Photographs in Teaching:
Epistemological Confusions

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Introduction

This paper raises epistemological questions about what educators are claiming about the uses of photographs as part of what is variously called "educational media," "instructional media," or "audio-visual-aids." I went to seven typical books on educational media, ranging in publication dates from 1955 to 1980, looking for what these authors were saying about photography, how they think about photographs, what they do with photographs, and especially what they claim photographs can do. The paper is in five sections: the first deals with these selected authors' general misconceptions about the nature of meaning; the second and third sections point out contradictions, and examine epistemological confusions in their claims; the fourth presents information about photographs these authors are ignoring; and the final section offers some thoughts on how we might better think about photographs.

I. Confusion about the Meaning of "Meaning"

In these sampled media texts there is a cluster of statements claiming various relationships between words and pictures and meaning: "Pictures can translate word symbols,"[1] "pictures can clarify vague ideas,"[2] "pictures make verbal descriptions clearer,"[3] "verbal abstractions [are] translated [by pictures] into sharply defined visual images,"[4] "abstractions are intrinsically nonpictorial, but pictures can help to represent them and prevent the development of inaccurate generalizations,"[5] and finally, pictures "concretize verbalisms."[6]

Of these the weakest claim is that "pictures make verbal descriptions clearer,"[7] while the strongest claim is that "pictures can translate word symbols."[8] That pictures can make *some* verbal descriptions clearer seems reasonable, for instance, a picture of a crankshaft would help to clarify a definition which states that a crankshaft is a "shaft having one or more cranks, usually formed as integral parts."[9] But how shall we clarify with photographs the word "epistemology?"

The stronger claim, that pictures translate words, is more problematic. In Klasek's writing this claim is part of a lengthy list of stated "advantages" of pictures: other advantages are that pictures "explain processes," "make comparisons" and "develop critical judgment."[10] These claimed advantages are simply asserted with no explanations or qualifications: immediately following such bold statements of advantages, Klasek tells

us only how to mount and store pictures; and we are given no hint, by Klasek or others who claim that pictures translate words, what they might mean by translate. As some talk of translating, and others also talk of "reading pictures"[11] it seems that they are assuming pictures to be a language, but there is no indication by any of them that they are adhering to any particular theory of pictorial semiotics; and if they are assuming that pictures are a language, it seems to be in a naive sense. Whatever they may mean by "translate," it is hard to imagine pictures that might translate such words as "and," "but," "yet," "if," "unless," "nevertheless;" "however," "likewise," "moreover." Certainly not all words can be translated by pictures. While Klasek implicitly claims that all words can be translated by pictures, he gives no examples of any words that may be translated, but others amidst their related claims about translation, suggest such examples as "titmouse," "door mouse," "dinosaur," "crankshaft," "pyramid," and "Medieval city."[12]

What is apparent about their examples is that they are all nouns denoting or naming things and places. Among these nouns cited we do not even have mention of nouns that denote qualities or acts. It seems that words are being regarded as fundamentally the same as proper names, and that a simplistic version of a referential theory of meaning is being employed, namely, that the meaning of the word is that to which it refers. The authors do not even seem cognizant of words referring to classes of items. If the claim that "pictures translate words" at least included a notion of words designating classes, the claim would be that much more reasonable. But the word as name as reference to particulars is further reinforced by the caution among the authors that too many pictures will confuse students.

When we add to the translation claim related claims that "pictures can clarify vague can clarify hazy or incorrect ideas,"[13] and that "pictures can clarify vague ideas,"[14] we have a version of an ideational theory of meaning added to the referential theory. There seems to be an implicit assumption that the meaning of a word is the picture that it produces in us, and that if we can match the right picture to a word or expression we have meaning. Not only are they implying that all words function as proper names, but they are adding the further assumption that there can legitimately be made a word-to-thing-to-picture-to-idea substitution.

It is obvious that some words, again such as "however" and "epistemology" do not have corresponding mental images and cannot be visually depicted. It should also be obvious that every meaningful linguistic expression, or that every distinguishable sense of every expression, cannot have an idea, or an image regularly associated with the expression.[15] The claim simply cannot hold up. I'd like to quote William Alston's criticism of the ideational theory of meaning here because it succinctly and severely qualifies, if not dismisses, the pictures as ideas notion:

> There are difficulties even for those words that are most closely linked to sensory imagery. Even here there is no one-to-one correspondence between associated image and meaning. The same image can be associated with words of different meaning, and the same word (in the same sense) can have widely different images associated with it. The image of a sleeping beagle might well accompany the utterance of "beagle," "sleep," "home," "quiet," "peace," "hound," "dog," "spirit," or "animal," to mention only a few of the possibilities. The word "dog" accompanied by collie, terrier, dog sitting, dog standing, etc. …Ideas are not distributed in the way required by the ideational

theory.[16]

The various claims about words, expressions and ideas carry no indication that any of these authors are adhering to, or knowledgeable of, the Meaning as Use theory. Rather they consistently advocate that meaning be found in the extralinguistic world rather than in usages in language communities. While neglecting the diversity of uses of language, they are advocating the oversimplifications that all language conveys information, and that every word and expression functions as a sign of something or some mental image; and further, that all words, expressions, and ideas can accurately be matched and made meaningful by corresponding pictures. Their claims are grossly overstated, and those who follow their directives are being mislead and in turn may be misleading their students about pictures, language, and meaning.

II. Contradictions in the Claims

In this section I would like to look at some contradictions evident in the sampled literature. Some authors contradict themselves, while several contradict each other. One author claims that an advantage of using pictures is that they "assist in the prevention of, and correction of, misconceptions."[17] But eight lines later he tells us to "avoid pictures which might distort size and distance."[18] These same "advantages" and "limitations" are echoed by a pair of co-authors.[19] It is evident that all pictures, except those that are painstakingly scientific, distort sizes, particularly pictures of dinosaurs, pyramids, and medieval cities. We are encouraged to use photographs, particularly because they prevent misconceptions, but at the same time are cautioned not to use photographs that distort, presumably because distortions lead to misconceptions. But in fact all photographs distort in that they are depictions and not the thing depicted, and most photographs distort size.

Or we can match the claims that "pictures help misconceptions,"[20] and that "visual evidence is a powerful tool"[21] with the limitation that "students do not do not always know how to 'read' pictures."[22] Or the statement that "pictures can translate word symbols, record events, explain processes, extend experiences, make comparisons, show contrasts, show continuity, focus attention, and develop critical judgment"[23] with the advice to "avoid pictures which are not easily interpreted by students."[24] In the first statements we are given a mechanistic notion of the grandiose things pictures can automatically do to students, and in the latter statements we discover that students might have to do something to pictures to benefit from these advantages.

The various claims and cautions about numbers of photographs to use, or not to use, are also troubling. One author claims that large groups of pictures are capable of developing complex ideas,[25] while others assert that too many photographs confuse.[26] No one indicates how many photographs might be necessary or sufficient to adequately illustrate a word, phrase, or idea, but the caution is consistently toward using less rather than more. At the same time we have claims of photographs being able to "correct misconceptions"[27] and "prevent the development of inaccurate generalizations."[28] Given these caution to use fewer photographs, perhaps even "one well selected picture,"[29] it is hard to conceive how inaccurate generalizations and misconceptions are not being taught with photographs. Again, the unstated premise seems to be the mistaken through oversimplification notion that each meaningful item can be fixed through association with a proper picture. That things do not work so tidily is being overlooked.

Some of the authors offer criteria for selecting or using pictures, while others do not bother. Those who do offer criteria frequently talk about the need for "authenticity," "reliability," "truthfulness,"[30] and talk of the power of visual evidence. But what is most disturbing is that all of the authors, including those who stress the reliability-type criteria, direct us to gather photographs from all possible sources, including magazines such as *Vogue* and *Mademoiselle*, leaflets, brochures, and so forth, and all specify photographs used in advertising as a bountiful and beneficial source. Oh, what a wonderful world is presented in photographic advertisements, but how reliable, authentic, or truthful is that world?

The diverse, plentiful, and compelling images created by the advertising industry certainly perform an educative function in our society and ought to be critically analyzed with children. But what these pictures may be teaching is being overlooked by these authors. Considerations concerning authenticity, reliability end truthfulness in relation to using photographs from *Mademoiselle*, *Vogue*, and other magazines also need to be raised, particularly regarding the relationship between their advertisements and editorial content. In these two particular magazines mentioned, there is intentionally a very close match between editorial and advertising contents, with both contents highly value laden toward a particular life-style and world-view. Regarding selection, the authors seem to forget their reliability criterion, and instead fall into the assumption that photographs are mechanical representations that are value-neutral. This is a dangerous assumption to be working under.

Other troubling conflicts arise between other criteria statements. Some authors couple their truthfulness criteria with aesthetic criteria. Some samples of aesthetic criteria are: "Simplicity. To be most effective pictures should be simple and uncluttered. Not only are simple pictures more aesthetic, but their teaching value is superior."[31] Another criterion by the same author is: "Artistry. Artistry in the arrangement of objects, camera angles, color values, and in naturalness is an important factor in every picture."[32] This criterion is preceded by the statement that "Posed pictures of people are of little use unless their purpose is to bring out a detail such as hair style or facial expression."[33] Each of these criteria follow his number one criterion of "Authenticity. Pictures should be truthful."[34]

We can supply common sense notions to truth, reliability, and authenticity, but how are we to understand their use of "artistry?" They mean more than competent craft or good photographic technique, because they distinguish between a picture being good "technically" and "artistically," or having good "artistry" and "mechanical quality."[35] If artistry in their sense is more than good photographic technique, what might be meant by "artistic" and how are we to join "artistic" to "truthfulness?"

If artists are to be truthful are they going to be truthful in depicting the external world, or rather will they be truthful in expressing their feelings about the world? We more often hear of artists being "true to themselves," than being true to the world. Are we to assume that the artist with a camera will offer "visual evidence" of the same quality as a social scientist with a camera? It seems likely to me that the photographer who photographs people, objects, or events for *Scientific American* have quite different intents and limitations than the photographer who is photographing for an art exhibition or for Estee Lauder cosmetic advertisements. But no distinctions are offered by these authors.

III Some Things We Know about Photographs

There are some things we know about photographs, and some of these things we know are being overlooked by these authors, and as a result we are given some misconceptions primarily due to oversimplification. These oversimplifications evident in the claims they make about photographs, are likely to lead to miseducaton through their suggested uses of media.

Selectivity is the major problem for photographers. Given sufficient light, the universe is available to them: outer space, underwater, the wilderness, the city, the suburbs, the body, the face. Using commonly available lenses, the close-up and the telephoto, the photographer can frame inches or miles; and by adapting the camera to a telescope or microscope, worlds previously closed to the unaided eye also become accessible to the photographer. The diversity of resulting pictures can begin to be realized by multiplying potentially infinite subject matters by the number of idiosyncratic human beings with cameras.

If most things are possible, what should be chosen? And what should be expressed about what is chosen? Some photographers are interested only in documentation while others are only content with transformation. For several a primary motivation has been their ability to present the otherwise inaccessible, to bring people to places they had not reached by other means. If photographers are not recognizing photographable significance in the world, they are inventing it with their imaginations. Several, discontent with searching the outer world, have forcefully turned to imagined experience, and by selecting and directing as many variables in time and space as possible, have created compelling fictitious photographs.

No matter what their predilections toward presenting their views of life and art in photographs, photographers are constantly involved in choosing. Once having made the major choice regarding the world-view they are to inscribe on film, they are then confronted with several options confronting them through their viewfinders. Before making the exposure the photographer chooses film, deciding between black and white and color; selects among cameras, considering advantages and limitations of different film formats; selects among lenses which determine degree of encompassment; selects aperture and shutter speed which determine depth of focus and degree of sharpness; chooses what distance and what angle to photograph from which, most importantly, determines what will be included and what will be excluded from the frame. The decision about when to release the shutter determines the instant of time that will be preserved.

In the act of photographing, the photographer reacts to things and situations as they are changing. The photographer must see not only the visual forms in front of the lens, and how they are interacting, but must also simultaneously evaluate the implications for meaning those interactions provide. Unlike the artist's paper or canvas that are initially blank, the photographer's viewfinder is never empty. Given the impossibility of the lens ever encompassing the totality of reality, or even of a given situation, and given that the subject matter and photographer are moving to greater or lesser extents, a photograph is always literally out of context. Even the most scientific photograph gives us a still and silent, temporally 1imited, and spatially specific view of the photographer's choosing.

Having made the exposure, another litany of choices is presented to the

photographer in the darkroom and thus must be decided upon in relation to decisions regarding whether these images are to be presented in print or mounted on walls, discretely or in sequence. Out of the darkroom the photographer will select the most effective from the least. These will be further distilled by editors, curators, or advertisers. Advertisers in particular, and textbook publishers, have no lack of compunction in freely altering these pictures by cropping and enlarging, and by adding text material of their choosing.

These highly abbreviated considerations about photography are offered in contrast to the media people's implied notion that photographs are simple, objective recording of reality. On the contrary, photographs are highly selected images that are excised from the flux of time and the infinity of space, by photographers with idiosyncratic sensibilities and interests ranging from science to fiction.

IV. A Suggested Framework for Considering Photographs

To account for dissimilarities among photographs it seems to me to make sense to think about them as analogous with language statements, and to approach them with the Meaning as Use theory by considering their potential meanings through looking at how photographers might be using imagery, or how photographs might be functioning as expressive images. Following is a six-part, overlapping category system that I have devised to aid viewers in understanding potential meanings of photographs.

While by nature of the photographic medium all photographs describe since the photograph is a recording of light reflected from objects to light sensitive materials, some photographs function primarily as *descriptions*. Paradigm cases are identification photographs, medical x-rays, photomicrographs, and NASA space exploration photographs. These photographs are analogous to statements of fact in language; are visual recordings of empirical qualities; and are meant to be interpretively and evaluatively neutral. They attempt no more than an accurate visual recording on a photographic surface.

Other photographs attempt to go beyond description by offering falsifiable explanations or non-falsifiable interpretations. Paradigm cases of the first type, *explanations*, are Bill Owens' book, *Suburbia*,[36] a sociological type of collection of photographs documenting Californian suburbanites; or the nineteenth century sequential photographs of people and animals in motion by Edweard Muybridge, the most celebrated of which is his galloping horse study which corrected centuries-old misconceptions of the positioning of horses' hooves in trotting and galloping. Many photographs in magazines such as *National Geographic* and *Life*, and news photographs in our daily papers would also be placed here. These photographs posit claims about the empirical world, imply causal relationships among recorded phenomena, and attempt objectivity. They are falsifiable in that they could potentially be empirically demonstrated to be true or false, accurate or inaccurate.

The other type of explanatory photographs are non-falsifiable *interpretations*. They are analogous to metaphysical claims in language in that they purport to give information about the universe but are asserted independently of empirical evidence. Clear examples are several photographic sequences by contemporary photographer Duane Michals,[37] one of which, through multiple exposures, depicts his conception of

death as spirits leaving bodies. Photographs in this category depict intentionally subjective understandings of phenomena, often are photographic fiction, and generally yield information about the world-views of the photographers who make them. They are non-falsifiable in the sense that in cases of dispute they cannot be confirmed or denied empirically.

Another large body of photographs can be understood as judgments of two types, ethically evaluative and aesthetically evaluative. Photographs that are *ethically evaluative* imply moral valuations, pronounce moral judgments, or generally depict how things ought or ought not to be. Most photographic advertisements present us with aspects of the advertiser's conception of the good life, or what should be desirable. The majority of the photographs of the late W. Eugene Smith may also serve as a clear example, particularity his last book, *Minamata*,[38] which portrays the suffering of poisoned Japanese village fishermen as a consequence of willful industrial polluting.

Aesthetically evaluative photographs may be accepted as visual notification by the photographer of people, places, or things which are seen as intrinsically valuable for apprehension do to a harmonious formal relationship of visual elements. There are large numbers of these in the history of photography, most obviously exemplified by the landscapes of Edward Weston or Ansel Adams, or Sierra Club nature photography.

The last category accounts for *theoretical photographs*, or those which address issues about art and photography, functioning as visual commentaries on art, or as visual art criticism. There are increasing numbers of these in contemporary photographic art. These need not concern us here: because of their esoteric nature, these will most likely not be used as visual aids by the general educator.

These categories (descriptive, explanatory, interpretive, ethically evaluative, aesthetically evaluative, and theoretical) are overlapping in that any given image may be placed in one or more categories. The photographs in *Playboy* and *Penthouse*, for example, seem to function both ethically and aesthetically, promoting moral valuations as well as a particular aesthetic of the body. The overlapping nature of the system also encourages viewers to engage in substantive questions about how photographs are to be interpreted or understood; to question, for example, whether Bill Owens' portrayal in *Suburbia* is cynically slanted or objectively neutral.

My intent is not to end discussion of photographs through pigeon-holing, but on the contrary, to open directed discussion about photographic meaning to increase understanding of the variety of photographic statements being made, and how they are being used. Through context changes, for example, meaning shifts. The NASA photograph of the earth seen from the moon takes on considerably more than descriptive information when it is shown with the Mobil corporation's logo. I hope to have shown it important that the media people consider some of these considerations about photographs: photographs are more than "flat pictures."

Notes:
[1] Charles B. Klasek, *Instructional Media in the Modern School*, (Lincoln, Nebraska: Professional Educators Publications, Inc., 1972), p. 52.
[2] James S. Kinder, *Using Audio-Visual Materials in Education*, (New York, N.Y.;

American Book Co., 1965), p. 29.

[3] John Harrell, *Basic Media in Education*, (Winona, Minn.: St. Mary's College Press, 1974), p. 15.

[4] Edgar Dale, *Audiovisual Methods in Teaching*, 3rd Edition, (New York: Holt, Rinehart and Winston, Inc., 1969), p. 440.

[5] Ibid, p. 441.

[6] Ibid, p. 447.

[7] Harrell, p. 15.

[8] Klasek, p. 52.

[9] *The Random House Dictionary*, (New York: Ballantine Books, 1978).

[10] Klasek, p. 52.

[11] Vernon S. Gerlach and Donald P. Ely, *Teaching and Media: A Systematic Approach*, (Englewood Cliffs, N.J., 1980), p. 277; and Dale, p. 433.

[12] Dale, p. 440, and Harrell, p. 15.

[13] Kinder, p. 29.

[14] Ibid.

[15] William P. Alston, "Meaning," in *The Encyclopedia of Philosophy*, (New York: MacMillan, Inc., 1972), Vol. 5 & 6, p. 235.

[16] Ibid.

[17] Klasek, p. 52.

[18] Ibid.

[19] Gerlach and Ely, p. 277.

[20] Ibid.

[21] Ibid.

[22] Ibid.

[23] Klasek, p. 52.

[24] Ibid.

[25] Harrell, p. 16.

[26] Kinder, p. 30.

[27] Klasek, p. 52.

[28] Ibid.

[29] Kinder, p. 30.

[30] Kinder, p. 33; Dale, p. 464.

[31] Kinder, p. 33.

[32] Ibid, p. 34.

[33] Ibid.

[34] Ibid, p. 33.

[35] Kinder, p. 34; Dale, p. 464.

[36] Bill Owens, *Suburbia*, (San Francisco: Straight Arrow Books, 1973).

[37] Ronald H. Bailey, *The Photographic Illusion: Duane Michals*, (Los Angeles: Alskog Book, 1975).

[38] W. Eugene Smith & Aileen M. Smith, *Minamata: Words and Photographs*, (New York: Holt, Rinehart, and Winston, 1975).