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THE EFFECT OF VERTICAL CAMERA ANGLE ON PERCEPTIONS OF SOURCE CREDIBILITY

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ABSTRACT

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ON PERCEPTIONS OF SOURCE CREDIBILITY

BY

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Previous research relating vertical camera angle and source credibility has produced conflicting findings that have not been theoretically interpretable. This dissertation presents a theoretical perspective from which an extension of previous research in undertaken. The study involves an experimental manipulation of vertical camera angle to test its effect on source credibility and interpersonal attraction. The results of the experiment indicate a main effect for vertical camera angle only on some dimensions of source credibility. Further, the effect of camera angle was trival with respect to variance accounted for and was in a direction opposite to that predicted.

This dissertation is dedicated to Katie. Without her support and encouragement this effort would have been impossible. This dissertation is also dedicated to Brian, who gave the effort added meaning.

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Chapter 1

Three experiments (Mandell & Shaw, 1973; McCain, Chilberg, & Washlag, 1977; Tiemans, 1970) suggest a relationship between video camera angle measured on the vertical plane and perceptions of source credibility. The results of the investigations are confusing (see Appendix A). On the surface, these investigations indicate mass media production techniques, such as vertical camera angle, can have an important impact on the persuasive efficacy of the message carried by the mass media. This observation challenges an implicit assumption that seems to be guiding much mass communication research: that the primary distinction between mass and interpersonal communication is the former's enhanced speed and efficiency of delivery and the former's restricted impact. The three experiments are also confusing because their results are at times conflicting and because the authors provide no theoretical explanations for the observed effects.

This paper explores the issues surrounding effects of mass media production techniques in an effort to offer a theoretical perspective explaining the observed relationship between vertical camera angle and source credibility. The discussion results in propositional statements relating vertical camera angle and source credibility. The results of a test of hypotheses derived from these propositions are reported and discussed.

This paper presents the argument that traditional mass communication research has primarily investigated the delivery potential of mass media. In contrast to that tradition, this paper presents a theoretical perspective emphasizing the expressive characteristics of production techniques typically used in the visual mass media.1

1. In working toward this goal, an attempt is made to keep the theoretical arguments sufficiently broad to suggest investigation of the impact of a variety of production techniques. Because the goal of this paper is to develop a theoretical perspective explaining the effect of vertical camera angle, the development of the argument focuses on photography and video-tape, often citing research on television and film. Similar arguments can and have been made for print. For example, Carpenter (1979) suggests each mass medium is a language and the code systems are largely not understood. He argues that the written word did not use oral language, but a code of its own that verbal speech has come to imitate. He suggests oral language use to be a polysynthetic composition of images in which little distinction was made between subject and verb. Written communication separated the images into linear sequences of subject, verb, and object. Advances in the medium of printed communication such as the newspaper or book added still more codes, such as the order of images on the page, the color and size of the type, etc. Typographical and design factors relating to the printed page have also received study. The perception studies performed by the Gestalt psychologists (Zakia, 1975) suggest people can be lead to perceive objects in varying ways by use of such artistic devices as balance, shape, continuance, form, proximity, and figure-to-ground relationships. A liberal interpretation of Arnheim (1974) and Kepes (1961) suggests that viewer's eye can be led from one object to another in a predetermined sequence by manipulation of graphic devices representing these factors. In newspaper design, the techniques most often used are the visual pull of the objects and the relationship or balance they form within the visual field. Operationally, the visual objects worked with in print copy are the headlines, text, and art. Each in turn have visual aspects such as color, size, shape, brightness, and interest potential. These commonly known elements form the basis for much practical writing in newspaper layout and design manuals. Essentially, the commonly accepted task of such layout is to attract attention, to provide order (often operationalized as prioritization of content) for the reader, and to create a pleasing appearance (Garcia, 1981; Hutt, 1967).

The theoretical argument developed in this paper draws from semiology of the cinema and from social perception theories. The majority of attribution research has investigated the processes affecting judgments concerning the dispositional character of the observed person. Using Heider's (1958) terms, behavior is thought to mediate or carry the message concerning the motivation or character of the observed person. Heider's writings suggest that behavior is perceived with relative accuracy on a physical level and that the significant interpretation occurs during attribution of causes for the behavior. Semiotic critiques of the cinema suggest that production techniques, primarily juxtaposition of film elements, can influence the attribution process. A few authors suggest that production techniques such as camera angle can also influence the perception of the object depicted at the physical level. The argument made in this paper is that when behavior is apprehended via mass media channels, the production techniques serve as an additional level of mediation. These latter arguments serve as the basis for the combination of attribution theory and semiology in explaining the effects of vertical camera angle on perceptions of source credibility.

Theoretical Perspectives

Unfortunately, no theoretical perspectives are explicitly stated in the three experiments described in Appendix A. Tiemans' (1970) experiment is based on an extension of practical assumptions made by writers on film making and the two that follow are similarly supported. The inconsistent and conflicting results of those experiments are difficult to explain within traditional perspectives guiding mass communication research.

Traditional mass communication literature.

The relationship between vertical camera angle and perceptions of source credibility suggests that methods of production have the potential to influence the persuasive efficacy of the verbal message content. The ability for production techniques to influence message content has, according to Baggaley and Duck (1976), been largely ignored in traditional mass communication studies. Most investigation of mass communication has, according to those authors, examined the effects of special thematic content on segments of the audience for the medium in question.

They suggest the emphasis on effects of specific content might be due in part to the persuasiveness of information theory (Pierce, 1961; Shannon & Weaver, 1949) and a tendency to define mass communication in terms of the delivery capacity of the medium. For example, in discussing the

traditional sender-message-channel-receiver model of communication, Berlo (1960) describes the channel as the "boat" hired to carry the message from source to receiver. The important questions relating to channels, according to Berlo, concern their relative effectiveness and efficiency in delivering a message.

Other definitions of mass communication seem to take a perspective similar to the boat analogy of Berlo. Such definitions are often attempts to distinguish mass communication from interpersonal communication, and the task is often accomplished by emphasizing delivery potentials. For example, while Wright (1959, 1964) conceptualizes mass communication in terms of the nature of the audience, the nature of the communication experience, and the nature of the communicator, all are discussed in terms of delivery. While a number of other authors have elaborated on this basic definition (Klapper, 1949; Schramm, 1979; Sherif & Sherif, 1956; Weibe, 1952; Wirth, 1948) the emphasis is generally on mass production and transmission of messages to large, heterogeneous, anonymous audiences in relatively short time frames (Gerbner, 1967; McQuail, 1975). This transmission channel emphasis pays little attention to the process of mass communication or to the unique expressive potential of the mass media.

When viewed historically (see Appendix B), it is really not surprising that effects of production techniques have not received extensive attention. Much of the early

investigation of mass communication focused on newspapers and radio, both primarily verbal media, and the study of content effect was easily performed from paradigms taken from interpersonal communication. In fact, many of the early empirical investigations of order, credibility, sidedness, etc., used simulated media content as experimental stimuli (e.g., Hovland, Lumsdaine, & Sheffield, 1949; Hovland, Janis, & Kelly, 1953). It seems that the verbal, persuasive models of research were largely transferred to the study of the media which increasingly included nonverbal messages. As the mass media technology advanced and media content became available to more persons, research attention apparently moved from the Hovland-type of research on message effects to what was apparently becoming a more significant difference between mass and interpersonal communication: the former's enhanced delivery potential measured in terms of speed and audience size.

These comments are not intended to be critical nor to suggest that mass media theory and research has been either misdirected or trivial.2 Rather, the three empirical studies

2. One criticism of the sociological perspective that can be made is essentially a question of internal validity. If production techniques do impact the meaning of the message or the perception of the source of the message and if traditional studies have ignored such effects, studies conducted in the traditional paradigm may not have adequately controlled for the content being studied. It could be argued that null findings are the result of production techniques and not the impotence of the media and that significant learning and persuasive effects are as much a function of the manner or means of presentation than of the content itself. reporting a relationship between vertical camera angle and

source credibility suggest that techniques used in the production and delivery of mass communication may impact the content of the message and thereby the effectiveness of the message. By taking a sociological perspective, traditional mass media research has generally overlooked the communicative aspects of the mass media. An explanation of the observed relationship between vertical camera angle and source credibility discussed above poses a different research question than that guiding most mass communication research. The relevant question becomes how and why a mass medium can influence the message, and the question implies that the conceptualization of the channel in terms of its delivery potential will not yield satisfactory answers. Rather, the question suggests a need for a theoretical perspective that focuses on the communicative capacities of mediated channels. The discussion of such a perspective follows.

Mass communication as communication.

The delivery vehicle perspective is not the only conceptualization of mass communication available in the literature. For example, while Berlo (1960) used the boat analogy to define the channel, he also suggests that mass media may use codes that influence the message. Schramm (1979) offers a definition of mass communication that while parallel to the sociological perspectives described above also suggests the mass media use distinct code systems.

Schramm's treatment of code systems is brief and is little more than an acknowledgement of the obvious emphasis on orthographic codes in printed communication as compared to television and movies. The realization that the media do more than deliver messages is implied in the now cliched expression "the medium is the message" (McLuhan, 1964).

Perhaps the most explicit recognition that the media contain codes is made by Harrison (1974) who adds them to his typology of nonverbal codes. His writing is of value to this paper because it suggests potentials for mass media to be expressive. For example, he suggests the mass media can reduce, expand, or reorder the time sequence of events or the spatial relationship between objects. He also points out that stylistic features of the media can alter normal relationships between verbal and nonverbal communication and can influence perceptions of other nonverbal codes.

The potential expressiveness of the mass media discussed by Harrison seems quite valid on the surface. Yet, much of the study of media codes makes an implicit assumption that photographic content is somehow a real, a truthful, or an accurate representation of the objects depicted.3 The notion

3. The term photography will here be used to denote the mechanical reproduction of visual images. At this point, there is no reason to conclude that a visual image produced by traditional silver oxide processes will be perceived differently than would a similar picture produced by digital or laser technology. Additionally, no single term is known to capture the mechanical recording of reality without reference to the actual process involved. Therefore, terms like photograph, photography, photographic process, pictures, and pictorial communication or expression are used to refer to all mechanically produced visual images.

that photography faithfully reproduces reality is not new: it has been the subject of a debate beginning soon after Daguerre's announcement of his process for producing silver plate images in 1839 (Sontag, 1977). The argument was whether or not photography should be considered an art, and the central issue concerned the control the photographer exercised over the photographic image and the meaning of the photograph. When the photographic process was novel, many art critics argued that photography was nothing more than the reproduction of reality, based on a common agreement that the photographer controlled little more than the proper focus and exposure. Critics believed the process was a means of capturing reality (and thereby truth) and that nature and not man had primary control over the image depicted.

As people became more knowledgeable about the medium and as techniques and equipment improved, the photograph-truth relation was shown to be a sophism and photographers gradually were recognized as active agents in the production of photographic images (Freund, 1980; Snyder & Allen, 1975; Sontag, 1977; Szarkowski, 1966). Becker (1970), for example, suggests the camera be thought of as a typewriter, capable of expressing anything the photographer desires. Yet, the basic assumption that the photographic image is somehow free of interpretation or is truthful may remain in many practical applications.

Snyder and Allen 1975) review literature suggesting that underestimation of the expressive nature of photography may

influence thinking concerning mass communication. Essentially, the argument presented is that if pictorial content created by a mechanical process is perceived to be true, realistic, and free from human subjectivity, it could serve as an extension of direct experience. Whereas people generally recognize that reports and drawings are subject to distortion based on the obvious human intervention in the recording process, they are less likely to be so suspicious of a pictorial image thought to be mechanically produced and therefore free of interpretation. Based on this argument, photography extends the range of the cliche that "seeing is believing" because of the false assumption that the camera, like the mirror, doesn't lie.

Worth (1981) and Becker (1970, 1977) make essentially this point in their discussion of the use of still photography and film in anthropology and sociology. They suggest that many anthropologists and sociologists incorrectly assume that a film or a photograph captures what is actually there. Their argument is that pictorial content is expressive and not merely representational, and that it contains a code that needs to be and can be better understood by both professional and lay users. Worth calls for researchers using photography to become more literate in the visual media to prevent mistaken inferences and so they can use pictorial content not merely as a recording device but as anthropological data.

The most thorough investigation of such a code system is provided by modern studies of film, initiated in the 1920s by the film-makers Eisenstein (1965), Pudovkin (1958), and Balazs (1953). These early practitioners and theorists attempted to generate laws relating accepted artistic processes of film-making with established scientific perspectives. The guiding framework for most of their work seems to have been the assumption that the visual media are or contain a language. More currently, the perspectives guiding similar research efforts are linguistic (primarily semiotics) and psychological (primarily Gestalt) models.

Unfortunately, not a great deal of the literature available in this country is directly applicable to the vertical camera angle and credibility relationship, primarily because the majority of the relevant writing is concerned with syntactic structure and not with production techniques. Carroll (1980) and Metz (1974a, 1974b) argue that little is known about meanings associated with the shots themselves because of the early and enduring emphasis placed on the effect of montage (the juxtaposition of shots). Eisenstein (1965), for example, attempted to empirically demonstrate that sequential structure (essentially syntax) is the major expressive aspect of film, and he therefore devoted a majority of his writing to the development of a taxonomy of montage. In his latter work, Eisenstein admits to an overemphasis of montage at the expense of the content (semantics) of the shots and to the need to incorporate the

synchronization of the sound track with the image and the use of color into his taxonomy.

Somewhat more applicable to this paper are the writings of Pudovkin (1958). Of particular importance is his suggestion that the main technique of film making is to completely guide the viewer's attention and perception. Essentially, he argues that production techniques are devices that cause the viewer to perceive objects as would the director or person operating the camera. This involves, suggests Pudovkin, the selection of materials to be perceived, the arrangement of the materials into scenes or shots, the selection of a perspective from which to record the scenes, and the editing together of the scenes into a unified composition. Pudovkin appears in agreement with Eisenstein's later writings that montage cannot be separated from the study of content.

Balazs (1953) claims that the cinema represents a significant departure from the art form that serves as its base, the theater. The important difference between the two is that the cinema frees the director from many of the limitations imposed by the stage. Specifically, the medium of the cinema permits varying the spatial relationship between the viewer and the scene and thereby the dimensions and composition of the scene. It permits division of the scene into separate camera shots and permits manipulation of the angle, perspective, and focus of the shots. Finally, it permits montage, or the assembly of separate shots into new and meaningful wholes.

Of importance to the relationship between camera and source credibility is this notion of camera set up, or perspective. Balazs suggests that the perspective of the camera becomes the view of the scene taken by the viewer of the picture. He observes that any perspective has both a physical reality of the object and a relationship of the object to the camera. He suggests that only a very well-trained viewer can tell whether the perspective taken by the camera is true to the object in reality. Balazs implies that most people react to pictures as they would react to objects viewed from similar perspectives in the real world.

Spottiswoode (1954) presents a similar argument. He makes the obvious point that artists must limit themselves to sense data in order to convey their intended message. While this is true of all art forms, the medium of film permits the artist to more subtly alter the perceptual relationship between the viewer and the objects in the pictures in ways not previously possible in non-photographic media. For example, a painter's control of the audience's perceptions is both apparent and limited. The strength of film is the control the director has in leading attention and altering perceptual relations and still maintaining subtlety of intent and highly realistic images.

Pudovkin, Balazs, and Spottiswoode extended their analysis beyond montage to such production techniques as camera angle, focus, pans, etc. But, as is the case with much of the

cinemagraphic literature, their investigations were not as systematic or as grounded in established scientific theory as those of Eisenstein (Carroll, 1980). Therefore, besides lending support to the assumption that production techniques such as camera angle can impact perceptions and meaning, the early studies of camera technique do not provide significant assistance in explaining the relationship between vertical camera angle and source credibility, except to suggest that the camera position creates or defines the perceptual relationship between the viewer of the picture and the object depicted.

The conclusion often drawn from these early studies is that film can be studied as a language, and the theoretical perspective often selected to guide the study of the cinema is semiology (see Appendix C). Worth (1981) makes this point most forcefully and extends the argument beyond the study of film. He argues that a common language about visual communication is possible, that standards for the acceptability of evidence supporting a theory can be established, and that the approach best suited to these tasks is semiology.

Many others apparently agree, as evidenced by the growing body of semiotic literature on film and other forms of visual communication (A. Berger, 1982). Yet, as Wollen (1981) argues, film theorists, as a group, have not always rigorously adhered to the systematic methodological or theoretical assumptions of linguistics or semiotics. Carroll

(1980) extends this criticism to Metz, perhaps the most influential film theorist in this country. Carroll argues that like most investigations of film, Metz's work is essentially descriptive and does little more than outline the current use of film structure and is therefore not a theoretical treatment of film language. Carroll's point seems well taken and can be generalized to the majority of writings on film (see for example, Bretz, 1962; Davis, 1975; Guss, 1968; Jacobs, 1950; Millerson, 1968, 1976; Nizhny, 1962; Zettl, 1973, 1976).

Carroll suggests a possible cause for the fall back to description over theory is partially a result of a bias toward a structural or syntactical analysis of existing films, possibly because of the persuasiveness of the work of Metz. It may also be, as Peters (1981) argues, that most scholars follow Eisenstein's assumption that the shot is the smallest unit of the language of film.

Worth (1969) traces the history of film units to the period predating Eisenstein, when the dramatic or theatric scene was thought to be the smallest building block of the cinema. The scene, at the turn of the century, was defined in the theatrical sense and operationalized as the amount of film in the camera (technological limit) and the length of time required for the drama to unfold (thematic limit). The assumption underlying this film-language unit was the belief that the camera need be held in place until the thematic

content was completely and sequentially developed. It was thought that to do otherwise would ultimately result in confusion for the viewer of the film. During this period of film-making the action or objects in front of the camera were the only elements believed to create meaning.

Following the turn of the century, film-makers discovered this type of scene to be divisible and that a dramatic sequence could be filmed in segments which could be later combined or edited without creating viewer confusion. Over time and after experimentation the practice of editing was extended from spatial and temporal editing, in which elements of a scene are shot and combined without adherence to natural or realistic chronology or space, to cognitive editing, in which ideas were also combined to form new ideas.

Worth (1981) elaborates on this shot-as-language-unit conceptualization by distinguishing between a camera shot or cademe and editing shot or edeme. A cademe is operationalized by Worth as the image produced between the pressing and the releasing of the camera button. Edemes are those portions of the cademes actually selected by the film-maker for combination into larger units of meaning. Worth makes an analogy to verbal communication by suggesting cademes represent all possible words and edemes the words chosen to be used in a sentence.4

4. Actually, given modern technologies, Worth's operationalization is not completely satisfactory. It is possible to stop and restart the camera without the viewer taking note of the break.

Metz (1974a, 1974b) makes the point that a picture is not a code element, such as a word, but is more like an utterance or sentence. For example, a picture of a house is not analogous to the word "house" but is more like the sentence "here is a house." While Metz agrees that pictures communicate, he argues they cannot be broken down into discrete subunits as can be done with verbal sentences. It therefore follows that because pictures, like sentences, are infinite in number, they can never be cataloged and the cinema can never be formally considered a code system. He acknowledges, however, that there are factors within a shot that are expressive and that such elements probably act as would adverbs or adjectives. Again, the problem, according to Metz, is the inability to catalog these expressive units.

Peters (1981) also criticizes the shot-as-word analogy as being too simplistic. He agrees that a picture is not a sign but a speech act comprised of expressive elements. Peters differs from the mainstream by suggesting that individual shots can be systematically reduced. He argues that despite the high iconicity of photographs, mechanically produced visual images do not always represent objects as a person would perceive them in reality. The difference between the depiction and the reality he calls the "visualization" of an object. The visualization is, according to Peters, the result of the "form" of the picture.

Form at least partially determines how a viewer perceives a picture and is not necessarily related to the material

properties of the image.5 It can be based on a perceptual relationship between the viewer and the objects depicted that is created or controlled by the picture-maker. While form can be an intentional characteristic from the standpoint of the film-maker, Peters argues that viewers can be more or less actively aware of the formal qualities of the picture. The less visible the form of the picture, the more the objects depicted are viewed as being like reality. In extreme cases, such as a photocopy of a document, form can become completely invisible and the picture is treated as reality. In the opposite extreme, such as might be the case with abstract painting, form can become so apparent as to become completely distinct from the iconic content.

Peters argues for a code of formal qualities based on the manipulation of a construct he labels the camera-eye, or the spatial and technological relationship between the object depicted and the camera. Camera-eye manipulations are partially responsible for the pictorial form. The value of camera-eye to this study is its ability to systematically

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5. Peters argues that form has two levels, mimetic and expressive. The former relates to how the iconic properties of the content are formed and essentially pertain to how the reality before the camera is recognized. The second level involves how the form alters the reality of the object depicted. It should also be noted that form is affected by factors other than camera work. For example, lighting, background, color, picture size, and framing are likely important determinants of form. The relationship between form and camera work are explicated because the their relevance to this paper.

explain intra-shot expressive effects. These ideas are summarized as follows:

> Definition 1: The form of a picture defines the visualization of the object depicted or the difference between the object as perceived in the picture and the object in reality. Form is always present in a picture, although it can be more or less visible to a viewer.
>
> Definition 2: Camera-eye partially defines the form of the picture. It is the spatial and technological relation between the object depicted and the camera. It is therefore a product of camera placement and movement and the mechanical process of recording the image.
>
> Proposition 1: The form of a picture is related to the meaning derived from the picture such that if form is invisible, the viewer will attach meaning derived from the form to the object depicted.

These statements present a fundamentally different perspective of mass communication than that found in either the delivery vehicle conceptualization or even in the majority of the semiotic theories that stress montage or syntactical structure. As developed earlier, the delivery channel either denies or overlooks the expressive capacities of pictorial mass communication. The semiotic perspectives typified by Metz assume an expressive capability but appear primarily interested in the effect of montage because the shot is thought to be the smallest meaningful unit of film.

Peters, on the other hand, argues that shots themselves can be systematically studied in terms of their form. Because two of the three experiments described in Appendix A use single shots to manipulate camera angle, form and camera-eye are central to an explanation of the different perceptions of credibility produced by different camera angles.

It is assumed here that vertical camera angle is a potential camera-eye manipulation. That is, camera position on the vertical plane creates a pictorial form that, if invisible, attaches itself to the object depicted. Given the validity of these assumptions, the attributes that define the visibility of the form become particularly important.

Unfortunately, Peters does not address the topic and his silence is worrisome because other authors (Wollen, 1969; Bazin, 1945) suggest the visual media are "transparent" in that the effects of presentation are available to the viewer. The contention of these authors is that the intention of the film maker and thereby the intended message are clearly knowable by the viewer. Taking a contrary position, Arnheim (1969) and Baggaley and Duck (1976) suggest the viewer must have a minimum competency in reading a visual image before the producer's intention can be known. They argue that many people have neither the literacy nor the involvement with the medium to recognize the effect of production techniques.

Of importance to this paper is Peters' suggestion that there may be a difference between the degree to which form is visible in moving pictures and still photography. In the

cinema, the camera is often not stationary and instead moves with the scene depicted. If it is also assumed that most viewers are aware of an intent to manipulate perception in movies, form in film may be more visible than is form in still photography (Becker, 1970, 1974).

It might also be that levels of involvement with the media content and the purpose for consumption of the content might influence the degree to which the form is analyzed. As the uses and gratifications perspective (Blumler & Katz, 1974) and the information utility perspective (Atkin, 1973) suggest, the purpose of the viewer likely influences the impact derived from the mass communication experience. Examining extreme positions, recognition of formal qualities might be more likely if a film critic were interested in analyzing the meaning of a particular movie or still photograph than if a lay-person viewed the same content for escape or relaxation. In the former, attention would likely be focused on form. In the latter case, the viewer, even if highly literate concerning camera-eye and formal qualities of pictures, might suspend such detailed attention for enjoyment of the content.

Finally, it seems likely that the subtlety of the camera-eye manipulation would be related to the visibility of form. Subtlety would probably be a function of both the magnitude of the manipulation and the likelihood the perspective would be taken in real life. For example, vertical camera angles

of a few degrees might be less visible than either the "bird's eye" or "worm's eye" views obtained by placing the camera high above or far below the object depicted. Similarly, slight camera shaking or movement might be an invisible sign of action or motion, but severe manipulations of this type might draw attention to the form because the viewer rarely experiences such extremes in reality.

The following statements summarize these common-sense notions:

Definition 3: Visibility of form is the degree to which a viewer of a pictorial image is aware of form of the picture.

Proposition 1a: The visibility of form is inversely related to the literacy of the viewer pertaining to formal qualities of pictures.

Proposition 1b: The visibility of form is related to the viewer's purpose such that purposes suggesting high involvement with form are more likely to result in visibility than are purposes not highly involved with form.

Proposition 1c: The visibility of form is positively related to the magnitude of the camera-eye manipulation and inversely related to the likelihood the techniques simulate routine, real-life perceptions.

The literature relating to specific effects of camera-eye is limited. Charles Anderson's (1972) review of the literature on the effectiveness of presentation style on

learning outcomes of mediated instruction supports the existence of an attention gaining effect similar to that speculated by Pudovkin (1958). Anderson's conclusion is speculative and attempts to tie together the majority of either nonsignificant or inconsistent findings. He concludes that the ability of presentation technique to enhance learning may be a simple result of increased attention or interest. Anderson's suggestion, while conjecture, is consistent with the theory on which programming such as Sesame Street and The Electric Company were based (Palmer, 1969).

Probably the most thorough empirical treatment of the question concerning the expressive impact of production techniques is offered by Baggaley and his associates (Baggaley & Duck, 1976; Baggaley, Ferguson, & Brooks, 1980). They agree that the visual media contain presentational techniques that impact the persuasive efficacy of the message and that such effects are generally not recognized by scholars or lay viewers of the media. For example, they concur that an effect of production technique is the stimulation and maintenance of interest. They claim, for example, that the two commentator format of news and the use of multiple cameras in news broadcasts is mainly a device for increasing visual interest.

Baggaley and Duck go beyond the attention gaining techniques and suggest that the method of presentation can offer important information to the viewer. They claim that because production techniques provide the viewer with important cues on which judgments concerning the source and the content can be made, the means of television presentation are analogous to nonverbal communication in face-to-face contexts. Obviously, the impression formation process they discuss is partially a function of the characteristics and behavior of the source. It is their contention, however, that the viewer's perception of the source is also influenced by production techniques. More specifically, the image of a source is not unlike a caricature in that certain features can be magnified or muted. They conclude that the verbal message does not stand alone as implied in the sociological perspective discussed earlier. They also argue that instead of the medium being the message (McLuhan 1964), the medium and the message are inherently intertwined.

To test the assumption that production techniques can have an impact on the effectiveness of the message, Baggaley and Duck (1976) performed six experiments investigating the effects of camera angle on the horizontal axis, camera shots excluding or including speaking notes, variation of visual content behind a speaker, reactions of a television audience, and reactions of an interviewer. The sixth experiment evaluated the use of combinations of the above factors. The dependent measure in the experiments was viewer

evaluation of the speaker.6

The results reported by Baggaley and Duck provide strong support for their assumption regarding the potentially powerful effects of production technique. Baggaley, Ferguson, and Brooks (1980) report a series of 30 experiments conducted over a five-year period that replicate those of Baggaley and Duck, extend the range of production techniques studied, and examine potential viewer differences. The dependent measure was again viewer evaluation of speaker effectiveness. The operationalization was similar to that contained in common credibility scales. While a direct comparison between their evaluation measure and credibility is problematic, the overall results support the basic contention of the argument presented thus far: that production effects can impact the mass communication message.

Common sense and Peters' construct of camera-eye suggest that vertical camera angle can alter the spatial relationship between the viewer of a picture and the object depicted. If it is assumed that eye-level is a normal, even, or equal perceptual relationship between two people, shots taken from below the eye-level of the person depicted should cause the viewer to see the other as being physically above. Stated in

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6. The ratings were semantic differential scales, including the following adjectives: sincere-insincere, pleasant-unpleasant, honest-dishonest, shallow-profound, tense-relaxed, ruthless-humane, believing-skeptical, hostile-friendly, inferior-superior, reliable-unreliable, direct-evasive, straightforward-confusing, expert-inexpert, nervous-not nervous, fair-unfair, stable-unstable.

the reverse, the below-eye-level shot forces viewers of the picture to perceive themselves as spatially below the person depicted. Additionally, if the form is invisible, the person depicted will be viewed as if actually on a higher plane. If the form is visible, the viewer will be cognizant of the fact that the spatial difference is a result of camera angle. The object will still be seen in the manipulated spatial relationship to the viewer, but he or she will be aware that it is manipulated by camera-eye. If meanings are associated with this spatial relationship, they should be attached to the object depicted if form is invisible. If form is visible, such meanings should be attached to the form and not the object depicted.

Peter's ideas are adopted here because of their value in rethinking the conceptualization of mass communication as a delivery vehicle and in rethinking the assumption that the shot is not systematically analyzable. Obviously, the relationship between vertical camera angle and source credibility is not yet explained. What is specifically lacking is the connection between the manipulation of spatial relationship and perceptions of source credibility.

Camera angle and dominance.

Tiemans (1970) bases his experiment on practical wisdom suggesting that vertical camera position influences perceptions of dominance and power. As argued above, manipulation of vertical camera angle influences the spatial

relationship between the viewer and the object depicted. Machotka and Spiegel (1982) label the vertical relationship between two people vertical syntropism. Further, isotropism refers to equal vertical placement. Positive acrotropism refers to a condition in which an object person is above another person. Negative acrotropism is when the object person is below the other person. Expanding their concepts to include objects as well as people and accepting the notion that vertical camera angle results in perceptions of discrepancy in relationships in vertical space yields the following proposition:

> Proposition 2: Camera angle is related to vertical syntropism such that cameras positioned below the normal viewing level of the object depicted produce positive acrotropism for the viewer of the picture and cameras positioned above the normal viewing level of the object depicted produce negative acrotropism for the viewer of the picture. Cameras placed at the normal level of the object produce isotropism.

Proposition 1c suggests that if the vertical camera angle is subtle, the viewer will perceive the object through the eye of the camera without becoming aware of the camera-eye manipulation. Therefore, if the camera positioning is subtle, the viewer will perceive the person depicted as if actually above or below because the camera angle manipulation will be invisible. If the camera position is noticeable, the

spatial relationship will be perceived but the viewer will attribute it to the camera position and not to the actual vertical displacement of the person depicted.

Again, Tiemans (1970) bases his investigation on the assumption that camera angle influences perceptions of power and dominance. Given the validity of the arguments presented thus far, the important question becomes whether or not vertical syntropism influences perceptions of power and dominance.

Neither power nor dominance are well defined in either the practical literature or the three experiments described in Appendix A. Both terms are commonly used in the social and psychological literature to refer to the ability to control another person's behavior. Power is generally conceptualized as the potential or the ability to influence the behavior of others. It is generally conceived to be asymmetrical and based on some form of means control or reinforcement potential. Harold Anderson (1937a, 1937b, 1939a), Berger, Cohen, and Zelditch (1966), and Maccoby and Jacklin (1974) suggest dominance is the exercise of such power. Status is typically used by these authors to refer to a hierarchical ranking of other persons based on perceptions of power or dominance.

As Machotka and Spiegel (1982) conclude, the role vertical syntropism plays in establishing dominance hierarchies has not been systematically studied. Henley (1977) suggests that most nonverbal literature tends to investigate the effects of

behavior on such dependent variables as attitudes, liking, intimacy, emotive expressions, and relations to verbal message content. Unlike Mehrabian's (1972) suggestion that nonverbal communication varies on empirically derived dimensions of evaluation, potency, and responsiveness, Henley follows Brown (1965) and argues for a horizontal and vertical distinction. The horizontal contains those behaviors which facilitate social exchange. The vertical dimension pertains to the power or status relationship between communicators.

Henley's choice of the vertical dimension to represent power relationships is on one hand arbitrary. As she points out, many power indicators have little if any reference to spatial dimensions (e.g., Goffmann, 1967). On the other hand, there seems to be an intuitive conceptual relationship between power or status and vertical ordering. As she points out, most people are controlled by those larger from birth through early adolescence. References to vertical syntropism and power also appear in common expressions of speech such as "underlings," "looking up to," "working under," and "on top of." Artistic depictions of Homeric heroes and Egyptian Pharaohs stand a head taller than ordinary soldiers, and a common person does not normally hold his or her head higher than a leader in primitive societies.

A number of authors suggest that dominance hierarchies are necessary for performance within a social group because humans as well as animals need to be aware of their status or

ranking in a hierarchical structure (Gellert, 1961, 1962; McGrew, 1972; Savin-Williams, 1976, 1977, 1979; Strayer & Strayer, 1976). Investigations using a variety of methodologies suggest people placed in situations requiring group action rapidly form dominance hierarchies and that individuals are rather accurate in perceiving who does and does not control or attempt to control the behavior of others.

Tinbergen (1968), Maclay and Knipe (1972), and Wynne-Edwards (1962) take a bio-sociological perspective and suggest that dominance hierarchies are based on physical power. Tinbergen suggests humans are predisposed to behave in ways that permit successful interactions and that balance drives of fear and aggression. Maclay and Knipe make the argument that humans, like all social animals, engage in a pseudo-fight in which various forms of symbolic acts take the place of physical aggression. In general, these maneuvers involve a confrontation ritual based on dominance rankings, confidence and potential fighting ability rather than on physical strength or skill. The pseudo-fight results from the need to avoid the physical harm encountered in struggles.

Maclay and Knipe claim the human pseudo-fight is more complex than that found in the animal world because people attempt to protect themselves from physical harm and the loss of self-esteem or social position. They suggest, however, that as with less social animals, physical strength may be an important factor in deciding conflicts between people. The

authors offer much indirect evidence in support of their claim. For example, they cite a 1915 statistical review indicating bishops are generally taller than clergymen, university presidents taller than college presidents, insurance executives taller than policy holders, and sales managers taller than salesmen. Blau (1964) argues similarly that physical power underlies most human relationships.

More current investigations support the relationship between physical size and dominance. Scheflen (1973) suggests that a slumping posture is a sign of submissiveness. Feldman (cited from Henley, 1977) suggests that standing erect is a sign of dominance, but that being tall is an even better indicator. Reversing the relationship, people of high status are perceived to be taller than those of lower status (Dannenmaier & Thumin, 1964; Wilson, 1968). One of the better predictors of success in sales, measured by both job acquisition and performance, is height (Dunnette & Kitchner, 1975; Harrell, 1960; Kurtz, 1969; Lamont & Lundstrom, 1977; Mosel, 1952; Ohmann, 1941). Other anecdotal examples also suggest power is related to physically elevated positions (Korda, 1975; Packard, 1957).

Studies of dominance hierarchies among groups of children indicate young children establish stable dominance hierarchies based partially on physical size and strength (H. Anderson, 1937a, 1937b, 1939a, 1939b; Savin-Williams, 1976, 1977, 1979). Studies of adolescents also indicate that they

form dominance hierarchies but that older youths are more likely to base them on characteristics other than physical prowess. Savin-Williams (1980) argues that physical attributes are more prevalent in younger children because their physical traits are more salient and because physical differences are greater among the young. Additionally, as children grow older and socialize into more acceptable models of behavior, traits other then physical power become increasingly important. Yet, as a number of case analyses show, dominance hierarchies based on physical size and fighting ability do not totally disappear among adolescents or adults (Suttles, 1968; Thrasher,1927; and Whyte, 1943).

Machotka and Spiegel (1982) report an experiment relating spatial relationships to perceptions of dominance. They suggest that meaning derived from viewing line drawings of human figures is a function of both the vertical height and position of the figure's head.7 The authors claim a main effect for vertical displacement on perceptions of dominance such that higher heads were perceived as being superordinate and important. If a lower head position is combined with a bowed head, the person is seen as subordinate and insignificant. The lower figure is perceived as friendly so long as the head is not bowed.

7. The manipulation included conditions of looks ahead, looks at other figure, and looks down. Head position showed effects for more perceptions than did vertical syntropism. Adjectives used in ratings were: hostile, haughty, distant, initiating, superordinate, important, friendly, subordinate, insignificant, humble, approaching, other-concerned, intimate, withdrawing, self-concerned, and receiving.

The above literature, although far from conclusive, suggests that physical height or elevation may be positively related to perceptions of power and dominance. The trend appears to be an emphasis on physical power during youth and a gradual socialization toward dominance judgments based on other characteristics during adolescence. Yet, in several studies the dominance and vertical acrotropism relationship was found among adolescents and adults. The conclusion seems to be that the relationship between perceptions of dominance and vertical syntropism may be weak or contingent on other factors.

The theory of status characteristics offered by Berger, Cohen and Zelditch (1966), and Cohen and Roper (1972) is of value in explaining the relationship between vertical syntropism and power. The theory suggests that when groups form for task accomplishment, people quickly seek cues concerning each others' competence in contributing to the goal attainment. In conditions of ambiguity, any cue can be used, unless it is known to be irrelevant. Irrelevancy, according to the theory, is determined by negative inference. That is, a positively valued cue is assumed to be relevant to task completion unless prior learning experience has shown it to be unrelated. This burden of negative proof is used to explain why dominance perceptions are often based on apparently irrelevant attributes of physical size, sex, and race (in addition to the size studies cited above, see Adams,

1980; Adams & Landers, 1978; E. Cohen, 1974; Cohen & Roper, 1972; Fenelon & Megaree, 1971; Katz & Benjamine, 1960; Katz & Cohen, 1960; Lockheed & Hall, 1976).

When combined with the literature suggesting a relationship between vertical syntropism and power, the theory of status characteristics suggests that when faced with a need to judge power relationships under conditions of ambiguity, people may base such judgments on physical size or elevation. This would particularly be the case if vertical syntropism is the only cue available, is known to be relevant to the situation at hand, or is not known to be irrelevant to the situation at hand. Stated in propositional format, these arguments lead to the following:

> Proposition 3: Vertical syntropism is related to perceptions of dominance and power in situations in which persons make dominance or power judgments such that the higher person will tend to be perceived as more powerful or dominant if the spatial difference is the only cue available to distinguish between people, if the cue is not known to be unrelated to the power or dominance in the given task situation, or if the cue is known to be related to power or dominance in the given task situation.

Camera angle and credibility.

Despite the fact that credibility is probably the most thoroughly studied construct concerning perceptions of communicators, an argument similar to that outlined above cannot be as easily made. Whereas vertical syntropism can be logically related to power and to behavioral control based on its implication of physical power and status ranking, credibility is generally used as a measure of the persuasiveness of a message source. It would seem that the acceptability of a message would be logically unrelated to vertical syntropism in most situation and given most message topics. Making the case for the relationship requires a review of theoretical writing on credibility.

The conceptualization of source credibility as the receiver's perception or evaluation of the source of a message is traceable to Aristotle (1954). He indicates the multi-dimensionality of ethos by suggesting it is based on the receiver's evaluation of the source's intelligence and character. Hovland and his associates (Hovland, Janis, & Kelly, 1953; Hovland, Lumsdaine, & Sheffield, 1949) define credibility, quite like Aristotle, as the receiver's perception of the source's expertness and trustworthiness. Essentially, credibility is the most effective means of persuasion and the generalization that a highly credible source is more persuasive than a low credible source is one of the more consistently supported main effects in the

communication literature.

Unfortunately, not much available research is directly applicable to the relationship between vertical syntropism and perceptions of source credibility. Since the early conceptualization and study of the effects of credibility, many investigations have been undertaken to determine the generalizable dimensions of source credibility (e.g., Anderson & Clevenger, 1963; Cronkite & Liska, 1976; Delia, 1976; Lashbrook, 1971; Littejohn, 1971). As a number of authors have commented (Cronkhite & Liska, 1976; Delia, 1976; Kaplan, 1976; King, 1976), these studies of credibility may have done as much to obscure the theoretical relevance of credibility to communication exchanges as to explicate its role as either a antecedent or consequence of communication effectiveness. As a number of reviews suggest, most of the empirical efforts to discover the dimensionality of credibility have been post hoc methods utilizing factor analytic techniques. Delia (1976) summarizes the reviews of these factor analyses (e.g., Applbaum & Anatol, 1973, 1974; Hensley, 1974; Steinfatt, 1974; Tucker, 1971a, 1971b) as indicating the generalizability and stability of the factor structures are suspect. He suggests the problem is that theory was abandoned in favor of the psychomethods outlined by Osgood, Suci and Tannenbaum (1957). Delia argues that the definition of credibility has eroded from dependence on a specific communication context to a more generalized interpersonal or social perception of personality traits.

As a solution to the atheoretical problem, Delia (1976) calls for a constructivist approach to source credibility. The basis for such a conceptualization is the assumption that one's knowledge is based on what one perceives and that perception is based on one's construct system. Similar thoughts are expressed by Heider (1958), who argues that while people observe the concrete behavior of others, they attribute causes for the behavior in order to create a more consistent, ordered, and predictable world. In Heider's terms, the behavior mediates the causes for behavior observed. The causes for behavior are generally of two types, dispositional and environmental (e.g., H. Kelly, 1973; Orvis, Cunningham, & Kelly, 1975).

The meaning of the factors of credibility, from the constructivist perspective or from attribution theory, rests in the commonality between individual construction systems. As implied by George Kelly's (1958) commonality corollary (see Appendix D), successful communication exchange requires a sharing of constructs. As Delia argues, it is likely, given common experience and socialization, that individual construct systems share a common ground. Factors extracted from credibility studies likely represent a related set of constructs used in similar ways by a group of people confronting a given range of phenomena.

Delia further suggests that credibility is best understood from the perspective of the naive social actor, an

epistomological assumption derived directly from Heider and Kelly. Like the early definitions of credibility discussed above, most people probably equate credibility with acceptance or rejection of another person's message. Delia and his associates (Delia, Crockett, Press, & O'Keefe, 1975; Press, Crockett, & Delia, 1975)) suggest that the receiver of information judges the source of a message differently in different task situations.

Delia (1976) argues that credibility can only exist in a communication context in general and typically only in a persuasive communication context. Stated differently, judgments of credibility only take place when a receiver perceives the need to evaluate the source in terms of the believability of the message content. He goes on to suggest that the nature of the communication situation likely influences how that judgment is made. For example, Kaplan (1976) suggests a conceptualization of credibility based on source appropriateness. Essentially, he argues that in some situations, a receiver judges a source based on cues relating to intelligence or expertness with relation to the message topic. In situations involving more subjective topics, coorientation may be paramount.

Collins (1970) suggests receivers make such communication relevant judgments based on a problem-solving orientation, an identity orientation, an authority orientation, or a consistency orientation. The former is the more traditional credibility situation and probably best represents the

dimensionality found in the empirical literature. The identity orientation is similar to Kaplan's coorientation and concerns those situations in which homophyly or attraction are used to evaluate a message source. Authority orientations encompass those cases in which message sources are evaluated according to their legitimate power or status position. Consistency orientation involves the similarity of relevant attitudes or beliefs.

These different orientations are a possible explanation for the reversed finding of McCain et al. (1977). Those authors suggest that dominance and homophyly are inversely related. While that assumption is debatable, the findings of Machotka and Speigel (1982) do suggest that positive acrotropism tends to be inversely related to perceptions of friendliness. It might be that the experimental condition created by McCain et al. created a situation in which identification was highly valued and a high camera position therefore produced perceptions of friendship and coorientation. Obviously, this explanation is speculative and it is offered without adequate knowledge concerning the conditions established in that experiment.

The constructivist conceptualization of credibility is intuitively pleasing because it squares with a common-sense notion about how a person goes about judging another's credibility and because it offers a theoretical explanation for the variability of the number and type of dimensions

found in the empirical investigations on source credibility. Taken to its logical extreme, however, George Kelly's (1958) individuality and range corollaries (see Appendix D) suggest that each person's construction system is unique and that each construct fits only a limited range of experience. Such individual and context boundaries to generalizability are particularly problematic because this paper concerns a mass communication effect. While it has previously been argued that the majority of relevant research has overemphasized the delivery aspect of mass communication at the expense of the expressive capacity of production techniques, it should not be forgotten that mass communication is primarily one-way, and primarily directed at a mass audience. Individual and situational specific attributions of credibility suggest return of a null effects paradigm (Klapper, 1960).

Fortunately, the attribution perspective need not be interpreted as denying the possibility of generalizable effects. Rather, Kelly's commonality corollary and a common-sense realization that there is a common ground in most communication exchanges suggest that in many cases people make attributions with enough similarity to make generalizations concerning mass communication possible. The value of the attribution position is its focus of attention not simply on the attributes of the source but also on the frame of reference of the receiver of the message.

The need to consider the communication task or situation is at first glance problematic given the heterogeneity and

anonymity of the mass communication audience. As suggested by the uses and gratifications perspective (Blumler & Katz, 1974), people use the media for different purposes. Based on the argument discussed above, it is reasonable to assume these different uses may yield different criteria on which credibility is based. Any relationship between camera angle and credibility will therefore have to be qualified by the boundaries of subject and audience limitations. For example, if Delia's claim is correct that credibility pertains only to persuasive contexts, then the camera angle and credibility manipulation is meaningless if associated with content consumed for escape or entertainment. This problem suggests the need to investigate typical media viewing situations. It is assumed here that there is enough commonality in the nature of mass media consumption to make generalizations possible. But, it must be recognized that the generalizations hold for the situational boundaries only.

Even accepting the constraints of a limited range of applicability, the relationship between vertical syntropism and source credibility has yet to be established. Looking again to attribution theory, the suggestion is that physical characteristics and behavior are typically used by people to characterize the dispositional properties of another. The nature of the attribution process is debatable (Appendix D). A common assumption of most perspectives, however, is that people attribute behavior to either dispositional

characteristics of the actor or to the environment. Further, these attributions can be based either on the behavior itself, or on inferences from other behaviors or characteristics.

Reference to this latter process is found in George Kelly's (1955) organization corollary. The nature of the inference process is again not necessarily agreed upon, but is essentially an "if, then" type of attribution in which one observed characteristic suggests another. Unfortunately, the majority of the attribution relevant studies have not dealt with credibility and therefore provides little evidence that vertical syntropism can influence credibility (see Appendix D).

The status characteristic theory discussed above (Berger et al., 1966) can again be used to provide a theoretical linkage between credibility and vertical syntropism. The theory suggests that people use various status cues to determine the likely competence of another in successfully completing a task objective by establishing an expectation of performance. Given conditions of ambiguity with regard to another's competence, the theory suggests logically irrelevant cues can be used in forming the expectation. Influence is then yielded to the person because others form an expectation that he or she is more likely to facilitate task completion.

To apply this theory to credibility, the latter term has to be defined in terms of an expectation of goal attainment. Such a position is not unlike that suggested by the

constructivist position outline above. When presented with a persuasive message, the receiver is faced with a need to decide whether or not to adopt a message. The receiver should, according to status characteristic theory, look for cues to aid in making the decision. The theory also suggests the cues should be related to an expectation that adoption will be in some way rewarding. This notion of credibility as relating to an expectation of task accomplishment is supported by McCain et al's (1977) finding that vertical camera angle is related to task attractiveness (McCroskey & McCain, 1972; McCroskey, Hamilton, & Weiner, 1974).

Given conditions of ambiguity with respect to the expectation of the source's competence concerning the given task, status characteristic theory suggests people will likely pick available source cues that are not known to be not associated with credibility. Based on the arguments presented thus far, the following propositions are offered:

Proposition 4: Vertical syntropism is related to perceptions of source credibility in situations in which a person must make an evaluation of the appropriateness of a message source such that the higher person will be perceived as being more credible if the judgment is made under conditions of ambiguity, if the vertical syntropism cue is not known to be unrelated to credibility in the given task situation, or if the cue is known to be related to credibility in the given task situation.

At this point in the theoretical development, no relationship can be offered concerning differential effects of vertical syntopism on the dimensions of source credibility. According to the status characteristic theory, however, vertical syntropism should be related to task attractiveness.

Proposition 5: Vertical syntropism is related to perceptions of task attractiveness in situations in which a person must make such an evaluation such that the higher person will be perceived being more task attractive if the judgment is made under conditions of ambiguity, if the vertical syntropism cue is not known to be unrelated to task attractiveness in the given task situation, or if the cue is known to be related to task attractiveness in the given task situation.

The propositions and definitions presented above lead to the following research hypotheses:

H1: There will be a main effect for vertical camera angle on perceptions of a message source credibility and dominance such that photographs taken with cameras placed below eye-level of the source will result in higher credibility and dominance evaluations than cameras placed at eye-level, which will result in higher evaluations than if the camera is placed above the eye-level of the source.

H2: There will be a main effect for vertical camera angle on perceptions of the task attractiveness of a

message source such that photographs taken with cameras placed below eye-level of the source will result in higher task attractiveness evaluations than cameras placed at eye-level, which will result in higher evaluations than if the camera is placed above the eye-level of the source.

H3: There will be an ordinal interaction between camera angle and the relevance of the communication situation such that the relationship hypothesized in H1 and H2 will be strongest for relevant message situations.

Chapter 2

To test the hypotheses developed above, two males were photographed using three camera angles. The individuals were chosen from the local business community to reduce the likelihood they would be familiar to the experimental subjects. White males were selected to better match the racial and ethnic backgrounds of the experimental subjects. To control for variation in facial expressions, clothing, etc., each of the males was photographed using three 35mm, tripod-mounted cameras with the shutters triggered simultaneously.

The manipulation of camera angle involved placing the middle camera at the eye-level of the message source and then varying the other cameras eight degrees above and below. The eight degree variation was chosen to best represent the maximum of vertical syntropism encountered in real-life situations.8 The message source was instructed to look at the middle camera.

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8. According to the World Almanac (Newspaper Education Association, 1984), the discrepancy between the average height and the maximum and minimum height of a representative sample of 18 year olds is about five inches. Hall (1965) suggests the boundary between personal and social distance is about four feet of separation. A photograph is typically viewed at arm's length or less, or about one to one and one-half feet. The range of normal height (vertical) differences and interaction zones (horizontal distances) results in about eight degrees of vertical variation. McCain et al used angles ranging from about 9 to 18 degrees above and below eye level. The 18 degree variation they labelled extreme and the nine degree subtle. Mandell and Shaw used an angle of about 12 degrees above and below eye-level. Based on a self report measure, they claim subjects were unaware of any special camera affects. Tiemans used angles of 18 degrees.

The resulting photographs were then screened by a professional print shop using a 100-line screen. The screened photographs were then pasted on white paper and multiple copies produced using a xerox-type process. The copied photographs were then collated with instructions and a series of questions. Examples of the experimental stimuli are included in Appendix F.

To achieve adequate power, the photograph-questionnaire packages were shown to 180 experimental subjects randomly assigned to treatment conditions (see Appendix E). The subjects were obtained from advertising classes at Michigan State University. All the experimental subjects were upper division students and 66 were male. The mean age was 21.79 years (standard deviation of 2.70). Nearly all (95 percent) were white.

To preclude prior opinions relevant to the message topic or message and delivery characteristics from interacting with or masking the effect of the camera angle manipulation, the photos were presented to subjects without an associated message content or even acknowledgement of which side of the issue the person depicted represented. Rather, the photographed message sources were associated with one of two issues, the quality of education at Michigan State University (irrelevant to size) and the quality of players in the United States Football League (not obviously irrelevant to size). In both situations, the subjects were told an organization was evaluating a potential spokesperson and that the person would

be delivering messages relative to the topic to a variety of groups via print and broadcast media.

After reading a set of instructions, the subjects were asked a series of Likert-type questions to determine the importance of the source attributes of competence, identification, homophyly, and coorientation in the communication situation and to check the creation of size-relevancy and size irrelevant communication contexts.

The responses suggest the manipulations were successful with one exception (see Table 1). In the communication situation created in the experiment, subjects tended to place greater importance on message source competence than on any of the other source attributes. The relevance of size and physical power was correctly manipulated by the selection of message topics, but liking was rated as more important than physical size or power in both the size-irrelevant and size-relevant conditions.

The subjects were then exposed to the photograph by turning the page of the instrument. Following examination of the photograph, they were asked to respond to a series of semantic differential and Likert-type scales measuring perceptions of credibility and attractiveness (McCroskey et al., 1974). In addition, items designed to measure power, dominance, and physical size were added to the semantic differential items.

In general, the respondents indicated confidence in their evaluation of the message source (mean=2.58; SD=0.82); were in somewhat less agreement that the task was easy (mean=2.71; SD=0.81); and indicated neutrality concerning whether or not the task was clear-cut (mean=2.99; SD=0.99).9 There were no significant differences in the task evaluations across the relevance condition or across message sources.

Table 1
Mean Responses to Manipulation Check Items

	Relevance to Size	
Item	Irrelevant (n=90)	Relevant (n=90)
Feel emotionally close	3.42	3.70*
Like the person	2.56	2.54
Be like me	3.19	3.34
Be physically powerful	3.56	3.09**
Larger person better	3.39	2.68**
Be an expert	1.68	1.73
Know as much as possible	1.38	1.51
Know more than me	1.86	1.70

* F-ratio significant at p=0.05
** F-ratio significant at p=0.001

A final open-ended question asking the subjects to describe anything unusual about the photograph was intended

9. Coding was as follows: 1=strongly agree, 2=agree, 3=neither agree nor disagree, 4=disagree, and 5=strongly disagree.

as a check of the subtlety of the camera angle manipulation. None of the respondents made any reference to camera angle. Rather, all of the comments received referred to physical characteristics of the message source.

A check of the a priori credibility factors suggested by McCroskey et al. (1974) resulted in marginal reliability coefficients (see Table 2) as did investigation of the measures of power, status, and size created in this investigation. The individual items were therefore entered into a principal components factor analysis, with communalities on the diagonal, to determine if an empirically derived structure would improve the reliability of the a priori measures while remaining theoretically interpretable. A varimax rotation was used to simplify the factor structure by maximizing the variance of the squared factor loadings. Based on that analysis a five-factor solution (see Table 3) was selected because it represents the best solution based on criterion of variance accounted for, factor reliability, theoretical interpretability, and inclusion of the greatest number of factors. Reliability coefficients for scales created by summing the individual items as indicated in Table 3 are included in Table 4.

Table 2
Reliability Coefficients for A Priori Scales

Scale	Alpha	Scale	Alpha
Sociability	.71	Homophyly	.76
Extroversion	.76	Status	.77
Competence	.69	Size	.76
Composure	.71	Power	.84
Character	.84		

Table 3
Factor Loadings (Varimax Rotation)

	Factor Loadings				
Factors/Items	F1	F2	F3	F4	F5
Likeability					
Cheerful-Gloomy	.51	.27	.21	-.16	.13
Friendly-Unfriendly	.58	.11	.09	-.19	.05
Honest-Dishonest	.76	-.14	.22	.10	.06
Good-Bad	.75	.01	.30	.12	.12
Sympathetic-Unsympathetic	.72	-.05	.09	.02	.13
Relaxed-Tense	.51	.06	.35	-.02	.22
Good natured-Irritable	.66	.03	.17	.03	.28
Power					
Verbal-Quiet	.07	.72	.01	.05	.11
Forceful-Weak	.08	.56	.33	.32	.07
Bold-Timid	-.03	.77	.27	.22	.04
Dominant-Subordinate	-.03	.66	.35	.33	.01
Strong-Weak	.02	.51	.32	.37	.14
Aggressive-Passive	-.34	.59	.37	.29	.11
Talkative-Silent	.27	.60	-.03	.06	.16
Competence					
Intellectual-Narrow	.30	.03	.53	-.01	.02
Expert-Inexpert	.29	.17	.51	.04	.19
Intelligent-Unintelligent	.34	.15	.58	.06	.04
Poised-Nervous	.35	.22	.53	.01	.22
Superior-Inferior	.08	.29	.61	.12	.30
Size					
Large-Small	-.13	.21	.05	.81	.05
Big-Little	-.05	.24	.01	.86	.06
Homophyly					
Doesn't share my values-Shares my vales	.28	.06	.14	.05	.58
Thinks like me-Doesn't think like me	.27	.24	.32	.01	.71
Dropped items					
Calm-Anxious	.33	-.25	.38	.11	.08
High ranking-Low ranking	.10	.34	.47	.14	.09
Tall-Short	.15	.17	.10	.38	-.08
Like me-Unlike me	.46	.22	.23	-.09	.43
Important-Unimportant	.24	.37	.48	.13	.26
Percent of common variance	52.4%	27.9	8.5	6.5	4.8

Table 4
Reliability Coefficients for A Priori Attraction Scales

Scale	Alpha	Scale	Alpha
Likeability	.87	Homophyly	.71
Power	.84	Size	.88
Competence	.80		

Factor 1, labelled likeability, appears to be a blending of the sociability and character dimensions suggested by McCroskey et al. Factor 2, labelled power, is a combination of the extroversion dimension found by McCroskey et al. and the power items created in this investigation. Factor 3, competence, is a blending of the traditional competence measures with a status and composure item. Factor 4, size, and Factor 5, homophyly, represent the a prior scales with single items omitted. The likeability, competence, and homophyly factors appear to be associated with traditional dimensions of source credibility. Power is similar to extroversion, but also incorporates measures suggesting dominance.

The reliability of interpersonal attraction scales (McCroskey et al., 1974) is adequate (see Table 5), and no better solution was empirically derived by factor analyzing responses to the individual items. The a priori scales were therefore used to test hypotheses 2 and 3.

Hypotheses 1 and 3 were tested by a series of ANOVA's using likeability, competence, power, and homophyly, as dependent measures and the message source, size relevancy,

Table 5
Reliability Coefficients for Empirical Factor Structure

Scale	Alpha
Social Attraction	.75
Task Attraction	.84
Physical Attraction	.87

Reliability Coefficients for A Priori Attraction Scales and camera angle as factors. The resulting analyzes yielded 2x2x3 factorials with message source a random factor. The error terms used in computing the F-ratios for the relevance and camera-angle main effects and for the relevance by camera-angle interaction followed that suggested by Winer (1974) for a mixed model analysis. Summaries of the ANOVA's are included in Tables 6 through 10.

The results of the analysis of variance do not provide support for Hypotheses 1 and 3. A significant main effect for camera angle is indicated for the likeability factor, but in the reverse order suggested by Hypothesis 1 (see Table 6). None of the camera angle by relevancy interactions are significant at the 0.05 level.

Additionally, even though no specific hypotheses relating camera angle to perception of physical size were made in Chapter 1, the size factor was analyzed to see if

camera angle altered such evaluations. No main effect for camera angle was found for the size factor, but significant effects are indicated for person and for relevancy of message to physical size.

Table 6
Likeability by Message Source, Relevance, Camera Angle

Means*	Person 0			Person 1			
	Camera Angle			Camera Angle			
	Above (n=30)	Eye (n=30)	Below (n=30)	Above (n=30)	Eye (n=30)	Below (n=30)	Row means
Irrev (n=90)	17.60	16.47	18.73	16.40	17.73	19.20	17.69
Relevant (n=90)	16.47	17.60	18.33	18.93	17.47	19.73	18.09
Column means	17.04	17.53 17.04	18.53	17.67	18.24 17.60	19.46	Grand mean 17.89

* Index includes seven items, each with five point scales. Coding was such that lower numbers indicate more likeability.

ANOVA

Effect	Df	MS	F	S	Eta2
Person (A)	1	22.76	1.05	ns	.01
Relevance (B)	1	7.20	.56*	ns	.00
Angle (C)	2	55.57	97.49*	<.05	.03
AxB	1	12.80	.59	ns	
AxC	2	.57	.03	ns	
BxC	2	1.52	.06*	ns	
AxBxC	2	24.12	1.10	ns	
Residual	168	21.74			

Multiple R2 = .04

* F ratio for Effect B computed using MS(AxB) as denominator and df(1,1). F ratio for Effect C computed using MS(AxC) as denominator and df(2,2). F ratio for BxC interaction computed using MS(AxBxC) as the denominator and df(2,2).

Table 7
Competence by Message Source, Relevance, Camera Angle

Means*	Person 0			Person 1			
	Camera Angle			Camera Angle			
	Above (n=30)	Eye (n=30)	Below (n=30)	Above (n=30)	Eye (n=30)	Below (n=30)	Row Means
Irrev (n=90)	12.13	11.27	12.67	10.87	11.60	13.00	11.92
Relevant (n=90)	12.33	11.80	12.60	12.40	11.53	12.80	12.24
Column means	12.23	12.13 11.53	12.63	11.64	12.03 11.57	12.90	

* Index includes five items, each with five point scales. Coding was such that lower numbers indicate more competence.

ANOVA

Effect	Df	MS	F	S	Eta2
Person (A)	1	.45	.05	ns	.00
Relevance (B)	1	4.67	10.38*	ns	.00
Angle (C)	2	23.22	7.16*	ns	.03
AxB	1	.45	.05	ns	
AxC	2	3.02	.32	ns	
BxC	2	1.52	.06*	ns	
AxBxC	2	3.82	.40	ns	
Residual	168	9.44			

Multiple R2 = .03

* F ratio for Effect B computed using MS(AxB) as denominator and df(1,1). F ratio for Effect C computed using MS(AxC) as denominator and df(2,2). F ratio for BxC interaction computed using MS(AxBxC) as the denominator and df(2,2).

Table 8
Homophyly by Message Source, Relevance, Camera Angle

Means*	Person 0			Person 1			
	Camera Angle			Camera Angle			
	Above (n=30)	Eye (n=30)	Below (n=30)	Above (n=30)	Eye (n=30)	Below (n=30)	Row Means
Irrel (n=90)	6.07	6.40	6.47	6.20	6.13	6.47	6.29
Relevant (n=90)	7.33	6.13	6.40	6.53	6.13	6.93	6.58
Column means	6.70	6.47 6.27	6.44	6.37	6.40 6.13	6.70	Grand mean 6.43

* Index includes two items, each with five point scales. Coding was such that lower numbers indicate greater homophyly.

ANOVA

Effect	Df	MS	F	S	Eta2
Person (A)	1	.20	.10	ns	.00
Relevance (B)	1	3.76	188.00*	<.05	.01
Angle (C)	2	2.47	1.76*	ns	.01
AxB	1	.02	.01	ns	
AxC	2	1.40	.70	ns	
BxC	2	3.36	1.16*	ns	
AxBxC	2	2.29	1.15	ns	
Residual	168	21.74			

Multiple R2 = .03

* F ratio for Effect B computed using MS(AxB) as denominator and df(1,1). F ratio for Effect C computed using MS(AxC) as denominator and df(2,2). F ratio for BxC interaction computed using MS(AxBxC) as the denominator and using df(2,2).

Table 9
Power by Message Source, Relevance, Camera Angle

Means*	Person 0			Person 1			
	Camera Angle			Camera Angle			
	Above (n=30)	Eye (n=30)	Below (n=30)	Above (n=30)	Eye (n=30)	Below (n=30)	Row Means
Irrel (n=90)	20.73	20.60	18.27	16.20	18.33	16.93	18.51
Relevant (n=90)	20.20	19.73	18.87	18.00	17.07	18.27	18.69
Column means	20.47	19.73 20.17	18.53	17.10	17.47 17.70	17.60	Grand mean 18.60

* Index includes seven items, each with five point scales. Coding was such that lower numbers indicate more power.

ANOVA

Effect	Df	MS	F	S	Eta2
Person (A)	1	64.33	11.42	<.001	.06
Relevance (B)	1	1.42	.16*	ns	.00
Angle (C)	2	55.57	.56*	ns	.01
AxB	1	17.73	.88	ns	
AxC	2	8.89	.44	ns	
BxC	2	17.84	2.52*	ns	
AxBxC	2	4.12	1.10	ns	
Residual	168	20.24			

Multiple R2 = .07

* F ratio for Effect B computed using MS(AxB) as denominator and df(1,1). F ratio for Effect C computed using MS(AxC) as denominator and df(2,2). F ratio for BxC interaction computed using MS(AxBxC) as the denominator and df(2,2).

Table 10
Size by Message Source, Relevance, Camera Angle

Means*	Person 0			Person 1			
	Camera Angle			Camera Angle			
	Above (n=30)	Eye (n=30)	Below (n=30)	Above (n=30)	Eye (n=30)	Below (n=30)	Row Means
Irrel (n=90)	5.53	5.40	5.80	4.40	4.53	3.53	4.87
Relevant (n=90)	5.27	6.27	5.87	4.67	4.27	4.47	5.13
Column means	5.40	5.69 5.84	5.84	4.54	4.31 4.40	4.00	Grand mean 5.00

* Index includes seven items, each with two point scales. Coding was such that lower numbers indicate larger size.

ANOVA

Effect	Df	MS	F	S	Eta2
Person (A)	1	85.42	46.23	<.001	.20
Relevance (B)	1	3.20	35.95*	<.05	.01
Angle (C)	1	.65	.68*	ns	.00
AxB	1	.09	.05	ns	
AxC	1	3.54	1.92	ns	
BxC	1	.95	.22*	ns	
AxBxC	1	.03	.03	ns	
Residual	168	1.85			

Multiple R2 = .22

* F ratio for Effect B computed using MS(AxB) as denominator and df(1,1). F ratio for Effect C computed using MS(AxC) as denominator and df(2,2). F ratio for BxC interaction computed using MS(AxBxC) as the denominator and df(2,2).

Further probing provides some insight into the relationships between camera angle and the credibility factors. Winer (1974) suggests a reduction in the factorial model and a pooling of the error term if the factor or interaction is of no theoretical significance and if the probability associated with the F-ratio is above a conservatively set level of 0.20 or 0.30. Snedecor and Cochran (1967) suggest a rule of thumb of an F-ratio of 1.00 or less for such pooling of error.

In the case of the likeability factor, the rule suggested by Winer is applicable. Collapsing the treatments across persons and then relevancy yields the means indicated in Table 11. Examination of those means suggests that the below eye-level camera angle produced a significantly

Table 11
Likeability by Relevance, Camera Angle

Means*	Camera Angle			
	Above (n=60)	Eye (n=60)	Below (n=60)	
				Row means
Irrelevant (n=90)	17.00	17.10	18.97	17.69
Relevant (n=90)	17.70	17.54	19.03	18.09
				Grand
Column means	17.35	17.32	19.00	mean 17.89

* Index includes seven items, each with five point scales. Coding was such that lower numbers indicate more likeability.

less likeable image than either the eye-level or above eye-level camera angles.

Following the same post-hoc procedure for competence yields a two-step reduction in the factorial model. First, collapsing across the message source conditions results in a 2x3 fixed-factor model. Examination of Table 12 indicates an F-ratio for the relevancy factor of less than 1.

Table 12
Competence by Relevance, Camera Angle

ANOVA

Effect	Df	MS	F	S	Eta2
Relevance (B)	1	4.67	.51	ns	.00
Angle (C)	2	23.22	2.52	.08	.03
BxC	2	3.84	.417	ns	
Residual	174	9.20			

Multiple R2 = .03

Further reduction in the model by elimination of the size-relevancy factor produces a one-way analysis of variance with camera angle as the single factor (see Table 13). In this analysis, the main effect for camera angle on evaluations of source competency nears statistical significance. If the above eye-level and eye-level condition are combined, and the analysis repeated, the main effect of camera angle is significant at the 0.05 level. An examination of the means, however, indicates that the

ordering of the effects is in opposition to that predicted in Hypothesis 1 (see Table 14). The below eye-level camera angle produced lower competency evaluations than the above eye-level and eye-level angles.

Table 13
Competence by Camera Angle

Means*

Camera Angle		
Above (n=60)	Eye (n=60)	Below (n=60)
11.94	11.53	12.72

* Index includes five items, each with five point scales. Coding was such that lower numbers indicate more competence.

ANOVA

Effect	Df	MS	F	S	Eta2
Angle (C)	2	23.22	2.52	.08	.03
Residual	177	9.11			

Multiple R2 = .03

Table 14
Competence by Camera Angle (df=1)

Means*

Camera Angle	
Above & Eye (n=120)	Below (n=60)
11.79	12.77

* Index includes five items, each with five point scales. Coding was such that lower numbers indicate more competence.

ANOVA

Effect	Df	MS	F	S	Eta2
Angle (C)	1	42.03	4.60	<.05	.03
Residual	178	9.09			

Multiple R2 = .03

No post-hoc analysis is warranted for the power and size given the significance of the message-source factors, so attention will be directed to the interpersonal attraction scales. The hypothesized main effect for camera angle and interaction of camera angle and size-relevancy on task attractiveness is not supported (see Table 15). No significant effects are evident even after a post-hoc analysis that includes first collapsing across the message-source factor and then combining the above eye-level and eye-level conditions (see Tables 16 and 17). The means in the reduced model (see Table 17) are ordered in the directions predicted in Hypotheses 2 and 3.

A main effect for relevance on social attractiveness is indicated (Table 18). When the analysis is repeated as a 2x3 factorial (collapsing across the message-source factor because of the small F-ratio), the effect for the relevancy factor is no longer statistically significant (see Table 19). Further reduction of the model into a one-way analysis of variance (see Table 19) results in a main effect for camera angle that nears statistical significance. Additional probing by combining the above eye-level and eye-level does not increase the statistical significance. Again, the means are ordered such that the below eye-level camera angle results in less social attraction than the above eye-level or eye-level angles.

Finally, no significant main effect or interaction effect was found for physical attractiveness. Post-hoc analysis also failed to produce significant effects.

Table 15
Task Attractiveness by Message Source, Relevance, Camera Angle

Means*	Person 0			Person 1			
	Camera Angle			Camera Angle			
	Above (n=30)	Eye (n=30)	Below (n=30)	Above (n=30)	Eye (n=30)	Below (n=30)	Row Means
Irrev (n=90)	18.13	17.83	17.53	19.00	18.00	17.40	17.98
Relevant (n=90)	17.00	18.60	17.40	17.13	17.93	17.40	17.58
		17.78			17.81		Grand
Column means	17.65	18.22	17.47	18.07	17.97	17.40	mean 17.78

* Index includes five items, each with five point scales. Coding was such that higher numbers indicate greater attractiveness.

ANOVA

Effect	Df	MS	F	S	Eta2
Person (A)	1	.14	.02	ns	.00
Relevance (B)	1	7.61	3.11*	ns	.01
Angle (C)	2	6.72	2.80*	ns	.01
AxB	1	2.45	.36	ns	
AxC	2	2.37	.35	ns	
BxC	2	13.94	13.67*	ns	
AxBxC	2	1.02	.15	ns	
Residual	168	6.84			

Multiple R2 = .02

* F ratio for Effect B computed using MS(AxB) as denominator and df(1,1). F ratio for Effect C computed using MS(AxC) as denominator and df(2,2). F ratio for BxC interaction computed using MS(AxBxC) as the denominator and df(2,2).

Table 16
Task Attractiveness by Relevance, Camera Angle

Means*	Camera Angle			
	Above (n=60)	Eye (n=60)	Below (n=60)	Row means
Irrel (n=90)	18.57	17.94	17.47	17.98
Relevant (n=90)	17.07	18.27	17.40	17.58
Column means	17.82	18.10	17.44	Grand mean 17.78

* Index includes five items, each with five point scales. Coding was such that higher numbers indicate greater attractiveness.

ANOVA

Effect	Df	MS	F	S	Eta2
Relevance (B)	1	7.61	1.14	ns	.01
Angle (C)	2	6.72	1.01	ns	.01
BxC	2	13.94	2.10	ns	
Residual	174	9.65			

Multiple R2 = .02

Table 17
Task Attraction by Relevance, Camera Angle (Df 1)

Means*	Camera Angle		
	Above & Eye (n=120)	Below (n=60)	Row means
Irrelevant (n=90)	18.26	17.47	17.98
Relevant (n=90)	17.67	17.40	17.58
Column means	17.97	17.44	Grand mean 17.78

* Index includes five items, each with five point scales. Coding was such that higher numbers indicate greater attractiveness.

ANOVA

Effect	Df	MS	F	S	Eta2
Relevance (B)	1	7.61	1.38	ns	.01
Angle (C)	1	11.03	1.637	ns	.01
BxC	1	2.67	.40	ns	
Residual	176	6.74			

Multiple R2 = .02

Table 18
Social Attraction by Message Source, Relevance, Camera Angle

Means*	Person 0			Person 1			
	Camera Angle			Camera Angle			
	Above (n=30)	Eye (n=30)	Below (n=30)	Above (n=30)	Eye (n=30)	Below (n=30)	Row Means
Irrel (n=90)	15.67	17.33	15.07	17.53	16.53	16.40	16.42
Relevant (n=90)	16.40	15.60	15.07	16.47	16.80	16.27	16.10
Column means	16.04	15.86 16.47	15.07	17.00	16.67 16.67	16.34	Grand mean 16.27

* Index includes five items, each with five point scales. Coding was such that higher numbers indicate greater attractiveness.

ANOVA

Effect	Df	MS	F	S	Eta2
Person (A)	1	29.61	3.43	ns	.02
Relevance (B)	1	4.67	778.33*	<.05	.02
Angle (C)	2	14.21	3.13*	ns	.00
AxB	1	.01	.00	ns	
AxC	2	4.54	.53	ns	
BxC	2	1.94	.14*	ns	
AxBxC	2	13.61	1.58	ns	
Residual	168	8.63			

Multiple R2 = .04

* F ratio for Effect B computed using MS(AxB) as denominator and df(1,1). F ratio for Effect C computed using MS(AxC) as denominator and df(2,2). F ratio for BxC interaction computed using MS(AxBxC) as the denominator and df(2,2).

Table 19
Social Attraction by Relevance, Camera Angle

Means*	Camera Angle			
	Above (n=60)	Eye (n=60)	Below (n=60)	Row means
Irrelevant (n=90)	16.60	16.93	15.74	16.42
Relevant (n=90)	16.44	16.20	15.67	16.10
Column means	16.52	16.57	15.71	Grand mean 16.27

* Index includes five items, each with five point scales. Coding was such that higher numbers indicate greater attractiveness.

ANOVA

Effect	Df	MS	F	S	Eta2
Relevance (B)	1	4.67	.54	ns	.00
Angle (C)	2	14.21	1.63	ns	.02
BxC	2	1.94	.22	ns	
Residual	174	8.67	.85		

Multiple R2 = .02

Table 20
Social Attraction by Relevance, Camera Angle (Df 1)

Means*	Camera Angle		
	Above & Eye (n=120)	Below (n=60)	Row means
Irrelevant (n=90)	16.77	15.74	16.42
Relevant (n=90)	16.32	15.71	16.10
Column means	16.55	15.73	Grand mean 16.27

* Index includes five items, each with five point scales. Coding was such that higher numbers indicate greater attractiveness.

ANOVA

Effect	Df	MS	F	S	Eta2
Relevance (B)	1	4.67	.54	ns	.00
Angle (C)	1	28.34	3.29	.07	.02
BxC	1	11.49	.17	ns	
Residual	176	8.63			

Multiple R2 = .02

Table 21
Social Attraction by Camera Angle (DF 1)

Means*

Camera Angle	
Above & Eye (n=120)	Below (n=60)
16.54	15.71

* Index includes five items, each with five point scales. Coding was such that higher numbers indicate greater attractiveness.

ANOVA

Effect	Df	MS	F	S	Eta2
Angle (C)	1	28.34	3.31	.07	.02
Residual	178	8.57			

Multiple R2 = .02

Table 22
Physical Attraction by Message Source, Relevance, Camera Angle

Means*	Person 0			Person 1			
	Camera Angle			Camera Angle			
	Above (n=30)	Eye (n=30)	Below (n=30)	Above (n=30)	Eye (n=30)	Below (n=30)	Row means
Irrel (n=90)	12.33	14.40	13.93	13.73	13.53	13.13	13.51
Relevant (n=90)	13.53	13.13	13.47	14.80	14.40	12.93	13.71
		13.47			13.75		
Column means	12.93	13.77	13.70	14.27	13.97	13.03	Grand mean 13.61

* Index includes five items, each with five point scales. Coding was such that higher numbers indicate greater attractiveness.

ANOVA

Effect	Df	MS	F	S	Eta2
Person (A)	1	3.76	.32	ns	.00
Relevance (B)	1	1.80	.28*	ns	.00
Angle (C)	2	2.76	.25*	ns	.00
AxB	1	6.42	.54	ns	
AxC	2	15.09	1.28	ns	
BxC	2	9.87	1.80*	ns	
AxBxC	2	5.59	.47	ns	
Residual	168	11.80			

Multiple R2 = .01

* F ratio for Effect B computed using MS(AxB) as denominator and df(1,1). F ratio for Effect C computed using MS(AxC) as denominator and df(2,2). F ratio for BxC interaction computed using MS(AxBxC) as the denominator and df(2,2).

Table 23
Correlation Matrix for Evaluation Scales

	Credibility Factors			Interpersonal Attraction			
	2	3	4	5	6	7	Size
Credibility Factors							
1. Likeability	.13*	.58	.49	.43	.57	.54	-.07**
2. Power		.44	.29	.27	.25	.40	.49
3. Competence			.53	.65	.41	.50	.13*
4. Homophyly				.37	.51	.49	.10**
Attraction							
5. Task					.38	.44	.05**
6. Social						.57	.13*
7. Physical							.12*

Note: Correlations significant at 0.001 unless otherwise noted.
* Correlation significant at 0.05
** Correlation not significant at 0.05

The results of the experiment are not supportive of the hypothesized relationship between camera angle, power and credibility and task attractiveness nor of the interaction between camera angle and size relevancy. The lack of support is evidenced by both the failure to reject the null hypothesis for all but the likeability and competence factors (the null hypotheses for the social attraction index was close to being rejected) and by the direction of the relationship between camera angle and likeability and competence.

Evaluation of method.

In view of this lack of support for the hypotheses, the question of whether or not the experiment was a fair test should be addressed. Two methodological problems surfaced during the conduct of the experiment. First, it is possible that the communication situation created in the experiment was not sufficiently involving to create a context in which the credibility of the speaker was sufficiently evaluated or that the exposure to the photographic image was of too short a duration for a unified impression to be formed.

The hypothesized relationship between camera angle and credibility and the interaction effect of credibility and size relevancy are dependent on the operation of status characteristic theory. That is, in order for a cue such as vertical syntropism to affect the evaluation of a message

source, the viewer of the photograph must perceive a need to make such a task-relevant judgment. The task situation created in the experiment may not have been sufficiently involving to produce credibility-relevant evaluations. Similarly, the duration of exposure to the photograph may have been too short to enable the manipulated cues to have sufficient impact.

These alternative explanations receive some indirect support by observation of the subjects during the experiment. The experimental stimuli were organized such that the source evaluation items were on pages separate from and following the photograph of the message source. Very few experimental subjects turned back to the photograph during the evaluation process. Rather, most viewed the photograph briefly and then responded to the evaluation items without subsequent reference to the photograph. The pattern of responses to the message source evaluation items suggests a strong impression may not have been created. While the overall evaluations of the message sources are slightly favorable (the overall mean for the 43 evaluation items is 2.69), the variance of the means is small (0.35). Similarly, the individual responses to the evaluation items show little variance (average variance is 0.69). This explanation is also indirectly supported by the low variance accounted for by the experimental treatments.

On the other hand, main effects were found. If the explanation of insufficient time or involvement is valid, it should hold for all the dependent measures. A potential compromise position is that the impact of the camera angle is weak and that its effect was only measured on the most salient evaluation attributes. As previously stated, the experimental subjects tended to value competency over identification or homophyly in the communication situation created in the experiment. Contrary to expectations, however, liking was valued over physical size in both the size-relevant and size-irrelevant conditions. The theoretical argument suggested a relationship between vertical syntropism and credibility that required attention to physical power and dominance in making a credibility judgment based on likelihood of successful outcomes. It appears that the situation created in the experiment may have resulted in the subjects valuing liking and perhaps linking likeability to competency judgments.

The correlations between the evaluation factors and interpersonal attraction items provides limited support for this explanation (see Table 23). Size consistently shows a low correlation with all evaluations save the power factor. On the other hand, likeability is highly correlated with all other evaluations save power. Much of the theoretical discussion concerning vertical syntropism and dominance was dependent upon a correlation between physical prowess and

power. An attempt was made to relate that argument to credibility judgments. Apparently, at least with the sample of subjects used in the experiment and the manipulated communication situation, such a linkage between physical size and credibility is at best weak.

This discussion leads to the second potential criticism of the fairness of the test - a question concerning the adequacy of the controls over threats to internal validity. One potentially troublesome finding is the significant main effect for the message source on evaluations of the power factor and of the physical size of the speaker. It is possible that the subjects were finding cues to size and power in features other than vertical syntropism. It is also interesting to note that the evaluations in size made from examination of photographs were generally in opposition to the size of the pictured individuals in reality. That is, the smaller of the message sources in reality was judged to be the larger in the experiment.

One attribute that may have confounded the manipulation of camera angle is eye contact between the message source and the viewer of the photograph. The simultaneous triggering of the camera shutters resulted in direct eye contact in only the eye-level condition. The resulting below eye-level camera angle therefore resulted in an image in which the message source was looking above the subjects. Such an image might have looked posed and haunting as suggested by Machotka and Spiegel (1982) and therefore less

likeable. Similarly, as suggested by McCain et al. (1977), the eye-level and above eye-level camera positions might have resulted in a more approachable, friendly image.

Conclusions.

The challenges to internal validity described above make the drawing of definitive conclusions problematic. Within the limitations discussed above, it is possible to offer some tentative interpretations of the results of the experiment.

The significant main effect for camera angle found for message source evaluations on the likeability and competence factors provides very weak support for the suggestion made by others (Baggaley & Duck, 1976; Baggaley et al., 1980, Mandell and Shaw, 1973; McCain et al., 1977; and Tiemans, 1970) that camera angle can have an effect on evaluations of a message source. It should be noted, however, that the size of the effect found in this experiment, measured in terms of the variance accounted for, is trivial.

Secondly, this experiment provides support, although limited, for the basic assumption guiding the theoretical discussion - that mass media production techniques such as camera-eye manipulations can have an impact on the meaning derived from exposure to the mediated communication. The support comes from the significant main effect for perceptions of size of the message sources that created

size evaluations in opposition to reality.

Thirdly, the results of the experiment point to the difficulty of conducting research concerning the effects of production techniques similar to camera angle. The problems discussed above may be generalizable to investigations of other production techniques. In particular, difficulties in controlling for extraneous factors and understanding the communication situation from the perspective of experimental subjects has been and will likely continue to be problematic.

Finally, the results of this theoretical discussion and experiment reveal how little is understood, at least within the public, scientific literature, about the way in which pictorial images are viewed and interpreted. The inability to accurately predict the effects found in this experiment and in those coming before (Mandell & Shaw, 1973; McCain et al., 1977; Tiemans, 1970) calls for increased effort in developing a conceptual framework from which subsequent research can be undertaken. The trivial effect of the camera-eye manipulation found here raise questions concerning the value of subsequent efforts to research the communicative aspects of pictorial images and if such investigation is undertaken, how it should proceed.

Implications

The position developed in the theoretical discussion is that the potential effects of production techniques are potentially too important not to be given research

attention. A question remains concerning the conflicting findings in this study to those previously conducted using video tape and suggest the need for a a theoretical and methodological perspective from which meaningful research can be launched. During the theoretical discussion, it was suggested that investigation of production techniques ought to depart from a semiotic perspective.

The task of establishing meaningful boundaries for the study of the units of pictorial communication is not unlike the problem faced by scholars interested in nonverbal communication in face-to-face settings. It is firstly the identification of intentional, symbolic behaviors and then secondly a theory of their effect or role in communication exchanges.

With regards to intent, one must assume that such techniques as camera angle are actively used by professionals responsible for creating pictorial mass communication messages. But, common sense also suggests that camera-eye and thereby camera angle, while always present, may not be intentional in situations involving amateurs or even in some situations in which time and space do not permit the professional to exercise control over camera-eye devices.

Again, the parallel between pictorial and nonverbal communication is apparent: sometimes the stimuli are intentional and sometimes not. There appear, however, at

least two differences worthy of consideration. First, in face-to-face settings, the receiver is relatively well equipped to recognize intent to communicate on the part of the source manifesting nonverbal behaviors. Worth and Gross (1974) make essentially this argument with respect to symbolization. They suggest that sign events can be either existential or symbolic. In cases of ambiguity, the receiver of the sign event assumes implicative intent and interprets meaning on some applicable strategy. The authors argue the determination is generally grounded in social contexts in which conventions are used to imply intent.

This is not necessarily so in the case of pictorial form. The notion of the invisibility of form and the suggestion that people often equate mechanically produced visual images with reality implies that ambiguity of intent may be common and that people may be less equipped to make accurate judgments concerning intention. As Gross (1981) argues, minimum competency is needed with regard to the communication mode before signness can be determined.

In the case of nonverbal communication, the boundary of communicative acts is partially determined by what persons can intentionally manipulate. That is, within the temporal limits of a unit of discourse, individuals cannot, for example, significantly manipulate physical features such as height, weight, body shape, or hair color. Nor can they manipulate the icons that surround them. Perceptual

relationships between two communicators are similarly limited in face-to-face settings. In mass communication, all of these factors are potentially controllable by the picture-maker.

Given the similarity between pictorial and nonverbal communication, the solutions to the boundary problems are likely solvable in similar fashions. As Burgoon (1980) and Wiener, Devoe, Rubinow and Geller (1972) argue, the reasonable solution likely rests in a message centered research approach. Essentially, the boundaries for meaningful investigation of the significant stimuli within mass communication are those that are publicly encoded, have socially shared meanings, and are thereby responded to in a systematic fashion.

While this seems a reasonable position to take, it still presents the researcher with theoretical and methodological problems. One approach would be to investigate the impact of individual, isolated camera-eye techniques in a fashion similar to the research that motivated this investigation. Given the variety of combinations, such an approach would likely never achieve more than a descriptive "style book" of common manipulations.

An alternative approach is to combine semiotics with the relatively well established literatures on impression formation, attribution theory, and social memory. As

stated in the theoretical discussion, pictorial communication presents a second level of mediation in social perception processes by influencing the apprehension of of behavior and characteristics of the objects observed. While representing an obviously complex variety of potential effects, the combination of semiotic perspectives and attribution theories likely represents, as Worth (1981) states, a good "jumping off point" for future study.

A still troubling implication of this study, however, is the intuitively persuasive argument that production techniques like camera angle interact with features of the situation and individuals involved to produce effectives under certain combinations of circumstances. Clearly, the stimuli used in this study are not variable on the factors needed to test this likelihood.

APPENDICES

Appendix A -- Previous Research

The first of the three experiments providing the motivation for this paper was performed by Tiemans (1970). Based on the practical suggestion that a film-maker could affect perceptions of dominance by manipulating camera angle (Millerson, 1968, 1976; Zettl, 1973, 1976) Tiemans proposed similar techniques might also be used to influence perceptions of source credibility. He therefore hypothesized that shooting up at a message source should increase the perceptions of source credibility and that shooting down should decrease such evaluations. He video-taped sources from the three angles and then showed the tapes to experimental subjects. Following exposure, he asked for their credibility perceptions, measured on dimensions of communicative, knowledgeable, authoritative, and convincing. Projecting the anticipated credibility manipulation, he also measured the effect of camera angle on recall of the factual content of the message and on attitude change resulting from the communication.

To test his hypotheses, Tiemans video-taped three male speakers, each from three angles: eye-level, 18 degrees above the eye-level of the source, and 18 degrees below the eye-level of the source. The three speakers each presented different content, but used the same message in each of the three camera angle conditions. The tapes were then dubbed such that each new tape represented three different simulated newscasts taped from three different camera angles. These

tapes were then shown to 99 experimental subjects in a treatments-by-subject, Latin-square design (using the newscast-speaker variable as the Latin-square factor).

After exposure, subjects were asked to rank the speakers as least or most communicative, knowledgeable, authoritative, and convincing. They were also asked questions designed to measure factual recall and were given a Woodward Shift-of-opinion ballot.

The low camera angle shot (from below the eyes of the source) produced higher ratings on the communicative, knowledgeable, and authoritative dimensions for one of three speakers only. The rating on the convincing dimension for the one speaker was in the same direction as the others, but did not reach statistical significance. None of the credibility ratings for the other speakers showed significant differences across the shot angles. Main effects for camera angle on recall and attitude change were not supported.

Following Tiemans and the practical wisdom previously cited, Mandell and Shaw (1973) conducted an experiment to find how well video-camera angle and bodily activity could unconsciously influence judgments concerning the credibility of a news subject. They hypothesized that vertical camera angle would be related to perceptions of speaker credibility measured on the potency dimension such that below eye-level shots would produce the highest evaluations and above eye-level would produce the lowest. They also hypothesized that

slight variations in the bodily activity of the speaker will increase the evaluations of the speaker's credibility on the activity dimension and that variations in both the camera angle and bodily movement will produce corresponding variation in perceptions of the speaker's credibility using the evaluation dimension.

To test their hypotheses, the authors recorded newscasts delivered by a professional newscaster and containing material actually used in a station's previous broadcast. To provide the camera angle and activity manipulations, they inserted a short, fictional story in which a fictitious political appointee appeared via a newsclip. The taping of the appointee was done so that six conditions of camera angle x bodily activity were completed. The camera angle was varied 12 degrees above and below the eye-level of the source. A newscast without a visual of the appointee served as a control condition.

After viewing the newscasts, 143 experimental subjects were asked to complete a set of semantic differential scales measuring the hypothesized credibility dimensions and to answer questions concerning their awareness of any unusual camera shots during the newscasts.

The results indicate that camera angle had the predicted main effect on the potency dimension. Camera angle also had a similar, though unpredicted, significant effect on evaluations of the activity dimension. The hypothesis concerning bodily movement and the activity evaluations was

also supported. The hypothesis concerning the interaction between movement and camera angle on the evaluation dimension was not supported. Surprisingly, the highest evaluation of the activity dimension was recorded for the control group, which saw no visual of the speaker. In general, the subjects did not report noticing unusual camera manipulations.

McCain, Chilberg, and Wakshlag (1977) argue for and find a different relationship between camera angle and source credibility. They suggest that camera angles resulting in perceptions of higher power and dominance will result in lower credibility ratings. To test their ideas, they performed two experiments, the first designed to test the nondirectional hypothesis that changes in camera angle will result in differing evaluations of the credibility of the message source. To test the first hypotheses the authors placed five cameras 23 inches apart (along the vertical plane) and 12 feet away from the speaker. The set of cameras was then used to tape two male and two female speakers delivering a persuasive message. After viewing one of the tapes, the 360 experimental subjects evaluated the speaker on a set of semantic differential scales designed to measure the credibility dimensions of competence, composure, sociability, and dynamism. The results indicate only the dynamism dimension was not affected by camera angle. As suggested by the authors, the higher camera angles (shots from above the eye-level of the source) resulted in higher

credibility.

Based on the success of the initial manipulation, the authors proposed a directional hypothesis relating camera angle and credibility. To test it, they developed what they argue is a more realistic setting in which multiple camera angles were used. An eye-level shot was used as the preponderant angle (longest duration) and the above or below eye-level was used as a referent angle. The authors suggest that a low angle referent makes the preponderant angle look higher and a high angle referent makes the preponderant look lower. Using these stimuli, they found that a high appearing tape resulted in higher evaluations of the speaker's character and sociability, but not of the speaker's dynamism or composure.

The study also measured the perceived attractiveness of the source using physical, task, and social scales (McCroskey and McCain, 1974). The analysis of the data indicate that the high appearing treatment results in higher evaluations of task attractiveness than the low appearing condition. No significant differences were found for the physical or social dimensions.

The authors explain the apparent contradiction between their findings and those of the other studies described above by pointing out the apparent difference between the power or dominance construct and perceptions of speaker credibility. Arguing that that communication is most effective when perceived similarity is maximized, they suggest that power

and dominance are the opposite of similarity. An alternative explanation offered is that television personalities are generally given high status by audiences and the high camera angle may decrease such evaluations and increase homophyly. Both explanations are stated as speculative and empirical validation was not reported.

Appendix B -- Traditional Mass Communication Research

The effects of production techniques on message content or effectiveness may have been neglected because mass communication research has its foundations primarily in broader, sociological issues. For example, Golding and Murdock (1980) argue that the commonly voiced atheoretical criticism of mass communication research is not supportable. They suggest, instead, that research has been guided by at least two theories of society, that of mass society and that of functionalism. Lang's (1980) review of the European origins and experiences of significant scholars such as Park, Adorno, Lasswell, and Lewin and the socio-political trends during the early and mid-years of this century support Golding and Murdock's claim. McQuail (1980) suggests this sociological perspective is in part a result of the love-hate, triangular relationship between mass media practitioners, government policy makers, and academics.

Reeves, Chaffee, and Tims (1982) give yet another possible explanation. They suggest that the concern over the sociological effects of mass communication apparently stem from the sometimes implicit adoption of Lippmann's (1922) assumption that media content provides the stimuli upon which most people conceive their images of reality (Golding & Murdock, 1980; Frazier & Gaziano, 1979). Most mass media research, however, has generally adopted an exposure-intervening forces-effect paradigm probably because of the

ease of translating Lasswell's (1948) famous question into research designs (Reeves, Chaffee, & Tims, 1982). In support of this notion, the majority of the work reviewed by Chaffee (1980) is generally concerned with the the effects of exposure.

Chaffee (1980) argues that traditional mass communication research of media effects can be categorized into a 18-cell matrix representing the dichotomy of physical versus content effects, a trichotomy of cognitive-affective-conative effects, and a trichotomy of individual-interpersonal-system effects. He also claims that while research perspectives are expanding, a plurality of research has fallen into the cell representing individual, content-based, attitudinal effects (e.g., Hovland, Lumsdaine, & Sheffield, 1949; Hovland, Janis, & Kelly, 1953). Chaffee adds that typical mass communication research issues are the effects of content provided by the mass media and that which would be delivered by other channels in their absence and the impact of content that would not be available except for the mass media. The research paradigm has generally been the effects of exposure versus no exposure or an examination of the effects of exposure to content delivered via different media types. A recent trend, according to Chaffee, is the increased use of field experiments and surveys examining the effect of differing levels of exposure to one or more mass medium.

Obviously there are other research perspectives not easily categorized in Chaffee's matrix, such as the uses and gratifications studies (Blumler & Katz, 1974). Baggaley and Duck (1976) argue that the gratifications perspective is merely an investigation of the "to who" portion of Lasswell's research question and while providing important insights explaining effects of mass communication, sheds little light on the process. The remarks by Carey (1974) offer a different argument that arrives at a similar conclusion, that the uses and gratifications perspective, while an improvement over previous exposure-effect models, still overlooks the communicative aspects of mass media content. More specifically, Carey suggests that media content is symbolic and uses and gratifications theorists, like the functionalists with whom they are tied, generally ignore the expressive nature of mass communication.

The point this review is making is most obvious in the approach taken by most content analytic studies. As Baggaley and Duck claim, most such investigations address the "says what" portion of Lasswell's question. While it would appear that content analysis comes closest to addressing the topic of production effects, the bulk of the studies have made rather gross distinctions between types of content based on general thematic groupings. Even the work of the culture indicators group (e.g., Beniger, 1978; Gerbner & Gross, 1976; Gerbner, Gross, Eleey, Jackson-Beeck, Jeffries-Fox, & Signorielli, 1977; Gerbner, Gross, Morgan, & Signorielli,

1980; Gerbner, Gross, Signorielli, & Morgan, 1980; Hawkins & Pingree, 1980), often praised even by critics (e.g., Hirsch, 1980, 1981a, 1981b) for the relative sophistication of their content analysis, make gross content distinctions based on numbers of acts per time period or judgments of what type of person is shown to be the aggressor and what type is depicted as receiving the aggression. As Baggaley and Duck point out, the traditional emphasis on thematic groupings may be useful in some practical, industrial, or sociological applications, but are not useful in developing an understanding of the media effects of interest to this paper.

Appendix C -- Semiology

The acceptance of semiology as a departure for the study of pictorial communication is subject to debate, and those taking a contrary position generally argue that pictorial communication is not symbolic or is not a code system. The positions for and against a semiological investigation of pictorial communication rely heavily on definitions of signs and sign systems. Unfortunately, semiology is far from being a unified body of theory, and despite the acknowledgement that the concepts of signs and sign systems play a central role in semiotics, their conceptualizations are as diverse as the theoretical perspectives themselves. The following review of semiotics follows the survey provided by Hervey (1982). It is intended as an introduction to an answer to the question of whether or not the study of mass communication production techniques can ever develop into or proceed from a systematic, theoretical perspective.

The origination of semiotics is credited to deSaussure, who envisioned a grand theory that would encompass not only linguistics, but also the relationship between other forms of signs. Much of his writing assumes a significant distinction between form and substance. Substance refers to the physical properties of a thing while form refers to its value within a system. Probably the best way to explain the distinction is by example, and Hervey's use of the game of chess (a model that is common to much writing on semiology) will suffice.

Within the system of chess, a knight's form is its possible movements on the board. The knight's substance are the physical properties that make it recognizable as distinct from other pieces on the board. While the substance of the knight is relatively unimportant (that is, any physical properties will do so long as they are agreed upon by both players and are distinct from other pieces in the system), the form is important. Form is the value of the knight and within the system of chess is unchangeable (unless, of course, the system changes).

Another way of expressing this distinction is the difference between the concrete and the abstract. Substance is concrete and is concerned with observable reality. Form is abstract and relates to the order, consistency, or regularity that is attributed to the physical world. Using another example, based again on that provided by Hervey, people speak of recurring events as if they represent a single form. People, for example, speak of Flight XYZ, going from City A to City B. Really, the flight is a manifold of different substances, but one speaks of it in terms of the regularity of its form or value in the transportation system.

This conceptualization of form and substance shares much in common with Heider's (1958) and George Kelly's (1955) proposals of how people interpret behavior. For example, both Heider and Kelly suggest that people infer causes for behaviors, often in the form of intentional or motivational characteristics of the person observed. That is, the

attribution is of an enduring form underlying a physical substance. While the ideas of Heider and Kelly concern interpersonal relationships, Saussure attempts a more general theory designed to explain how participants in a system communicate via symbols, or substances.

Typically, the substances used to communicate are signs, or arbitrary physical entities representing forms. Arbitrariness refers to the lack of a physical relationship between the substance (signifier) and the form (signified). If a physical relationship does exist, or the substance is motivated by the form, the substance is a symbol, but not a sign. As a study of signs, Saussure hoped for a theory that would encompass all that was systematic and conventional in human communication and be based not only on traditions of linguistics but also social psychology (foretelling, perhaps, the similarity between the behavior-disposition distinction in the writing of Heider, and Kelly).

Saussure's plan has not materialized, perhaps because of a reluctance for followers to adopt social-psychological theories and partially because of different interpretations of the range of communication systems amenable to semiotic study. Hervey (1982) notes at least three traditions: the strict Saussurians who believe only the study of intentional human communication via signs is a valid semiotic topic, the medium perspective in which anything involving deliberate use of symbols is an appropriate topic of study, and the broad view in which communication is anything that signifies.

One of the purely Saussurian scholars is Prieto. His approach to semiology is based on his conceptualization of the semiological act, which is defined as satisfying two necessary conditions: recognition that an indicating unit (the indicator) is a member of a class and a potential for inference from that membership that another unit (the indicated) belongs to another specific class. If the indicator (X) is seen in the universe of indicators and if the indicated (Y) is seen in the universe of indicated, and if the two universes are perceived as related, the semiological act is essentially an "if X, then Y" relationship.

This notion of signs potentially includes everything in the universe of indicators, and Preito apparently recognizes the unmanageability of such a definition because he further reduces significant semiological acts to those involving intent. In the case of a defined code system (such as natural language) the universe of semantic indicators is practically limited. In an undefined system (such as nonverbal communication), the universe of indicators is infinite.

The semiological act, according to Preito, involves a number of steps. First, a signal is initiated with an indication of an intent to communicate. Then, uncertainty is created in the receiver by presentation of indicators from a semantic field. If the semantic field is defined, that is, the indicators are members of a closed system, a noetic field

(universe of meaning) is automatically inferred. Reduction of the uncertainty faced by the receiver is through comprehension of the sign, or a narrowing of the options within the noetic field. Because inference to the noetic field is problematic for semantic fields without defined systems, the notion of codes systems is central to Preito's theory.

As stated early, Preito's position is strictly Saussurian because it presents a restricted definition of signs. For example, as Hervey (1982) suggests, a white cane carried by a blind person, while obviously being an indicator of blindness, would not be considered a code element or belonging to a code system under Preito's theory, because the white cane forms a semantic field of one element and implies a noetic field of one element. No other indicator is substitutable for the cane and no other inference can be made.

The more open semiotic perspectives are typified by Peirce, the person often labelled as the founder of semiotics in the United States. Peirce (1960) argues, similar to Saussure, for a distinction between physical and abstract realities, but unlike Saussure, bases his theory on what he calls natural classes. Things, according to Peirce, can be classified in a number of ways, but the meaningful classifications are those that relate objects having similar functional purpose, or in his terms, final causes. For example, a book could be placed into any number of

classifications, including things rectangular, things made of paper, things containing words, etc. But the meaningful classification, or natural class, is that which groups it with other things which have the same final purpose, such as other things that record knowledge. Recording knowledge, if that is the essence of books, their ultimate cause, would be their natural classification.

Peirce also differs with Saussure in this conceptualization of signs. Peirce (1977) grounds his definition of signs in his notion of phenomenology, which involves concepts of firstness, secondness, and thirdness. Briefly and perhaps oversimply, firstness represents things as experienced without reference to anything else. A feeling is firstness if it does not refer to or rely upon anything else. Secondness rests in dyads, or the relationships between two experiences or objects. Thirdness rests in a mediation between the secondness of the participants in a dyad.

Peirce makes no distinction concerning arbitrariness or lack of motivation with respect to signs and anything can be a sign. He does, however, suggest three categories of signs, which in turn are further subdivided (Peirce, 1953, 1977). The first level of classification is phenomenological. Signs having the nature of firstness are called qualisigns. Signs with properties of secondness are sinsigns, and those with thirdness are legisigns. These are hierarchically ordered

such that a legisign can occur only if a sinsign occurs, which is recognized by actual experience, a qualisign.

A second level of categorization involves reference to icons, indices, and symbols. Icons denote objects by nature of physical similarity. An index denotes an object based on an actual or perceived causal relationship. A symbol represents an object based only on convention. A third trichotomy includes the rheme, the dicent, and the argument. A rheme is firstness or a simple naming of something. The name Peirce is a rheme sign. Dicent involves secondness and is the naming of some situation, relationship, or proposition. An argument sign is thirdness in that it asserts truth or mediates between a premise and a conclusion.

Combined, these three trichotomies produce ten classes of signs such that qualisigns are always iconic, sinsigns cannot be symbolic, icons are always rhematic, and indices cannot obtain thirdness. Examples of the ten possible sign classes, from Hervey (1982), are as follows:

1. qualisign: a perception of a color.
2. iconic sinsign: a copy of a map.
3. rhematic indexical sinsign: a cry of pain (involuntary).
4. dicent sinsign: a vane marking the direct of the wind.
5. iconic legisign: an international traffic sign.
6. rhematic indexical legisign: lightning as an indicator of thunder.

7. dicent indexical legisign: a reading on an oil pressure gauge.

8. rhematic symbol: the sign of the Red Cross.

9. dicent symbol: declarative sentences in natural language.

10. argument: syllogisms.

The difference between the semiotics of Peirce and Saussure goes beyond the occasional confusion of terminology to the scope each apparently set for their theories. Saussure intended semiology to be "a science that studies the life of signs within society....(that) would show what constitutes signs, (and) what laws govern them. (1959, p. 16). Semiology from Peirce's perspectives takes a much broader focus with virtually everything being a sign and therefore falling within the boundaries of semiology. Perhaps even more central to the difference of scope is the implication that Saussure envisioned semiotics as a theory and methodology for the study of signs, whereas Peirce conceived it as a philosophy aimed at discovery of a more encompassing truth.

The work of Morris (1949, 1964) represents yet another perspective that is labelled semiotic. Morris focuses attention on the process of signing (semiosis in his terms) and takes a behavioral approach in which a sign is conceived of as a stimulus that controls behavior as would the concept or object signified. Essentially, the suggestion (following

Bloomfield, 1935) is that a stimulus evokes a linguistic response in organism A that serves as a linguistic stimulus for organism B that in turn elicits an overt response in organism B. As critiqued by Hervey, there are inconsistencies concerning Morris's definition of signing in terms of the traditional behavioral model. For example, Morris describes signing as involving a response sequence that includes dispositions as well as stimuli and responses.

Semiosis is illustrated by the classic example of Pavlov's dog. The animal acts as the interpreter. The sign is the bell, and the interpretant is assumed to be the disposition to seek the meat in the laboratory, the context. The bell, a preparatory stimulus, evokes the dispositional response in the dog to seek the food. In this case, by knowing the interpretant, one can reason back to conclude that the denotatum of the bell is "meat is at a certain place in this context." The significatum is the disposition to respond.

To Morris, a sign is a subset of stimuli. Generally, a stimulus is a sign if it evokes a disposition to respond and then a response toward an object other than itself. Signs refer to nonsigned stimuli by evoking an interpretant or disposition to respond in the interpreter. According to Morris, signs can be classified with reference to the preparatory responses they evoke. That is, signs associated with similar responses are lexically equivalent. Stated differently, signs are classified with reference to their

interpretants. Morris (1964) describes four types of signs (Morris (1946) includes an additional category, formative). Designative signs, or designators, are those that direct attention or properties of objects or objects with certain properties. Appraisor signs are those that select objects for special attention based on value to the interpreter. An identifier is a sign that focuses attention on an object based on spatial or temporal organization of the objects in a context. Finally, a prescriptor is a sign that directs attention to performance of a particular responses over others.

Based on this theoretical framework, Morris suggests thirteen types of signs, ranging from unisituational signs (those rarely occurring and not belong to any sign-family) to language systems (those frequently occurring signs conventionally arranged in families and with conventional rules for use). Near the middle is the comsign, or a type of interpersonal sign that has the same meaning for the producing organism as for the receiver or interpreter.

This rather brief review suggests that considerable differences exist concerning the definition of signs and sign systems. Hervey suggests commonality to the definitions based on three questions: What is the substance of the index? What is the form of the index? How is the substance linked to the form? Hervey offers the following typology of signs developed around answers to the third question:

1. Index: The substance is natural, non-arbitrary. The form is also natural, non-arbitrary. The form is causally linked by the substance. There is no intention for the substance to communicate the form. Example: smoke is an index of fire.

2. Icon: The substance, form, and the link between them are not arbitrary. The link between the substance and form is based on physical resemblance. Intention may or may not be present. Example: a statue of a person.

3. Symbol: The substance and the form may or may not be arbitrary. The link between substance and form is partially motivated and partially arbitrary. That is, they do not physically resemble each other in a significant way, but if they did, the correlation would be irrelevant to the linkage. Intention to communicate is necessary. Example, an international road sign.

4. Sign: The substance and form are arbitrary. The linkage is arbitrary, and conventional. Intention is necessary. Example, a word in a natural language.

Another important distinction in the semiotic literature focuses on the definition of semiological systems. For example, Buyssens distinguishes between systematic versus asystematic, extrinsic versus intrinsic, and direct versus substitutive semiological systems. All semiological systems are comprised of units of discourse that can stand alone (semes in Buyssens' terms). The distinguishing factor of systematic semiological systems is that the discourse can

be broken into elements (signs) and that these elements combine to form the units of discourse because of constitutive rules. In contrast, asystematic semiological systems are those in which the units are comprised of elements that are not combined by constitutive rules.

Intrinsic semiological systems are those for which the semes, or units of discourse, are motivated by a physical relationship with the message conveyed. The system of international road signs that feature stylized images of the message is an example of an intrinsic system. Extrinsic systems contain elements that are not so motivated by a physical correlation with the message. Direct systems are those for which the reaction to the discourse unit is immediate. Indirect systems are those in which the discourse unit must be translated to some other semiological system before a reaction can be made. In an example used by Hervey, Morse code is an indirect system because the dots and dashes must be converted to natural language before they are meaningful.

A very different perspective from any of those yet described is offered by Barthes and his followers. Whereas the semiology of Saussure, Peirce, Morris, and Preito are systematic in their specification of definitions and reliance on data, Barthesian semiology is, as Hervey expresses, "of the humanities and arts." Whereas the other theories are ideologically neutral (although the individual studies are

not) Barthesian semiology is from the onset infused with ideology. Finally, whereas the formerly described theories attempt to limit the phenomena of signed behavior, Barthesian semiotics attempts to creatively expand the scope of semiotic acts.

One of the most distinguishing features of Barthesian semiotics is, in fact, the assumption that the more significant symbols are where one might least expect them. He argues that semiotic importance or effectiveness is negatively related to the explicitness of the sign. The finding of signs via creativity is not only permitted but encouraged. Barthes essentially turns semiology around. For example, it is the core of signed communication, language, that receives most attention in the previously highlighted theories. For Bathes, the fringes become the core and the core the fringes. He also reverses the relationship of language and semiotics. Whereas Saussure saw linguistics as a significant part of a larger semiotic theory, Barthes sees semiology as a part of linguistics. Other semiotic systems, according to Barthes, are meaningless outside of human language.

Hervey suggests another classification of semiology is comprised of those interested in the communicative aspects of style. The analysis of interest is how style of presentation affects meaning. It seems Hervey places cinemasemiology in this latter classification.

Semiotics of the cinema is probably most associated with

Christian Metz (1974a, 1974b). Behind Metz, the work of Levi-Strauss (1963) and Barthes (1966) are probably most often recognized as semiotic. The basic assumption made by those making semiotic analysis of the cinema is that it is primarily communication; that it is discourse rather than art. Perhaps more correctly, the assumption is that it is both art and discourse, but artistic elements impose upon the communication and not the reverse.

As Hervey points out, these assumptions are not necessarily valid. He suggests that the cinema is primarily a photographic medium and while obviously engaging in story telling, it does not constitute a discourse. The basis for his conclusion is that photography does not rely on conventions, save for stylistic rules that may define a film genre. He suggests that photographs, which constitute a film, communicate as would actual reality. From this argument, criticism of film as performed by Metz, Levi-Strauss, and Barthes, is not properly labelled semiotic. Basically, if the argument of Hervey concerning how people perceive photographs is accepted, the cinema falls outside of semiology because as an art, it does not rely on signs based on convention nor drawn from a system of codes, such as a language.

It appears that Hervey makes the assumption that photography is reality, or at least an accurate representation of it. He therefore misses the point, made in

the main body of this paper, that the photographic process has the potential to significantly alter the reality depicted. Even if it is granted that people react to photographs as they would to reality (as assumption basic to the argument relating camera angle to dominance, power, and credibility), there is no assurance that the stimuli in the picture and the stimuli in reality are the same. There is considerable debate concerning the applicability of using a semiotic approach to the study of film, but the arguments involve not the reaction to the object depicted but the likelihood the picturing process is amenable to semiotic study. Stated differently, the question is whether or not pictorial communication makes use of a defined system of codes.

Worth (1969) would answer the question in the positive. He explicitly states, however, that he uses terms like semiotics of film and film communication with some reluctance because it is yet unclear whether or not film can be considered communication in the sense applied to natural language. At the root of his concern is whether or not pictorial communication contains a system of semiotic codes. For example, Worth's equation of a shot with a word makes problematic the assumption that there can be a lexicon of visual codes, a distinction between grammatical and ungrammatical structures, or even native language users (Wollen, 1969). A lexicon of words is based on their discretive attributes and on the arbitrary relationship between the signifier and signified. Visual images are

neither discrete, limited, nor arbitrary.

Peters (1981) attempts to resolve this problem by distinguishing between pictures that are a kind of homology and those that are an analogy. The latter include those for which the picture relies on content substance to resemble or depict the real life object. In such cases, the photo can be used as a substitute for the real object and the photo is said to have high iconicity. Homology refers to those pictures that resemble a visual thought, such as superimposition used to denote chaos. Peters acknowledges that even in the most abstract use of pictures, such as when a handshake is used to communicate friendship or the conclusion of a relationship, the signifer resembles or is motivated by the signified. Homological signs, according to Peters, are therefore motivated symbols.

Metz (1974a, 1974b) takes a contrary position concerning whether or not pictures contain codes. He argues that individual pictures cannot be compared to semiological units but are more like a sentence. For example, a picture of a house is not analogous to the word "house," but is similar to the sentence "here is a house." While Metz agrees that pictures communicate, they cannot be broken down into discrete units as can be done with verbal sentences. Because pictures, like sentences, are infinite in number, they can never be catalogued and the cinema can never be formally considered a code system. Metz acknowledges that pictorial

communication is expressive, but maintains that the system cannot be defined.

Worth (1969) and to some extent Peters (1981) chose to treat this problem rather lightly because they consider it to be presently unimportant. As Worth argues, one of the advantages to the semiotic perspective is its relative youth and therefore its adaptability to new problems. While making a rather convincing argument that there might be a generalizable lexicon of representational images, the conclusion of both authors seems to be that there is more to be gained than lost from adoption of the film as language assumption.

Appendix D -- Attribution Theory

As is the case with semiology, attribution theory is far from being a single, unified perspective. Unlike semiology, however, attribution theories and the resulting research share common assumptions about human nature that have received considerable attention from mainstream mass and interpersonal communication research. For that reason, this review will not be as thorough as found in Appendix C. Rather the review will only include those elements necessary to define the boundaries of attribution theory as used in this paper and to highlight some ideas relevant to the development of the research hypotheses. The reader desiring a more comprehensive review is directed to reviews by Shaver (1975), Taguiri and Petrullo (1958), and Taguiri (1969) or to the original writings by Heider (1958), Kelly (1955), Jones and Davis (1965), and Asch (1946). More current formulations based on artificial intelligence models are reviewed in Hastie, Ostrom, Ebbesen, Wyer, Hamilton, and Carlston (1980) and by Roloff and Berger (1982). Ostrom, Lingle, Pryor, and Geva (1980) trace the concern with impression organization from the influence of Gestalt theory and early psychologists who applied the principles of physical perception to social perception.

The underlying assumption of these perspectives is that people are organizing creatures. Heider, for example, based his ideas on a model of visual perception offered by Brunswik

(cited from Shaver, 1975). That model suggested the actual object viewed (the distal stimulus) reached the observer via some form of mediation (light rays in the case of sight). The image physically perceived is the proximal stimulus, which is then neurally encoded. That image is then constructed by the observer into the final percept, which may or may not accurately correspond to the distal stimulus.

In social perception, Heider points out that mediation may be via a third party. Additionally, when the distal stimulus is a social object (another person), the observer generally assumes a dispositional or motivational state that explains or provides order to the behavior (Heider & Simmel, 1944). The distal stimulus can therefore be considered the motivational state of the person observed which is mediated by the behavior. The proximal stimulus is then the perception of the behavior and the construction process is the inference of the distal stimulus from the proximal stimulus, or the dispositional characteristic from the behavior.

Because it is assumed that the behavior is relatively faithfully carried to the observer by the physical mediation (light, sound, etc), the more interesting aspect of attribution theory has generally been considered to be how third party information is received or how the attribution is constructed. Perhaps for this reason, both of those influences have received the majority of attention from attribution research. The concern over the attribution

process has resulted in many theoretical formulations including those focused at perceptions of the self. Heider represents one of the earliest attempts to formulate a theory based on attribution principles. He suggests people infer causes for action and events in order to provide meaning (in terms of order) to what would otherwise be chaos. He argues that there are generally two types of causes for behavior: the motivation or dispositional states of the actor and the environment. The attribution of the cause for a particular behavior is based on judgments concerning the person's ability and the effort exerted in performance of the behavior, which are in turn influenced by the task difficulty.

Heider also theorized that in order to provide order and predictability to their worlds, people link or associate other people with dispositional characteristics and that these dispositions are themselves linked to one another. In essence, Heider suggests that because attribute X is thought to be associated with attribute Y, if Person P has X, the person is assumed to have Y. These linkages or networks of attributes are often labelled implicit personality theories (Bruner & Taguiri, 1954; Rosenberg & Sedlak, 1972). As Ostrom, Lingle, Pryor and Geva (1980) point out, the idea of implicit personality theory can be found in the research investigating attribute (Zajonc, 1968), category (Bruner, 1957), concept (Harvey, Hunt, & Schroder, 1961), dimension

(Osgood, Suci & Tannenbaum, 1957), schemata (Kuethe, 1962), stereotype (Katz & Braly, 1933), and construct (G. Kelly, 1955).

George Kelly's (1955) theory of personal constructs, similar to Heider's notion of consistency seeking, assumes that people act as naive social scientists in that they invoke constructs to explain or give order to the world they perceive. This basic assumption leads him to a single Fundamental Postulate and 11 corollaries. The ones of particular importance to this paper are as follows:

> "Fundamental Postulate: A person's processes are psychologically channelized by the ways in which he anticipates events."
>
> "Construction Corollary: A person anticipates events by construing their replications."
>
> "Individuality Corollary: Persons differ from each other in their construction of event."
>
> "Range Corollary: A construct is convenient for the anticipation of a finite range of events only."
>
> "Organization Corollary: Each person characteristically evolves, for his convenience in anticipating events, a construction system embracing ordinal relationships between constructs."
>
> "Modulation Corollary: The variation in a person's construction system is limited by the permeability of the constructs within whose range of convenience the variants lie."

"Fragmentation Corollary: A person may successively employ a variety of construction systems which are inferentially incompatible with each other."

"Commonality Corollary: To the extent that one person employs a construction of experience with is similar to that employed by another, his psychological processes are similar to those of the other person."

There have been a number of suggestions describing how attributions are made, including Heider (1958), Kelly (1971, 1973), and Jones and Davis (1965). A more current approach to this question of linkage between attributes is that involving social memory. A number of models of human memory have been applied to person perception. For the purpose of this paper, however, the differences between the various cognitive models are generally of little or no importance. For example, Hastie and Carlston (1980) propose a model which serves the purposes of this review. Those authors suggest social cognition involves six subdivisions of the mind. One subdivision is a sensory buffer where contact is made with the environment. Information moves through this buffer to another division, short term memory, where it can interact with a perceptual lexicon in another subdivision, long term memory. The long term memory is divided into event and conceptual stores. The former represents factual information about the social environment while the latter holds a lexicon of declarative information concerning social

categories. The authors' model also includes a working memory that is thought to control attention and an abbreviated schemata of the confronted social environment. The fifth subdivision is the executive, which holds goals and current plans of action. Finally, an output buffer is included that translates plans of actions to the motoric system.

Short term memory is conceptualized as holding raw information. It then interacts with a working memory to "chunk" the input in more meaningful units. The working memory not only contains information in the form of schemata, but also interacts with both the executive (holder of goals) and long term memory. The actual inference therefore is dependent upon a number of factors, including the actor's goals and the schemata or script used to interpret the environment.

Hastie and Carlston (1980) classify social inference conceptualizations into six categories: referential and relational reasoning concerning events and objects (e.g., Cantor & Mischel, 1977, 1979; Rosenberg & Sedlak, 1977a, 1977b; Schank & Abelson, 1977), causal or attributional reasoning (e.g., Jones & Davis, 1965; Kelly, 1972, 1973), categorical membership reasoning (e.g., McGuire, 1960), transitive relational reasoning (DeSoto, 1960, DeSoto, London & Handel, 1965), social balance reasoning concerning relationships between people (Heider ,1958), and information integration theories.

The social memory models are based on the existence of nodes which represent individual cognitive elements. These nodes are thought to be linked via pathways. The length of the pathway is analogous to salience in that shorter pathways are more likely to be called upon when an impression is formed. Like in Heider's or George Kelly's models, persons can be linked via pathways to nodes representing physical or personality characteristics. It is also possible to associate a person with a theme node, or a node made up of a composite of individual traits. These nodes may themselves be linked so that based on the observation of a single trait, an organized impression is formed.

Appendix E -- Power Analysis (Cohen, 1977)

Table of Means from Mandell and Shaw (1973)

Effect of camera angle on evaluation dimension of credibility

	high	medium	low	
passive	3.29 (n=22)	3.33 20	3.19 21	std dev of means .03
active	3.05 17	3.19 18	3.3 18	
Column mean	3.18	3.26	3.24	Grand Mean = 3.23

Effect of camera angle on potency dimension of credibility

	high	medium	low	
passive	3.77 22	3.88 20	3.99 21	std dev of means .17
active	3.29 17	3.86 18	3.90 18	
Column mean	3.56	3.87	3.95	Grand Mean = 3.79

Effect of camera angle on activity dimension of credibility

	high	medium	low	
passive	3.94 22	4.14 20	4.37 21	std dev of means .17
active	3.59 17	4 18	4.01 18	
Column mean	3.79	4.07	4.20	Grand mean = 4.02

Analysis of Variance table (Mandell and Shaw, 1973)

		Evaluation		Potency		Activity	
Source	df	MS	SS	MS	SS	MS	SS
control	1	.00	.00	.46	.46	2.99	2.99
angle	2	.09	.182	1.84	3.68	1.84	3.68
activity	1	.24	.24	1.07	1.07	2.29	2.29
angle x activity	2	.31	.63	.60	1.20	.15	.30
residual	136	.46	63.24	.50	68.41	.45	62.424
total	142		64.29		74.82		71.68
total variance		.45		.52		.50	

Effect size for camera angle on source credibility

Evaluation	.05
Potency	.23
Activity	.24
Average	.17

Power at Alpha (0.05) and Cell size (10)

Effect

	u	n'	p at f=0.25	p at f=.15
A Angle	2	55	.84	.39
B Relevancy	1	82	.9	.48
C Source	2	55	.84	.39
AxB	2	55	.84	.39
AxC	4	33.4	.72	.31
BxC	2	55	.84	.39
AxBxC	4	33.4	.72	.31

Power at Alpha (0.05) and Cell size (15)

A Angle	2	85	.96	.58
B Relevancy	1	127	.97	.65
C Source	2	85	.96	.58
AxB	2	85	.96	.58
AxC	4	51.4	.91	.46
BxC	2	85	.96	.58
AxBxC	4	51.4	.91	.46

Power at Alpha (0.05) and if data are collapsed across speakers

Effect	u	n'	p at f=0.25	p at f=.15
A Angle	2	59	.86	.42
B Relevancy	1	89	.90	.50
AxB	2	59	.86	.42

Appendix F -- Experimental Instrument

Size relevant condition.

The sponsor of this research is interested in evaluating a spokesperson who will be delivering a message on the topic of the the quality of the players in the new United States Football League (USFL). The person will deliver messages primarily via the mass media, to include both print (newspaper stories, brochures, etc.) media and television. The person's photograph will also be used to accompany news releases made to the media and will be included in pamphlets and handout material produced by the organization.

Before evaluating the photograph of the proposed spokesperson, the sponsor would appreciate your responses to a few questions concerning the speaking situation. More specifically, the sponsor is interested in what criteria you would use in evaluating a person delivering a mass media message on the the quality of the players in the new United States Football League (USFL).

A. Please indicate whether you strongly agree, agree, neither agree or disagree, disagree, or strongly disagree with the following statements by circling the appropriate response.

In this situation, it is important that I feel emotionally close to the person delivering the message.

In this situation, it is important that I like the person delivering the message.

In this situation, it is important the person be as much like me as possible.

In this situation, it is important the person be physically powerful.

In this situation, a large person would be a better spokesperson than would a smaller person.

In this situation, it is important the person be an expert on the topic.

In this situation, it is important that the person know as much about the topic as possible.

In this situation, it is important the person know more than me about the topic.

Thank you for your responses. Let us now begin the evaluation of a specific person. Imagine you are hearing or reading a message on the the quality of the players in the new United States Football League (USFL). Imagine also that the message is attributed to the person pictured below (actual pictures used are at the end of the appendix). Then respond to the questions on the following pages.

B. Please evaluate the person photographed by responding to the following descripters. Mark an X in the space you believe best describes the person in the photograph.

Cheerful	____:____:____:____:____	Gloomy
Narrow	____:____:____:____:____	Intellectual
Verbal	____:____:____:____:____	Quiet
Weak	____:____:____:____:____	Forceful

Friendly	____:____:____:____:____	Unfriendly
Timid	____:____:____:____:____	Bold
Dominant	____:____:____:____:____	Subordinate
Inexpert	____:____:____:____:____	Expert
Large	____:____:____:____:____	Small
Calm	____:____:____:____:____	Anxious
Honest	____:____:____:____:____	Dishonest
Good	____:____:____:____:____	Bad
Big	____:____:____:____:____	Little
Intelligent	____:____:____:____:____	Unintelligent
Poised	____:____:____:____:____	Nervous
Talkative	____:____:____:____:____	Silent
Strong	____:____:____:____:____	Weak
High ranking	____:____:____:____:____	Low ranking
Unsympathetic	____:____:____:____:____	Sympathetic
Relaxed	____:____:____:____:____	Tense
Tall	____:____:____:____:____	Short
Good natured	____:____:____:____:____	Irritable
Like me	____:____:____:____:____	Unlike me
Important	____:____:____:____:____	Unimportant
Doesn't share my attitudes	____:____:____:____:____	Shares my attitudes
Thinks like me	____:____:____:____:____	Doesn't think
Aggressive	____:____:____:____:____	Passive
Inferior	____:____:____:____:____	Superior

C. Please respond to the following statements about the person photographed by circling the appropriate response (strongly agree, agree, neither agree or disagree, disagree, strongly disagree).

I think he could be a friend of mine.

It would be difficult to meet and talk with him.

He just wouldn't fit into my circle of friends.

We could never establish a personal friendship with each other.

I would like to have a friendly chat with him.

I think he is quite handsome.

He looks sexy.

I consider him to be physically attractive.

I don't like the way he looks.

He is somewhat ugly.

He is a typical goof-off when assigned a job to do.

I have confidence in his ability to get the job done.

If I wanted to get things done, I could probably count on him.

I couldn't get anything accomplished with him.

He would be a poor problem solver.

D. Now, just a few more questions about yourself.

Are you male or female?

What is your age? (in years)

What is your ethnic or racial background?

What is your height? (in inches)

How often do you participate in sports?

How often do you exercise? (circle one)
What is your overall Grade Point Average ?
E. Finally, a couple of questions concerning your evaluation of the task you just accomplished. Again, circle the appropriate response to the following statements (strongly agree, agree, neither agree or disagree, disagree, strongly disagree).
I am confident in my evaluation of the speaker.
The task of evaluating the speaker was easy.
The task of evaluating the speaker was clear-cut.
Did you notice anything unusual about the photograph of the person? If yes, what?

Size irrelevant condition.

The sponsor of this research is interested in evaluating a spokesperson who will be delivering a message on the topic of the the quality of the education at Michigan State University (MSU). The person will deliver messages primarily via the mass media, to include both print (newspaper stories, brochures, etc.) media and television. The person's photograph will also be used to accompany news releases made to the media and will be included in pamphlets and handout material produced by the organization.
Before evaluating the photograph of the proposed spokesperson, the sponsor would appreciate your responses to a few questions concerning the speaking situation. More

specifically, the sponsor is interested in what criteria you would use in evaluating a person delivering a mass media message on the the quality of the education at Michigan State University (MSU).

(Questions as before)

Thank you for your responses. Let us now begin the evaluation of a specific person. Imagine you are hearing or reading a message on the the quality of the education at Michigan State University (MSU). Imagine also that the message is attributed to the person pictured below. Then respond to the questions in Section B.

(Questions as before)

Figure 1
Below Eye-level -- Person 1

Figure 2
Eye-level -- person 1

Figure 3
Above eye-level -- person 1

Figure 4
Below eye-level -- person 2

Figure 5
Eye-level -- person 2

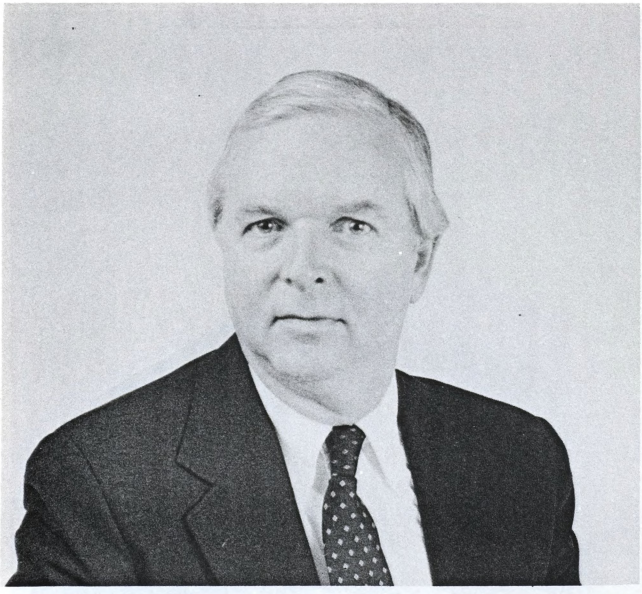

Figure 6
Above eye-level -- person 2

BIBLIOGRAPHY

Bibliography

Adams, K. A. (1980) "Who has the final word? Sex, race, and dominance behavior." Journal of Personality and Social Psychology, 38, 1-8.

Adams, K. A., & Landers, A. D. (1978) "Sex differences in dominance behavior." Sex Roles, 4, 215-223.

Anderson, C. (1972) "In search of a visual rhetoric for instructional television." AV Communication Review, 20, 54-65.

Anderson, H. H. (1937a) "An experimental study of dominative and integrative behavior in children of preschool age." Journal of Social Psychology, 8, 335-345.

Anderson, H. H. (1937b) "Domination and integration in social behavior of young children in an experimental play situation." Genetic Psychology Monographs, 19, 341-408.

Anderson, H. H. (1939a) "The measurement of domination and of socially integrative behavior in teachers' contacts with children." Child Development, 10, 73-79.

Anderson, H. H. (1939b) "Dominance behaviors of kindergarten children and teachers." Genetic Psychology Monographs, 21, 287-385.

Anderson, K., & Clevenger, T. Jr. (1963) "A summary of experimental research in ethos." Speech Monographs, 30, 59-78.

Applbaum, R. L., & Anatol, K. W. E. (1972) "The factor structure of credibility as a function of the speaking situation." Speech Monographs, 39, 216-222.

Applbaum, R. L., & Anatol, K. W. E. (1973) "Dimensions of source credibility: A test for reproducibility." Speech Monographs, 40, 231-237.

Applbaum, R. L. & Anatol, K. W. E. (1974) "A rejoinder." Speech Monographs, 41, 295-298.

Argyle, M. (1975) Bodily communication. London: Methuen & Co. Ltd.

Aristotle. (1954) Rhetoric. Translated by W. R. Roberts. New York: The Modern Library.

Arnheim, R. (1969) Visual thinking. Berkeley, Ca.: University of California Press.

Arnheim, R. (1974) Art and visual perception: A psychology of the creative eye. Berkeley, Ca.: University of California Press.

Asch, S. (1946) "Forming impressions of personality." Journal of Abnormal and Social Psychology, 41, 258-290.

Asch, S. (1952) Social Psychology. Englewood Cliffs, NJ.: Prentice-Hall, Inc.

Atkin, C. K. (1973) "Instrumental utilities and information-seeking." in Peter Clarke (ed.) New models for communication research. Beverly Hills, Ca.: Sage Publications.

Baggaley, J., & Duck, S. (1976) Dynamics of television. Westmead, England: Saxon House.

Baggaley, J., Ferguson, M., & Brooks, P. (1980) Psychology of the TV image. New York: Praeger.

Balazs, B. (1953) Theory of the film: Character and growth of a new art. Translation by E. Bone. New York: Roy Publishers.

Barthes, R. (1967) Elements of semiology. New York: Hill & Wang.

Bazin, A. (1967) What is cinema? Berkeley, Ca.: University of California Press.

Becker, H. S. (1970) "Fieldwork evidence." in Howard S. Becker (ed.) Sociological work: Method and substance. Chicago: Adine.

Becker, H. S. (1974) "Photography and sociology." Studies in the Anthropology of Visual Communication, 1,3-26.

Beniger, J. R. (1978) "Media content as social indicators." Communication Research, 5, 436-453.

Berger, A. A. (1982) Media analysis techniques. Beverly Hills, Ca.: Sage Publications.

Berger, J., Cohen, B. P., & Zelditch, M., Jr. (1972) "Status characteristics and social interaction." American Sociological Review,37, 241-255.

Berlo, D. K. (1960) The process of communication: An introduction to theory and practice. New York: Hold, Rinehart and Winston.

Berlo, D. K., Lemert, J. B., & Mertz, R. J. (1969) "Dimensions for evaluating the acceptability of message sources." Public Opinion Quarterly, 33, 563-576.

Blau, P. M. (1964) Exchange of power in social life. New York: Wiley & Sons.

Bloomfield, L. (1935) Language. London: Allen & Unwin.

Blumler, J. G., & Katz, E. (1974) The uses of mass communication. Beverly Hills, Ca.: Sage.

Bowers, J. W., & Phillips, W. A. (1967) "A note on the generality of source credibility scales." Speech Monographs, 34, 185-186.

Brandt, D. R. (1980) "A systemic approach to the measurement of dominance in human face-to-face interaction." Communication Quarterly, 7, 31- 43.

Bretz, R. (1962) Techniques of television production. New York: McGraw-Hill.

Brown, R. (1965) Social psychology. New York: The Free Press of Glencoe.

Bruner, J. S. (1970) "On perceptual readiness." Psychological Review, 64, 123-152.

Bruner, J. S., & Tagiuri, R. (1954) "The perception of people." in Gardner Lindzey (ed.) Handbook of social psychology. Cambridge, Mass.: Addison-Wesley Publishing Company, Inc.

Bunn, J. H. (1982) The dimensionality of signs, tools, and models. Bloomington: University of Indiana Press.

Burgoon, J. K. (1980) "Nonverbal communication research in the 1970s: An overview." in D. Nimmo (ed.) Communication Yearbook. New Brunswick, N. J.: Transactional Books.

Burgoon, J. K., & Saine, T. (1978) The unspoken dialogue: An introduction to nonverbal communication. Boston: Houghton Mifflin Company.

Cantor, N., & Mischel, W. (1977) "Traits as prototypes: Effects on recognition memory." Journal of Personality and Social Psychology, 35, 38-48.

Cantor, N., & Mischel, W. (1979) "Categorization processes in the perception of people." in L. Berkowitz (ed.) Advances in Experimental and Social Psychology. New York: Free Press.

Carey, J. W., & Kreiling, A. L. (1974) "Popular culture and uses and gratifications: Notes toward an accommodation." In J. G. Blumler & E. Katz (eds) The uses of mass communication. Beverly Hills, Ca.: Sage.

Carroll, J. M. (1980) Toward a structural psychology of cinema. The Hague: Mouton Publishers.

Chaffee, S. H. (1980) "Mass media effects: New research perspectives." in C. F. Wilhoit & H. de Bock (eds.) Mass communication yearbook, Vol. 1. Beverly Hills, Ca.: Sage.

Cohen, E. G. (1974) "Effect of sex role in maximizing differences game." Journal of Conflict Resolution, 18, 461-472.

Cohen, E. G., & Roper, S. S. (1972) "Modification of interracial interaction disability: An application of status characteristic theory." American Sociological Review, 37, 643-658.

Cohen, J. (1977) Statistical power analysis for the behaviorial sciences. New York: Academic Press.

Collins, B. E. (1976) Social Psychology. Reading, Mass.: Adison-Wesley.

Cronkite, G. L., & Liska, J. (1976) "A critique of factor analytic approaches to the study of credibility." Communication Monographs, 43, 92-112.

Dannenmaier, D. D., & Thumin, F. J. (1964) "Authority status as a factor in perceptual distortion of size." Journal of Social Psychology, 63, 361-365.

Davis, D. (1960) The grammar of television production. London: Barrie and Rockliff.

Deely, J. (1982) Introducing semiotic: Its history and doctrine. Bloomington: University of Indiana Press.

Delia, J. G. (1976) "A constructivist analysis of the concept of credibility." The Quarterly Journal of Speech, 62, 361-375.

Delia, J. G., Crockett, W. H., Press, A. N., & O'Keefe, D. J. (1975) "The dependency of interpersonal evaluations on context relevant beliefs about the other." Speech Monographs, 42, 10-19.

Desoto, C. B. (1960) "Learning and social structure." Journal of Abnormal and Social Psychology, 60, 417-421.

Desoto, C. B., & London, M., & Handel, S. "Social reasoning and spatial paralogic." Journal of Personality and Social Psychology,2, 513-521.

Dunnette, M. D., & Kirchner, W. K. (1975) "Psychological test differences between industrial salesmen and real estate salesmen." Journal of Applied Psychology, 44, 121-125.

Edelman, M. S. & Omark, d. P. (1973) "Dominance hierarchies in young children." Social Science Information, 12, 103-110.

Eisenstein, S. (1065) Film form and the film sense. Translated by Leyda. Cleveland: World Publishing Co..

Fenelon, J., & Megargee, E. (1971) "Influence of race on the manifestation of leadership." Journal of Applied Psychology, 55, 353-358.

Fiske J., & Hartley, J. (1978) Reading television. London: Methuen.

Foster, H. M. (1979) The new literarcy: The language of film and television. Urbana, Ill.: National Council of Teachers of English.

Frazier, P. J., & Gaziano, C. (1979) "Robert Exra Park's theory of news, public opinion and social control." Journalism Monographs, 64.

Freund, G. (1980) Photography and society. Boston: Godine.

Garcia, M. (1981) Contemporary newspaper design: A structural approach. Englewood Cliffs, NJ.: Prentice-Hall.

Gellert, E. (1961) "Stability and fluctuation in the power relationships of young children." Journal of Abnormal and Social Psychology, 62, 8-15.

Gellert, E. (1962) "The effect of changes in group composition on the dominant behavior of young children." British Journal of Social and Clinical Psychology, 1, 168-181.

Gerber, G. (1967) "Mass media and human communication theory." in Frank E. X. Dance (ed.) Human communication theory: Original essays. New York: Holt, Rinehart and Winston, Inc.

Gerbner, G., Gross, L. (1976) "Living with television: The

violence profile." Journal of Communication, 26, 172-198.

Gerbner, G., & Gross, L., Eleey, M. F., Jackson-Beeck, M., Jeffries-Fox, S., & Signorielli, N. (1977) "TV violence profile no. 8: The highlights". Journal of Communication, 27, 171-180.

Gerbner, G., Gross, L., Morgan, M., & Signorielli, N. (1980) "The mainstreaming of America: Violence profile no. 11." Journal of Communication, 30, 10-29.

Gerbner, G., Gross, L., Signorielli, N., & Morgan, M. (1980) "Aging with television: Images on television drama and conceptions of social reality." Journal of Communication, 30, 37-49.

Golding, P., & Murdock, G. (1980) "Theories of communication and theories of society." in C. F. Wilhoit & H. de Bock (eds.) Mass communication yearbook, Vol. 1. Beverly Hills, Ca.: Sage.

Guss, R. G., & Silverstein, Norman. (1968) The film experience. New York: Delta.

Hall, E. T. (1959) The silent language. Garden City, N.Y.: Doubleday.

Harrison, R. P. (1974) Beyond words: An introduction to nonverbal communication. Englewood Cliffs, NJ.: Prentice-Hall, Inc.

Harper, R. G., Wiens, A. N., & Matarazzo, J. D. (1978) Nonverbal communication: The state of the art. New York: John Wiley & Sons.

Harrell, T. W. (1960) "The relation of test scores to sales criteria." Personnel Psychology, 13, 65-69.

Harvey, O. J., Hunt, D.E., & Schroder, H. M. (1961) Conceptual systems and personality organization. New York: Wiley.

Hastie R., Ostrom, T., Ebbesem, E. B., Wyer, R. S., Jr., Hamilton, D. L., & Carlston, D. E. (1980) Person memory: The cognitive basis of social perception. Hillsdale. NJ.: Lawrence Erlbaum Assocates, Inc.

Hastie, R., & Carlston, D. (1980) "Theoretical issues in person memory." in R. Hastie, T. Ostrom, E. B. Ebbesen, R. S. Wyer, Jr., D. L. Hamilton & D. E. Carlston, (eds.) Person memory: The cognitive basis of social perception. Hillsdale. NJ.: Lawrence Erlbaum Assocates, Inc.

Hawkins, R. P., & Pingree, S. (1980) "Some processes in the cultivation effect." Communication Research, 7, 193-226.

Heider, F. (1958) The psychology of interpersonal relations. New York: Wiley & Sons.

Heider, F., & Simmel, M. (1944) "An experimental study of apparent behavior." American Journal of Psychology, 57, 243-259.

Henley, N. M. (1977) Body politics: Power, sex, and nonverbal communication. Englewood Cliffs, NJ.: Prentice-Hall, Inc.

Hensley, W. E. "A criticism of 'Dimensions of source credibility: A test for reproducibility.'" Speech Monographs, 1974, 41, 293-294.

Hervey, S. (1982) Semiotic perspectives. London: George Allen & Unwin.

Hirsch, P. M. (1980) "The 'scary world' of the nonviewer and other anomalies: A reanalysis of Gerbner et al.'s findings on cultivation analysis." Communication Research, 7, 403-456.

Hirsch, P. M. (1981a) "Distingusing good speculation from bad theory: A rejoinder to Gerbner et al." Communication Research, 8, 73-95.

Hirsch, P. M. (1981b) "On not learning from one's own mistakes: A reanalysis of Gerbner et al.'s findings on cultivation analysis, Part II." Communication Research, 8, 3-37.

Hovland, C., Lumsdaine, A., & Sheffield, F. D. (1949) Experiments in mass communication. Princeton, NJ.: Princeton University Press.

Hovland, C., Janis, I. L., & Kelly, H. H. (1953) Communication and Persuasion. New Haven, CN.: Yale University Press.

Hutt, A. (1967) Newspaper design. London: Oxford University Press,

Ivins, W. M., Jr. (1953) Prints and visual communication. Cambridge, Mass.: Harvard University Press.

Jacobs, L. (1970) The movies as medium. New York: Farrar, Straus & Giroux.

Jones, E. E., & Davis, K. E. (1965) "From acts to dispositions: The attribution process in person perception." in L. Berkowitz (ed.) Advances in experimental social psychology. New York: Academic Press.

Kaplan, S. J. (1976) "Attribution processes in the evaluation of message sources." Western Speech Communication, 40, 189-195.

Katz, D., & Braly, K. W. (1933) "Racial stereotypes of 100 college students." Journal of Abnormal and Social Psychology, 29, 280-290.

Katz, I., & Benjamin, L. (1960) "Effects of white authoritarianism in biracial work groups." Journal of Abnormal and Social Psychology, 61, 448-456.

Katz, I., & Cohen, M. (1962) "The effects of training Negroes upon cooperative problem solving in biracial teams." Journal of Abnormal and Social Psychology, 64, 319-325.

Kelly, G, A. (1955) The psychology of personal constructs. New York: W. W. Norton & Company.

Kelly, H. H. (1971) Attribution in social interaction. Morristown, N.J.: General Learning Press.

Kelly, H. H. (1973) "The process of causal attribution." American Psychologist, 28, 107-128.

Kepes, G. (1961) Language of vision. Chicago: Paul Theobald. King, S. W. (1976) "Resconstructing the concept of source perceptions: Toward a paradigm of source appropriatness." Western Speech Communication, 40, 216-225.

Klapper, J. (1960) The effects of mass communication. New York: Columbia University.

Knapp, M. L. (1972) Nonverbal communication in action. New York: Holt, Rinehart and Winston.

Korda, M. (1975) Power! How to get it, How to use it. New York: Random House.

Kuethe, J. L. (1962) "Social schemas." Journal of Abnormal and Social Psychology, 64, 31-38.

Kurtz, D. L. (1969) "Physical appearance and stature: Important variables in sales recruiting." Personnel Journal, 48, 981-983.

Lamont, L. M., & Lundstrom, W. J. (1977) "Identifying successful industrial salesmen by personality and personal characteristcs." Journal of Marketing Research, 14, 517-529.

Lang, K. "The critical functions of empirical communication research: Observations on German-American influences." (1980) in C. F. Wilhoit & H. de Bock (eds.) Mass communication yearbook, Vol. 1. Beverly Hills, Ca.: Sage.

Lashbrook, V. J. (1971) "Source credibility: A summary of experimental research." Paper presented at Speech Communication Association convention, San Fransisco.

Lasswell, H. D. (1948) "The structure and function of communication in society." in L. Bryson (ed.) The communication of ideas. New York: Institute for Religious and Social Studies.

Levi-Strauss, C. (1963) Structural antropology. New York: Basic Books.

Levi-Strauss, C. (1966) The savage mind. Chicago: University of Chicago Press.

Lewis, J. J. (1974) "A criticism of the factor structure of credibility as a function of the speaking situation." Speech Monographs, 4, 289-290.

Littlejohn, S. W. (1971) "A bibliography of studies relative to variables of credibility." A Bibliographic Annual in Speech Communication, 2, 1-40.

Lippmann, W. (1922) Public opinion. Glencoe, Il.: Free Press.

Lockheed, M. E., & Hall, K. P. (1976) "Conceptualizing sex as a status characteristic: Application to leadership training strategies." Journal of Social Issues, 32, 111-123.

Maccoby, E., & Jaclin. C. (1974) The psychology of sex differences. Stanford: Standford University Press.

Machotka, P., & Spiegel, J. (1982) The articulate body. New York: Irvington, Publishers.

Maclay, G., & Knipe, G. (1972) The dominant man. New York: Delacorte Press.

Mandell, L. M., & Shaw, D. L. (1973) "Judging people in the news - unconsiously: Effect of camera angle and bodily activity." Journal of Broadcasting, 17, 353-365.

McCroskey, J. C., Hamilton, P. R., & Weiner, A. N. (1974) "The effect of interaction behavior on source credibility, homophily, and interpersonal attraction." Human Communication Research, 1,42-52.

McCroskey, J. C., & McCain, T. A. (1972) "The measurement of interpersonal attaction." Paper presented at the convention of the International Communication Association, Atlanta.

McCroskey, J. C., Scott, M. D., & Young, T. J. (1971) "The dimensions of source credibility for spouses and peers." Paper presented to Western Speech Communication Association Convention, Fresno, Ca.

McGrew, W. C. (1972) An ethological study of children's behavior. New York: Academic Press.

McLuhan, M. (1964) Understanding media. New York: McGraw-Hill.

McQuail, D. (1975) Communication. New York: Longman.

McQuail, D. (1980) "The historicity of mass media science." in C. F. Wilhoit & H. de Bock (eds.) Mass communication yearbook, Vol. 1. Beverly Hills, Ca.: Sage.

Metz, C. (1974a) Film language. Translated by M. Taylor. New York: Oxford University Press.

Metz, C. (1974b) Language and cinema. The Hague: Mouton.

McCain, T. A., Chilberg, J., & Wakshlag, J. (1977) "The effect of camera angle on source credibility and attraction." Journal of Broadcasting, 21, 35-47.

McGuire, W. J. (1960) "A syllogistic analysis of cognitive relationships." in M. J. Rosenberg, C. I. Hovland, W. J. McGuire, R. P. Abelson, & J. W. Brehm (eds.) Attitude organization and change. New Haven: Yale University Press.

Mehrabian, A. (1972) Nonverbal Communication. Chicago: Aldine-Atherton.

Mischel, W. (1968) Personality and assessment. New York: Wiley & Sons.

Miller, G. R. (1976) "The effects of videotape trial materials on juror response." in G. Bermant, C. Nemeth, & Neil Vidmar (eds.) Psychology and the law. Lexington, Mass.: Lexington Books.

Miller, G. R. (1979) Videotape on trial. Beverly Hills, Ca.: Sage Publications, Inc.

Miller, G. R. (1980) "On being persuaded: Some basic distinctions." in M. E. Roloff & G. R. Miller (eds.) Persuasion: New directions in theory and research. Palo Alto, Ca.: Sage.

Miller, G. R., Fontes, N. E., & Konopka, A. (1978) The effects of videotaped court materials on juror response. Final report for NSF-RANN Grant APR75-15815.

Miller, G. R., & Steinberg, M. (1975) Betwen people: A new analysis of interpersonal communication. Chicago: Science Research Associates, Inc.

Millerson, G. (1968) The technique of television production. New York. Hastings House.

Millerson, G. (1976) Effective TV production. New York: Hastings House.

Morris, C. (1946) Signs, language and behavior. New York: Prentice-Hall.

Morris, C. (1964) Signification and significance. Cambridge, Mass.: MIT Press.

Mosel, J. (1952) "Prediction of department stores sales performance from personal data." Journal of Applied Psychology,36, 8-10.

Newspaper Enterprise Association. (1984) The world almanac and book of facts. New York.

Nizhny, V. (1962) Lessons with Eisenstein. New York: Wang.

Ohmann, O. A. (1941) "A report of research on the selection of salesmen at the Tremco Manufacturing Company." Journal of Applied Psychology, 20, 18-29.

Olson, D. H., & Rabunsky, C. (1972) "Validity of four measures of family power." Journal of Marriage and the family, 34, 224-234.

Omark, D. R., Omark, M., & Edelman, M. S. (1975) "Formation of dominance hierarchies in young children: action and perception." in T. Williams (ed.) Psychological antrhropology. The Hague: Mouton.

Orvis, B. R., Cunningham, J. D., & Kelly, H. H. (1975) "A closer examination of causal inference: The roles of consensus, distinctiveness, and consistency information." Journal of Personality and Social Psychology, 32, 605-616.

Osgood, C. E., Suci, J., & Tannenbaum, P. H. (1957) The measurement of meaning. Urbana, Ill.: University of Illinois Press.

Ostrom, T. M., Lingle, J. H., Pryor, J. B, & Geva N. (1980) "Cognitive organization of person perceptions." in R. Hastie, T. Ostrom, E. Ebbesem, R. Wyer, Jr., D. Hamilton, & D. Carlson (eds.) Person memory: The cognitive basis of social perception. Hillsdale. NJ.: Lawrence Erlbaum Assocates, Inc.

Packard, V. (1957) The hidden persuaders. New York: David McKay.

Peirce, C. S. (1960) Collected Papers of Charles Sanders Peirce. Edited by C. Hawthorne & W. Wiess. Cambridge, Mass.: Harvard University Press.

Peters, J. (1981) Pictorial signs and the language of film. Amsterdam: Rodopi.

Pickert, S. M., & Wall, S. (1981) "An investigation of children's perceptions of dominance relations." Perceptual and Motor Skills, 52, 75-81.

Pierce, J. R. (1961) Symbols, signals and noise: The nature and process of communication. New York: Harper & Row.

Press, A. N., Crockett, W. H., & Delia, J. G. (1975) "The effects of cognitive complexity and of the perceiver's set on the organization of impressions." Journal of Personality and Social Psychology, 32, 865-872.

Pudovkin, V. I. (1958) Film technique and film acting. Translated and edited by Ivor Montagu. London: Vision Press Limited.

Rogers, E. M., & Bhowmik, D. K. (1971) "Homophily-heterophily: Relational concepts for communication research." Public Opinion Quarterly, 34, 523-538.

Rollins, B. C., & Bahr, S. J. (1976) "A theory of power relations in marriage." Journal of Marriage and the Family, 38, 619-627.

Roloff, M. E., & Berger, C. R. (1982) Social cognition and communication. Beverly Hills, Ca.: Sage Publications.

Rosenberg, S., & Sedlak, A. (1972) "Structural representations of implicit personality theory." in L. Berkowitz (ed.) Advances in experimental and social psychology. New York: Academic Press.

Safilios-Rothchild, C. (1970) "The study of family power structure: A review." Journal of Marriage and the Family, 32, 539-552.

Saussure, F. de. (1959) Course in general linguistics. Translated by Wade Baskin. Edited by C. Bally, A. Sechehaye & A. Reidlinger. New York: Philosophical Library.

Savin-Williams, R. C. (1976) "An ethological study of dominance formation and maintenance in a group of human adolescents." Child Development, 47, 972-979.

Savin-Williams, R. C. (1977) "Dominance in a human adolescent group." Animal Behavior, 25, 400-406.

Savin-Williams, R. C. (1979) "Dominance hierarchies in groups of early adolescents." Child Development, 50, 142-151.

Savin-Williams, R. C. (1980) "Dominance hierarchies in groups of middle to late adolescent males." Journal of Youth and Adolescence, 9, 75-85.

Sebeok, T. A. (1978) Sight, sound and sense. Bloomington: University of Indiana Press.

Schank, R. C., & Abelson, R. P. (1977) Scripts, plans, goals, and understanding. Hillsdale, N.J.: Lawrence Erlbaum.

Schaver, K. G. (1975) An introduction to attribution process. Cambridge, Mass.: Winthrop Publishers, Inc.

Scheflen, A. E. (1973) Communication structure: Analysis of a psycholtherapy transaction. Bloomington, Ind.: Indiana University Press.

Schramm, W. (1979) "Channels and audiences." in Gary Gumpert & Robert Cathcart (eds.) Inter/media: Interpersonal communication in a media world. New York: Oxford University Press.

Shannon, C. E. & Weaver, W. (1949) The mathematical theory of communication. Urbana, Ill.: University of Illinois Press,

Shaver, K. G. (1975) An introduction of attribution processes. Cambridge, Mass.: Winthrop Publishers.

Sherif, M., & Sherif, C. W. (1956) An outline of social psychology. New York: Harper & Row Publishers.

Sluckin, A. M., & Smith, P. K. (1977) "Two approaches to the concept of dominance in preschool children." Child Development, 48, 917-923.

Snedecor, G. W. , & Cochran, W. G. (1967) Statistical Methods. Ames, Iowa.: Iowa State University Press.

Snyder, J., & Allen, N. (1975) "Photography, vision, and representation." Critical Inquiry, Autumn, 143-169.

Sontag, S. (1977) On photography. New York: Farrar, Straus and Giroux.

Spottiswoode, R. (1951) A grammar of the film: An analysis of film technique. Berkeley, Ca.: University of California Press.

Steinfett, T. M. (1974) "A criticism of "dimensions of source credibility: A test for reproducibility.'" Speech Monographs,41,293-294.

Strayer, F. F., & Strayer, Janet. (1976) "An ethological analysis of social agonism and dominance relations among preschool children." Child Development, 17, 980-989.

Suttles, G. D. (1968) The social order of the slum. Chicago: University of Chicago Press.

Szarkowski, J. (1966) The photographer's eye. New York: The Museum of Modern Art.

Taguiri, R. (1969) "Person perception." in G. Lindzey and E. Aronson (eds) Handbook of social pyschology. Reading, Mass.: Addison-Wesley.

Taguiri, R., & Petrullo, L. (1958) Person perception and interpersonal behavior. Stanford, Ca.: Stanford University Press.

Thrasher, F. (1927) The gang. Chicago: University of Chicago Press.

Tiemans, R. (1970) "Some relationships of camera angle to communicator credibility." Journal of Broadcasting, 14, 483-490.

Tinbergen, N. (1969) "On war and peace in animals and man." Science, 160, 1411-1418.

Tuchman, G. (1978) Making news: A study in the construction of reality. New York: The Free Press.

Tucker, R. K. (1971a) "Reliability of semantic differential scales: The role of factor analysis." Western Speech, 35, 185-190.

Tucker, R. K. (1971b) "On the McCroskey scales for the measurement of ethos." Central States Speech Journal, 22, 127-129.

Turk, T. L. (1974) "Power as the achievement of ends: A problematic approach in family and small group research." Family Process, 13, 39-52.

Watzlawick, P., Beavin, J. H., & Jackson, D. (1967) Pragmatics of human communication: A study of interactional patterns, pathologies, and paradoxes. New York: W. W. Norton & Company, Inc.

Weibe, G. D. (1952) "Mass communications." in E. C. Hartley and R. E. Hartley (eds.) Fundamentals of social psychology. New York: Alfred A Knopf.

Whyte, W. F. (1943) Street corner society. Chicago: University of Chicago Press.

Wiener, M., Devoe, S., Rubinow, S., & Geller, J. (1972) "Nonverbal behavior and nonverbal communication." Psychological Review, 79, 185-214.

Wilson, P. R. (1968) "Perceptual distortion of height as a function of ascribed academic status," Journal of Social Psychology, 74, 97-102.

Winer, B. J. (1971). Statistical principles in experimental design. New York: McGraw-Hill.

Wirth, L. (1948) "Consensus and mass communication." American Sociological Review, 13, 1-4.

Wollen, P. (1969) Signs and meaning in the cinema. London: Martin Secker & Warburg Limited.

Worth, Sol. (1981) Studying visual communication. Philadephia: University of Pennsylvannia Press.

Wright, C. R. (1959) Mass Communication: A sociological perspective. New York: Random House, Inc.

Wright, C. R. (1964) "Functional analysis in mass communication." in Lewis A. Dexter & David M. White (eds.) People, society and mass communication. New York: The Free Press of Glencoe.

Wynne-Edwards, V. C. (1962) Animal dispersion in relation to social behaviour. New York: Hafner.

Zakia, R. (1975) Perception and Photography. Englewood Cliffs, NJ.: Prentice-Hall.

Zajonc, R. B. (1968) "Cognitive theories in social psychology." in G. Lindzey & E. Aronson (eds.) The handbook of social psychology. Reading, Mass.: Addison-Wesley.

Zettl, H. (1973) Sight, sound, motion: Applied media aesthetics. Belmont: Wadsworth.

Zettl, H. (1976) Television production handbook. Belmont: Wadsworth.