University of Northern Iowa

UNI ScholarWorks

Graduate Research Papers

Student Work

1984

Exercises for promoting creativity for photographers

Charles Lee Tucker University of Northern Iowa

Let us know how access to this document benefits you

Copyright ©1984 Charles Lee Tucker

Follow this and additional works at: https://scholarworks.uni.edu/grp



Part of the Education Commons

Recommended Citation

Tucker, Charles Lee, "Exercises for promoting creativity for photographers" (1984). Graduate Research Papers. 3433.

https://scholarworks.uni.edu/grp/3433

This Open Access Graduate Research Paper is brought to you for free and open access by the Student Work at UNI ScholarWorks. It has been accepted for inclusion in Graduate Research Papers by an authorized administrator of UNI ScholarWorks. For more information, please contact scholarworks@uni.edu.

Offensive Materials Statement: Materials located in UNI ScholarWorks come from a broad range of sources and time periods. Some of these materials may contain offensive stereotypes, ideas, visuals, or language.

Exercises for promoting creativity for photographers

Abstract

Every year billions of dollars are spent on photographs for the purpose of advertising, portraits, illustrations in magazines and on billboards. The editors are forever searching for the "creative" photo, the one that has a very unique quality about it. It is a very elusive quality, one that is difficult to define, and one that is still more difficult to teach to aspiring photographers.

Exercises For Promoting Creativity For Photographers

A Research Paper

Submitted To

The Department of Curriculum and Instruction

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts in Education

UNIVERSITY OF NORTHERN IOWA

by Charles Lee Tucker December, 1984 This Research Paper by: Charles Lee Tucker

Entitled: Exercises For Promoting Creativity

For Photographers

has been approved as meeting the research paper requirement for the Degree of Master of Arts in Education.

	Terry Goro
1 Dec. 1984	
Date Approved	Co-Director of Research Paper
	Robert R. Hardman
Dec. 3, 1984	
Date Approved	Co-Director of Research Paper
	Roger A. Kueter
de 3 1984	
Date Approved	Co-Director of Research Paper
	Robert R. Hardman
Dec. 3, 1984	
Date Approved	Graduate Faculty Adviser
	Charles R. May
Dec. 3, 1984	
Date Approved	Head, Department of Curriculum

and Instruction

Table of Contents

	Pag	е
Chapt	er	
I	INTRODUCTION	1
	Statement of Problem	1
	Objectives	1
	Research Methods	2
II	REVIEW OF LITERATURE	4
	Photographer's Definition	4
	Process of Creativity	6
	Zen Relationships	8
III	EXERCISES	0
	Visual Awareness	0
	Observing	1
	Visual Abstractions	2
	Simplicity	3
	Mapping	4
	Symbols	5
	Sideways Thinking	7
	Intuition Enhancement	9
	Ideas	9
	Intuition	0
	Relaxation	1

Chapt	er												Pa	age
IV	SUMMARY					•	•	•		•	•			24
	Conclu	sions						•						25
	Recomm	endati	on	s				•	•			•		25
Refer	ences													26

CHAPTER I

INTRODUCTION

Every year billions of dollars are spent on photographs for the purpose of advertising, portraits, illustrations in magazines and on billboards. The editors are forever searching for the "creative" photo, the one that has a very unique quality about it. It is a very elusive quality, one that is difficult to define, and one that is still more difficult to teach to aspiring photographers.

Statement of Problem

As a photography instructor teaching the art of visualization to my students, the problem has been to define creativity. A second problem is to develop exercises to promote its growth within my students.

Objectives

The main objective for this paper, is to define creativity as the photography profession views it. A second objective is to identify the individual techniques and exercises that photographers use to promote creativity.

Limitations were set to keep the scope of the paper within the limits of professional photography as much as possible. There is some overlap, however, in the areas of

art, psychology and mysticism and each has its own concept of creativity and may be addressed in other papers.

Another limitation that was established was the scope of the exercises. Creativity as a concept is mental. Photography as a discipline is mechanical. It is assumed the mechanics of photography are known and understood by the student. I therefore searched for exercises that bridged the gap between the two areas. Therefore, no exercises were included which were purely mechanical in nature (such as experiments with f-stops for depth of field control), nor were those included that were purely abstract, or mental in nature unless they had a direct bearing on the process of creativity.

Research Methods

The research that I have conducted is not to be construed as all-inclusive. The resources available were: 201 photography books and 423 photography magazines in my personal collection; 333 photography books from the Hawkeye Institute of Technology's (HIT) library; and 1100 photography books from the University of Northern Iowa's library. From HIT photography magazines for the past 15 years were utilized. References were searched via inter-library loan when the title indicated an article of possible use. Several indexes were used including the Photography Magazine Index from Paragon Publishing. In

addition an on-line computer search was conducted using two data bases, the Educational Resources Information Center (ERIC) and the Art Bibliography.

CHAPTER II

REVIEW OF LITERATURE

The process of review which I followed was to secure definitions of creativity from photographic sources. These were correlated with a process, if expounded on by the photographer. I then extracted any exercises which promoted creativity that the author wished to share.

Photographer's Definition

The basic concept that most photographers follow concerning creativity is that it is a process rather than an entity unto itself. We will look at this process in the next section. Ron Leach (1982), Editor of The Rangefinder stated "The creative process is one which solves some problem in an original, imaginative and useful manner" (p. 4). Dr. Dale S. Ironson (1984) stated "Creativity basically has to do with mental freedom, being able to play with possibilities, consider options and alternatives and generate new and exciting ideas" (p. 18). Creativity then is the search for something new, and its essence is shaping old elements into a new photograph. Arthur Rothstein (1956) stated that "Creative photography involves the most skillful use of technical means to make the reader see a subject as the photographer sees -and feels- it" (p. 69). There are then two main elements in being a creative

photographer, a probing eye and the technical skills to accomplish the vision in the mind's eye (Henle, 1956). Fred Burrell (1980) stated that a creative photograph "makes us look freshly at something which is commonplace" (p. 108).

Bill Hyzer (1984) believed that creativity is a skill that can be learned by studying the processes and products of other creative minds. However it does not mean copying others, nor is it as Curly Martin (1976) said, "shooting everything on 35mm infra-red Ektachrome with colored fluorescent lights, and slightly out of focus" (p. 34). Rather it should be a synthesis of others ideas into your own. These ideas are created when we learn to observe. This is one of the steps in the process of creativity which was inherent in virtually all of the photographer's definitions of and statements pertaining to creativity.

Another aspect of creativity which photographers should recognize is the use of imagination. "Imagination is the ability to create with the mind. In photography, imagination enables the photographer to see 'differently'" (Feininger, 1952, p. 233). This imagination is spurred on by intuition, an "immediate flash of visual inspiration" (Carroll, 1982, p. 16). This is the process of Zen which was acknowledged by many photographers as an integral part of the creative process. "Creativity can be characterized by an intensity of awareness or heightened consciousness.

The moment when lighting strikes. Sometimes known as the intense encounter" (Hampel, 1984, p. 90). Ericksenn (1977) stated "Conceptualization and execution of any creative form is the function of the human psyche, the imagination coupled to the hand and the eye" (p. 25).

"The photographer who can see beyond the subject's existing visual appearance and knows how to affect its pictorial appearance, can create exciting pictures from seemingly dull subject matter" (Helprin, 1981, October, p. 16). This imaginative seeing, this learning to see is the process of creativity.

Process of Creativity

According to Eugene Raudsepp (1983) the creative individual must have a sensitivity to problems, have the fluency to generate a number of ideas, and be flexible and original in their thinking. Curiosity as well as a strong desire to create is also vital as Marty Rickard (1984) states: "Every frustration is born of a problem that requires creativity to solve" (p. 68). So isolate yourself and let the ideas flow. Visualize the result and follow up with hard work.

Julia Scully (1983) says that "Challenge operates as a catalyst to creativity" (p. 28), inspiration is the fuel and work the motor. But all three are "meaningless in the absence of an inner drive. . . . and that means letting

what is essentially subconscious take over as far as your creative efforts are concerned" (p. 60). Neil Montanus (1978) says there is no formula for creativity rather that it requires certain attitudes such as effort, experimentation, non-complacency, having a positive attitude and being a non-conformist.

Some psychologists (e.g., Forest and Lipson, 1984), unfortunately, disallow any connection with the spontaneous formation of ideas by the subconscious during periods of meditation or relaxation. In a letter to the editor (1984) they outlined a five step plan to creativity: "First select an area of interest. . . . Second, select. . . . culturally relevant problems. . . . Third, adopt a problem-solving perspective. . . . Fourth, control your environment. . . . and Fifth, control and change your behavior" (p. 6).

Of all the plans and processes to follow in developing creativity, Shepard and Meyer (1960) have a workable one which fulfills the elements which most photographers agree with in whole or in part. The creative individual must have attributes such as an insatiable curiosity, an instinctive delving beyond the obvious, a strong will, an untiring drive, enthusiasm and a sense of humor. These qualities are the combustible elements from within that make their ideas explode in all directions. The process needs direction to channel these ideas. First, one must gather a lot of information, both general and specific, about a topic. This

provides the fuel for the subconscious to work with. Second, relate this material to the problem at hand. Think about it, examine each part in detail. Third, relax, forget about the problem, meditate, or take a coffee break. This is the "incubation" period needed for the subconscious to arrange the information into a new idea. Fourth, the birth of the idea is in the sudden flash of intuition or inspiration. Fifth, the idea must be shaped into usefulness by action. A photographer must now make the picture to resemble the visualization within the mind's eye.

Zen Relationship

In the process of creativity, it seems that a necessary step is to relax and let the subconscious mind rearrange the patterns of our thought. A great many photographers have used the practice of Zen or meditation to further this process. Minor White, a Photography Instructor at Massachusetts Institute of Technology, (MIT) used the book Zen In The Art Of Archery by Herrigel as a basic text for his classes (Karten, 1984). White taught that "seeing" is a part of photography, and to see in a Zen way (Herrigel, 1971) technical knowledge is not enough. Rather it is to relax and experience the object for what it is. As soon as we think about, label, or analyse it, we have lost its true meaning. White is quoted in Aperture

(1978) by Hall, "Be still with yourself until the object of your attention affirms your presence" (p. 122).

White is not the only photographer to recommend Zen as an aid to photography. Patterson (1979) and Allen (1978) recommend Franck's book The Zen Of Seeing, while Nelson (1978) recommends Herrigel's Book. Nelson relates that to learn to see one must practice so that the equipment and technique are no longer a concern to the photographer. "When it becomes a true extension of yourself, it will cease to be an impediment to your vision" (p. 66). Then one must be in a relaxed state and contemplate the subject which means "working in isolation" (p. 31). This echoes Wignall's concept of "isolationism", which is addressed in a later section (1984, p. 48). This is essentially what Herrigel says about archery. Allen Salomon (1982), in his book Advertising Photography, describes it as a visual Tai Chi, a moving meditation or flowing with the universe. Edward Weston wrote about his Pepper #30, that it "takes one beyond the world we know into an inner reality -the absolute with a clear understanding, a mystic revealment" (Thornton, 1976, p. 67).

CHAPTER III

EXERCISES

The survey of literature shows two areas where exercises would be helpful in promoting creativity for photographers. One is in the visual area, which promotes seeing or the visualization of an image, and, second, the intuitive experiments which promote the generation of creative ideas. I will survey each of these areas in the following sections.

Visual Awareness

Visual awareness is the ability of the photographer to observe in detail their surroundings. The photographer must be able to see and recognize unique subject material for their camera if they are to be considered creative.

Patterson (1979) says "Good seeing begins with careful observation" (p. 13), and Feininger (1952) calls this "keen observation". Since the exercises that follow deal with observation in some way, I will try to catagorize them in areas of similar thought, although some may be used in other exercise categories.

Observing

One of our first tasks is to observe. Nelson (1977) suggests that you investigate your surroundings by photographing a series of numbers, or arrows, spirals, circles or repetitive patterns. With your present photographs, look for details within them, isolate and print them (Varney, 1977). This will allow you to develop the ability to see compositions and patterns in groups of objects. Patterson (1979) states that "Good visual design in your photographs comes with careful observation" (p. 19).

DuBois (1983), Patterson (1979) and Carroll (1980) recommend that you can enhance your observation by studying the photographs of other photographers. Varney (1977) warns that one should not become the "disciple" of another but that you should develop your own style. Helprin (1978, May) suggests the following exercise.

Go through all your existing photographic work and divide it into the following catagories:

- 1. Pictures . . . in which the visual excitement has been "captured" or recorded, rather than created.
- 2. Pictures . . . in which you have deliberately affected the visual attributes of the subject matter for purposes of pictorial excitement.
- 3. Pictures . . . which depict, . . . visual

aspects that were not visible until you purposely made them visible through the medium of photography (p.22).

Each category is a visual mode of observation. The catagory with the least amount of photographs is the one which you need the most work in developing.

Visual Abstractions

Patterson (1979) defines abstracting as "recognizing both the basic form of something and the elements that make up that form" (p. 61). This abstract approach was used by Weston (Thornton, 1976). Lovell, Zwahlen, and Folts (1984) suggest that you take a series of visual abstracts, photograph them as "shapes, forms or designs but not as objects" (p. 262). Try to make them "visual puzzles" (p. 262). In the portrait field, Burrell (1980) calls this "Pure design- shapes having no representational association with a person-" (p. 110) which is incorporated into a portrait. Allen (1978, July) and Jackson (1982) advise to experiment with form and texture, and form and color, respectively. Varney (1977) suggests that we experiment with changing patterns such as shadows and reflections.

Similar to abstracting is moving in close to the subject. Varney (1977), Lovell et al. (1984) and Helprin (1979) suggest this. Patterson (1979) says that by moving

in close we are selecting the parts that best express the character of the subject or the meaning of the event.

Simplicity

By learning to abstract we learn to separate the parts from the whole. Varney (1977) says that all photographers should develop this ability to isolate the elements. "Look at the parts singularly for their own photographic potential and then seek other combinations if you wish" (p. 170). Nelson's exercise (1977) is to try to break a subject down into components and isolate the most salient features that define the subject. Wignall (1984) calls this "isolationatism" (p. 48). This idea is echoed by Patterson (1979). "Nature observes the rule of simplicity, which means that nothing in nature is more complex than it has to be . . . " (p. 62). In photography this means only including what we must to give order to the photograph. Sund (1973) and Allen (1978, July) advocate the use of simplicity in photography. Jackson (1982) states that the simplification of the idea is fundamental to creating an understandable photographic message.

Mapping

An approach to photographing a subject is to group ideas into a theme, a series of pictures or variations of the subject. Staubach (1979) and Helprin (1979) suggest photographing themes. Lovell et al. (1984) label this "mapping" (p. 261). One should take a series where you map a subject. Circle the subject, move in, use high and low angles and close-ups. "This assignment should give you some feel for the variety of possibilities contained in a single subject" (p. 261). Another variation is to map a subject but never use an eye level view. Hattersley (1979), Feininger (1952), Helprin, and Varney (1977) repeats the admonition to select different viewing angles.

In connection with themes, Helprin (1981, October) gives the following exercise:

- 1. Choose a subject
- 2. Take six different shots of the subject.
- 3. Choose another subject and repeat the six-shot procedure.
- 4. Continue the exercise until you have shot six different subjects.

Your goal is to produce at least one exciting picture of each of the six different subjects. Repeat this exercise until your goal is accomplished.

Kodak's <u>Photo Explorations</u> (1978) contain 101 exercises in which the photographer explores a theme. It is

recommended that a roll of film be exposed for many themes, such as textures, shadows, reflections, distortions, scenic, pattern, and rhythm. Varney (1977) warns us not to become overwhelmed by the multitude of possibilities, rather to make a choice and explore it fully. Helprin (1979) suggests the following exercise:

Choose a common, ordinary subject that appears to be visually uninteresting. Then using any visual modifier that affects the appearance of the subject in a manner that can be seen before the picture is taken, produce at least five pictorially exciting photographs of the subject (p. 38).

The visual modifiers include light (quantity, quality and direction), color, viewpoint, environment, composition and optical modifications. Varney, Feininger (1952), and Hattersley (1979) also suggest that you place the subject in an unusual environment, one that takes the subject out of context.

Symbols

An exercise similar to mapping is developing photographs with symbolic meaning. We think and communicate via symbols. Thus a theme that is expressed with a clear and concise symbol is easier to bring to film (Carroll, 1980). However, we must avoid the cliche. A Dallas based

Commercial Photographer who is successful in the use of symbols without cliche is Elle Schuster (Kodak, 1983). She is known for her imaginative use of symbols to convey a sense of the product or service which she illustrates. Since symbols must be learned the task is for the photographer to create metaphors which the viewer will understand (DuBois, 1983). Patterson (1979) states that the "photographer should practice techniques to strengthen the symbols he wants to emphasize" (p. 132).

Along these same lines, one might consider the realm of fantasy. Allen (1978, July) suggests that you photograph someone acting out their fantasies, whereas Lovel et al. (1984) suggests that the photographer photograph themselves using mirrors or self-timers and that they indulge in fantasy. Helprin (1979) also suggests exercises in self-portraiture. He also gives exercises in which the photographer is to evoke a predetermined and specific emotional response on the part of the viewer or create a photograph that depicts a specific emotion. According to Hattersley (1979) a novel approach would be to create animate photos from inanimate objects and vice versa.

Sideways Thinking

By combining observation and the use of symbols we have what Patterson (1979) terms "sideways thinking" (p. 26), and what Dubois (1983) terms "divergent thinking" (p. 68). Thinking sideways "is simply a matter of building up a mass of visual information about your subject matter from observing it from many points of view" (Patterson, p. 26). Hattersley (1979) suggests that we think "of all the deliberately illogical things you can. This loosens up the brain cells quite a bit and helps you think in new patterns. . . . Think backwards or upside down-think illogically, that is" (p. 120 & p. 234). As Helprin (1975, March) states, this allows us to "create a photograph that purposely breaks one or more of the traditional concepts concerning the psychological, visual or physical nature of a photograph" (p.8). Thus, Patterson suggests that we list the standard rules of photography and then go out and break them.

Breaking the rules is one of the admonitions of many advanced photographers. Burrell (1980) says that to do this one must know what the usual procedure or rule is and how it affects the visual message. Then change these rules, but only one at a time. You can then learn under what conditions a change from the normal is effective. Similar to visual abstraction, Jackson (1982) and Helprin (1979) advise the photographer to use incongruities, surrealism,

cubism or futurism to break these rules of photography. Allen (1978, July) and Varney (1977) say to shoot impulsively, allowing the subconscious to direct the camera. Only when the photographic results are viewed, do we consciously analyze the images. If something attracts us we should go back and investigate this area or subject more thoroughly. Mortensen (1936) said to shoot, set up variations, repeat the shooting. Variations appear spontaneously. "The photographer . . . will be borne along on a freely flowing stream of associations . . . " (p. 5).

To concentrate our thinking though, we need to practice our observations in small areas. Patterson (1979) suggests that we lock ourselves in our bathroom until we have made 36 exposures on film of 36 different subjects. Outdoors, Varney (1977) says we should explore a subject or area by staying in the same spot. Allen (1978, June) said that he began his exercises in creativity by searching his backyard trying to keep his eyes and his mind open. Ericksen (1977) did this and was surprised to find "26 different pictures were encompassed within a few square feet" (p.25). Helprin (1978, June) has the following exercise:

. . . Produce 12 pictorially exciting photographs taken within a radius of 50 feet from the front door to your apartment or house. You must accept the subject's existing state and may neither move

the subject matter nor change the lighting upon it (p.18).

Intuition Enhancement

These exercises deal with the mental aspect of creating photographs, or images. Mental exercises are psychological in nature. Grundberg (1983) says that "The limits to our creativity are within, not without" (p. 75). When we try to confine psychological exercises to photography, as stated by photographers, we have indeed a limited number of choices. They fall into the areas of ideas, relaxation, and intuition, although intuition is the means by which the idea is realized as evidenced by the use of Zen.

Ideas

In the realm of the physical photographic manipulation Nelson (1978, February) advocates not copying others techniques directly. "Technical Competence cannot significantly enhance one's vision" (p. 30). Pinney (1962) suggests that you take other's ideas and shape them into new ones by adapting ideas from other periods; modify them by altering color or form; magnifying by exaggerating a part of the subject; minimize by reducing the subject and altering perspective; or combining several elements into a

new "formula". You can also "substitute, re-arrange and reverse" (p. 80).

In using the ideas and observations around us Helprin (1973) says that "in creative photography, an open mind is as necessary for success as an open eye" (p. 25). We also must be able to visualize with the inner mind's eye how a photograph will appear when finished (Jacobs & Kokrda, (1975). Wignall (1984) states that "finding unique ways to reveal these hidden harmonies in their simplest form rests largely on your ability to visualize a given scene . . . as a finished photograph" (p. 50).

Intuition

But these ideas must come from an inner source to be in harmony with the subject (Ellis, 1969). Staubach (1977) says that Karen Szekessy, a noted German photographer, creates artistic ideas from her dreams. However, most photographers prefer to use the term intuition for this. Zakia (1975) labels this as visual perception. In his book he says too many photographers do not use their mind's eye. Visual perception involves all the senses and also memory. He emphasizes that the visual process is more important than the technical. Knowing about perception helps before taking the photograph because the actual taking is to remain intuitive and open to inspiration.

Dubois (1983) has, as one of his approaches, the use

of "imaginative expertise: An almost intuitive insight or creative sense . . . " (p. 3). Bert Stern (1984) believes photography is highly intuitive and instinctual and Haas (1984) feels that even the best technique is never enough without inspiration. Wignall (1984) states, " . . . It's important that you develop an intuitive feel . . . " (p. 50). Carroll (1980) confirms this, "The creative process works partly from intuitive flashes of insight, partly from practice, and partly from just plain work" (p. 13). This leads us to the Zen that many photographer's use in their practice, via the relaxation exercises.

Relaxation

According to Karten (1984) White demanded total concentration of his students and he taught relaxation to them. He said that White asked his students to photograph the essence of a place and then to photograph its equivalent. Like White, Varney (1977) said "In attempting to capture the spirit, personality, or essence of a person, animal, or place, look carefully and, if necessary, wait" (p. 174). Nelson (1978, February) finds one has to be relaxed in a state of contemplation if one's subconscious is to operate. "The idea is to look at something for a long time without conscious concentration. This must be done in a relaxed atmosphere . . . with no feeling of urgency" (Allen, 1978, July, p. 33). Before photographing, Allen

suggests that you sit or lie down close to the subject and try to erase everything from your mind except the subject. Concentrate. If you see nothing, change position. Then do it again with a camera. The reason is that your mind needs practice in forming visual images. Carroll (1980) says "find a quite place and relax with your eyes closed" (p. 16). Imagine a TV set with an image on the screen. Change the image, move it, change its colors, taste it, feel it and smell it. "Usually I get an immediate flash of inspiration. . . . Remove yourself for a time from the issue, and let the mind relax. . . . through physical exercise and meditation" (p. 16).

Patterson (1979) gives a three step process to increase the use of intuition. First, schedule regular periods for relaxation and photography. Sit down, breathe deeply, using a progressive relaxation exercise similar to the ones found in self-hypnosis books. Empty your mind. Then pick up your camera. Stay relaxed and observe. Simply enjoy yourself. The second week, continue the first weeks exercise but this time choose a subject. Relax, then focus your eyes on successive details. Add imaginative questions such as how would it feel if you drove an auto over this subject's surface? Use many questions by thinking sideways as was discussed earlier. The third week add, to the first two, your emotions to the subject. "You will see better when you understand why you are emotionally attracted to

some objects, colors, and shapes, and repelled by others (p. 41).

CHAPTER IV

SUMMARY

To summarize the many views discussed, would be to repeat the many divergent views that have been presented in the body of this paper. However, Mortensen (1936) gives the following four rules that are very applicable to a photographer's growth.

First, get busy on something else when the imagination fails. By worrying about the problem you fail to relax and allow the subconscious to give you the creative answer.

Second, do not flatter yourself into thinking this piece of work is the ultimate. This leads no one on to other creative paths.

Third, seek finer things. It is only by uplifting thoughts that the inspiration within operates.

Fourth, "Learn about the art of photography . . . in silence and solitude" (p. 7). In silence you will find peace, in solitude you will find yourself. "In silence and in the solitude things assume their proper perspective, personal issues fade away, and the great deliberate rhythms of nature become manifest . . . " (p. 7).

Conclusions

By viewing the perceptions of various photographers, I found that the majority feel that being creative is a process that can be learned. It takes a mastery of the mechanical and technical aspects of photography first.

Then, by following a step by step process, with one step the act of meditation or Zen, the creative inspiration that comes from the subconscious is allowed to manifest within the consciousness of the photographer. Then by using the technical mastery, the idea can be manipulated into a creative piece of work.

Recommendations

I would like to see in the future some of the above exercises put to the test in a formal class structure. Many of the photographers that were reviewed have done this, but precise results were not detailed. It is highly possible that when we try to quantify the results along the lines of scientific research, the act or process of creativity will be as illusive as paranormal research is.

References

- Allen, J. J. (1978, June). Exercises in visual awareness. The Rangefinder, pp.43-46.
- Allen, J. J. (1978, July). Exercises in visual awareness II. The Rangefinder, pp. 33-86.
- Berger, S. (Ed.). (1984). <u>Photography magazine index</u>. Santa Rosa, CA: Paragon.
- Burrell, F. (1980). A creative approach. In <u>Professional</u> <u>portrait techniques</u>, pp. 108-115. Rochester: Eastman Kodak.
- Carroll, D. (1980). Focus on special effects. New York: Amphoto.
- DuBois, W. W. (1983). A guide to photographic design. Englewood Cliffs, NJ: Prentice-Hall.
- Ellis, A. (1968). The art of observation- Erich Auerbach. In G. Crawley (Ed.), The British Journal of Photography Annual 1969 pp. 156-158. London: Henry Greenwood.
- Ericksenn, L. (1977, February). Looking & seeing, The difference is what photography is all about. <u>Camera 35</u>, p. 25.
- Feininger, A. (1952). Advanced photography, Methods and conclusions. New York: Prentice Hall.
- Forest, J. J., & Lipson, S. (1984, April). Defining creativity [Letter to the editor]. <u>Creative Computing</u>, p. 6.
- Grundberg, A. (1983, June). Getting past the cliche. Modern Photography, pp. 72-75.
- Hall, J. B. (1978), Minor White: Rites & passages. Aperture, p. 122.
- Hampel, A. (1984). American photography showcase (Vol. 7). New York: American Showcase.
- Haas, E. (1984). American photography showcase (Vol. 7). New York: American Showcase.
- Hattersley, R. M. (1979, February). How to get ideas. Popular Photography, pp. 117-234.

- Helprin, B. (1973). <u>Photolighting techniques</u>. Los Angeles: Petersen.
- Helprin, B. (1975, March). Breaking preconceptions. Petersen's Photographic, p. 8.
- Helprin, B. (1978, May). Visual encounters of the third kind. Petersen's Photographic, p. 22.
- Helprin, B. (1978, June). Visual awareness. <u>Petersen's</u> Photographic, p. 18.
- Helprin, B. (1979). Photographic self-assignments. Los Angeles: Petersen.
- Helprin, B. (1981, October). Seeing pictorially: ordinary subjects, extraordinary pictures. <u>Petersen's</u> Photographic, p. 16.
- Henle, F. (1956). Fritz Henle's guide to Rollei photography. New York: Amphoto.
- Herrigel, E. (1971). Zen in the art of archery. New York: Vintage.
- Hyzer, W.G. (1984, June). Scientific instrumentation. Photomethods, p. 10.
- Ironson, D. S. (1984, May). Stress & the creative process.

 <u>International Television</u>, p. 18.
- Jackson, E. A. (1982, April). How to be a creative photographer: Evolution of an idea. Petersen's Photographic, pp. 68-75.
- Jacobs, M., & Kokrda, K. (1975). Photography in focus. Skokie, IL: National Textbook.
- Karten, R. (1984, February). Minor White's summers in Oregon. Studio Photography, pp. 54-59.
- Kodak. (1978). Photo explorations. Rochester: Author.
- Kodak. (1983, Issue 2). Elle photography: Imagination to the nth degree. Studio Light, pp. 10-17.
- Lovell, R. P., Zwahlen, F. C., Jr., & Folts, J. A. (1984). Handbook of photography. North Scituate, MA: Breton.
- Leach, R. (1982, April). In sight. The Rangefinder, p.4.

- Martin, D. E. (1976, June). Creativity in industry. The Rangefinder, pp. 33-34.
- Montanus, N. (1978, August). How to be creative. The Professional Photographer, pp. 43-48.
- Mortensen, W. (1936). Monsters & madonnas. San Francisco: Camera Craft.
- Nelson, G. (1977). How to see. Boston: Little, Brown & Co.
- Nelson, N. (1978, February). Learning to see. Camera 35, pp. 28-68.
- Patterson, F. (1979). Photography & the art of seeing. New York: Van Nostrand Reinhold.
- Pinney, R. (1962). Advertising photography. New York: Hastings House.
- Raudsepp, E. (1980, August). A new look at the creative process. Creative Computing, pp. 46-51.
- Rickard, M. (1984, May). Desire-the source of creativity. The Professional Photographer, p. 68.
- Rothstein, A. (1956). Photojournalism. New York: Amphoto.
- Saloman, A. (1982). Advertising photography. New York: Focal Press.
- Scully, J. (1983, May). Seeing pictures. Modern Photography, pp. 28-60.
- Shepard, H., & Meyer, L. (1960). <u>Posing for the camera</u>. New York: Communication Arts.
- Staubach, H. W. (1977, August). Karin Szekessy: Photographed her dreams. <u>Leica Fotografie</u>, pp. 162-164.
- Stern, B. (1984). American photography showcase (Vol. 7). New York: American Showcase.
- Sund, H. (1973). Harald sund. Modern Photography '74
 Annual, p. 98.
- Thornton, G. (1976). Edward Weston A troubled master. In E. Brash (Ed.), <u>Photography year 1976</u>, p.67. New York: Time-Life.

- Varney, V. (1977). The photographer as designer. Worcester, MA: Davis.
- Wignall, J. (1984, July). Isolationism. Studio Photography, pp. 48-52.
- Zakia, R. D., (1975). <u>Perception and photography</u>. New York: Prentice-Hall.