composition also included helping to present what the fact is; if it was a dramatic presentation, what the character's attitude toward the fact was; how the film-maker relates to the fact; and also how the film-maker wishes the audience to receive, sense, and react to the portrayed fact. Cinematographers are aware of this function of pictorial composition. The Hollywood cinematographer Arthur Rowan calls it "pictorial emphasis" and defines it "as the art of utilizing all the potentials of photography to enhance a mood, a story or characterization; of making the photography contribute something

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21 Eisenstein, op. cit., p. 150. He also adds that it can never be shown by composition alone and is not the sole function of composition.

22 Recent research in communication has produced statements from researchers that confirm Eisenstein's ideas that composition can function on the level of attitudes as he describes. Ruesch and Kees in particular have found that even "documentary" films "are rich in some sort of falsification." They found that a characteristic of both still and motion pictures "is the frame that, from the wealth of material, selects and emphasizes. The still photograph telescopes and distorts time, the movie disguises the emphasis of its producer." Ruesch and Kees, op. cit., pp. 10-12.
tangible and specific to the story besides merely recording it."

Thus far the functions of pictorial composition have been considered only so far as they relate to the single shot. It is also necessary to consider a function of composition that arises from the final relationship of shots that appears after the film is edited. Pudovkin sheds light on this function when he writes that "the shooting must be related organically to the editing-plan, and consequently the paramount requirement of an exact spatial and temporal calculation of the content of each piece remains in force." 

Karel Reisz points out many of the factors that tend to govern the interaction of shot composition and "editing composition." Among other things shot composition can function to smooth or roughen the nature of an individual cut, determine the sense of direction of the movement of actors, etc.

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24 Nilsen defines the cinema shot as "that specific single element in the film which, conditioned by the scenario content, makes a separate and indivisible contribution to the film construction in the course of editing." Vladimir Nilsen, Cinema as a Graphic Art (London: Newnes, n.d. probably 1934), p. 20.


establish the relationships between objects in apparent depth, and control the relative screen time of sequences. It is absolutely essential for the creation of a unified final film that the composition of the single shot fulfill the function of making a pictorial statement that is organically related to the rest of the film.

By far the most frequent definition of pictorial composition found in the literature of the cinema emphasizes its function of ordering the photographic images of the shot for the purpose of producing a pleasing visual arrangement on the screen and of directing the observer's attention to the most significant part or object in the shot. Gregg Toland, a well known cinematographer, wrote: "Composition is a matter of arranging everything within the picture so that it focuses the attention of the beholder wherever the picture maker wants that attention focused."\(^{27}\) Lewis Herman mentions both the necessity of making a satisfying visual impression upon the observer and of focusing "audience attention on important details in an orderly, esthetically satisfying manner."\(^{28}\) Numerous similar definitions with more or less


emphasis placed upon the importance of order can be found in
film literature as well as in the literature concerning both
the plastic and dramatic arts and the psychology of art. 29

A Definition of Pictorial Composition in the Cinema

A survey of the literature on film discloses that it
assigns four functions to the pictorial composition of the
cinema shot. These are:

1. To communicate meaningful information and emotions
   as effectively as possible.

2. To help portray various attitudes toward the subject
   matter of the film, and influence the responses of
   the cinema audience.

29 In film literature see: Basic Photography, TM-1-219
(War Department, 1941), p. 127; Eisenstein, The Film Sense
(New York: Harcourt, Brace and Co., 1942), p. 194; Elliott,
24; Freeburg, Pictorial Beauty on the Screen (New York:
MacMillan Company, 1923), pp. 3-8; Livingston, Film and the
Director (New York: MacMillan Company, 1953), p. 64; Rotha,
The Film Till Now (New York: Funk and Wagnalls Company, 1949),
p. 376. In plastic arts and design literature see: Rathbone,
Book Company, 1950), p. 1; Scott, Design Fundamentals (New
and the Idea (Washington, The American Federation of Arts,
1939), p. 22. In the literature on dramatic art see: Dean,
Fundamentals of Play Directing (New York: Farrar and Rinehart,
Inc., 1945), p. 137. In the literature on the psychology of art see: Ogden, The Psychology of Art (New York:
3. To make a pictorial statement that relates to the rest of the film.

4. To make a satisfying visual impression upon the spectator by ordering the visual elements of the shot in a manner that takes into account aesthetics and directs audience attention toward a specific communicative goal.

The pictorial composition of a cinema shot is a visual presentation that utilizes cinema techniques to make the images in the shot function in one or more of the ways just enumerated.  

30 The well composed shot is the smallest whole unit of visual expression in the pictorial language of the cinema. The individual frame, of course, is a smaller visual unit but because it is the result of the technique used to make a complete shot it is not the smallest whole unit.

31 Robert Wagner has stated: "The retorical elements in any film interact with each other, with the nature of the audience, and with the time and circumstances of showing. This makes it difficult to isolate any single factor for study and then combine it with other production elements in a "master design." "Design in the Educational Film," Educational Research Bulletin, XXXIII (September, 1954), p. 141. This statement serves to point out that in actual film production the unity of the completed film is impaired if the film-maker tries to think of the bases of composition as separate and unrelated phenomena. It is possible to gain an understanding of compositional intent, techniques, and activity through a study of material written on the subject. However, the actual acts of composing take place in the realm of visual expression where written material gives way to visual material and where written analysis is replaced by plastic analysis and visual representation.
Thus far this study has isolated the functions of pictorial composition in the cinema shot and has established a general definition of pictorial composition from these functions. Study of the literature of cinema, design, and psychology also discloses that the techniques of composition employed in the cinema are based upon five areas of experience and activity that this writer chooses to call the bases of pictorial composition. Before presenting the results of the survey of the literature on pictorial composition, it should be helpful to outline these bases. Each of the subsections of this outline will be discussed fully in Chapter II.

I. Communication and Intent of the Shot. This is both the over all function and basis for any given shot composition. It is usually established by the script or scenario and is sometimes changed during actual shooting or may even be modified by later editing or special laboratory techniques.32

A. Plastic Analysis33 This term is used to designate the intuitive and/or rational analysis of all the factors that will make up a given composition. It

32 See: Reisz, op. cit., p. 196.

also includes a process of selection and rejection of available visual material that could be included in this composition.

B. **Visual Representation**  
This term deals with actual visual representations of nature (i.e., the visual signs of pictorial cinema language) and how these are ordered on the motion picture screen to produce:

1. A two dimensional approximation of the three dimensional world.
3. A precise recording of objects projected upon the retina.
4. A representation which is appropriate to the communicative purpose.

II. **Compositional Elements.** This basis of composition comprises the actual visual elements organized to make the composition a complete visual presentation.

A. The enclosure or "frame"

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34 The terms "plastic analysis" and "visual representation" are used by Joseph and Harry Fieldman, *Dynamics of the Film* (New York: Hermitage House, 1952), pp. 103-114, and are discussed at length later in this thesis. Visual representation is also well treated by Kepes, *op. cit.*, pp. 67ff.
B. The action field (i.e., the actual space of the visual world which the camera field includes.)

C. Point, Line, Area

D. Shape

E. Light

F. Space

G. Time

H. Movement

III. Aesthetics. This is a basis of judging the composition of a given shot with respect to the qualities within it that give pleasure to the senses. Aesthetics also attempts to evaluate the relative worth of the organizational structure of a composition and to evaluate the sensations and emotions produced by it. In a larger sense it involves making value judgements about the worth and importance of the sensations, statements, and emotions arising from a composition.

A. Form. In shot compositions the idea content of the composition is not always identical with its subject matter. Subject matter often serves only as a form for ideational content. However, the visual representation of objects through the use of the compositional elements enumerated above involves a comparison between the model object and its image.
Because the image is not a mechanically exact copy of the object it represents there arises a question of selecting the proper form for its representation. In the final analysis this question must be decided on aesthetic and communicative bases.

B. Aesthetic Compositions. This category has to do with the specific nature and organization of the visual elements and how the organization of these elements on the screen affects human sensations and emotions.

C. Value Judgments. These are terms used in the critical evaluation of compositions:

1. Beauty
2. Unity, Harmony
3. Variety, Conflict
4. Emphasis, Dominance
5. Balance

IV. Human Vision. The interaction of the sense of vision and the mind forms the physical-psychological basis of composition.

A. The visual world. This term deals with how the eye and the mind function to understand the actual physical everyday world.

B. The visual field. This terms deals with how
information is organized on the retina of the eye and how this organization is related to the visual world and to two-dimensional representations such as appear on the cinema screen.

B. **Attention.** Applied to vision, this term deals with information covering the elements present in both the visual world and on the visual field that direct our eyes to any given element. It also is a conditioning factor of perception and bears an important relationship to balance.

C. **Perception.** Applied to vision, this term defines the processes of receiving meaning from a visual sensation. Applied to composition it indicates that the observer has received and understands the meaning of the shot as intended by its maker.

V. **Cinematography.** This basis of shot composition includes all the pictorial modifications of reality that the use of a camera necessitates and the techniques of visual representation that are inevitably linked with these modifications.

A. **Camera, Lens, and Reality.**

B. **Compositional Techniques of the Cinema.** The nature of the compositional act in film requires a pre-selection of visual elements and an exact deter-
mination of how to present these elements before they are actually recorded. The compositional techniques of the film have been developed to effect this pre-selection and orderly presentation.

1. **Adapting the Camera to Actuality**
   a. Framing
   b. Camera point of view
   c. Optical controls of the image
   d. Photographic controls of the image
   e. Camera movement
   f. Cinematic motion (i.e., non-naturalistic motions; fast motions and slow motions)

2. **Adapting Actuality to the Camera**
   a. Set design
   b. Staging, blocking, acting
   c. Lighting

The acts of composing a cinema shot are based upon communication and intent, the nature of the basic compositional elements, human vision, and cinematography. The composition of any given cinema shot has its origin in these bases. It

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35See: Raymond J. Spottiswoode, *Film and its Techniques* (Berkeley: University of California Press, 1951), p. 40, 43. I am indebted to this source for the terms "adapting the camera to actuality" and "adapting actuality to the camera."
is the function of the next chapter to point out the areas of agreement and disagreement concerning these bases as found in the literature on cinema, design, and psychology.
Chapter II
THE LITERATURE ON PICTORIAL COMPOSITION

This chapter sets forth the areas of agreement and of disagreement present in the literature on pictorial composition. It follows point by point the outline of the bases of composition set up in chapter one.

Communication and Intent of the Shot

There is general agreement in the literature that the primary purpose and intent of any given cinema shot composition is to communicate ideas and information to an audience. What can or should be communicated as well as how best to insure communication is often a point of controversy, however. For example, the basic intent and technique of current story film production has recently come under fire from two different quarters. Williams and Orrom, film makers themselves, call for a fresh approach to story construction and film technique. Their criticism of present day film work states:

The whole tendency in present-day story films is to present an external view, one of observed effects.... If "realism" is required as a result, this is bound to be so; there can at best be no more than an exciting surface treatment. The screen image is in fact not reality, it is an abstraction from reality...the convention of the screen image should be recognized for what it is, and all the skill and all the technical devices used to enhance the
abstraction, to create a complete and convincing expression in its own right.¹

For Williams and Orrom the current story film attempts, then, to be too "realistic." To two researchers in communication, Ruesh and Kees, it is not realistic enough. They write:

The highly consequential act of putting a "frame" around a person or group or an object concentrates and emphasizes, and there are not many films that deal honestly and directly with real events -- films that permit us to look at human beings as they actually are, rather than as a director or cameraman think they are or wants them to appear.²

Whatever the director and cameraman select to show in a shot composition must be related to the over all intent of the film. Pudovkin, commenting upon the selection of camera point of view, emphasizes this by stating: "This selection is always related to the entire content of the task that the director keeps in mind in aiming, in one way or another, to affect the spectator."³ With the exception of Williams and Orrom, other literature in the fields investigated agrees with this point and carries it further by insisting that each shot attempt to communicate only one statement at any given moment. Psychological research on ocular performance corroborates this point. Herman Brandt has found that "laboratory

²Ruesch and Kees, op. cit., pp. 11-12.
³Pudovkin, op. cit., p. 123.
experiments clearly indicate that only one idea can occupy the focus of attention at any given time.\textsuperscript{4} Specific research on the ocular performance of individuals watching a motion picture also emphasizes that "...attention to one single point can be maintained for but a fraction of a second, and the motion picture with its ever changing scene is in tune with what the eye and mind by their very nature prefer to do."\textsuperscript{5}

The need to communicate precise meanings to the spectator through many single shots arranged in a time sequence in the completed film results in an important difference between still picture composition and composition of the single cinema shot. An expression of this difference is stated by Nilsen. He writes:

The art-photograph presupposes the presence of a principle of compositional building up of the image in which its aggregate of representational elements expresses a whole finished picture and the whole idea to be achieved. The cinema shot is built up on an organization of the representational elements in which the shot fulfills primarily only the single function which the director has assigned to it.\textsuperscript{6}


\textsuperscript{5}Herman F. Brandt, "The Psychology of Seeing Motion Pictures," \textit{Film and Education} (New York: Philosophical Library, 1948), p. 48.

\textsuperscript{6}Nilsen, \textit{op. cit.}, p. 24.
Plastic Analysis and Visual Representation

For the purposes of analysis the writers in the cinema field have divided the act of composing into two processes -- plastic analysis and visual representation. This division is also found in the literature of design. However, writers in each field are careful to maintain a distinction between the methods of the fine artist and those of the director and cameraman.

Herbert Read, whose bibliography embraces both fields, makes this distinction clear by stating:

Painting is a synthesis; the film is essentially analysis. The painter composes within his mind (that is to say, makes a synthesis of selected elements of his visual experience. In the actual process of composition he goes beyond his experience, guided by imagination and sensitivity.) The director of a film begins with the same material. To make his material significant -- significant of more than its actuality, its news value -- he must break the continuity of his vision -- analyse the scene for its significant aspects."

To the writers on the cinema, plastic analysis, to use the words of Nilsen, means a "search for a genuine, realistic discovery and interpretation of reality." Plastic analysis,

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7See Chapter I, "An Outline and Definitions of the Bases of Composition."
8See footnote 34, Chapter I.
10Nilsen, op. cit., p. 17.
the first step in the act of composing, is positively related to how we learn to see. The Gestalt psychologists and more recently James Gibson have postulated explanations of this learning process. Gibson believes that "...the progress of learning is from indefinite to definite, not from sensation to perception. We do not learn to have percepts but to differentiate them. It is in this sense in which we learn to see."\(^{11}\) It is in this sense also that the director and cameraman arrive at the content of each shot composition. For purposes of analysis this two part division of composition is justified by Gibson's findings and represents an important area of agreement within the literature of psychology, film and design.\(^{12}\)

Visual representation, the second part of the act of composing a cinema shot, is the major concern of the literature on composition. This is "composition" in the strictest sense. It is the result, not the cause of plastic analysis; the carrier of expression, not the expression itself.

The remainder of this chapter focuses upon the areas of agreement and disagreement present in the literature on this


\(^{12}\)Kepes in Language of Vision, uses essentially the same division. See Kepes, op. cit., p. 15, p. 67.
subject.

All the literature consulted agrees that a major problem to be solved by the act of composing is how to arrange visual representations of nature on the surface of the motion picture screen. Pudovkin, from the point of view of a film director, states the compositional problem in this manner:

To distribute the material shot and its movements in the rectangle of the picture in such a way that everything is clearly and sharply apprehensible, to construct every composition in such a way that the right angled boundaries of the screen do not disturb the composition found, but perfectly contain it -- that is the achievement toward which film directors strive.13

A similar approach to composition on the stage is indicated by Alexander Dean. He states that "composition is the structure, form, or design of the group," and that it is not the meaning of the stage picture.14 In his book, Design Fundamentals, Robert Scott uses a definition of composition that corresponds to those just presented.

We mean...the total organization, including figure and ground, of any design. All the individual forms and parts of forms have not only shape and size but their position in it. Thus the concept of composition begins with the design field. This field provides the limits of a unique universe which you create. Its basic laws are determined by the character of the field.15

13Pudovkin, op. cit., p. 80.
14Dean, op. cit., p. 137.
The literature agrees that an order and an organization that fit the purpose required of the shot challenge the attraction of a spectator. As Norman Meier suggests in *Art and Human Affairs*, structural excellence is the most universal, significant, and dependable single criterion of value in art.\(^{16}\)

**The Compositional Elements**

The structural excellence of any composition depends first upon the visual elements that it selects to use as a result of plastic analysis and secondly upon how these are organized to produce a whole statement.

**Frame**

The literature is in agreement that one of the primary compositional elements is the enclosure or frame determined by the outer boundaries and two dimensions of the design field. In the case of the cinema this design field is the rectangle of the camera's film aperature. In the case of a painting it is the canvas or sheet of paper upon which the design is executed. The importance and function of the frame as a compositional element is indicated above in the preceeding quotations cited from Pudovkin and Rathbone. The concept of a design field is related to the field theory of learning and has

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been applied to vision and learning by the Gestalt school of psychology. This theory describes important relationships between the field, its forces, figure and ground, and the total effect produced upon a spectator viewing any given field. These factors will be discussed more fully in a later section of this chapter. For the present it is sufficient to indicate that the consideration of the frame and the design field as compositional elements represents an important area of agreement in the literature on pictorial composition.

**Action Field**

Closely allied with the concept of a design field but kept distinct from it for purposes of analysis is the idea of the action field. This distinction is not made in these particular terms in cinema literature. It is used here, however, to account for a general agreement present in the literature surveyed. Writers on cinema composition agree that the frame is both fitted to the subject and that the subject must be fitted to the frame (i.e., modified in relationship to the camera frame by changing its position,

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18The term "action field" is adapted from a similar term used in Eastman Kodak Co., *The Use of Motion Picture Films in Television* (Rochester: Eastman Kodak Co.), p. 6.
by movements, by light falling upon it, etc.). The subjects being photographed thus exist within an action field which is a segment of real space delineated by the camera frame. This action field is recognized in the literature as an important compositional element of cinema composition.\(^{19}\)

**Point, Line, Area**

Within the rectangular opening of the camera's frame and consequently within the corresponding action field determined by this frame of reference the literature on design isolates various elements of attraction. Kepes names them "forces of visual attraction."\(^{20}\) These are point, line and area, and they exist in the optical field which is projected on the retinal surface of the eyes. Scott speaks of "plastic elements" which are the basic foundations from which we build a three-dimensional pattern. According to his analysis these are solids, planes, lines, and space.\(^{21}\)

\(^{19}\)Spottiswoode in *Film and Its Technique*, p. 40, p. 43, recognizes the elements of the frame and the action field when he speaks of "adapting the camera to actuality" and "adapting actuality to the camera." Nilsen in *Cinema As A Graphic Art*, p. 30, also makes a similar distinction although not in the same terms. Kepes in *Language of Vision*, pp. 16-34, makes a rigorous analysis and presentation of the forces and fields important to plastic organization and visual representation.

\(^{20}\)Kepes, *op. cit.*, p. 17.

\(^{21}\)Scott, *op. cit.*, p. 131.
forces that Kepes describes are similar to those which exist on the film from a motion picture camera. The elements named by Scott are those that exist in the action field and give rise to the forces listed by Kepes. The remaining literature is often less analytical in approach but this essential distinction is generally recognized. Cinema literature concentrates its discussion of these basic compositional elements upon the single element of line.

Line

There is general agreement in this literature that lines are important for the relationships that they establish within the frame. Dreyer points this out by saying that "in black and white films light is set against darkness, and line against line."22 There is also agreement that the way in which lines are employed within the framework of a given composition has important relationships to the effect of this composition upon an audience. Some authors carry this latter point into detailed descriptions of empathic responses related to particular line qualities.23 This approach is in agreement with the basic assumptions of


psychological research studies of empathy.  

**Shape**

Shape implies a degree of organization of the elements discussed above in order to create a recognizable unit. The literature on design recognizes and analyzes this organization mainly on psychological (Gestalt) principles. Shape is related to line. Some cinema literature analyzes shape with regard to its abilities to create empathic responses in the members of the audience. This approach to shape is closely paralleled by Alexander Dean. Both the elements of shape and line are modified by motion. Cinema literature is in agreement that these modifications play an important part in composing for the film. They will be discussed later in this chapter under "Motion."

**Light**

Light, and for the purposes of photography the related

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28Dean, op. cit., p. 194.
elements, value, color, key, and tone, are recognized as highly important compositional elements by every writer consulted in the literature on pictorial composition. Nilsen states the importance of light clearly in the following manner: "Light is the main resource of photographic construction, and without its organisational activity a photographic image is impossible."\(^{29}\) He also makes an important distinction between light and tone. According to his analysis they are "...two inseparably associated means of representation, the first being the cause, and the second the effect."\(^{30}\) There is a basic agreement, often on the level of an assumption, upon this point in the literature on cinema. However, many writers use a term other than tone. The most common difference is the substitution of the word "key."\(^{31}\) In both cases the compositional element under discussion is the range of brilliances or brightnesses in a given scene and the manner of their distribution within the compositional frame. The manner of their distribution is a

\(^{29}\)Nilsen, op. cit., p. 61.

\(^{30}\)Ibid.

quantitative one. Value is a synonym for relative brilliance or relative reflectance of an area within the design field. The various values in any given shot may be arranged in an ascending scale from darkest to lightest. This particular term is used most often in the literature of the design field. Other writers use the terms "brightness" and "reflectance." In both cases there is agreement that the element under discussion is one of the relative brightness of objects in the action field and of areas within the frame. There is general agreement that the relative position and relative brightness of each area within the frame is a central factor in the organization of a successful composition.

Color is treated from the standpoint of physiological sources of color sensation in the literature of the design field. These sources are hue (i.e., the color red as a class of colors), brightness (i.e., value as defined above), and saturation (i.e., depth of color--degree of redness).

32 In other words, the amounts of light, dark, and middle brilliance areas compared to each other and to the total area of the compositional frame.


34 Kepes, op. cit., p. 138.
This approach is used in cinema literature although the written material in this field is of limited scope at the present time. Writers in the design field and in psychology also analyze color in terms of the psychological sources of color experience. Motion picture writers are particularly interested in this last type of analysis. There is agreement in cinema literature that the choice of colors used in a given scene has an important psychological effect upon the spectator. This reasoning also includes value because physiologically, brightness, hue, value, and saturation are physically inseparable parts of a given color.

The literature is in agreement that there exists a

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Until quite recently many cinema writers objected strenuously to the use of color processes in the cinema. These objections are well stated by Raymond Spottiswoode in Grammar of the Film (London: Faber and Faber, 1935), pp. 151-152. He writes in part: "It seems on the whole, therefore, that color would increase the beauty of individual shots...but that such an increase of beauty is contrary to the real needs of the cinema, unless it can be controlled in degree, and removed where necessary. This is not at all easily achievable."


In this respect a black and white photograph emphasizes only the differences in the brightness value of areas or objects while a color photograph can differentiate areas by all three physiological sources: hue, brightness, and saturation. Arnheim, op. cit., p. 272.
physiological-psychological basis for color relations. It also emphasizes the conditional quality of colors and brightness values when they are used to influence the reactions and responses of an audience.

Eisenstein expresses this conditional quality clearly by stating:

In art it is not the absolute relationships that are decisive, but those arbitrary relationships within a system of images dictated by the particular work of art...Even within the limitations of a color range of black and white, one of these tones not only evades being given a single "value" as an absolute image but can even assume absolutely contradictory meanings, dependent only upon the general system of imagery that has been decided upon for the particular film.38

The literature agrees that the function of light in pictorial composition is to provide tonal relationships in the subject. These in turn produce relationships of color and of light and dark areas in the photographic image which may reinforce the dramatic significance of the shot by providing adequate illumination for viewing, spatial depth, and a plastic rendering of the details of the scene.39


Space

Space as an element of composition is related to all of the other compositional elements discussed thus far. The degree to which it is present or absent in any composition depends upon the position, size, and value relationships of the other elements in the frame. The four borders of the design field (the frame of cinema) generally determine the main directions of space: up, down, across, and diagonally or angular. The cinema frame forms a new world with principles of construction that apply only to it. Each distinct point, line, area, and shape receives its spatial evaluation because of its relationship to the margins of the frame and the light that made it visible. Speaking of the "picture plane," a term that describes the two dimensional plane of the "design field" mentioned above in this thesis, Kepes writes:

The two-dimensional picture plane assumes the center of the spatial field and every optical unit appears to advance or recede from it. A point, a line, or a shape on the picture-surface is seen as possessing spatial qualities. If one places a point or a line in one or another position on the surface, the position of the respective optical units in reference to the picture margin will relate different spatial meanings as a dynamic form of movement. The elements appear to be moving left, right, up, down, and to be receding or advancing, depending upon their respective position in the picture-plane. The optical units create an interpretation of the surface as a spatial world; they have strength
and direction, they become spatial forces. An excellent illustration of the function of position as a spatial determining factor in the cinema is noted by Arnheim. He states: "Photographers know that similarity of location is relative. In a picture of 'midshot' size people will look much farther apart than they did in reality, because in relation to the narrower picture space the distance between them increases."

The literature consulted is in agreement that the creation of some type of three-dimensional sensation in an audience watching the physically two-dimensional motion picture screen is an important function of well-composed shots. How this is accomplished depends upon the size, position, and value (brightness) relationships of the elements in the frame. Most discussions of space as a compositional element in the cinema approach it from the viewpoint of size perspective and of lighting. Recent psychological literature

40Kepes, op. cit., p. 19. For a related viewpoint of spatial relationships between the cinema frame and the other compositional elements see Nilsen, op. cit., pp. 27-30.

41Arnheim, op. cit., p. 60.

42Kepes, op. cit., p. 71, states that "we are accustomed to attribute to a larger retinal projection spatial emphasis, that is, a larger space-filling characteristic. Size, therefore, becomes the simplest statement about space -- the first step of organization of the spatial world."
makes it clear that these approaches can be incorporated into a more inclusive approach which relates the sensation of depth to a kind of ordinal stimulation of the retina called a gradient.\textsuperscript{43} Arnheim's application of this approach to visual art includes the following definition:

A gradient may be defined for our purposes as the gradual increase or decrease of some perceptual quality in space or time. For example, oblique parallelograms contain a gradient of location, in that the slanted figure lies at an evenly changing distance from the normal axes of the horizontal and vertical. Obliquity, then, must be defined as a gradient of location or distance if we are to understand its fundamental importance in depth perception.\textsuperscript{44}

According to Gibson "the sensory impressions which go with the perceptions of distance or depth over a continuous surface might be called varieties of perspective."\textsuperscript{45} He lists eight such gradient systems that produce depth.

The first three are varieties of \underline{size-perspective}. These produce depth because the size of the elements reproduced decreases or increases in an approximate order, usually from the bottom of the picture toward the top. Thus, in a photograph of a field of wheat the size of the individual plants decreases toward the top of the frame and a

\begin{itemize}
  \item \textsuperscript{43}Gibson, \textit{op. cit.}, p. 26, ff.
  \item \textsuperscript{44}Arnheim, \textit{op. cit.}, p. 223.
  \item \textsuperscript{45}Gibson, \textit{op. cit.}, p. 138.
\end{itemize}
sensation of recession into depth is produced. **Linear-perspective**, the second variety of perspective according to Gibson, is size perspective when contours are rectilinear. This common type of perspective can be illustrated by the spatial sensation produced when a person looks down a narrow street enclosed on either side by buildings. The rectangular structure of each building forms a series of lines which gradually converge upon a single point, the vanishing point or point of convergence. **Texture-perspective**, the third variation of size-perspective listed by Gibson, increases along a gradient running from unity to infinity. In the example of the wheat field photograph given above the texture of each individual plant is reduced in scale by a gradient variation from the bottom to the top of the frame.

The fourth variety of perspective, **binocular-perspective**, finds little use as a compositional device for producing depth in the cinema shot. Should three dimensional films become important this type of perspective would naturally be a predominant space producing factor of such presentations. **Motion-perspective** has been utilized frequently in the cinema to increase the effect of depth. Arnheim observes:

> The pioneers of the motion pictures were quick to discover that a 'travelling' camera obtains more depth. The same effect is observed if we watch the landscape from a moving train or car. The apparent movement of objects varies in proportion
to distance. It is fastest at close quarters, comes to a standstill along the horizon line, and increases again in the opposite direction. Objects above the horizon, such as buildings on a hill, clouds, or the sun, will travel with the observer, whereas everything between the horizon and the foreground speeds backward.46

Aerial-perspective is also recognized by all the literature surveyed as a space producing gradient. Described during the Renaissance by Leonardo da Vinci, it can be seen today on the cinema screen in long shots, usually included to evoke atmosphere in which detail is most clearly rendered in the foreground while the background and top of the frame become progressively less distinct and lighter because of haze, fog, or optical alteration of the image.

Perspective of blur is also a device that lends itself well to the creation of depth on the motion picture screen. In photography the range of focus of a lens produces a zone of sharp definition and an increasing blur as the distance from that zone increases. This range of sharpness can be varied by changing the focus, the effective aperture of the lens being used, or by employing a lens of different focal length. The larger the focal length and aperture and the smaller the distance at which the lens is focused, the narrower this range of sharpness will be. "In a portrait

46Arnheim, op. cit., p. 225.
the nose may stand out more sharply than the ears. The steepness of the gradient will determine the strength of the depth effect."\textsuperscript{47}

The last variation of perspective listed by Gibson in his analysis is called the \textit{relative upward location in the visual field}. It is best explained in compositional terms by Kepes who calls it \textit{relationship of depth by vertical location}.\textsuperscript{48} In simplest terms it refers to the fact that a spectator easily establishes the horizon line of a picture in his mind as a spatial reference point. He consequently judges the spatial position of objects in the frame in relationship to this line. Even if the horizon line is not actually visible, different vertical positions of objects tend to indicate different spatial positions for them. In such cases the bottom of the picture plane (the two dimensional plane of the cinema screen itself) represents the closest point; consequently the degree of elevation of each object from the bottom of the picture indicates its degree of recession into space. It is important to note the qualifications that Kepes places upon the contemporary use of this type of perspective.

\textsuperscript{47}\textit{Ibid.}, p. 225.

\textsuperscript{48}\textit{Kepes, op. cit.}, p. 72.
New technological discoveries have brought about a fundamental revolution of vertical position as a sign of depth. Bird's-eye view and frog's-eye view in photographs and a new vision in aerial observation were the most important factors. For the airman, as well as for the photographer, the horizon line changes constantly, and consequently loses its absolute validity. No longer was it inevitable that the visual understanding of objects and their spatial relationships be based upon a frame of reference which had a constant -- the fixed visible or latent horizon.49

To the eight varieties of perspective outlined by Gibson, Arnheim adds light-perspective. He argues that:

One way in which light produces depth is by means of brightness gradients. Maximum brightness appears at the level nearest to, or coincident with, the location of the light source. Thus brightness also establishes a key level of spatial existence, which does not have to be in the foreground...Light creates a spherical gradient expanding in all directions from a chosen base in space.50

The varieties of perspective classified above summarize an area of agreement in the literature surveyed. However, there is another fundamental kind of depth-producing phenomenon yet to be taken into consideration. Any two-dimensional photograph, and for that matter, the visual field inside the eye itself, contains only patches of color.51

49Ibid., p. 75.

50Arnheim, op. cit., p. 225.

51Gibson, op. cit., p. 141. Note that black and white are considered colors.
An illusion of space is produced where the contours of these patches of color meet each other. Gibson calls this type of depth-producing phenomena "depth-at-a-contour." He enumerates five variables that belong to this class of depth producing clues.

The first is a shift of texture-density or linear spacing. This space-producing variable accounts for the fact that space is produced by a sudden jump between two gradients that corresponds to an edge of an object or area in a photograph. This sudden change of brightness (value) or color could be illustrated by the changes in brightness found in a photograph of a valley pictured beyond the edge of a cliff. The next variable, a shift in the amount of double imagery, has little use in the non-stereoscopic cinema. However, a shift in the rate of motion is an important clue to the perception of how one object is related to another in depth and is related to motion perspective discussed above. The effect of viewing a landscape from a traveling vehicle as observed by Arnheim is a good illustration of this type of shift (see above). The fourth variable producing depth-at-a-contour is the amount of completeness or continuity of outline. Gibson states that "the more complete, continuous, or regular

52Ibid.
outline tends to be the one which looks near."53 This he explains is because the contour between an intercepted object and another object that intercepts it has the coarser texture and the greater relative motion on the side belonging to the completed outline. Consequently, we associate the completed outline with lesser depth from the picture plane than the incomplete outline.

Transitions between light and shade are the fifth and last variable in the class of space-producing phenomena that Gibson calls depth-at-a-contour. Arnheim describes the action of this variable, stating that:

A discontinuity of the brightness gradient will produce either a sudden change of spatial orientation or a leap over an interval in the depth dimension. When a dark object in the foreground is seen next to a bright background, the distance between the two planes is made more visible by the large difference in brightness.54

The importance of transitions between light and shade in building the composition of a cinema shot is recognized by all the literature surveyed. It points out that the object in the composition may intercept light and cast a shadow on another in such a way that the spatial character of the subject in shadow is rendered completely unintelligible. It

53Ibid., p. 143.
54Arnheim, op. cit., p. 254.
is therefore possible for the sources of light illuminating the subjects in the composition to produce spatial confusion. Arnheim summarizes this possibility well:

Examples of confusion can be found in photography when lights are not properly blended. The simplest method of producing a comprehensible distribution of brightness values consists of using only one light source. But often more than one source is present, which may be desirable to avoid an excessive darkness of shadows. Several lights may add up to an even illumination, or each of them may create a clearly self-contained distribution of brightness values. The over-all result may convey visual order. But the light sources may also interfere with each other by partly increasing or reversing each other's effects. This will make the shape of objects as well as their spatial interrelations incomprehensible. If several light sources are to cooperate, the photographer will endeavor to organize them in a hierarchy by giving one of them the leading part of the "motivating source" and producing clearly weaker countereffects through the others.\footnote{iIbid.}

Kepes, aware of the compositional problem inherent in light and shade transitions, suggests that while the painters during the first quarter of the 20th century "were working toward the breaking up of the representation-habit of modelling by shading, photography reached a hitherto undreamed of perfection in rendering visible forms by light and shadow."\footnote{Kepes, \textit{op. cit.}, p. 148.} He explains that "photography within its
own sphere was struggling to find a solution for this problem by unchaining the light-sources and arbitrarily organizing the distribution of light and shadow. The best photographers succeeded in attaining a pliant plastic treatment of light and shadows.\textsuperscript{57} This problem is still recognized as a primary one in the literature surveyed. The creation of a space statement appropriate to the purpose of the shot is a demand that must be met if a composition is to function effectively.

\textbf{Time}

Time as an element of pictorial composition in the cinema is more a factor of limitation than an element of construction. The literature surveyed is in agreement that every composition, in order to express its content to the spectator, must be designed in relation to final screen time. Reisz has clearly pointed out the interdependence of screen time and pictorial composition. He suggests that "each shot, in order to be intelligible and to convey all its meaning, must be held on the screen for a certain minimum length of time. That minimum is determined in each case by the size of the image, its content and amount of movement within it, and the context."\textsuperscript{58} The Fieldmans suggest

\textsuperscript{57}Ibid.

that time is one of the factors that limit a film director in the choice of material which he may include within his shot composition to that which expresses his meaning. They explain this further by writing:

A person may, if he wishes, study a painting for hours. But a shot is rarely held upon the screen for more than thirty seconds; this, in fact, is relatively a long time upon the screen. No audience could appreciate material chosen for beauty, design, or ornamental qualities in thirty seconds. Such material, therefore, would largely be wasted in a film.59

Movement

The literature on pictorial composition agrees that movement is a primary element in compositional construction for the cinema. Furthermore, it has come to be thought of as bearing an important relationship to other compositional elements. Gibson states the basic premise from which writers on cinema work when they describe the importance of movement in composition. He concludes that "evidently the abstractions which we call space and time are not as distinct as they have been assumed to be, for space cannot be apprehended except in time."60 Kepes further clarifies this concept of the inter-relatedness of space-time elements by

60Gibson, op. cit., p. 157.
writing that, "the very understanding of spatial facts, the meaning of extension or distances, involves the notion of time -- a fusion of space-time which is movement. 'Nobody has ever noticed a place except at a time or a time except at a place,' said Minkowsky in his Principles of Relativity."61

Two types of movement are used in shot compositions. The first is direct kinetic movement in which the camera or subject moves producing a displacement of images which we call motion.62 Next is "a potential movement of representational forms static in themselves, and expressed and emphasized by the compositional construction."63

Direct kinetic movement is often cited by the literature surveyed as the most effective type of movement for use in the cinema. The emotional effects and importance of this type of motion to an audience is well described by Arnheim in the following passage:

61Kepes, op. cit., p. 170.

62Arnheim, op. cit., p. 309, explains kinetic motion in this manner: "The experience of visual motion presupposes that two systems are seen as being displaced in relation to each other." In the cinema the frame becomes the fixed framework against which the motion of subjects or of the camera itself is perceived.

63Nilsen, op. cit., p. 108.
The picture taken by a camera that moved along a street does not give the experience we get when we walk in the street ourselves. Then the street surrounds us as a large environment, and our muscular experiences tell us that we are in motion. It appears as actively encountering the spectator as well as the character in the film, and assumes the role of an actor among actors. Life appears as an exchange of forces between man and the world of things, and the things often play the more energetic part. This is also because the film represents with ease natural motion, such as that of the street traffic or the ocean, which is hardly possible on the stage. In a film like Flaherty's *Man of Aran* the natural motions of the waves is enhanced by the cinematographic motion imposed upon the scene by the moving camera. The film gives the world of things an opportunity to manifest its inherent powers and to inveigh against man. In addition, things on the screen can be made to appear and disappear at will, which is also perceived as a kind of motion and which permits any object, large or small, to enter and leave the scene like an actor.64

Potential movement is common to all the visual arts.

Kepes describes its origin and importance as follows:

One cannot look at a static relationship long without losing interest any more than one can survive for long in a sealed room where the supply of oxygen is soon exhausted. The image as a living experience cannot exist long in a frozen structure. For the image to remain a living organism, relationships within it must be constantly changing. The eye and the mind must be fed with changing visual relationships. Only this changing variety can provide the stimulation necessary for holding attention upon the picture surface. Change implies motion. The plastic image must also be articulated, therefore, in the time dimension. The ultimate aim of plastic organization is a structure

64Arnheim, *op. cit.*, p. 311.
of movement that dictates the direction and the progression toward ever new spatial relationships until the experience achieves its fullest spatial saturation. As new relationships progressively unfold, the spatial integration of the image gains momentum until it finds final clarification in the plastic image as a whole. Such movement is defined and conditioned by physiological and psychological limitations. As the movement is basically an eye movement, understanding of the conditioning role of the neuromuscular structure is of great importance. Nevertheless, the direction of interest is what binds one unit to another. The ultimate range of a created image is defined by the available energies of attention.65

All the literature agrees that actual kinetic movement carries the strongest appeal to attention. Thus when the elements of shape and line are put into motion they increase attention-getting qualities and demand additional consideration as more powerful forces in the compositional scheme or design. Manvell summarizes the necessity of accounting for this type of compositional movement this way:

The film possesses its own form of composition. It is a picture inside a frame following the conventional rectangle. But instead of the isolated significant moment of the static picture designed by the artist to fulfill his feeling for still composition, we have in the film the complex possibilities of a composition which moves, which develops from one stage to another within the frame, the artist has therefore a mobile composition within the bounding lines of a frame; he has to make a literal pattern of action.66

65Kepes, op. cit., p. 52.
It is, of course, not necessary that a film shot composition always have an element of actual movement present. The purpose of each shot, its relationship to the rest of the film and its specific ideological content may demand more or less action on the part of the subject or the camera. However, when relatively static shots are employed the literature agrees that they must be composed in accordance with the natural visual qualities of movement that the elements in use contain within themselves. Kepes expresses this requirement for static composition when he discusses spatial forces.

A stone, a tree, or a fish has its own particular type of existence. The stone is static with the latent perpendicular movement of its own weight. The tree can expand in any direction but cannot change its position. The fish can move and take any position. Each behaves according to its specific nature. Similarly, any visible unit placed on a picture-plane germinates a life of its own.

Positions, directions and differences in size, shape, brightness, color and texture are measured and assimilated by the eye. The eye lends the character of its neuromuscular experience to its source. Since each shape, color, value, texture, direction, and position produces a different quality of experience, there must arise an inherent contradiction from their being on the same flat surface. This contradiction can be resolved only as they have the appearance of movement in the picture-plane. These virtual movements of optical qualities will mould and form the picture space, thus acting as spatial forces.67

67Kepes, op. cit., p. 20.
There is agreement that the two types of motion described above must be ordered to fit the purposes of the composition. This is accomplished by some form of rhythmic organization. Rathbone states a general principle and a point of agreement in the literature when he writes that "visual movement should be controlled by attraction, coordinated by rhythm, and directed toward an ultimate objective or focal center." Kepes, however, has the best summary of thought on this matter.

The power of rhythm in keeping attention prolonged is conditioned by the necessity to feed attention by progressively changing optical material. Change implies movement. The final task of plastic organization is, then, the creation of an optical structure of movement that will dictate the direction and progression of plastic relationships until the experience reaches full integration. The most evident characteristic of movement is its unity, its dynamic continuity. Movement, however, implies also the opposite of unity: variety of locations. The very meaning of movement lies in this inner contradiction of the dynamic unity and the static discontinuity."

Although writers generally recognize the importance of rhythm as the factor which organizes movement, the actual principles of organization have not yet been formulated, perhaps because the range of possibilities is extremely vast.

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68 Rathbone, op. cit., p. 197.
69 Kepes, op. cit., p. 59.
Especially in the sphere of actual movement is there much room for analysis and creative investigation. The following comments indicate the importance and status of this investigation.

The invention of the motion picture opened the way to a hitherto undreamed scope and flexibility of rhythmic organization. The new possibilities of the synchronization of the temporal and spatial structure of vision are, however, still barely touched upon. From the few pioneers who tackled the problem, Viking, Eggeling, and Hans Richter made the first and most important practical and theoretical clarifications. Eggeling pointed to the very core of all visual organization when he wrote, "what should be grasped and given form are things in flux."70

In the motion pictures not the emulsion, but the possibility to produce motion is the key to film production. And yet there is no theory for the use and control of motion. Practical experience has been confined to a few decades and the eyes apparently are as yet untrained to receive sequences in simultaneous motion. In the majority of cases the multiplicity of movements, even if well controlled, still convey the impression of chaos rather than organic unity.71

Aesthetics

The establishment of an "aesthetic" for judging cinema compositions demands the creation of a set of criteria. These criteria must then be applied to a given situation

70Ibid., p. 58.

and value judgements formulated from the results of this application. It is inevitable that personal taste enters into the establishment of the initial criteria. Various writers approach the subject from slightly different points of view and backgrounds. Some are content to state a broad criterion and then enumerate the possibilities of visual representation, frankly admitting that within these general and over-all areas significant work can be accomplished. This is the approach used by Kepes. His primary criterion is one of organic vitality. He writes: "A visual representation of nature can be vital in human experience only if it becomes a nature form itself by reaching an organic quality, a plastic unity." 72 His summary of the tendencies of visual representation has already been presented on page 17. Other writers, including Freeburg, an early writer on cinema composition, accept a more narrowly defined set of criteria. Freeburg believes that the best cinema composition is "that arrangement of elements in a scene or succession of scenes which enables us to see the most with the least difficulty and the deepest feeling." 73 Although

72 Kepes, op. cit., p. 67.

he gives feeling and emotion a place in his criteria, his analysis proceeds, according to his avowed intention, along lines "that exclude discussions of plot, dramatic situation, characterization, etc., except where these matters are so intimately connected with pictorial form that an omission would be impossible." 74 His examination of pictorial composition develops a theory of pictorial efficiency. He states:

The pictorial beauty in this book is really a kind of pictorial efficiency, and therefore must have a practical economic value. When a motion picture is well composed it pleases the eye, its meaning is easily understood, and the emotion it contains is quickly and forcefully conveyed. In short, it has the power of art. 75

His analysis then proceeds to view composition in terms of beauty, ugliness, unity, harmony, and other qualities that express a judgement about a given situation present or not present in a given composition.

To some writers the type of analysis suggested by Freeburg is not complete. Arnheim, whose work is of considerably larger scope, approaches compositional analysis with a wider set of criteria which recognize the dynamic nature of all visual representations. He suggests:

74 Ibid., p. x.
75 Ibid., p. 10.
A work of art is no more described sufficiently by its harmony, balance, and order than an organism by its tendency to simplicity and minimum tension. The reason why art is often discussed in this one-sided manner may be partly a surviving preference of classicist aesthetics for simplicity and stillness, partly the fact that simplicity of shape can be analyzed without any reference to content and meaning, whereas the dynamic theme is meaningful only when it is referred to the content of the work, that is, to the statement the artist wishes to make.76

Because the dynamic element of composition for the cinema is of considerable importance, some writers establish their aesthetic criteria for good composition by subordinating all other compositional considerations to keeping the audience's attention consistently on the action. Gaskill and Englander represent this point of view. Addressing themselves to the cameraman, they insist that "your guiding thought in 'composing' on that moving celluloid canvas must be to present...action to best advantage, to keep it clear and dominant." They recognize, however, that static scenes are inevitable and suggest several means of focusing attention upon the center of interest when such static scenes occur. Their approach is best summarized by the following paragraph:

76Arnheim, op. cit., p. 359.

We have given a resume of the important considerations of composition insofar as they affect moving pictures. We are frankly reluctant to dwell on the subject, because composition comes more and more into its own as action becomes increasingly static—in effect, less and less of a motion picture. It comes most fully into its own when shooting scenery, which is where the motion picture comes closest to the still picture. Motion-picture photographers too entranced by static composition possibilities sometimes forget the importance of action.78

Even within the field of static photography there are various viewpoints concerning the establishment of criteria for constructing and judging compositions. The remarks of Ansel Adams, a well known still photographer, illustrate this point:

Above all, it is necessary to visualize the emotional and organic aspects of the photograph before the exposure is made, to feel the directions of line and force, the counteraction of force and mass, the perspective directions not only across the composition, but into it. When this expansion of perception and understanding is achieved— even in small part—the taboos and canons of conventional photographic "composition" become meaningless.79

Although each writer tends to assign a different relative importance to the various compositional elements, the writers surveyed agree with the suggestion made by Norman Meier that a work of art will be evaluated permanently on

78Ibid., p. 131.

the basis of intelligent conception, skillful handling, and attainment of unity.80

Form

Because subject matter serves as a means to express idea content in a shot composition, the correct choice of an appropriate form to represent both the subject matter and the idea is a prime compositional problem. Plastic analysis is the first step in determining the propriety of this choice. However, the problem is further complicated by the fact that once the idea to be expressed is made clear and real objects are selected to represent the idea content, this subject matter and content must be clearly expressed photographically. This is not as simple a problem as it might first appear. The following passage from Arnheim points up this fact.

There is no such thing as the faithful copying of physical reality. As far as the human body is concerned, nature does not commit itself in its visual appearance to any particular pattern that can be correctly copied. Throughout the history of art, sculptors have used hundreds of different arrangements of planes to represent the human head, no one of which can be called more correct than the other....The same is true of color.

For this reason plaster casts, shadows on the wall, or photographs can be said to have shape

80Meier, op. cit., p. 86.
only in a rough, overall sense. They are shapeless for two reasons: Because the contour or color of their units are often ambiguous, and because these units do not add up to configurations simple enough to be comprehensible to the eye. The surface formation of plaster casts is spongy and non-committal; and if a photograph is examined for the clearly defined relationships found in paintings or sculpture, the picture seems to evaporate like an apparition.81

The literature surveyed clearly indicates that the formal problem of motion picture composition is a plastic one that attempts to select, mould, and shape the physical materials of reality so that the final image produced in the motion picture camera and recorded by the moving film organizes the visual elements of the composition. This plastic organization directs the audience's attention first to the significant subject matter and hence to the idea content of the shot. The final section of this chapter deals with the means at the disposal of cinematography to effect such a plastic organization. For the moment it is important only to emphasize the ambiguous quality of randomly composed photographic images.

Aesthetic criteria are used to select, from the multiplicity of possible formal representations available, those that are the most aesthetically pleasing. It is on this

81Arnheim, op. cit., p. 120.
level of selection and organization of forms that aesthetic criteria make themselves felt in pictorial composition.82

Aesthetic Compositions

Some writers in the areas of television, film, and stage direction approach composition with a point of view that is taken by Bettinger and Cornberg. Although they state that there are no rules that can be used for composing pictures they believe that "it is on the known reaction to shapes, coupled with other psychological factors, that we compose pictures to produce definite -- and predictable -- responses on the part of the audience."83 Because a picture, according to their definition, is an arrangement of shapes and because shapes in turn are made up of line, mass and form, these authors believe that the emotional response of an audience to a composition is controlled by the abstract structure around which these shapes are organized.

82The phrase "aesthetically pleasing" is used in a sense that is broad enough to account for the relationship between the initial intent of the shot and the audience response to it. Thus, an "aesthetically pleasing" shot composition to a director or cameraman could be one which completely fulfilled the initial functions set for it before it was made. This phrase, therefore, includes shots that are made intentionally disturbing to an audience if the disturbance created was required to communicate a certain idea content.

A similar approach to composition, varying in the completeness with which each writer develops his analysis of aesthetic structure, can be found in the writings of Brodbeck, Dean, Freeberg, and Hacker listed in the bibliography of this thesis. Essentially, these authors start by assigning to each type of line an emotional equivalent. For example, Bettinger and Cornberg say that "straight lines give a feeling of directness, rigidity, masculinity, and the like. They should be used where those feelings dominate a scene."\(^8^4\) They then define mass as a type of psychological weight and further suggest that "form, in the sense that we are using it here, is the aesthetic shape of the areas and masses which make up the picture."\(^8^5\) The emotional implications of individual forms are then analyzed. If the underlying organization of the picture plane is triangular the picture expresses unity of interest, stability, or climax.\(^8^6\) If it is circular it expresses continuity of interest or continuous movement.\(^8^7\) From this type of analysis Bettinger and Cornberg suggest the following method of visual planning:

\(^8^4\)Ibid., p. 22.
\(^8^5\)Ibid., p. 24.
\(^8^6\)Ibid., p. 26.
\(^8^7\)Ibid.
"Think, first, of the emotional content of the scene -- the feeling that is to be conveyed. Then, select the basic form or combination of forms...that will express that feeling. Finally, think in concrete terms of properties, characters, and acting, and fit them into the abstract structures, applying the psychology of line, mass and form."\textsuperscript{88}

**Terms Used in Making Value Judgements About Shot Compositions**

According to Norman Meier, "balance, rhythm, sequence, harmony, unity, and fitness are simply terms belatedly brought forth to describe qualities in and characteristics of aesthetic structure. When intelligently and effectively used, they produce or affect the structural excellence inherent in the art object and explain the attendant satisfaction in contemplation."\textsuperscript{89} Such terms as Dr. Meier mentions occur frequently in the literature on pictorial composition. They deserve further discussion here.

**Beauty**

Although many writers make use of terms similar to those just cited in the quotation above there is agreement that such terms have little value for cinema composition if

\textsuperscript{88}Ibid., p. 31.

\textsuperscript{89}Meier, \textit{op. cit.}, p. 84.
they are based exclusively upon criteria of beauty established from work in another field of visual expression. Furthermore, the literature agrees that, although the aim of a composition may be beauty in design, any beautiful effects achieved should not dominate the informational and emotional content of the image. The film theorist, Balazs, states this general area of agreement in the following manner:

Over-beautiful, picturesque shots are sometimes dangerous even if they are the result of good camera work alone. Their over-perfect composition, their self-sufficient closed harmony may lend them a static, painting-like character and thereby lift them out of the dynamic stream of the action. Such beauty has its own center of gravity, its own frame and does not reach beyond itself to the preceding and the subsequent.90

More specific opinion that too much beauty is an aesthetic defect in cinema compositions is offered by the Fieldmans:

Moreover, the motion picture camera, while a highly sensitive instrument, is hardly comparable to the brush wielded by a painter. No film shot can attain the depth, the perspective, the balance, the color, the tone or the variety of a painting. Even those films which are most notable for the beauty of their individual shots...the compositions are unimpressive when compared with the paintings of a great master. This is not said in derogation of the film medium. It is simply not the function of the film to project upon the screen compositions comparable to a great painting.

Finally, we must realize that a film consists of hundreds of shots projected upon the screen. The average length of a film is an hour and a half. To show within this space hundreds of compositions each as beautiful as a great painting, would exhaust any audience; so much beauty tends to become monotonous. In such films as G. W. Pabst's *L'Atlantide* (1934) and John Ford's *The Fugitive* (1947), the sheer beauty of the composition of the individual shots results in the creation of an almost unbearable heaviness; the audience is simply incapable of absorbing the beauty of the shots. Paradoxically the very beauty of the compositions serves to create an aesthetic defect.91

If the visual qualities of unity, harmony, etc., are utilized to construct a composition that primarily pleases the eye, this pleasure must be justified by the ideological content and purpose of the shot.

Documentary film makers are particularly aware of the relationships between idea content and visual beauty. A good illustration of this awareness is found in comments by Joris Ivens:

> During the filming of *Borinage* we sometimes had to destroy a certain unwelcome superficial beauty that would occur when we did not want it. When the clean-cut shadow of a barracks window fell on the dirty rags and dishes of a table the pleasant effect of the shadow actually destroyed the effect of dirtiness that we wanted to photograph truthfully, so we broke the edges of the shadow. Our aim was to prevent the audience from being distracted by an agreeable photographic effect from the unpleasant truths we were showing.

We often encountered this danger of esthetic pleasure, of lights and shadows, of symmetry or balanced composition that would undermine our purpose for a moment. In the cramped and dirty interiors of the Borinage an agreeable esthetic value might prevent a spectator from saying to himself, this is dirty -- this smells bad -- this is not a place for human beings to live. Without this precaution there was always a danger that these tiny dilapidated barracks (sometimes covered with ivy) might look picturesque instead of appalling.\(^{92}\)

The literature clearly indicates that the use of terms such as those that are about to be discussed below is justified only when they describe the pictorial structure of a shot composition and how this structure relates to the meaning to be communicated to an audience.

Unity, Harmony

Most writers agree that each shot composition must present a unified idea to the viewer. This idea must also be part of a larger unit -- the whole film. This latter unit is assembled by editing which gives final form to all the images that have been recorded. According to Nilsen the function of the editing phase of motion picture work is "to reduce the shot system to a general and compositional unity. Bulleid suggests that physical qualities such as image


\(^{93}\)Nilsen, *op. cit.*, p. 18.
density and image shape affect the smoothness of continuity between two shots when one follows another.\textsuperscript{94} This is corroborated by Reisz who states that "the sheer physical difference in the light and shade values of the two shots will draw the spectator's eye to the transition and result in a harsh cut."\textsuperscript{95}

In addition to the requirements for unity of idea and physical unity, a unity of visual presentation is necessary. Some writers suggest that this type of unity is achieved by relating lines and shapes so that they guide the spectator's eyes from interest to interest within the shot. More recent approaches, notably those of Kepes and the Fieldmans, suggest that this type of organization is best described as a plastic one. It is, in a sense, one in which the whole image is equal to more than the sum of its individual parts. Kepes explains the nature of the plastic image in the following manner:

\textit{The experience of a plastic image is a form evolved through a process of organization. The plastic image has all the characteristics of a living organism. It exists through forces in interaction which are acting in their respective}

\textsuperscript{95}Karel Reisz, \textit{The Technique of Film Editing} (London: Focal, 1953), p. 226.
fields, and are conditioned by these fields. It has an organic, spatial unity; that is, it is a whole the behavior of which is not determined by that of its individual components, but where the parts are themselves determined by the intrinsic nature of the whole. It is, therefore, an enclosed system that reaches its dynamic unity by various levels of integration; by balance, rhythm and harmony.96

When a shot composition is unified the writers on cinema agree that it has resolved the forces within it into a harmonious relationship. The term harmony is used to refer to the unified quality of such a composition. Bettinger and Cornberg speak of harmony as a type of psychological togetherness.97 Freeberg applies the term to a resolution of motions.98 The term also occurs in psychological literature to indicate the quality of a "good" form. Such a form is one which has the qualities of regularity, symmetry, inclusiveness, unity, harmony, maximal simplicity, and conciseness.99

Variety, Conflict

The term variety is used in the literature on pictorial composition to point out that a unified composition must also

96Kepes, op. cit., p. 16.
97Betttinger and Cornberg, op. cit., p. 39.
98Freeberg, Pictorial Beauty on the Screen, p. 45.
contain elements of contrast in order to remain interesting to the spectator. For example, Kepes explains that although movement unifies the various parts of a composition by creating a dynamic continuity it also implies the opposite of unity -- a variety of locations. There is, consequently, an inner conflict or contradiction between the dynamic unity of movement and the static discontinuity that results from it. 100

The literature indicates that variety in composition is necessary to hold audience attention. It relates this term directly to an interesting variation of both the two-dimensional distances across the surface of the screen and the three-dimensional depth clues within the frame.

The inherent contradiction between the need for unity and the necessity for variety has given rise to the analysis of compositions in terms of the conflicts inherent in them. The conflict of motions is most often mentioned. However, Eisenstein has enumerated ten conflicts that can exist within a shot as well as from shot to shot. These he suggests are used to create a "visual counterpoint." 101

100 See: Kepes, op. cit., p. 59.

Emphasis, Dominance

Emphasis and dominance are terms used to indicate the manner in which any unit within a composition is given more attractive power than other units. Haz points out that the simplest means of emphasizing part of a composition is by making it unique and isolated. Other writers relate emphasis to the techniques of controlling attention and balance. Dominance is the result of emphasis. The literature agrees that the dominant image in a composition should carry most of the idea while the less dominant ones should add to it and help support it.

Balance

The writers surveyed agree that some type of visual balance of the compositional elements within the frame of a shot must be established. There are many theories as to why this must be accomplished. An interesting summary of them is found in Arnheim's *Art and Visual Perception*. The most generally accepted definition of visual balance describes the state of a composition in which the forces that act upon it and in it compensate each other. Each of the

103 See: Bettinger and Cornberg, op. cit., p. 44.
compositional elements discussed previously is considered to exert a certain force in a definite direction. They also are considered to possess visual weight. An organization of these forces, directions, and weights that appears resolved is said to be in balance. The determination of the force, weight, and direction of any of the compositional elements is a complex problem depending not only upon the number of elements used but on their size, brightness, and location in the frame. Every serious attempt at the analysis of balance makes it clear that "the question of balance has never been reduced to a theory or stated as a set of principles which could be sustained by anything more than example, which, as a working basis must require reconstruction with every change of subject." However, according to Arnheim's discussion, certain facts of balance are related to the psychological and physical character of vision and of perception. These will be discussed in the next section of this chapter.

Balance as a term that describes the qualities of a composition is useful in making value judgements because it describes a striving for simplicity -- a means of making a positive visual statement by eliminating ambiguity and

disunity.

Cinema writers point out that the nature of the film medium makes some demands upon vision that are not made by the other arts of painting and two-dimensional design. These new demands modify some traditional explanations of balance. For example, Arnheim states that "it has often been remarked that the lower part of the visual pattern demands more weight."\textsuperscript{106} He then observes that this is not necessarily true in the film because "the motion-picture camera refuses to keep its line of sight parallel with ground, thus presenting views in which the gravitational axis is freely displaced and the lower part of the picture not necessarily more crowded than the upper."\textsuperscript{107} Another departure from traditional explanations of balance occurs because the film utilizes actual motions which dictate compositional directions within a composition. These can be brought into final balance only through the process of editing. Arnheim takes notice of this fact and adds that "filmcutters often have a scene of movement toward the right followed, or preceded, by one of movement toward the left."\textsuperscript{108}

\textsuperscript{106}Arnheim, op. cit., p. 16.

\textsuperscript{107}Ibid., p. 17.

\textsuperscript{108}Ibid., p. 15.
Human Vision

Some of the first literature on the film deals with composition by applying to the cinema screen the findings of the Gestalt school of psychologists. The application of Gestalt research to vision and the acts of organization that produce human communication is widely accepted by writers in both film and design. Kepes deals with these findings in perhaps the most complete manner. He inspects the Gestalt laws defining the important conditions that have a role in producing visual forms and applies and illustrates these laws with specific examples from the visual arts. In general the following statement defines the basic area of agreement that these writers hold in common: "The whole of experience is more than the sum of its parts and...our experience and behavior are field-determined, not element or object-determined."


110 For more specific documentation of this point see Arnheim, *op. cit.*, pp. vii, viii.


112 Ruch, *op. cit.*, p. 276. It is interesting to note that Nilsen in *Cinema As A Graphic Art*, p. 116, states: "thus we get the first, and in our view the only compositional law: the law of the organic co-subordination of the whole and its parts."
Although Gestalt theory embraces all the elements of vision, other writers have made research contributions which apply particularly to the composition of the cinema shot. Brandt has defined the dual character of vision as being both a motor experience and a sensory experience. His research deals specifically with the ocular performance of spectators watching a film and is valuable for the conclusions he draws with respect to the conditions that are most conducive to the highest form of audience participation when seeing a film. Gibson has made a study of vision and its relation to the world we see. His analytic divisions, the visual world and the visual field, deal with the basic underlying physical and psychological factors that influence any attempt at composition. Arnheim has combined the research of the last ten years into a comprehensive survey of Art and Visual Perception. This work, with numerous references to the cinema, treats all the forms of visual expression in terms of their common elements. It offers,

113 Brandt, "The Psychology of Seeing Motion Pictures," p. 52. Brandt found that eye movements seldom are strictly vertical or horizontal but tend to proceed diagonally across the frame and that action and sound, when they were present, tended to become the chief attention-getting factors in the motion picture.

114 Gibson, op. cit., Chapter 3.

115 Arnheim, op. cit.
perhaps, the most penetrating insight into visual expression of any psychological work on the subject.

The Visual World and the Visual Field

Gibson suggests that there are two types of seeing. He remarks that "both the visual world and the visual field are products of the familiar but still mysterious process known as seeing. Both depend upon light stimulation and upon a properly functioning eye. But the differences between them are so great as to suggest two kinds of seeing." The visual world is the familiar, ordinary scene of everyday life. In it solid objects look solid, square objects appear square, horizontal objects look horizontal, and men of equal height look as large standing near you as they do across the room. The visual field, on the other hand "is a reasonably close correlate of the retinal image. Therefore, the explanation of pictorial seeing is possible on traditional lines." The visual field implies a type of seeing similar to that of a perspective draftsman. For instance, a room may be look at as if it consisted of areas or patches of colored surface, divided up by contours. Gibson suggests that the untrained eye may do this by fixating on some

116 Gibson, op. cit., p. 29.
117 Ibid., p. 27.
prominent object and then attending not to the object point, as is natural, but to the whole range of what can be seen.

A comparison of the visual field and the visual world led Gibson to enumerate the following differences between the two:

1. The field is bounded; the world is not.
2. The field can change its direction; the world does not.
3. The field is oriented with reference to its margins; the world with reference to gravity.
4. The field is a scene in perspective; the world is Euclidian.
5. Objects in the world have depth-shape and are seen behind one another; forms in the field approximate being depthless.
6. In the field, these shapes are deformed during locomotion, as is the whole field itself, whereas in the world everything remains constant and it is the observer who moves.\(^\text{118}\)

Considered in the light of the above comparisons the problems of composition becomes one of making a meaningful organization of the visual field of a spectator through the medium

\(^{118}\text{Ibid.}, \text{ p. 42.}\)
of the motion picture screen.

Attention

Before meaning can be received from a visual sensation, a spectator must attend to the sensation. There is agreement in the literature on this point. The factors that direct attention are generally enumerated by psychological literature as follows: change, size, repetition, striking quality, organic condition -- the greatest biological need of the moment, social suggestion, and the particular interest of the spectator. The writers surveyed are aware of the importance that these factors of attention play in organizing a composition. They are often discussed under the heading of balance. This is because balance is the result of a simplicity of statement that involves the correct evaluation of the attention value of every compositional element within the frame. Arnheim's discussion of them is particularly complete. An older and more traditional analysis may be found in Poore. In the various analyses of this sort the writers agree that the organization takes place within an enclosed area or picture plane and that there

119 Ruch, op. cit., p. 238.
120 Arnheim, op. cit., pp. 11-15.
121 Poore, op. cit., pp. 29-30.
exists a relationship between this plane and the objects that it contains that corresponds to the Gestalt concept of "figure and ground." 122

Perception

The nature of perception is still the subject of scientific and critical investigation. The definition of perception that is employed here is one found in the literature surveyed. By this definition "perception consists in the formation of perceptual concepts, in the grasping of integral features of structure." 123 A perceptual concept is one which has meaning for an observer. The literature traditionally divided seeing into two parts, visual sensation (on the retina of the eye) and visual perception. Gibson suggests that this division may be also represented by the visual field and the visual world. 124 The literature indicates that there is a psychophysical interrelationship between sensations and perception and that the meaning of an object may also react upon its perception to select or modify the spatial properties perceived. This type of interreaction is largely dependent upon the personality and

122 Arnheim, op. cit., p. 310.
123 Ibid., p. 131.
124 Gibson, op. cit., p. 43.
The problem which all composing for the cinema presents is that of ordering the visual sensations presented on the screen so that a spectator receives the intended meaning from them. The application of Gestalt theory to this problem has already been mentioned above. Essentially, Gestalt theory defines the conditions that give rise to visual organization. These are: proximity of location within the field, similarity of elements to each other, tendency of lines to make outlines (closure), tendency of outlines to be smooth as possible (good continuation), and tendency of outlines to make simple forms (good shape). These principles of visual organization deal with the means of welding the visual elements into whole units to make a visual statement -- a precept. They are generally considered by writers on design and film to describe basic forming tendencies of the human organism. All composition evolves around and grows from the demands they create. Many writers use them to explain specific points of composition.

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125Ibid., p. 196.
126Ibid., p. 196.
127Rudolph Arnheim, Film (London: Faber and Faber, Ltd., 1933), pp. 18-24; pp. 129-133.
Cinematography: Camera, Lens and Reality

The literature on cinematography clearly outlines the differences between reality and the images that result from a motion picture of reality. The fact that these differences exist make the pictorial composition of a cinema shot necessary for communication of information about reality. Arnheim sums up his presentation of these differences in this manner:

Impelled by the favourite reproach of those who dislike film that it is nothing but the mechanical reproduction of nature and therefore not art, we have examined in detail the conditions of film photography and have found that even in the most primitive form there are highly significant divergences between the image that the camera makes of reality and that which the human eye sees -- divergences which begin from the moment the camera is set up and the handle turned. We found, moreover, that such differences not only exist, but that they can be used to mould reality for artistic purposes. In other words, that what might be called the 'drawbacks' of film technique (which technicians are doing their best to overcome) in reality form the tools of the creative artist.

The factors that distinguish film from nature, as presented by Arnheim and later expanded by Spottiswoode, are as follows:

129Ibid., p. 129.
130Arnheim, Ibid., pp. 18-38; 129-136; and Raymond Spottiswoode, Grammar of the Film (Berkeley: Univ. of Cal. Press, 1951), pp. 127-172.
1. The projection of solids on to a plane surface.
2. Reduction of the sense of depth in film.
3. Absence of color -- lighting.
4. Delimitation of the screen and distance from the object.
5. Absence of the space-time continuum.

From these factors stem the compositional techniques of the cinema.

**Compositional Techniques of the Cinema**

Spottiswoode suggests that the techniques of the cinema can be divided into two general categories. The first category includes those techniques that require an adaptation of the camera to the actuality being photographed. The second includes those techniques that require an adaptation of actuality to fit the demands made by the camera.\(^{131}\) Whatever combination of these two technical categories may be employed, writers generally agree that the compositional elements selected by these techniques should have been pre-selected and visualized before the actual recording takes

Adapting the Camera to Actuality

The framing of the image is considered in the literature on cinema to be a technical procedure of primary importance in the composition of any shot. Framing results from the placement or movement of the camera in relationship to its subject and is so designated because in the operation the cameraman thinks in terms of placing the rectangle of his picture around the subject he is photographing. It sets up the limits of the shot, provides for isolation and selection of important elements, determines the compositional relationship between all the elements in the composition and between the preceding and following shots, and consequently bears an important relationship to the emotional content and audience reaction desired from each composition. Much of the literature treats composition as an extension of framing. For example, Gaskill and Englander suggest that when the camera frames a moving subject,


133 For example, see Nilsen, op. cit., pp. 27-31; Manvell, op. cit., p. 28; Ruesch and Kees, Non-Verbal Communication, p. 11.
compositional considerations are reduced to keeping the action centered in the frame.\textsuperscript{134} When the subjects framed are relatively static the center of the frame is too static a position to be used for the center of interest and an off-center position is more desirable.\textsuperscript{135} With this requirement in mind many writers recommend an unequal division of the two-dimensional space within the frame.\textsuperscript{136} Another area of agreement among the writers is the use of foreground treatment, which consists of placing objects in the foreground of the action field, i.e., around the edges of the frame, in order to concentrate attention upon the center of interest. The writers also agree that good framing should, whenever possible, show a complete part of the subject being composed.\textsuperscript{137} This latter recommendation is expanded in terms of visual structure by Arnheim.\textsuperscript{138} The actual positions of the compositional elements and the subjects within the two dimensional design field of the shot are determined


\textsuperscript{135}\textit{Ibid.}, p. 128.

\textsuperscript{136}For example see Bettinger and Cornberg, \textit{op. cit.}, pp. 38-39.

\textsuperscript{137}Gaskill and Englander, \textit{op. cit.}, p. 128,129.

\textsuperscript{138}Arnheim, \textit{Art and Visual Perception}, p. 81.
by framing. Considerations of balance place demands upon the correct placement of these elements and therefore exert an influence upon correct framing.\textsuperscript{139}

The camera point of view, or camera angle as it is called in the literature, is a function of camera placement. It is another important compositional technique.\textsuperscript{140} The distance from the camera to the object being photographed and the angle which a line projected through the axis of the lens to the subject makes with the implied horizontal and vertical defines the camera angle of any given shot. Writers on the cinema agree that the camera angle helps determine the spectator's relationship to the object being photographed and that for every change in viewpoint there is a corresponding change in the spectator's perception of the object and in his emotional involvement with it.\textsuperscript{141}

Gaskill and Englander suggest that angles are a means

\textsuperscript{139}For example see Lewis Herman, \textit{A Practical Manual of Screen Playwriting} (New York: World Publishing Co., 1952), pp. 255-256. Nilsen, \textit{op. cit.}, pp. 31-32, suggest ways of achieving more dynamic and less symmetrically balanced compositions by tilting the camera.

\textsuperscript{140}Nilsen, \textit{op. cit.}, p. 36. Nilsen varies slightly in his definition of camera angle from the one accepted in this thesis. For him, camera angle is equivalent to the plane of distance from the camera to the subject and consequently indicates only the scale of the subject's image in the frame. He discusses viewpoint separately on pp. 37-39.

\textsuperscript{141}Nilsen, \textit{Ibid.}, pp. 36-37, and Fieldman and Fieldman, \textit{op. cit.}, p. 182.
to control audience reaction to the objects presented on the screen. According to their analysis, flat angles, angles that are taken head on without showing more than one side of an object, are uninteresting to an audience; high angles reduce the height of the subject and slow down motion and therefore have a tendency to make the audience feel superior; low angles exaggerate the height of an object, speed up motion, and consequently tend to make the object assume more psychological importance for the audience; side angles -- angles taken from eye level but with the camera moved to a side of the subject -- again act to speed up the motion of an object and thus tend to make the audience perceive it as more dynamic than it appears to be in reality.  

These generalizations about the effect of angles upon an audience are accepted as valid by cinema writers only if they are motivated by the content of the script and idea to be communicated by any given shot. The writers agree that there can be no mathematical fixity given to the choice of camera angle, but that the use of a given angle should be contextually appropriate. 


143 Nilsen, op. cit., p. 38. The argument that camera angles could be decided with a mathematical fixity is discussed and refuted by Spottiswoode, Grammar of the Film, pp. 135-139.
Nilsen points out that the position of the horizon line within the frame depends upon viewpoint. The position of this line he believes to be an important factor in compositional construction. He illustrates this contention by pointing out that a low viewpoint drops the horizon line in the frame and perspective of distance disappears. Subjects are then set against the lightness of the sky. If the viewpoint is raised the same subjects are then set against the plane of the earth which is usually dark. Raising and lowering the camera also introduces foreshortening which is essentially the technique producing the results that Gaskill and Englander observe when they analyze the effects on an audience of high and low angles. Foreshortening, which Nilsen calls "one of the most powerful expressive resources in the dynamic organization of frame space," is one of a group of optical controls of the image which forms another compositional technique of the cinema.144

Optical changes of the image depend upon the choice of lens focal length, the angle of vision (including distance from camera to subject), the degree of correction of the chief optical faults, the depth of focus and depth of field, and specialized processes and lenses that can be used to

144 Ibid., p. 45.
modify the image before it reaches the film, such as the Dunning process and the Schufftan process. The most comprehensive discussion of these optical changes in cinema literature is found in Nilsen. Design literature deals with the same material from the viewpoint of types of visualization or "seeing." Moholy-Nagy has enumerated eight varieties of photographic vision and Kepes has shown how these fit into the over-all pattern of optical visualization.

The changes suggested above may be used to control the optical nature of the image. The use of these changes is an important compositional technique. Manipulation of these optical changes control the following:

1. The relative size of the subject (differing lens focal lengths and camera-object distances).

2. Changes in perspective and resultant foreshortening of near objects and depth extension or contraction (a long focal length lens flattens perspective; a short focus lens deepens it).

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3. Relative sharpness or unsharpness of the image (control of depth of field).

4. Image distortion devices in front of the lens to intentionally distort the image in any of its aspects.

Photographic controls of the image include modifications produced by the choice of type of negative material used, by varying exposure and development, and by laboratory processes of printing and development. Sensitometric procedure controls the contrast and tonal range of the final film image. Other laboratory procedures can also be used to modify the final results in terms of visual content by multiple printing and specialized techniques.147

All writers state that the use of subject and camera motion is one of the most powerful attention-holding compositional devices available to cinema. As has been noted, no complete investigation of the nature and uses of this element has as yet been made.148 However, Freeburg has enumerated three areas in which he believes motion functions to

147Spottiswoode, Film and Its Techniques, p. 174, describes some of these procedures. Bulleid, op. cit., pp. 96-114; 188-197, enumerates photographic techniques used to modify the image.

148See the section entitled "Compositional Elements" above, page 29 of this thesis.
aid the composition of a shot. According to his analysis, motions can have dramatic utility, i.e., they can work together to create the greatest impression on the spectator with the least expenditure of his mental energy. They also vary the images on the screen to make them more interesting and, in order to be well composed, must strike a balance to suggest a dynamic repose. Nilsen has analyzed the dynamic effect of motions within the frame as they relate to the background. He summarizes his findings in the following manner:

Thus we get the greatest expression of dynamism in those forms of diagonal composition of the movement in which the static background is composed along the contrary diagonal, and we get a weakened effect if the direction of the movement is paralleled either by the frame sides, or by the composition of the background.

Debrix has examined the psychological effects of actual camera movement. He suggests that there are two reasons for employing camera movement. The first is an objective one and fulfills the spectator's need to see better, to understand the action on the screen. The second is a subjective one in which the camera assumes in the mind of the spectator, the viewpoint of the actor, director, or author.

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149Freeburg, Pictorial Beauty on the Screen, pp. 96-148.

According to Debrix, "The spectator doesn't act, he reacts. Everything happens as if he turned his head because someone called him (panoramic shot), as if somebody pushed him (traveling shot)."¹⁵¹

Cinematic modifications of motion result from differences between the direction of film travel and/or the speed of the camera when filming a scene and the speed and direction of projection. Slow motion, rapid motion, stop-motion, reverse motion, and other modifications that arise from these differences can all be used to control the speed and subjective effect of screen motions upon a spectator. Bulleid gives the clearest explanations and illustrations of these techniques.¹⁵² Maya Deren explains the unrealistic effect of slow motion by suggesting that it is "a movement in one tempo which has the qualities of a movement of another tempo."¹⁵³

Adapting Actuality to the Camera

Thus far only compositional techniques which call for adjustment of the camera to modify the visual channel of

¹⁵²Bulleid, op. cit., pp. 61-71.
¹⁵³Maya Deren, Anagram of Ideas on Art, Form, and Film (New York: Alicat, 1946), p. 48.
communication have been considered. Cinema literature indicates that the action itself must often be changed to meet the camera's needs. Such change is considered to be more in the province of the director than in that of the cameraman and a detailed analysis of it does not fall within the limits of this thesis. Because everything that is done in front of the camera changes the composition within the frame, both the director and cameraman are responsible for the pictorial composition of the frame space. The film director controls composition by "blocking out" and directing movements of the actors so that their actions produce on the screen changing patterns which hold the attention of the audience.

The writers surveyed agree, that a scene design which is integrated into the total plan of the film is an important factor in producing satisfying compositions. Manvell describes the responsibilities of the designer as follows: "The designer's responsibility is to compose what might be called the clothing of action. He must compose backgrounds of place which the camera is later to use as a frame for

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154 Spottiswoode, op. cit., p. 43.

155 Ibid., pp. 43-46.
character and situation."\textsuperscript{156} W. Cameron Menzies suggests that the set designer is constantly concerned with how the background of a motion picture shot relates to the overall purpose of that shot. He writes:

This background is a fluid pattern continuously changing, and, as composition is the greatest problem, he must design fundamentally for that... as the composition is continuously changing, allowing for but a few moments in which an impression may be absorbed, he must reduce it as closely as possible to one forceful, impressive idea.\textsuperscript{157}

The peculiar problem of motion picture set design according to Menzies is that "a set which is powerful and dramatic in its simplicity as a long shot may be very uninteresting in the semi-long shot or close-up."\textsuperscript{158}

The importance that the literature assigns to lighting as a compositional element has already been mentioned above. The literature presents agreement that light is the main resource of photographic construction.\textsuperscript{159} Nilsen summarizes in this manner the visual results which lighting achieves:

"The light and shade mould the dimensions, transmit the

\begin{flushright}
\textsuperscript{156}Roger Manvell in Edward Carrick (Craig), \textit{Art and Design In the British Film} (London: Dennis Dobson, Ltd., 1948), p. 10.


\textsuperscript{158}Ibid., p. 683.

\textsuperscript{159}Nilsen, \textit{op. cit.}, p. 61.
\end{flushright}
plane, provide spatial depth, and, strictly speaking, even the linear and graphic details."\textsuperscript{160} In short, it is agreed that light can alter the external appearance of things in the world. The correct exploitation of light, (i.e. appropriate in terms of the script and idea to be communicated), is a powerful means of exerting an emotional influence upon an audience.\textsuperscript{161} The Fieldmans state that "there is in general a strong correlation between mood and light."\textsuperscript{162} They suggest that this is true of the other visual arts as well.

This is the traditional method of such divergent arts as painting and the drama. Christ in the Renaissance paintings expires amid darkness but the Resurrection and the Ascension take place in a halo of blazing light. Similarly, in the plays of Shakespeare, Hamlet meets his father's ghost at midnight and Brutus is visited by the ghost of Caesar in the dead of night, but Romeo bespeaks his love to Juliet on the balcony in the bright Mediterranean moonlight, reputedly the fairest of all moonlights, and as the scene progresses, the bright dawn gradually rises. All these circumstances are not accidental; they are conscious correlations of light and mood.\textsuperscript{163}

Cinema literature treats this correspondence between

\begin{itemize}
  \item \textsuperscript{160}\textit{ibid.}, pp. 60-61.
  \item \textsuperscript{161}\textit{ibid.}, p. 63; also see Fieldman and Fieldman, \textit{op. cit.}, pp. 165-174.
  \item \textsuperscript{162}\textit{ibid.}, p. 166.
  \item \textsuperscript{163}\textit{ibid.}, pp. 166-167.
\end{itemize}
light and mood in terms of "key." The Fieldmans summarize the basic agreements in the literature in this manner:

The director must coordinate the lighting tones in his film with the mood he desires to create. This is a fundamental principle of film technique. Bright warm tones -- technically known as "high key" lighting -- are used to express moods appropriate to comedy and light subjects; dark brooding tones -- technically known as "low key" lighting -- are used to express moods of horror, pathos, and tragedy.164

The literature surveyed indicates that light in the film can be used for an infinite variety of expressive purposes and that its use is limited only by the aims of the director, the purpose of the script, and the imagination and resourcefulness of the director-cameraman team. As Nilsen says, "it is impossible to give fixed formulas for lighting, for the variety of lighting combinations cannot be reduced to the narrow limits of a previously stated 'law' of lighting."165

Summary

A survey of the literature on pictorial composition in the fields of cinema, design, and psychology reveals that pictorial composition is treated in terms of communication, the compositional elements, aesthetics, human vision, and

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164Ibid., pp. 167-168.

165Nilsen, op. cit., p. 63.
cinematography. These areas form what may be called the bases of pictorial composition in the cinema. Within each area or basis there is substantial agreement upon the functions and operation of the various factors that determine any given satisfactory shot composition. These areas of agreement may be summarized as follows:

A. Communication

1. The intent of any shot composition is to communicate ideas and/or emotions to an audience.
2. Such ideas and emotions as are communicated by any given shot must be related to the rest of the film.
3. For best communication only one statement or idea should dominate each shot.
4. For the purpose of analysis the literature divides shot composition into two processes, plastic analysis and visual representation.

B. The Compositional Elements

1. The frame is of primary importance. Its boundaries determine the primary relationship of all the other compositional elements.
2. The use of the frame leads the eye to a particular portion within it by isolating and emphasizing portions of reality.
3. The frame must be fitted to the subject and the subject must be modified to fit the space of frame.
4. Point, line, and area are simple elements of attraction.
5. Points, lines, and planes create forces of visual attraction.
6. Lines are important both from a structural viewpoint and from the point of view of how they affect the spectator emotionally.
7. Shape implies a degree of organization of the elements of point, line and area.
8. The principles of Gestalt psychology help describe how shape organizes a composition.
9. Shapes also influence emotional responses of the audience.
10. Light is the main resource of compositional construction. Its use sets the "tone" or "key" of the shot. It functions to provide adequate illumination for viewing, spatial depth, a plastic rendering of the details of the scene, and may be used to reinforce the dramatic significance of the shot.
11. The position and brightness of the tones within the frame play an important part in compositional organization.
12. Color must be considered from both psychological and physical viewpoints.


14. The affective value of color and tone qualities is not absolute, but varies according to the way they are used in different compositional situations.

15. Space depends upon the integration of the other compositional elements.

16. The frame forms a two-dimensional plane which at the same time becomes a space field.

17. Position, brightness, and size are important spatial factors.

18. Perspectives (or gradients) are the most common space-producing systems.

19. Sudden shifts within a gradient also produce space.

20. The complexity of a composition determines final screen time.

21. Movement is a primary element in holding audience attention.

22. Space and time are related and interact to
produce understanding and emotional responses in an observer.

23. Two types of movement are used. In static scenes there can be employed a dynamic arrangement of forces that suggests movement. The film also can employ actual kinetic movement of screen images.

24. Movement can have emotional effects upon an audience.

25. Movement must fit the purpose of the shot to become meaningful to a spectator.

26. Rhythm is used to give organization to movement.

C. Aesthetics

1. Criteria of judgement must be established before critical judgment of compositions can become meaningful.

2. Intelligent conception, skillful handling, and the attainment of unity constitute a set of broad criteria that the majority of writers accept.

3. It is possible to summarize the tendencies of all visual representation as follows: A two-dimensional representation of the three dimensional world; a synthesis of what man knows and what he
sees; a precise recording of objects projected upon the retina; a representation appropriate to the communicative purpose.

4. Several writers equate pictorial composition with a type of pictorial efficiency.

5. Several writers concentrate upon action as a single criterion of judgement.

6. A segment of the literature stresses the use of aesthetic compositions as a means of visual planning.

7. The terms beauty, unity, harmony, balance, variety, conflict, emphasis, and dominance describe important characteristics of any given shot composition.

D. Human Vision

1. Principles of Gestalt psychology are helpful in understanding vision.

2. The total effect of all the compositions in a film is more important than any one shot composition.

3. Vision is both a motor and a sensory experience.

4. Descriptions of the visual world and the visual field describe important relationships between what we see and what we understand.

5. Composition, from a psychological viewpoint, is
the organization of meaningful images on the visual field of a spectator.

6. Attention is a requisite for communication.

7. The factors that direct and hold attention are: change, size, repetition, striking quality, organic condition, social suggestion, and interest of the spectator.

8. Balance is concerned with simplicity of organization of the factors of attention.

9. Gestalt concepts of figure and ground and field theory apply to the picture plane of the motion picture screen.

10. The conditions of visual organization as stated by the Gestalt school are proximity, closure, good continuation, good shape.

E. Cinematography

1. The photographic image differs greatly from reality. Because of this composition is a necessity.

2. The techniques of composition may be divided into two categories -- those that require adapting the camera to reality and those that require adapting reality to the camera.

3. Framing sets up the limits of the shot, provides
isolation, determines compositional relationships between the elements within the frame; and bears an important relationship to the emotional content of the shot and the audience's reaction to it.

4. Subjects in motion are best placed near the center of the frame.

5. Static subjects are better placed so that an unequal division of the frame space results.

6. In all cases, however, subject placement within the frame is conditioned by the dynamic pattern of camera and subject movement.

7. Whenever possible good framing shows a complete part of the subject.

8. Considerations of balance affect framing.

9. Camera angles, or point of view, help determine the spectator's relationship, both emotional and rational, to the object being photographed.

10. Foreground treatment is an important technique to create interest and isolate important elements within a composition.

11. The use of angles must be motivated by the context of the film.

12. No mathematical fixity can be given to the process.
of determining camera angle.

13. Foreshortening is an important element of emphasis and distortion. It is used to produce visual effects that help communicate information and emotions to an audience.

14. Optical changes in the image can be used to modify the image projected upon the screen. These can be used to aid communication of specific ideas and emotions.

15. Photographic modifications of the image may also be used to make changes in the reality photographed. Consequently they affect communication.

16. Subject and camera motion are of primary importance in catching and sustaining audience attention.

17. Compositions that make use of diagonal movements are more dynamic than those that utilize movements that are parallel to the frame edges.

18. Adapting the scene to the requirements of the camera includes set design, blocking, acting, and lighting.

19. The set designer must consider the constantly changing nature of the motion picture medium.

20. Lighting can alter the appearance of objects and
can be a powerful means of control of audience reaction to a shot.

21. There is a correlation between light and mood. Light is consequently an emotionally expressive element.

22. Generally, high key lighting expresses moods appropriate for comedy; low key lighting expresses moods appropriate for horror, pathos, etc.

23. There can be no fixed formulae established for the expressive uses of light.

Disagreements among the writers on composition for the cinema are limited to those that stem from different points of view of how the film medium should be used to communicate and affect an audience. These differences result more often in the production of independent types of films to fulfill specific communication needs than in a controversy over the nature of the compositional elements and how they function when organized as images on the screen. Disagreements occur on the relative effectiveness of a given compositional scheme used within a given film but these disagreements are not extended beyond the context of the film in question nor are they used to judge the effectiveness of the same scheme under different circumstances of production.
Chapter III

PICTORIAL COMPOSITION IN THE TELEVISION-FILM CURRICULUM

This chapter presents the results of an examination of the needs of students in their study of pictorial composition in the Television-Film curriculum at the State University of Iowa. The results of this examination and of the preceding analysis of the literature on composition are then used to suggest materials and a method of instruction that will help fill these needs. The examination of needs was made by searching the literature on pictorial composition for related information, by interviewing five members of the production teaching staff of the Television Center, State University of Iowa, and by direct observation of beginning students of cinematography during the two semesters of the school year 1956-57.1

Student Needs

Two basic conditions which prevent beginning students of cinematography from composing correctly are indicated by writers on film, design, and psychology. The first of these conditions is that "visually, the majority of us are still

1The writer held a half-time assistantship at the Television Center during the period cited. His duties included instructional responsibility, both lecture and laboratory, for the course Cinematography I, designed by Dr. John Mercer and offered in the Department of Speech and Dramatic Art.
'object minded' and not 'relation-minded.'"^2 Arnheim suggests that this is a natural, in-born human characteristic. "Partial identification of the image with the real object is the rule rather than the exception, not only in children and primates but in man's reaction to all effigies whether they be in dreams, churches, movie theaters, photographic albums, or art museums."^3 The main problem which this poses for students of composition is well stated by Bettinger and Cornberg. "In composing a picture the beginner will tend to look at the objects of which it consists, whereas it is the spaces between them and/or the shapes of those areas which make the picture what it is."^4

The second condition is a more complex one. It stems from the manner in which our society treats all forms of non-verbal communication. The quotation from Ruesch and Kees which expresses the relationship between our society and this type of communication is worth repeating here:


As our society is ordered, verbal language is indispensable. Without numbers and words, the cumulative body of knowledge of mankind could not have been codified. Consequently the practice in higher educational procedure has been to spend some ten to twenty years indoctrinating the young in specific ways of reading, writing, speaking, and calculating. Unfortunately, however, our verbal-digital education is not paralleled by a corresponding regard for training along non-verbal analogic lines. Thus we continue to produce -- as though completely to reverse the views of the Renaissance -- more and more narrowly oriented human beings as well as increasing numbers of quasi-schizophrenics, capable of grappling with the most complicated mathematical and technological problems but with no real understanding of the actions of human beings, their emotional expression, or even of gesture -- all of which are so necessary for the understanding of speech.\(^5\)

This is simply to say that the student's previous education and cultural viewpoint have not helped him to become visually oriented. As a result, he has difficulty understanding visual communication and consequently finds even greater difficulty in transmitting his own ideas by visual means. In short, he has not learned to see. He has not learned how to differentiate clearly the sensations produced by his eye.\(^6\)

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\(^6\)See James Gibson, *The Perception of the Visual World* (Boston: Houghton Mifflin, 1950), p. 222. Gibson here suggests that "...the progress of learning is from indefinite to definite, not from sensation to perception. We do not learn to have precepts but to differentiate them. It is this sense in which we learn to see." See also J.M.L. Peters, "The Necessity of Learning How to See A Film," *Audio-Visual Communication Review*, III, No. 31 (Summer 1955), pp. 197-205.
The beginning student needs to learn how to differentiate the visual sensations that can be used to transmit ideas. He also needs to become less object-minded and more relation-minded. These are the two basic student needs that must be fulfilled in order to improve compositional ability. Interviews with five members of the State University of Iowa Television Center staff tended to corroborate these two needs. All agreed that compositional training of some type was needed and that students tended to be initially superior in their ability to communicate by verbal means. Two of the staff whose main teaching objective was to develop the performance abilities of their students felt that specific compositional study would be more useful to students whose interests led them into directorial activities. The same two teachers also indicated that their assignments prepared by students outside of class were often designed to stimulate them to communicate primarily by visual means. These assignments, they suggested, often forced the student to think in terms of pictorial composition.

During the period that the writer spent teaching the course Cinematography Techniques he had occasion to notice many times that beginning students identified their pictorial results on the screen first in terms of the objects and personalities in them and only much later, many times only to
a limited degree, as conscious arrangements of visual material to achieve a definite audience reaction.

**A Suggested Program**

Before presenting a program of study designed to improve students' compositional abilities a basic question must be considered. In what sense is it possible to teach a person to compose? Every writer consulted in the survey of literature on composition, discussed in the previous chapter, suggests that there are no steadfast rules available to act as guideposts for instruction. Many writers, in fact, are definitely against employing even the most seemingly safe generalizations. Spottiswoode is among this group.

It is often said that various rules of pictorial composition should govern the setting up of a scene before the lens -- the heads of speakers should be about one-third of the screen height from the top of the screen, the chief point of interest should not be set symmetrically in the center of the frame, and so on. Just as no artist worthy of the name pays any attention to these mechanical rules, so should they be ignored in setting up a shot in the camera.... Each shot should be judged on its merits, and in relation to the dynamic pattern contributed by movement within the shot and by movement of the camera itself.7

Any program of study that purports to teach composition by applying rules to a situation would be in direct opposition to the opinion of all the writers on composition. Certainly,

in this sense, composition cannot be taught.

Yet some approach to teaching composition may be justified. A survey of the literature reveals that there are definite areas of knowledge and of human experience upon which all acts of composing are based. Within each of these areas there can be isolated facts that relate directly to the task of composing a cinema shot. It is within these areas of knowledge and experience that this writer believes the beginning student may gather enough information to promote improvement in his compositional ability. This information should help meet the two basic student needs of visual understanding and relationship awareness by pointing out visual compositional elements and by indicating means of optical, photographic, and aesthetic organization of them to achieve meaningful visual communication.

The method of instruction proposed for the presentation of this information is that of the instructional sound film. Five films of approximately twenty to thirty minutes in length are proposed. This means of presentation was chosen because the sound film makes use of both the aural and visual channels of communication. It can be used to accentuate and clarify aurally those portions of an essentially visual subject which may tend to be unclear to an audience conditioned to receive its most important information.
primarily through the aural-verbal channel.

A short summary of the purpose and content of each of these five films follows.

**Framing**

This film would attempt to make the student more aware of the motion picture camera frame as a compositional element. The universally recognized importance of this element of composition suggested its primary position in the series. Throughout the film an attempt would be made to emphasize the physical existence of the frame of the camera and to point out the importance of the relationship of its borders to the areas and surfaces contained within it. Balance should be briefly mentioned but since it is a complex subject, not critically examined. The film would attempt to increase the student's awareness of an important visual element -- the frame -- and to introduce the idea of organization within the frame. Some analysis of subjects along static and dynamic lines should be made. The relationship between communication and selection of subject matter would be explored.

**Controlling the Image**

This film would outline several optical and photographic means of controlling photographic images. It should include demonstrations of the relationship between lens focal length and foreshortening (also camera-to-subject distance and
foreshortening), psychological equivalents of camera positions (angles), effects of filters and special optical units placed in front of the lens, and modifications of contrast and density possible by laboratory procedures.

This film would be valuable to the student because it would increase his awareness of the means of visual organization possible through cinematographic methods alone.

**Balance**

Balance should be presented as a means of ordering the objects within the frame. The factors of position, size, direction, and apparent visual weight would have to be enumerated by abstract designs followed immediately by possible practical application. Balance as it applies to both static and dynamic subjects should be examined. This film would prove valuable to the student because it should stimulate him to think in terms of total arrangement of elements within the frame. It should also help him to understand some of the ways that separate visual elements may function when they are tied together within the frame.

**Space-Time, and Motion**

The variations of space possible within the narrow limits of abstract moving designs would be presented. Color segments should also be included. The varieties of perspective and of depth at contours would also be presented and
illustrated. This last group of space-producing phenomena would naturally lead to the next film on light as a compositional element. The value of the film on space-time and motion for the student would stem from the fact that it emphasizes another often overlooked compositional element — space. The use of space to affect audience reaction to a simple story or character should also be demonstrated and the whole film returned to a more realistic base in this manner.

Light

The effect that light has upon the visual weight of objects and the appearance of objects would be presented in this film. The use of light to produce space and to create shadows would also be shown. The difference between light and tone would be made clear either by abstract optical illustrations or by intentionally misleading space statements produced by contradictory factors of lighting and subject reflectance. The interrelatedness of light and mood would be illustrated. The value of this film for the student should be to reveal to him the manifold activities of light both as an expressive factor and as a primary organizational factor in film work. This analytic separation should help him to recognize more clearly the multiplicity of visual sensations produced by light and help him understand the possibilities for plastic organization provided by it.
Chapter IV
THE PRODUCTION OF A BASIC TRAINING FILM
FOR STUDENTS OF FILM AND TELEVISION

To implement the program of study suggested in the preceding chapter the Television Center of the State University of Iowa decided to produce and use in classes the first of the five suggested training films. This chapter deals with the techniques of production used to make this film.

General Purposes and Approach

The writer of this thesis prepared the script for the film. As has been suggested in chapter three, the overall aims of this film are as follows:

1. To promote an awareness of the frame as a compositional element.
2. To point out that the aim of good framing is effective communication.
3. To stress the necessity of order within the frame by giving specific examples of correctly framed static and dynamic subjects.
4. To encourage an awareness of balance as an ordering element.

1See Appendix A
5. To point out the similarity and difference between framing for television and for film work.

During the preparation of the script the writer attempted to keep in mind the object-mindedness and verbal ability of his intended audience. These considerations led him to present the ideas in the script first in terms of "reality" then in terms of the medium of motion pictures. For example, the opening of the film begins with the presentation of objects and people such as the student is likely to encounter everyday. It then compares human visual perception of these objects with that of a motion picture camera. At this point the framing effect of the camera is introduced. From here on more abstract concepts, such as the purposes of framing, communication, and order, are discussed. In every case specific visual examples are provided to clarify such concepts when they are introduced verbally and verbal explanations are provided when they are introduced visually.

**Technical Aspects of Production**

The writer was designated as director for the project. He was assigned a senior student to act as cameraman.² The student receiving this assignment was Larry Filby. He had previously completed both semesters of cinematography offered in the Department of Speech and Dramatic Art at S.U. I. During the production he was also employed as a laboratory assistant at the Audio-Visual film laboratory.
script was submitted to several faculty members for comments and was rewritten once. Production began on March 8. The edited work print was finished on May 25. The director spent approximately ninety hours in preparation and shooting time. The cameraman, who also followed the film through the laboratory operations, spent approximately forty hours on the project, exclusive of editing and the preparation of special effects. Work print editing required about fourteen hours. The cameraman also spent four hours sequencing the work print and about fifteen hours planning, shooting, and editing special effects for the film.

The facilities of the Television Center were made available to the director and cameraman. The Motion Picture Production Unit of the Bureau of Audio-Visual Instruction provided a Maurer camera to be used for titles and camera dissolves. Camera equipment used included a Cine-Special II, a Filmo 70DL, and a Bolex H-16.

Two thousand feet of motion picture film were exposed and processed for this project. The film laboratory of the Motion Picture Unit processed this material and made a one

\[3\] Of this two thousand feet approximately four hundred was Eastman type 7230 (Background X) and the remainder was type 7233 (Tri X). Exposure indices for these emulsions were as follows: Tri X, Weston daylight 250; Background X Weston daylight 32.
light work print of it. The work print was edited to approximately seven hundred feet. The resulting ratio of footage shot to footage used in the completed film was of the order of three to one.

Negative matching and sound recording included the following procedures:

1. The negative was "checkerboarded" to eliminate the printing of splice lines.
2. Approximately eight "A" and "B" roll dissolves were used. The overlap length of these effects was forty-eight frames.
3. Sound recording, utilizing the sound-over technique, was done at the Television Center Studio. A narrator read the commentary as the work print was projected and the sound was recorded on 16mm magnetic film, then rerecorded to a negative optical sound track.
4. The matched picture negative and the sound track negative were printed together to obtain release prints.

Although some minor changes were made in the picture and commentary, the completed film is substantially the same as the script included in Appendix A of this thesis.
Chapter V

SUMMARY AND CONCLUSIONS

Summary

This thesis was the result of observing the need of students in film and television to study pictorial composition. Its purpose was threefold: first, to arrive at a definition of pictorial composition and to isolate, define, and describe the bases of pictorial composition in the cinema; second, to determine the compositional study needs of students of film and television; third, to suggest a program for this study.

The methods of investigation adopted for this study included a survey of all available written material on composition from the fields of film, design, and psychology. The information from this survey was used to isolate and describe the areas of agreement and to discuss the nature of the areas of disagreement found in this literature. The needs of students for the study of pictorial composition in the television-film curriculum were determined from written sources, interviews with the teaching faculty of the State University of Iowa Television Center, and the experience gained by the author during a nine month period in which he served as instructor of the course **Cinematography Techniques** offered
in the Department of Speech and Dramatic Art at the State University of Iowa.

Conclusions

Pictorial composition of the cinema shot may be defined as a visual presentation that: utilizes cinema techniques to make the images in the shot communicate meaningful information as effectively as possible; portrays various attitudes and influences the responses of the audience; makes a pictorial statement that relates to the rest of the film; makes a satisfying visual impression upon the spectator by ordering the visual elements of the shot in a manner that takes into account aesthetics, and directs audience attention toward a specific communication goal.

Study of the literature of cinema, design, and psychology reveals that the techniques of composition employed in the cinema are based upon five areas of experience and activity which this writer calls the bases of pictorial composition. These bases of composition are:

1. Communication and Intent of the Shot
2. Compositional Visual Elements
3. Aesthetics
4. Human Vision
5. Cinematography

The acts of composing a cinema shot are based upon
these areas of experience. The composition of a shot has its origin in them. Areas of agreement within each of these bases are numerous and positive. Areas of disagreement occur in judgements which relate to a specific film production and are strictly valid only within the context of that production, its purpose, and its intended audience.

There are two primary compositional study needs that must be filled in order to facilitate the development of compositional ability in beginning students in the television-film curriculum. The beginning student needs to learn how to differentiate the visual sensations used to transmit ideas and he needs to become more relation-minded. Training in visual communication must be emphasized and should eventually parallel the current level of indoctrination of students in verbal-digital forms of communication.

The method of instruction proposed by this writer to fill the needs of beginning students is that of the instructional sound film, which can be used to accentuate and clarify aurally a subject which is essentially visual but which must be directed toward an audience to whom verbal communication is more immediately intelligible. Five films are suggested, the first of which has been produced by the Television Center of the State University of Iowa. These five suggested films are entitled Framing, Controlling the
Suggestions for Further Study

The film produced as a result of this thesis should be tested in an actual teaching situation. The film could be tested both for its success of communication as well as for its effects upon student compositional ability.

A correlation study between tests of art ability, such as the one developed by Dr. Norman C. Meier, and compositional ability in the film and television media should be worked out and tested in television-film curriculum classes.

There should be several detailed analyses and testing programs developed to determine, as exactly as possible, how the various compositional elements affect audience attention, comprehension, emotional involvement, and attitudes. In particular the following areas of motion should be investigated:

1. How is motion organized on the screen to affect an audience?

2. What effect upon an audience do various rhythmic organizations of motion possess?

3. What information or emotional states are communicated by motion?

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4. What range of emotional audience response is possible through the organization of motions upon the cinema screen?

The elements of light and space should be investigated in a similar analytic manner.
APPENDIX A

A Script for an Instructional Motion Picture

FRAMING
This is a film about motion picture framing.

Many of the objects we see everyday are "framed" by things to which we pay little attention.

When we look out a window at our friends the window forms a frame for our vision. We unconsciously adjust our body position and our eyes to compensate for it.

Natural objects frequently surround our field of vision and "frame" subjects that interest us.

Strictly speaking, when a motion picture photographer talks about "framing a shot" he means putting the frame of his camera around the subject that he is photographing.
E.C.U. Camera lens
3 x 4 rectangle
supered over it
zooms out to fill
the screen

What you can see on the screen
now represents the frame of the
camera.

Framing is the act of placing
this frame around reality and
of arranging reality to fit
the limits of the camera's
frame.

A cameraman makes an effort to
frame his subject in a way that
best communicates what the
script or the director wants
the audience to understand.

In this respect good framing
means good communication.

There are two general prin-
ciples which apply to every well
framed shot and help the
cameraman and director com-
pose for effective communica-
tion.

The first of these principles
suggests that each shot must
be directly related to the
Title: One center of interest

The second general principle states that at any given moment each shot must have only one center of interest.

Here are some illustrations. Assume that a cameraman has a script that calls for a shot of this building emphasizing the fact that the flag on the dome is at half-mast.

This is the type of shot necessary to get the script idea across to the audience. It is well framed because it shows no more of the subject than is really necessary to communicate its idea to an audience.

This shot, although it is a satisfying picture of the whole building, cannot be
considered well framed in this situation because it does not convey the information the script requires. In other words, it is not directly related to the idea that is supposed to be communicated.

The second general principle is a reminder that an effective way to communicate an idea is to eliminate everything that does not help get this idea over to an audience.

Here is an illustration. The center of interest in this shot is the girl. As she rises the camera follows her in order to keep the attention of the audience focused on her. At any given moment there is no doubt in the mind of the audience that she is the center of attention.
Good framing means good communication.

Framing communicates by directing and holding audience attention on the important elements in the frame and by creating order within the frame.

Directing and holding the attention of an audience is often done by a process of selecting and isolating the most meaningful elements of a scene.

For instance, notice how the weapon in this sequence will be emphasized. It fills the screen and is isolated from the rest of the scene.

Confusion and chaos do not hold the attention of an audience. Good framing must help create order in the shot.
Sequence of shots of Old Capitol

Look carefully at the shots to follow. Some do a better job than others of ordering reality in terms of the frame of the camera. Some are actually more confusing than reality.

Title: Order

An orderly presentation of the objects photographed by the camera is an important aim of good framing.

Artwork: Order dissolves to Attention dissolves to communication

Order commands audience attention and aids communication.

(Fade out)

(Fade in)

Artwork: Dynamic Static

For the purposes of framing motion picture subjects are divided into two classes: Dynamic and Static.

Examples of dynamic subjects

Dynamic subjects are those that have a moving center of interest, such as these examples.
Examples of static subjects

Static Subjects have a center of interest that is relatively fixed...like this building or close-ups of people and objects with little action.

Title: Dynamic Subjects

Dynamic and static subjects cannot be framed in the same way. Framing a dynamic subject demands that the moving subject be placed in the frame so that the audience is able to see its action clearly.

L.S. Car moves past camera camera pans with it

This is not a difficult problem when only one subject in the frame is in motion. The subject, in this case a car, is simply placed near the center of the frame.

Artwork: Center spot

This spot is at the center of the frame.

Notice when there is only one subject in motion this subject is placed near the center of
the frame but that the center spot often stays slightly ahead of the moving subject. Keeping the center spot slightly ahead of a moving subject helps the cameraman and audience anticipate the direction of its movement.

When a subject moves toward the camera another factor is also introduced...this is headroom.

Notice how the camera is tilted up to keep the subject's head from appearing crowded against the top of the frame. The space between the top of the frame and a subject's head is called headroom.

It is easy to see how important this slight tilt up is when the camera is left locked in position as it was here.
M.S. Actor moves toward camera, stops, then advances to C.U.

Framing a subject that moves toward the camera requires the cameraman to decide what to eliminate from the scene.

For instance, in this shot he must decide whether to include the subject's feet or head.

He selects her head. After this he keeps her head, now the center of interest above the middle of the frame.

C.U. Actor's head.

When a very close shot of a person is called for, the eyes and mouth are usually considered the center of interest.

(dissolve)

M.S. Dancer

The camera does not always have to move to center a dynamic subject. It can often remain stationary, as it is here, and let the attention of the audience be held and directed by the action within the frame.
When the subject approaches the camera, headroom must still be considered, of course.

A script may call for the camera to pan across a wide space of subject matter. This is called a static pan. Such a shot can be unified by carefully framing its static beginning and ending.

This means that the position of everything at the beginning of the pan, shown here, and at the ending of the pan, now shown, must be carefully considered. If the pan is to move from left to right the camera may be placed in a position so that the beginning of the pan is framed by a foreground object at the left side of the frame.
After the panning movement is completed the camera comes to rest at a position with a prominent foreground object closing off the right side of the frame.

This type of foreground treatment helps to hold the attention of the audience within the frame.

When the subject becomes static the exact position of every object in the frame becomes very important. An orderly arrangement within the shot is more important when framing static subjects than it is when framing dynamic subjects.

The frame of the Standard 16mm camera is a 3 unit by 4 unit rectangle. The appearance of objects within this
rectangle can be changed by changing the placement of the camera.

Because there is little real motion in static subjects the eyes of the audience will tend to wander aimlessly around the frame unless the cameraman and director control their gaze and direct them to the center of interest.

Usually, the center of the frame is not an ideal place to put the main subject in static long and medium shots. Many people prefer the use of the areas indicated by the crossing points of these four lines.

For example, a shot of two people looks well composed if the most important person is
placed at a position roughly corresponding to one of the line crossing points.

Foreground treatment is another way of directing audience attention to the center of interest in a static shot. Notice in this shot how the foreground becomes dark and concentrates attention on the light colored steeple.

In this shot note how the shadows and the stone wall actually lead your eyes to the center of interest, the couple.

The framing of close-ups deserves special care and attention.

A close-up should clearly display all the important parts of its subject. Only parts of minor importance should be cut by the edges of the frame.
rectangle. For example, in this shot only the watch band is cut by the frame. Notice the angle that the band makes with the edges of the frame.

Here, the band leaves the frame at right angles to it.

This is the better of these two framings because the watch and camera have been placed so that the watch band leaves the frame at an acute angle. This type of treatment makes the watch more interesting to look at. However, the band should not leave the frame at any of the corners as you see here in the bottom left and upper right. This distracts the eyes from the center of interest by leading them to corners.
Close-ups of people can be framed so that only the most expressive parts of the face are shown. In such cases it may be desirable, to cut off the top of the head.

Medium shots and close shots of static objects like signs may often be made more interesting by tilting the camera slightly.

Tilting the camera is easy to overdo. The cameraman and director should be careful in their use of this device.

Except for gaining special effects, trees look best when they appear to be vertical.

Horizon lines look more natural if they are parallel to the bottom of the frame. This is especially true in long shots like this one.
All successful framing has a feel of balance that makes it appear unified and ordered.

The eye tends to make the same shapes look heavier in the bottom half of the frame than in the upper half. Because of this it is often necessary to minimize the amount of space shown in the foreground of a framed shot.

In this shot too much space has been left in the foreground and the picture seems unbalanced. Tilting the camera corrects this.

The horizon line is seldom placed in the center of the frame space. It is usually lowered into the bottom half, below the center line of the frame. This reduces the visual weight of the bottom
Balance is a means of unifying a framed shot. Most people can develop a sense of visual balance through practice. It is a necessary quality for a good cameraman.

But before a balanced composition can be made the cameraman must first think in terms of the 3 unit by 4 unit rectangle that is his frame.

In order to communicate effectively he must be aware of what this frame of the camera does to his subject...And of what his subject does to the frame.

Good framing is a practical aspect of motion picture composition.
It directs the attention of the audience to the center of interest by eliminating all unnecessary elements and by showing all the significant action.

It carefully orders the shapes and positions of the objects within the frame to make the composition clear, unified, and pleasing to the eye.

The primary purpose of framing is to communicate ideas and information to the audience.

What has been pointed out about framing for the motion picture camera applies to the use of a television camera as well. However, one important difference between the two mediums does exist. The
outer limits of the television frame are often severely modified by the home receiver. It is important that the television cameraman keep this diagram in mind when framing shots for television and when making films for television.

The outer rectangle represents the frame of the motion picture or television camera. The inside rounded rectangle represents what the average home receiver will show a viewer. Naturally, this inside rectangle must be considered the effective frame and all composing for television done within this area.

Good framing is the first requirement of effective pictorial composition for television as well as for the motion picture screen.
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