The Weight of Pictorial Space

by

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Abstract

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This thesis examines the current theories and research of picture perception in relation to the development of a photographic aesthetic. It attempts to show that certain properties of the photographic image determine the way that it is perceived, and in turn that those properties have influenced the way that photography has been used as an expressive medium. The properties examined are those which allow for the depiction of space, namely those of linear perspective, their influence being the measure of perceptual weight that pictorial space has exerted on photographic picturemakers. Research results are used to propose a new understanding of abstraction/representation in photography. Correlations are drawn between historical trends in photographic art and present-day perception theory.

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Introduction

The uniqueness of photography as a method of picture-making has isolated it to some extent from earlier picture media. The nature of the photographic process, its mechanical and chemical aspects, along with qualities of the photographic image, have required that a special conceptual framework be adopted for the consideration of photographs; a photograph is a picture, but a very special kind of picture. Although the conceptual framework has allowed for the practical comprehension and use of photographs, under examination its bases are open to question. Most of the questions arise in connection with the representational properties of photography and the ends to which they are put. What accounts for the 'realism' of a photograph - is it inherent to the lens-formed image, or is it attributable to viewer expectation and learning? The question of representational verity applies equally to imaging technologies developed since the advent of photography. Still photography presents an interesting case for study; it has the familiar characteristics of earlier picture forms and the as yet unresolved perceptual features of newer technologies.

Of the two factors that define photography as unique, process and image, it is knowledge of the process that can be most easily used to explain photography's representational nature. Understanding of lens optics, of the action of light

on film, the knowledge of photography's need for a physical subject, all are powerfully convincing evidence of the medium's representational imperative. What is less obvious is why information gathered empirically from the surface of a photograph should be, and is as persuasive. It is the visual qualities of the photographic image that I will concentrate on here, their ability to represent space and how that has related to the development of photography as an artform.

A representational picture, if it is to represent objects in space, must employ some way of transforming the spatial arrangement graphically to the picture surface. The product of the transformation is 'pictorial space'. Perception of depth in the world at large is based on a set of learned cues. It follows that the ability to see pictorial space, to infer depth from picture information, is also, at least to the same degree, aquired. As learned behaviors, the perception of depth and the perception of pictorial space are both influenced in part by culture. Western cultures have increasingly come to rely on a single method for representing space in pictures, that of central projection or linear perspective. Photography, due to its optical component, is ideally suited to the rendering of perspectival pictorial space.

Art in Western societies has served as a form of inquiry. The progression of styles in the history of Western art can be seen as a series of explorations, not only into the areas of expression, but the means of expression and how they are perceived. The 20th century has seen a trend toward the revealing of process and medium in all the arts. A parallel trend has been the exploration of perceptual paradox in art. For the pictorial arts this has meant a testing of the picture's representational limits, as well as an acknowledging of the picture's two-dimensional nature.

In painting, artists have freely pursued these explorations, some to their most logical conclusion; in doing so they have expanded the notion of what constitutes a picture. Unlike painters, photographers in this century have had to define their medium's place in the arts, along with defining the limits of their picture form. In some cases, this process has involved a felt need to draw obvious distinctions between photographic art and photography in general. Historically, this has led to some artistically unsatisfying uses of the medium. Photography's strong representational properties and the undeniable spatial character of its only subject, the three-dimensional world, have at times presented inconsistancy with the prevailing notion of the picture. Though the questions raised by representation in photography have not been answered, they have found a tentative working solution in the

development of a specifically photographic aesthetic.

The first section of this thesis reviews current picture perception theory, in particular that which deals with perspective representations and their ability to convey depth information. Some applications of theory to photography are suggested. In part two, a more creative interpretation of the perceptual findings is proposed, with special regard to the nature of abstraction and its role in picture perception. The final section is a personal evaluation of the development of photographic art in the first part of this century, one based on theory, a formulated understanding of abstraction and representation in photography, and on a subjective response to the work of photographer, Walker Evans.

Perspective and perception

Theories of pictorial perception have probably existed for as long as people have been making pictures. Until recently they have been the province of artists, art historians and philosophers. In this century, a subfield of perceptual psychology has begun to devote attention to picture perception. It seems a natural area for study when pictures, especially the photographic kind, play an ever greater role in the environment. Most of the experimental research has been done since 1950. The results have sometimes been conflicting and support no one theory of perception conclusively. Because of this, speculation on a more philosophical level continues. Current theories range from the proposal that representational pictures are based entirely on arbitrary convention, to the belief that successful representation depends on the physical similarity of picture to pictured. A central issue in all theories is the depiction of space. Perspectival pictorial space, now the most prevalent type, has been the subject of much discussion.

Linear perspective came into widespread use during the Italian Renaissance of the 15th century. There is some evidence that prior to this, the ancient Greeks were aware of isolated perspective techniques and used them in their theatre set design. In Art and Geometry, William Ivins Jr. proposes

that the inability of Euclidean geometry to predict the meeting of parallel lines at infinity, kept the Greeks from fully realizing the priciples of perspective.[1] He assigns that inability to the primacy in Greek culture of a metric/tactile sensibility. Ivins' postulation on the mutual shaping of perception and representation has been influential in later media studies.

Rules for the use of perspective were first described in print by Alberti in his della Pittora of 1435. By Alberti's own account, his perspective pictures were received with amazement and gave the illusion of "natural things themselves".[2] The fact that pre-Renaissance people had successfully employed for several centuries a pictorial space based on orthagonal projection, leads one to believe that some special quality of central projection must have led to its acceptance in the Renaissance. Ivins suggests that it was its capacity for "depicting objects in a unified space."[3] In an extension of Ivins' theory, Marshall McLuhan has made a case for linear perspective as a conventionally aquired mode of seeing. He theorizes that rather than having any intrinsically superior representational properties, central projection provided a spatial construct compatible with the newly literal mind of the Renaissance. For McLuhan, the visually-weighted sense ratio of a typographic culture, prepared the mind and eye for the fixed point of view and static world of perspective.[4]

Whatever the reasons for the acceptance of perspective, they continued to exert their influence on artists in their picturemaking, and on inventors in the development of the camera obscura and lens optics. The camera obscura in its many forms was a visual entertainment as well as a perspective tool that assisted the draftsman and artist in making geometrically accurate perspective pictures. Central projection became the pictorial space of choice, but it was only with the invention of photographic emulsions in the 19th century that the predominance and proliferation of perspectival images was ensured. Since that time, linear perspective has only been visually challenged in the fine arts. Its other challengers have come from the area of perceptual theory.

Linear perspective is based on the idea that light travels in straight lines. In generating an image according to the rules of perspective, any point outside the scene to be represented may be chosen as a viewpoint. That viewpoint then becomes the vertex of a cone of visual rays running to each point in the scene. The cone is sectioned to produce a projection plane, and the pattern of rays on the plane is transcribed to a picture surface. If the transcription is accurate, then if the picture is viewed from a station point in the same relation as viewpoint to projection plane, the eye will be stimulated as though looking at the original scene through the

window of the projection plane.

By definition, perspective pictures are meant to convey depth information by linear perspective to only one possible station point. Depending on the detail of the transcription, pictures may also include depth information carried by other static monocular cues, such as atmospheric perspective or texture gradient perspective. However, in theory, true perspectival pictorial space is viewable from only one point. This was known to Renaissance artists who often designated station point in the final viewing context of their work.

The reality of most picture viewing today, differs greatly from that prescribed by perspective theory. In ordinary viewing situations, pictures are viewed with two eyes and from a variety of distances and angles. In these situations, perspective pictures should in theory become distorted and so lose a measure of their representational properties. In practice, for the most part, anamorphic distortion is compensated for by the viewer. As anyone aquainted with photographs knows, they maintain their 'realism' from a multitude of viewpoints. The degree of aquaintance may be relevant. Reports on the first public reactions to photography indicate that people were disturbed by what was referred to as 'photographic distortion'.[5] Few people complain of this today, and few artists bother to specify station point.

To the perspectivist, the lack of apparent distortion at most viewing angles is additional proof of the natural supremacy of linear perspective. In perspectivist belief, central projection is the truest form of pictorial space because it replicates human visual perception of the world. Linear perspective is equated to natural perspective, lens optics to physiological optics, and the perspective image to the retinal image. Even if these equations are verifiable, and some may be, the perspectivist claims of innate superiority cannot answer questions raised by perspective theory in practice. Aside from the non-problem of viewpoint and distortion, is the one of incomplete spatial, shape and size information provided by perspective images. E. H. Gombrich, in The Image and the Eye, points out that,

> ...it is clear from the theory of central projection, that you cannot reverse the process; while we can work out what the projection of a three-dimensional object will be on a given plane,...not one but an infinite number of related configurations would result in the same image.[6]

Yet a perspective image is still representational; what in theory can account for this? Also unaccounted for is the ability of a non-perspectival image, ie. a diagram or caricature, to very unambiguously convey information about subject size and spatial arrangement. In order to explain the success of perspective pictures, it seems one must look beyond perspective and perspectivist theory.

The conventionalist view of picture perception sees no ponderous problem in perspective theory's shortcomings. To the conventionalist, central projection is but one of the many ways of depicting space, all of which are constructions based on established convention. The conventionalist hypothesis assumes no systematic similarities between the light reflected from a picture and that reflected from the scene it represents. The main criticism of conventionalist theory is that it affords no basis for the further examination and analysis of pictorial representation. Marx E. Wartofsky, a proponent of conventionalist thought, has argued that convention need not be seen as arbitrary and thereby unexaminable. He proposes that pictorial convention may be studied as a cultural dynamic, one in which we "...create and transform the human visual system by means of the making of representational artifacts...".[7] Such a dynamic would link perception of the world to the perception of the world depicted, each influencing the other in a circular manner. This concept invites interesting speculation on the relation of representational mode to cultural world view, but it does not theoretically permit the testing of picture perception independent of culture. Something also explainable by conventionalist theory: the convention of testing according to the model of scientific objectivism is a byproduct of the perspectival world view.[8]

Perspectivist and conventionalist attitudes on pictorial representation highlight the need for a more universally acceptable hypothesis of picture perception. Some perceptual theorists have been willing to make allowances for both learned and spontaneous vision in seeing pictures. One area of research has been the comparative or cross-cultural study.

An ideal scenario for testing the degree of learning required in picture perception would include an experimental group with no prior picture experience. Cross-cultural studies have tried to approach this ideal, most often by using tribal or non-Western groups as the pictorially 'naive' respondents. In a variety of experimental situations, both experienced and naive viewers have been presented with either drawings, color or black and white photographs, and asked to respond to them on a variety of bases. A recent survey of cross-cultural studies made by Margaret Hagen and Rebecca Jones[9] classifies the experiments into two groups, those that test for object recognition in pictures, and those that test for pictorial depth perception. They conclude that perception of familiar objects in both drawings and photographs is not dependent on culture or education and "...is a very simple task for nearly all people...".[10]

For the pictorial depth testing, Hagen and Jones found a survey to be less conclusive, largely due to the questionable validity of results from the standardized test used by most

researchers, the Hudson Pictorial Depth Perception Test. The test is criticized for using rather unfamiliar figure drawings in ambiguous perspective arrangements. Hagen and Jones gave more weight to results of recent testing that has used photographically determined perspective pictures. In summarizing, they reason that picture viewing experience does play a role in the ability to perceive pictorial space, but when subject matter is familiar and the viewer is aware of the picture's representational nature, the needed experience is easily aquired. On the standing of perspectival pictorial space, they write,

> With regard to the question of the usefulness of perspective per se and its status as conventional or not, the literature supports the hypothesis that perspective is indeed a veridical means of representation and not only one among many conventional systems of representation.[11]

Another researcher in the field, M. H. Pirenne, has looked into several areas of perspective perception. Through experiments made on the projective properties of the eye, he has found that the eye does perform in ways loosely predictable by the rules of linear perspective; parallel lines seen at a distance do produce the image of foreshortened converging lines on the retina.[12] Pirenne's findings support no assumptions on the relation of retinal image to sight, but they do suggest that the unprocessed retinal image may be considered in analy-

zing the veracity of representational systems.

In his most important work to picture perception, Pirenne has addressed the issue of perspective station point. Viewer compensation for the anamorphic distortion of perspective pictures usually takes place within a certain angular range, about 22 degrees off normal. In experiments using photographs, Pirenne has found that viewer compensation only occurs when picture surface information is available. Photographs viewed through an aperture, so that frame and surface information are obscured, appear distorted from all but the correct station point. Pirenne writes,

> It may be concluded that under ordinary conditions, the actual pattern on the surface of a representational picture must be perceived, as a surface pattern, even though the spectator may only be dimly aware of this, at the same time as objects represented are seen as a scene in depth.[13]

Subsequent experiments by Hagen and Jones[14] have shown that viewing a perspective picture from it correct station point is more critical for children than for adults in the identification of pictured objects. Research conducted by Robert Cooper[15] indicates that the same is true for accurate interpretation of perspective shape information. Considering the station point research together, it can be concluded that the compensation required in the ordinary viewing of perspective pictures is a skill that comes with experience, and that it involves the combined perception of pictorial depth cues and picture surface information.

One aspect of visual perception theory that may have special application to photography is that of texture gradient perspective. James J. Gibson has argued that much visual depth information is carried not only by linear perspective, but in the form of texture gradients.[16] These gradients are composed of light reflected in varying amounts from the surfaces of textured objects in a scene. The gradients, even when subtle, are proposed to give strong cues to the orientation and relative placement of things in space. If this is true, then gradient perspective may be an equally important reason for the 'realism' of photography, due to its detailed rendering of light and texture information.

In reviewing current picture perception theory and research, it seems that central projection, and so photographic pictorial space, does have qualities that make it inherently representational. Looking at a photograph may very well differ from looking at the scene it represents only by a matter of degree. The extremely limited viewing conditions under which this kind of perception can occur spontaneously, make no case for a working theory. It seems that even though representational properties exist structurally in the photographic image, their perception and use under ordinary viewing conditions involves some aquired skill. The processing of representational structure in a photograph seems also to require the

simultaneous awareness of the photographic surface. So for conventional viewing contexts, seeing pictorial space in photographs is not a conventionally based activity, but it most probably is conventionally modified.

No contemporary viewer of photographs needs convincing of their representational success; no viewer needs convincing of their 'realism'. Could it be that photographic representation is natural enough that perceiving is comprehending? The increased number of perceptual studies made within the last ten years indicates that an explanation is needed as to why everyone is so convinced. It is unfortunate that only conventionalist views of picture perception consider the implications of the widespread acceptance of photographic pictorial space. That central projection is successful for its own reasons, does not make the cultural response to it any less important. One field where cultural and personal response to photographic space has been examined is that of photographic art. In the next section, I will try to ally current theories of picture perception to an understanding of abstraction in pictures, and what the understanding of abstraction/representation has meant in the development of a photographic aesthetic.

Abstraction and pictorial space

The term 'abstract' in describing works of art, has received alot of use during the last few decades. The kind and amount of use it has gotten has caused a change in its meaning and scope from an indicative term to a more generic one. Much of the change has come through the use of 'abstract' in connection with non-representational works of art.

The 20th century has seen the emergence of a self-referential form of art, an artwork that makes no attempt to convey information about anything in the physical world other than itself. This form of art developed out of a progression of highly abstract representational works, and so assumed the title of 'abstract art'; it is often referred to as being 'totally abstract'. On examination, it is clear that nothing about such works exists at any level of abstraction - they are objects in and of themselves. These objects may only be described as abstract in that they embody abstract concepts, they do not contain elements of visual abstraction. In common usage though, abstraction has come to be thought of as the antithesis of representation. Harold Osborne in Abstraction and Artifice in 20th Century Art, feels that this may be the least appropriate connotation of the term, for in his words, abstraction "...has no relevance or application outside the sphere of representational art."[1]

Self-referential works of art have also posed a problem when it's come to the concept and application of the term 'realist'. The origin of the problem is well presented by Malcolm LeGrice in Abstract Film and Beyond,

> ...work which affirms the basic materials and processes of its own medium has more claim to the term 'realist' than that which denies the medium in favor of simulating life.[2]

This redefinition of the term 'realist' seems founded but it creates a dilemna when considering the non-plastic arts, especially photography. If the lens-formed photographic image is to some degree inherently representational, as research indicates, at what point do the representational properties of the photographic work begin to deny process and materials? Or conversely, at what point do they become affirming? Does photographic 'realism' make the photograph non-realist?

Contributing to the confusion of terms and concepts, Marshall McLuhan has written, "...the real 'abstract' art is that of realism and naturalism,".[3] The seeming reversals on meaning may show up the non-specificity of terms, they also show up the apparent inability to talk about pictures as being simultaneously physical and representational. McLuhan's statement, though possibly not the intended purpose, at least has the effect of bringing 'abstract' back into the realm of representational work.

A longstanding topic of discussion in the pictorial arts has been the relation of picture surface pattern to picture image - sometimes called the dual reality of pictures. For the most part, it has been assumed that the artist has some independent control over both aspects of the picture and can determine the balance or imbalance of the two in the finished work. From the pictorial examinations of the past century, most influentially out of painting, has come the feeling that picture surface and image are somehow at odds with one another. It has been popular to talk about the 'tension' that is set up in a work, when surface abstraction and pictorial space vie for the attention of the viewer. The fields of art criticism and communications theory have helped in establishing the two aspects of the picture as distinct and separable in people's minds. Using the terminology proposed by Information theory, the picture's syntactic and semantic properties have been made out opposing forces.

Examples of this thinking are evident in all areas where pictures are the concern. In the communication arts, where stress is placed on the representational success of a work, all but minimal awareness of syntax is seen as undesirable, as 'noise'. In the fine arts, there have been periods of modern painting that have regarded semantic characteristics as completely foreign to the picture plane, and so not acceptable to the modern ethic.

Some less stratified views of picture dynamics have been promoted. The most widely known is that of Rudolf Arnheim's application of Gestalt psychology principles to an evaluation of art and creativity. In his view, an integrated perception is based on the awareness of the picture, image and surface, as a unified whole. Arnheim sees the notion of syntax versus semantics as an artificial dichotomy, one that,

> ...prevents the essential insight that the form element, which is so prominent in highly abstract art, is indispensable and exactly of the same kind in any naturalistic representation that deserves the name art.[4]

The recent research in perception seems to support this kind of synthetic view of picture composition. M. H. Pirenne's experiments in perspective and perception have shown an interdependence of surface pattern and image cues is necessary to representation. The conclusions he has drawn from perceptual research sound very similar to Arnheim's theorizing. In the closing sentence of Optics, Painting and Photography, Pirenne says of the complex perception process of surface and perspective image, "...it entails that a representational painting can contain the same kind of aesthetic elements as a purely non-representational, 'abstract', painting."[5]

An understanding of abstraction and representation may lie in an appraisal of research findings. There is an indication that representational and non-representational works are composed of the same kind of aesthetic elements. It can be

assumed that the way in which the two kinds of work differ is in how those elements are structured. The perception of a non-representational picture could involve either the simple perception of elements or the awareness of a structure that is non-referential. For representational pictures using perspective, research has found that representation is structurally based. In this type of picture then, representation would involve the awareness of structure as referential. It follows from Pirenne's experimental work that abstraction would lie in the awareness of structure in relation to the awareness of structure as referential, or in other words, the awareness of structure in relation to representation. One structure would then be responsible for the two related perceptions of abstraction and representation.

From this a general proposal can be made. It can be said that for all representational pictures, the picture image and the picture surface pattern are in some way related and reliant on each other. For pictorial systems where convention plays a strong role, it would make sense that image and surface pattern are more easily perceivable as separate. A subgroup of representational pictures less influenced by conventional systems, would be that of pictures made according to the rules of perspective. Because their representational means are structurally based, the image and surface pattern of perspective pictures can be said to be perceptually linked in a structured

way. Photography can then be considered as a special kind of perspective picture. Because of the geometrically accurate perspective of the lens-formed image and the detail in transcription, the photographic pictorial space and photographic surface pattern are not only linked but perceptually coincident. For all normal viewing conditions then, the perceptions of representation and abstraction in a photograph are simultaneous.

If such a proposal is accepted, then photography is truly perceptually unique. It is inherently representational. Its employment of perspectival pictorial space is perceptually linked to abstraction. The ability to 'see' a photograph, to become aware of materials and process is not dependent upon the denial of representation; the intersection of photographic materials and process is representational structure. The notion of seeing a photograph as a 'total abstraction', as an entirely self-referential object, is meaningless. The abstraction in a photograph is visible only in relation to its representational properties. The 'realism' perceived in a photograph is realistic.

A photographic aesthetic

If photography is a nineteenth century technology, then it is a twentieth century art form. Photographs made in the nineteenth century may be considered as art today; in their time however, it was for their 'realism' or perhaps their 'artistry' that they were admired. The question of a photograph's capacity for artistic expression is one not seriously addressed until this century. It is a question still debated by some. The active pursuit by photographers of establishing their medium as a valid form for expression, has fostered several critical and artistic approaches to photography. Over time, some approaches have been deemed inconsistent with the properties of the medium, or with expectations of it. Today, the range of stylistic approaches, though more clearly defined, has narrowed in the same degree that photography has gained wider acceptance as a form of art. There seems to be a consensus, if not a verbal one, then one in the pictures being made, as to what constitutes a photographic aesthetic.

When photographers first made claim to the worthiness of their work as art, they were inevitably met with critical response comparing photography to painting. As the premier picture medium, painting has set standards in Western art for the past six hundred years. When doubt was expressed over the

artistic merit of photography, it came along with a knowledge that photography was having a direct influence on the shape that painting would take in the future. The often mentioned liberation of painting from its representational obligations - the origin of modern painting - has been universally attributed to photography's assumption of the representational role. It is easy to understand how early photographic artists, when seeking to validate their medium, might turn to painting as a model. It is also easy to see how the strong representational properties of photography might come to be regarded as obstacles to achieving the plasticity and expressive freedom of painting. The stylistic approaches taken toward photography in the early part of this century can be viewed as just this, as attempts to control the representational aspects of the medium.

Implicit in the desire to control representation is the wish to enhance or deny at will the 'realism' of photography, the wish to selectively regulate abstraction on some obvious level. Parallel to this is the desire to participate in the constructive act of making a picture from its elemental parts, thereby having analytical control over surface pattern and image. The attempts at gaining this kind of control over photographic representation have historically been of two types, those that employ manipulation of process or materials, and those that rely on camerawork or compositional technique.

Both types of stylistic approach have seen periods of favor during this century, and both, in their eventual abandonment, have led to the reaffirming of photographic representation.

In the first two decades of the twentieth century, photographic art was characterized by strenuous efforts to reduce the intensity of photographic 'realism' through manipulations of the medium. The pictorialists, as these photographers are called, used alternative processes and materials to affect a non-photographic image. Soft-focus lenses and fabricated atmospheric conditions were used to suppress ordinary photographic detail. Texture was added to the photographic surface through the use of non-silver printing processes, such as gum-bichromate. The picture surface was often handworked, sometimes with brushstrokes to simulate a painted image. Pictorialist photographers were openly emulating painting. They were attempting to achieve with photography a version of painterly abstraction, not non-figurative, but impressionistic abstraction. They succeeded in decreasing the structurally representational aspects of the photograph.

The pictorialist sensibility, or at least the means for actualizing it, was so foreign to basic photography that it was better grounds for an anti-photographic aesthetic. As a seriously considered stylistic approach, pictorialism did not last much into the 1920's. Replacing it was the reinstatement

of the unmanipulated image as art, or 'straight' photography. Though photographers at this time acknowledged the expressive potential of the straight image, it was still felt that photographic works of art should be distinguishable from ordinary photographs by some readily apparent visual qualities. Strict representation was not seen to provide any such qualities. In response, photographers took to constructing 'abstract' arrangements on the ground glass of their cameras. It has been proposed that in this activity, photographers were again emulating painters, only this time it was the Cubists and the Surrealists. While the modernist straight photographers were not increasing the true abstraction of the photographic image, as the pictorialists did, their camerawork was successful at de-emphasizing the literal aspects of representation. By photographing from uncommon viewpoints, using angular framing techniques, by excluding subject context, and employing a shallow or uniform pictorial space, the photographers of this period were able to detract from the expected, not the perceived, 'realism' of the photograph. This accomplishment allowed for the creation of many fine photographic works, but as an ongoing approach it presented obvious limits in the scope and complexity of imagery.

At the same time as straight photography was defining and delimiting itself, there originated a stylistic approach that

was not predicated on the denial of the medium's representational abilities. This style is exemplified in the work of American photographer, Walker Evans. It is most notable in its conscious exploitation of the natural coincidence of representation and abstraction in photography. While earlier examples of a unified photographic perception exist, mostly in the work of nineteenth century documentary photographers, Evans was first to fully realize this perception as the aesthetic basis for a distinctly photographic art.

Walker Evans first began photographing in the late 1920's. His early work reflects the time in which it was made, it reveals the 'abstract' posturing of modernist straight photography. But Evans very quickly abandoned his search for abstraction in the attempts at photographic non-objectivity. Instead, he developed a personal style that equalled documentary work in its representational aspects, and in doing so he attained the link with abstraction that photographic art had sought. The two aspects in Evans' photographs, representation and abstraction, are merged in a way that only a Gestalt theory can provide a perceptual model for. Evans has described his method of working as intuitive.[1] It seems that intuition may be one faculty with the synthetic skills to perceive the unified picture statement. John Szarkowski has written that Evans' intuition may be what "...saved him from too solicitous a concern for the purely plastic values that

were of central importance to modern painting."[2]

Apparently then, Walker Evans was aware of the unique perceptual qualities of photography, qualities that make it inherently representational. By concentrating his attention on representation, the medium's natural facility, he allowed the medium to reveal itself. Evans' use of pictorial space provides a good example. Many of his large-format landscapes and architectural studies project an illusion of perspective depth as strong as any the medium is capable of producing. At the same time, the photographs are highly abstract. The laws of central projection are used so rigorously that they reveal themselves in the gesture. Evans' photographs make evident that "...what a photograph represents is inseparable from how it achieves representation."[3]

Since its creation, Walker Evans' work has been influential. In most present-day photography can be seen some effect of his art. The aesthetic that his photographs have helped to define is most widely held today. Contemporary photographic art is for the most part, undeniably and undenyingly representational. Works which test photography's veracity, do so by employing its representational properties to the fullest. Abstraction in photography today makes no attempt to pose as non-referential form. The classicist, the formalist and the conceptualist have accepted photography and photographic pictorial space for what they are: perceptual phenomena.

Notes

Perspective and perception

1. Ivins, W. M. Art and Geometry, p. 47.
2. p. 70.
3. p. 68.
4. Mcluhan, M. The Gutenberg Galaxy, p. 127.
5. Gombrich, E. H. The Image and the Eye, p. 191.
6. Ivins, W. M. Prints and Visual Communication, p. 138.
7. Wartofsky, M. W. Perception of Pictures, v. 2, p. 133.
8. p. 139.
9. Jones, R. & M. Hagen. Perception of Pictures, v. 2, p. 193.
10. p. 219.
11. p. 220.
12. Pirenne, M. H. Optics, Painting and Photography, p. 71.
13. p. 113 - 114.
14. Haber, R. N. Perception of Pictures, v. 1, p. 18.
15. Cooper, R. G. Perception of Pictures, v. 2, p. 181.
16. Gibson, J. J. The Perception of the Visual World.

Abstraction and pictorial space

1. Osborne, H. Abstraction and Artifice in 20th Century Art, p. 26.
2. LeGrice, M. Abstract Film and Beyond, p. 58.
3. McLuhan, M. The Gutenberg Galaxy, p. 65.
4. Arnheim, R. Toward a Psychology of Art, p. 39.
5. Pirenne, M. H. Optics, Painting and Photography, p. 183.

A photographic aesthetic

1. Petruck, P. R. The Camera Viewed, v. 1, p. 125.
2. Szarkowski, J. Walker Evans, p. 13.
3. Trachtenberg, A. October, #11, p. 6.

References

Arnheim, Rudolf. Art and Visual Perception. Berkeley, CA: University of California Press, 1974.

Arnheim, Rudolf. Toward a Psychology of Art. Berkeley, CA: University of California Press, 1966.

Bernheimer, Richard. The Nature of Representation. New York: New York University Press, 1961.

Deregowski, Jan B. "Illusion and Culture". R. L. Gregory & E. H. Gombrich (Eds.). Illusion in Nature and Art. London: Duckworth & Co., 1973.

Doesschate, G. ten. Perspective - Fundamentals, Controversials, History. Nieuwkoop, Holland: B. de Graaf, 1964.

Gibson, James J. The Perception of the Visual World. Boston: Houghton Mifflin Co., 1950.

Gombrich, E. H. "Illusion and Art". R. L. Gregory & E. H. Gombrich (Eds.). Illusion in Nature and Art. London: Duckworth & Co., 1973.

Gombrich, E. H. The Image and the Eye. Ithaca, NY: Cornell University Press, 1982.

Haber, Ralph N. "Perceiving Space from Pictures". M. A. Hagen (Ed.). The Perception of Pictures, v. 1. New York: Academic Press, 1980.

Hagen, Margaret A. "Generative Theory: A Perceptual Theory of Pictorial Representation". M. A. Hagen (Ed.). The Perception of Pictures, v. 2. New York: Academic Press, 1980.

Ivins, Jr., William M. Art and Geometry: A Study in Space Intuitions. New York: Dover, 1964.

Ivins, Jr., William M. Prints and Visual Communication. Cambridge: MIT Press, 1969.

LeGrice, Malcolm. Abstract Film and Beyond. Cambridge: MIT Press, 1981.

McLuhan, Marshall. The Gutenberg Galaxy. Toronto: University of Toronto Press, 1965.

McLuhan, Marshall, Understanding Media: The Extensions of Man. New York: McGraw-Hill, 1964.

Olson, R., A. Yonas and R. G. Cooper, Jr. "Development of Pictorial Perception". M. A. Hagen (Ed.). Perception of Pictures, v. 2. New York: Academic Press, 1980.

osborne, Harold. Abstraction and Artifice in 20th Century Art. Oxford: Clarendon Press, 1979.

Petruck, Peninah R. (Ed.). "Interview with Walker Evans" by Leslie Katz. The Camera Viewed, v.1. New York: E. P. Dutton, 1979.

Pirenne, M. H. Optics, Painting and Photography. London: Cambridge University Press, 1970.

Pultz, John and Catherine B. Scallen. Cubism and American Photography, 1910 - 1930. Williamstown, MA: Clark Art Institute, 1981.

Szarkowski, John. Walker Evans. New York: Museum of Modern Art, 1971.

Trachtenberg, Alan. "Walker Evans's Message from the Interior: A Reading". October, #11. Cambridge: MIT Press, 1979.

Wartofsky, Marx W. "Cameras Can't See: Representation, Photography snd Human Vision". Afterimage. 7 (9), 1980.

Wartofsky, Marx W. "Visual Scenarios: The Role of Representation in Visual Perception". M. A. Hagen (Ed.). Perception of Pictures, v. 2. New York: Academic Press, 1980.