

**TOWARDS AN INTERPRETIVE COMMUNICATION MODEL
FOR PARKS AND RECREATION WITH IMPLICATIONS
FOR AN INTERPRETIVE SIGN PROCESS INCLUDING
AN ANALYSIS OF SIGN MATERIALS**

By

Richard Alfred John Nuxoll

A THESIS

Submitted To

Michigan State University

**in partial fulfillment of the requirement
for the degree of**

MASTER OF SCIENCE

Department of Park and Recreation Resources

1-222
ABSTRACT

**TOWARDS AN INTERPRETIVE COMMUNICATION MODEL
FOR PARKS AND RECREATION WITH IMPLICATIONS
FOR AN INTERPRETIVE SIGN PROCESS INCLUDING
AN ANALYSIS OF SIGN MATERIALS**

By

Richard Alfred John Nuxoll

In the field of park management generally, the use of non-verbal communication can be a great asset. If utilized in a well thought-out manner this visual communication process can aid in the functioning of the park. This is also true in the specific case of interpretation. Many disadvantages for the incorporation of other communication devices such as interpreters, coupled with the advantages of interpretive non-verbal media produce an unmatched opportunity to communicate to the park visitor. It must however, be approached at a sophisticated level with the full knowledge that resources both financial and personnel will have to be expended.

This thesis is directed toward three important factors. The first is to present the interpretive concept in an acknowledged but seldom stated light. This first

purpose will also propose and investigate a model that can be used to better understand interpretation and communicating the objectives of this concept.

The second major concern is to present a framework for developing an efficient and effective interpretive non-verbal communication system. It has its base within the proposed model as mentioned above. This process, if adhered to, will provide the reader with parameters within which to establish such a system.

Materials play a large role in this discussion of non-verbal interpretation and, therefore, comprises the third factor to be presented. In this section of the thesis both Canadian and American sources and examples are utilized to gain the added dimension of applicability by numerous agencies and individuals.

TABLE OF CONTENTS

	Page
LIST OF TABLES	v
LIST OF DIAGRAMS	vii
LIST OF FIGURES	viii
 Chapter	
I. INTRODUCTION	1
Preamble	1
Purpose	3
Need and Significance	4
Limitations	8
Definition of Terms	10
Interpretation Defined	13
II. A MODEL OF THE INTERPRETIVE COMMUNICATION PROCESS	22
Communication Models	25
Marketing Models	27
Interpretive Communication Model	29
The Sender	30
The Result	35
The Message	40
The Vehicle	45
The Receiver	53
Behavior	55
Feedback	56

Chapter		Page
III.	UNDERSTANDING THE RECEIVER COMPONENT OF THE INTERPRETIVE COMMUNICATION MODEL	58
	The Receiver	59
	Stimulus	61
	Perception	65
	Market Segmentation	95
IV.	A PLANNING PROGRAM FOR THE INTERPRETIVE SIGNAGE PROCESS	100
	The Interpretive Signage Process	100
	Purpose of Interpretive Signage	102
V.	INTERPRETIVE MESSAGE CONTENT AND DESIGN	117
	Message Content	119
	Design Factors	136
VI.	INTERPRETIVE SIGNAGE PLANNING	157
	Location of Signs	159
	Siting of the Sign	162
	Evaluation	165
	Performance	170
VII.	SUMMARY AND CONCLUSIONS	173
	Needed Research	174
VIII.	INTERPRETIVE SIGN MATERIAL ANALYSIS	179
	Methodology	182
	REFERENCES	213
	APPENDIX I	219
	APPENDIX II	224

LIST OF TABLES

Table	Page
1. Definitions of Types of Interpretation	17
2. The Sender--Some Considerations for Interpretation	36
3. Characteristics of Interpersonal and Mass Media Communication Channels	47
4. Techniques for Evaluation	57
5. Characteristics of Traditional and Modern Norms	85
6. Characteristics of Social Classes	88
7. Learning Theory Generalizations and Implications for Interpretation	94
8. Interpretive Signage Process	101
9. Basic Kinds of Signs and Objectives	109
10. Basic Kinds of Interpretive Signs and Objectives	112
11. Sign Factors that Influence Visitor to Action ...	118
12. Content Styles	129
13. Examples of Symbols	133
14. Communication and the Senses	137
15. Various Lettering Styles	146
16. Visual Impressions of Color	154
17. Exemple of Color Uses and Categorization	154
18. Color Combinations for Best Legibility	156
19. National Parks Signage Manual: Signage Evaluation	167

Table	Page
20. Performance Criteria	180
21. List of Potential Sign Producing Processes and Material	199
22. Cost of Cast Aluminum	201

LIST OF DIAGRAMS

Diagram	Page
1. A Model of Consumer Behavior	29
2. Elements of the S-M-C-R-E Communication Model ...	31
3. Elements of the Receiver Component	60
4. Theoretical Weighting of the Emotional and Informational Components of Attitudes	81
5. The Sub-components of the Receiver Element of The S-M-C-R-E Communication Model	90

LIST OF FIGURES

Figure	Page
1. Examples of 'Directional' and 'Identificational' Type Signs	113
2. Example of an 'Informational' Type Sign	114
3. Example of a 'Regulatory' Type Sign	115
4. Example of an 'Interpretive' Type Sign	116
5. Professional Jargon and Interpretive Signage	123
6. Layout Styles for Signs	143
7. Layout Examples	149
8. Placement of Interpretive Signs	163
9. Example of a Situation with Too Many Signs Within the Same Visual Zone	164

ACKNOWLEDGEMENTS

In the writing of this report, numerous sources were utilized, ranging from personal experiences to related publications and materials. As such, the foundation or basis of this report is rooted in the minds, imagination, and expertise of numerous individuals concerned with the fields of interpretation, communication, marketing and the behavioral sciences. To these people thanks is extended.

Of special note is my wife, Janette, whose constant encouragement, judgement and assistance were always unfailing as was her patience.

I wish also to thank Professor Lewis Moncrief for his aid, constructive criticism and encouragement in the writing of this thesis. Professors Paul Risk and Michael Chubb also added constructive criticism.

All opinions, analyses and statements in this report are the accepted responsibility of the author.

CHAPTER I

INTRODUCTION

Preamble

Visual communication in parks is one of the most important means of information dissemination, identification, interpretation, direction and control of the visitors. Our eyes are continuously investigating, absorbing and seeking things out. Sight is our most important information gathering sense.

Of man's sensory receptors, the eye is the most powerful. It can make more discriminations. It has the furthest range (i.e., we can see great distances, all the way to the stars).¹

As such, it seems obvious that the park personnel have a potentially influencing opportunity to affect the actions of the park visitor and therefore, increase their effectiveness. Also, it offers the opportunity to overcome a frustrating fact of life: we cannot be in more than one place at one time. Through this media, park personnel can be at many places at the same time.

Most parks, be they public or private, utilize various kinds of visual communication. They are used for

¹R. Harrison, An Introduction To Non-verbal Communication (U.S.A.: Prentice-Hall, Inc., Revised Draft, Spring, 1973), V-4.

park entrances, directions to campgrounds, interpretive centers, swimming areas and the like; identification of interpretive features; to display rules, regulations and guidelines to the visitor. Signs are used for identifying biological plant species, special historic areas and archeological interests. They can remind, encourage, inform, identify, interpret, and direct. All this can be accomplished by use of the print media located in the proper place and produced of the most beneficial material. As stated, visual communication devices are used, but is their fullest potential reached? This is the major issue of this report.

As park personnel, the superintendent and his staff usually know the park very well and often this is a drawback. By not being a stranger in a strange place it is difficult to appreciate frustrations that may result if good instructions and explanations are not evident. The park visitor does not want to waste his time by looking all over for his camping site or a concession building or nature trail. They come to the park for an enjoyable, not frustrating experience. Likewise, the park personnel need not be slowed down by questions that can be answered before they are asked. The answering of many simple questions can be accommodated by use of visual communication releasing the park personnel for more beneficial work. Print media speeds up search time, minimizes errors for both park personnel and the user and decreases wasted time for both groups.

Signs are one such print media that can be used in a park and is presented in this thesis as the interpretive visual communication focus. Depending on the purpose of the sign and the priorities set by the park administrator, signs produced from wood to metallic photographic imprinting can be used. Priorities on material inevitably involve money and time considerations plus material availability, especially in the case of wood as the material is often the deciding factor. Money and time also play a primary role and must be weighed, in a long and short term framework, against the purpose to which the sign will be used. This usually involves factors such as harmony with the environment, durability, clarity and so on. This balancing process is not always easy and for the most part it has been ignored in favor of using signs based on the past uses. It appears that a major reason why this balancing process has not been utilized is due to the obvious lack of information available that deals with the range of purposes of signs, their potential uses, their impact on the user, their availability, qualities and their cost.

Purpose

It was the purpose of this thesis to analyze the concept of interpretation. The often implied but seldom stated purpose of this concept was investigated with the result of a specific emphasis in the definition and components of interpretation. This emphasis hopefully will permit the interpreter or those engaged in interpre-

tation to understand and thereby better focus on the goal or purpose of interpretation.

Definitions per se are not explanatory to the degree required when one is attempting to operationalize the concept and evaluate its success. Models are often used in this way to simulate the actual world in a complete and more easily understood manner. For an emerging art such as interpretation this is important. Therefore, it was the second purpose of this study to present a model of the communicative aspect of interpretation. A modified communicative model was utilized based on the primary purpose of interpretation as presented in the thesis.

The third purpose of this study is to present a rational and systematic approach to the incorporation of interpretive signage in parks. This process is based upon the conclusions drawn from the first and second purposes and therefore focuses on (a) the goal of interpretation and (b) the interpretive communication model developed.

The fourth purpose of the thesis is to provide the reader with an analytical source of the various types of sign material that can be used. This purpose will further facilitate the process identified as an approach to interpretive signage in parks.

Need and Significance

Recently, several public agencies have been interested in the use of a communication model for the under-

standing of the communicative aspects of interpretation.²

This thesis will be a positive step toward the use of such a model. Also it will present to the reader and student of interpretation a better understanding of the various components involved in the communication of interpretation. To the knowledge of the author, no such model for interpretation has been investigated in any systematic, vigorous fashion; therefore, this model will provide the first attempt in this area.

When any discussion concerning interpretive park signage is taking place, a sub-theme is usually the target of the discussion. Maintenance personnel refer to the technical capabilities of the signs in general; the interpretive staff usually discuss the content, design and location of signs; superintendents usually are more concerned with cost and timing. However, few times, if ever, is the interpretive signage in a park considered in total. This thesis presents a planning program that by utilizing a rational and systematic approach will bring these divergent thoughts and concerns together for an improved non-verbal communicative system in the park.

²Specifically interpretation sections within Provincial and National Parks Systems in Canada are investigating the potentials of such a model. This emphasis was presented at the 1975 Federal Provincial Parks Conference held in Yellowknife, Northwest Territories through a publication produced and named Task Force on Interpretation, 1975.

In the field of park signage, little comprehensive material is available. The information and data that there is available has been gathered and presented in a piece-meal fashion and most of it applies in general, non-specific terms to the various aspects of interpretation, communication and signage. Nowhere to the knowledge of the author has such a compendium of information with in-depth examination and accompanying suggestions been presented in one source. More likely, the scene of an interpreter wading through various publication is the norm. This study is directed to fill this vacuum.

This vacuum has largely been the result of the apparently mundane standardized practices that are apparent in many park scenes. For the most part these practices have been allowed to continue to exist while studies on camping preferences, socio-economic and other sociological studies have been pursued. Rarely is it recognized that park signage is a challenge incorporating the many disciplines of sociology, communication, psychology, marketing, design and technical expertise such as material evaluation, method analysis and evaluation. Considering this great challenge and knowing that millions of dollars are expended each year on the production of signs, based on little knowledge of the true sophistication involved, is startling. This report will attack this situation in an attempt to provide useful information, constructive analysis and positive accurate suggestions regarding the whole field

of park interpretive communication and signage.

All too often visual communication is a hodgepodge of improvised signs, warnings, instructions and so on. In other cases signs are just not there. Signage offers a great opportunity to manage the park. Why has such an obvious method not been exploited? Often we can go to a park, miss a turn off, select the wrong trail because of confusion, go on a trail and get lost, eat poison fruit or touch poison ivy. Much of this has occurred frequently in a park. The use of signage as a potential solution often does not rest well with many park persons because it appears too simple--it will never work. The normal course of actions tends to be directed to more complicated alternatives. For example, if a large portion of visitors are ending up at the beach when they wanted to visit an archaeological dig the solution will probably be one of redesign of the pedestrian or vehicular traffic pattern. The answer may be a relocation of a sign or more probably, the erection of a sign or cleaning of vegetation from an existing sign. The obvious often haunts our actions.

Another reason for not using signs revolves around the issue of practicality. In too many parks no concerted effort has been made to make the signage effective. Also, the expertise to accomplish this has been missing. Efficient signage is not a half-day endeavor, it does take time and mental exercise, however, the return for the input is relatively large, especially when compared to other alterna-

tives.

Hopefully this study will be a contribution to the field of interpretation and park signage. It should aid administrative and planning methods by isolating the various components involved and prove of value to both public and private park endeavors.

Limitations

1. Throughout the presentation and analysis of the interpretive communicative model frequent mention will be made to the fields of behavioral studies, marketing and communications. The latter two fields of marketing and communications are heavily reliant upon behavioral studies and in a similar manner interpretive communications find their base in behavioral work. However, little empirical research has been conducted to verify the many implications that are drawn from behavioral studies, marketing and communications. Therefore this thesis is based on conceptual thoughts that typically have not been tested.

2. With specific reference to interpretive signage, the information presented in this study is based on previous written material, subjective experience and limited agency evaluation. Therefore, the cited works and reports dealing with the specifics of materials, costs, capability and the like used in this thesis are presented as a general state with respect to the topics. The issue of reliability of the information presented should be kept in mind by the reader.

3. A third limitation deals specifically with agencies and companies that were contacted and those that were not. Since the author was probably not aware of all potential companies, completeness of conclusion might be challenged. The companies that were contacted, in all likelihood, have available a full array of the materials and procedures that are used for signs and the prices given probably represent fair averages. As such, even though some may have been missed the others not answered the queries of the author, the number of respondents, and corresponding information received, is adequate for analysis.

4. The fourth limitation concerns the element of time. This is the greatest disadvantage of the fourth section of this report and all reports of its type. New products, price changes, inflation, advances in technology, and the like, all contribute to the shortened life span of this type of report. To offset this problem to a certain degree a broad comprehensive viewpoint of knowledge related to park signage is emphasized and all companies and agencies surveyed are listed. Therefore, to update this report is relatively simple--only a matter of a few letters to the appropriate companies.

5. The last limitation concerns what can be termed "the state of the art." Although signage in parks is an old procedure, only recently has any attention been given this problem. As mentioned, past procedures were heavily reliant upon tradition: for example, what was done in the

past is done now. Due to this "old" approach, new analytical procedures, criteria and the like have only been developed recently. Hopefully, this report will advance this state. However, since much of the information to be presented is new or relatively so, its effectiveness has not been measured. In fact, the entire area of monitoring of the effectiveness of signs has not been done on any firm or consistent basis.

Definition of Terms

1. Sign: A sign is a stimulus which, for some communicator, 'stands for' something else, it 'means' something above and beyond itself.³
2. Communication: Communication is the process by which messages are transferred from a source to a receiver.⁴
3. Behavior: For the behavioral scientist, the behavior of living organisms may be understood as the outcome of (a) past learning in relation to similar situations, (b) current states of motivation with their influence upon both activity level and sensitivity to the environment, and (c) individual differences of a biological order.⁵
4. Sensation and Perception: Sensation is in effect a one-stage process, it is little (if at all) affected by learning; and the same stimulus must have the same sensory effects on each reception, apart

³R. Harrison, An Introduction To Non-verbal Communication (U.S.A.: Prentice-Hall Inc., Revised Draft, Spring, 1973), pp. 11-12.

⁴E. M. Rogers and F. F. Shoemaker, Communication of Innovations (New York: The Free Press, 1971), p. 11.

⁵B. A. Maher, Principles of Psychopathology (U.S.A.: McGraw-Hill, Inc., 1966), p. 32.

from fatigue. On the other hand, perception normally requires a sequence of stimulations, and even when recognition occurs with a single glance it may depend on an internal sequence of mediating-process activities; it is very much influenced by learning, and its relation to stimulating events is highly variable.⁶

5. Visual Perception: Visual perception in general depends on complex eye movements, tactual perception on movements of some part of the body (a hand . . . is characteristically brought into play). In short, perception involves a sequence of events.⁷
6. Motivation: . . . tendency of the whole animal to be active in a selective, organized way (selective, because not any kind of activity but a particular kind, at any one time, dominates).⁸
7. Personality: The total pattern of motivational and social characteristics that distinguish one subject from another; by some writers used to include distinguishing intellectual characteristics as well.⁹
8. Socialization: Through socialization society teaches the child what he needs to know to be integrated into the community, to develop his potentialities, and to find stable and meaningful satisfactions.¹⁰
9. Norm: A norm is, in the first place, a regularity of learned behavior. In stating a norm one must specify the kind of behavior, the kind of situation in which the behavior occurs and the kind of person who

⁶D. O. Hebb, A Textbook of Psychology (U.S.A.: W. B. Saunders Company, 1966), p. 257.

⁷Ibid., p. 258.

⁸Ibid., p. 334.

⁹Ibid., p. 336.

¹⁰L. Broom and P. Selznick, Sociology (U.S.A.: Harper and Row, Publishers, Inc., 1968), p. 86.

behaves so. Because there are regularities in social behavior and because people can learn, we find that for each behavioral norm there is likely to be an expectancy norm. Very generally the expectancy is likely to be held by everyone familiar with the class of persons, class of situations and class of behavior specified in stating the behavioral norm. Expectancies and regularities of action usually go together and one term, social norm, has been used for both.¹¹

10. Model: A model is a replica of the phenomena it is intended to designate--that is, it specifies the elements and represents the nature of the relationships among these elements. As such, it provides a testable 'map' of reality, and its utility lies in the extent to which the model makes possible a successful prediction of resulting behavior or outcomes.¹²
11. Cognitive Dissonance: A state of cognitive dissonance is said to be a state of psychological discomfort or tension which motivates efforts to achieve consonance. Dissonance is the name for a disequilibrium and consonance the name for an equilibrium.¹³
12. Homeostatisis: . . . maintenance of a constant internal environment, chemically and physically.¹⁴

¹¹R. Brown, Social Psychology (New York: The Free Press, 1965), p. 49.

¹²J. F. Engel, D. T. Kollat, and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston Inc., 1968), p. 35.

¹³R. Brown, Social Psychology (New York: The Free Press, 1965), p. 584.

¹⁴D. O. Hebb, A Textbook of Psychology (U.S.A.: W. B. Saunders Company, 1966), p. 331.

Interpretation Defined

Before any discussion concerning interpretive signage can be attempted, clear, concise and understandable parameters are required. However, this is not easily accomplished, primarily due to the nature of interpretation itself.

Without a doubt, the most utilized and significant description of interpretation lies within the book by Freeman Tilden, Interpreting Our Heritage. Tilden's famous six principles, although repeated in numerous other documents are herein stated.

- (1) Interpretation is not the presentation of information: It is revelation based on information.
- (2) Interpretation must relate what is being displayed or described to something within the personality or experience of the individual.
- (3) Interpretation must present the complete story and should relate to the whole person.
- (4) Interpretation for children should be specially prepared and not be a dilution of the adult version.
- (5) Interpretation's primary purpose is provocation, not instruction.
- (6) Interpretation is an art, combining many arts. An art can be taught and successfully learned.¹⁵

Based on these six principles, Tilden's definition is,

Interpretation is an education activity which aims to reveal meanings and relationships through the use of original objects, first

¹⁵Freeman Tilden, Interpreting Our Heritage (Chapel Hill: University of North Carolina Press, 1967), p. 9.

hand experience and by illustrative media, rather than simply to communicate factual information.¹⁶

Upon analyzing this definition (based upon the content of his book) three factors are evident: (1) educational activity, (2) revelation of meanings and relationships, and (3) utilization of original objects, first hand experience and illustrative media. Tilden's referral to education is not to be construed in the formalized sense of the term. Rather it refers to the process of living as educational inclusive of experience, personality, environmental factors (psychologically speaking) and the like. In this way Tilden is attempting to relay to the reader that interpretation is part of living--an integral part directed toward man understanding the position he plays in the great scheme of things.

To arrive at a comprehensive definition of interpretation, however, is more than just a look at one person's definition or idea. Other concepts will now be discussed to illustrate how interpretation is viewed by various other individuals.

Interpretation is a process or activity which strives for conception between man and his environment. That conceived being the enlightening knowledge of the environment and the part man plays in it.¹⁷
(Mahaffey)

¹⁶ Ibid., p. 8.

¹⁷ John Hanna, Interpretive Skills for the Environmental Communicators (Texas: Department of Recreation and Parks, 1972), p. 1.

This definition obviously has its roots in Tilden's mind. As Tilden does, Mahaffey makes reference to an understanding that is the goal of the process--an understanding of how man relates to his environment. In addition, Mahaffey implies an in-depth relationship between man and his environment--more than just an understanding. Important words such as "conception" and "the part man plays in it" clearly indicate Mahaffey views man as part of the environment and like any other component of the whole, man has his role to play. In this way Mahaffey intensifies and clarifies the interpretive process by first assuming that man is a part of the whole and secondly, stating that it is the purpose of interpretation to help man understand this relationship and his relative position.

Interpretation is the art of explaining the place of man in his environment, to increase visitor or public awareness of the importance of this relationship, and to awaken a desire to contribute to environmental conservation.¹⁸ (D. Aldridge)

Similar to Tilden and Mahaffey, Aldridge makes reference to a goal of interpretation being an explanation to the visitor of how man relates to his environment. He extends the previous two definitions by including a second goal--that being a contribution to environmental conservation. This steward of our environment concept is the most important

¹⁸Don Aldridge, Upgrading Park Interpretation and Communication with the Public (Scotland: Education Countryside Commission for Scotland, 1972), p. 5.

and is seen by the author as the foundation to any definition of interpretation.

Aldridge also goes on to present what is included in the subject matter of interpretation under four typologies, they are shown in Table 1. It appears however, that Aldridge's type, Conservation/Education is out-of-doors education as opposed to interpretation. Out-of-doors education places a greater emphasis on teaching and therefore, is more dependent on the communication of factual information and learning. Interpretation, on the other hand, is primarily understanding not necessarily learning. Therefore, although Aldridge's definition does go beyond those suggested by Tilden and Mahaffey, it includes an area of discussion that is not part of what this report considers to be interpretation.

Most interpreters agree on the general purpose of interpretation in a National Park--to stimulate the visitor's interest and promote his understanding and appreciation of the park, thus making his visit more meaningful and enjoyable.¹⁹ (D. C. Thompson)

Thompson's definition is limited in scope to interpretation in a park. This is largely due to the direction or readers of the article as presented. He is discussing interpretation in parks and not interpretation per se.

¹⁹D. C. Thompson, "Interpretation of the National Park System" in Interpretive Skills for Environmental Communicators, ed. by Joseph J. Shomon (New York: National Audubon Society, 1968), p. 20.

TABLE 1
DEFINITIONS OF TYPES OF INTERPRETATION

TYPE OF SITE	WHAT?	WHO, WHERE, WHEN?	HOW?	WHY?
Historic Site	The art of explaining the past in relation to environmental and social conditions.	to casual visitors in the field often with preparation and follow-up in a visitor center	by bringing it to life dynamically, usually in thematic or story form	to increase visitor awareness of the significance of the site visited and the desire to conserve it.
Natural Site	The art of explaining or revealing the character of an area through the inter-relationships between rocks, soils, plants or animals and man	to casual visitors in the field with preparation and follow-up in a visitor center	usually in thematic or story form	as above.
Environmental	The art of explaining the relationship of man and his environment	to the general public in the field or in indoor situations related to field experiences	as a prelude to a site visit or discussion meeting	to increase public awareness of the importance of this relationship and to awaken a desire to contribute to environmental conservation
Conservation/ Education	The art of teaching or devising learning situations about the environment, through the disciplines of the earth, life and social sciences and the arts	to students and course members with preparation and follow-up in classroom, workshop or laboratory	in depth by heuristic or discovery methods	to increase understanding and as far as possible awareness of the problems of environmental conservation

Source: Don Aldridge, Upgrading Park Interpretation and Communication with the Public (Scotland: Education Countryside Commission for Scotland, 1972), Fig. 2, pp. 12-13.

What is important is Thompson's expansion on other definitions by the inclusion of goals he sees as being attained via interpretation; that being a more meaningful and enjoyable experience. By including these words and resultant ideas, Thompson is further adding to the concept of interpretation indicating that the individual should be rewarded by enjoying his experience. It is an added dimension that is imperative when discussing interpretation.

Outdoor interpretation can be defined as that branch of human communication which has to do with explaining things out-of-doors in meaningful terms to man--be it the world of nature, or certain aspects of natural resources or man's history. The process is both an art and a technique. Closely involved are the processes of education and enlightenment.²⁰ (W. H. Carr)

In his definition, Carr takes a comprehensive approach by providing direction as to what interpretation means while at the same time indicating that the process is one of communication and the end result or goal should be meaningful to the individual. As such, he touches on three of the four aspects of interpretation in definition terms; the process involved, what interpretation has as a goal and individual involvement in meaningful terms. He omits, however, the recreational connotations as suggested by Thompson.

²⁰W. Carr, "Meaning and General Principles of Outdoor Interpretation," in Manual of Outdoor Interpretation, ed. by Joseph J. Shomon (New York: National Audubon Society, 1968), p. 15.

In retrospect the sum of these definitions identify the following aspects of interpretation;

1. Interpretation addresses the importance of the relationship between man and the environment.
2. Interpretation should attempt to aid the individual understand the relationship between man and the environment.
3. Interpretation should contribute to environmental conservation.
4. Interpretation is a communicative process.
5. Interpretation should incorporate recreational or enjoyable experiences.

It appears to this writer that interpretation is not a communicative process but rather a control type of process. It has as its goal not to communicate per se but rather to convert the park users to environmental conservation or stewards of the environment. Similar to education, interpretation has its goal predetermined--to create a public attitude that is receptive to the acceptance of an assumed worthwhile goal. The principal task of interpretation is therefore to encourage the park users to align their attitudes and actions with the goals of the agency.

The difference between a communication process and control process has been identified by Stidsen and Schutte in an article Marketing as a Communications System.

A communication process differs from a control process in much the same manner as an open systems differs from a closed

one. In a control process the emphasis is on producing specific outcomes. Thus, if the optimum inventory level size is known, a control process may be established to attain and maintain that optimum level. In a communication process, however, the emphasis is on the process rather than on outcomes. Thus, if it is not known what is in the interests of consumers, a process must be developed by which these interests can be identified. In a free enterprise system, there is no justification for arbitrarily deciding what is in a consumer's interest. Consequently, an operational marketing concept must be expressed in terms of the dimensions of a particular communication process, rather than specific outcomes to be produced, or particular interests to be satisfied.²¹

This concept of control as the primary purpose of interpretation is one that is seldom acknowledged. However, for purposes of establishing an interpretive communication model this point is critical.

Returning back to the issue of this section, a definition of interpretation, the following is offered.

Interpretation is a control process which explains natural and cultural subjects to people in a manner that is relevant to their lifestyle and is enjoyable with a view towards helping them understand the subject so they will become more sensitive and aware of the place in which we live, our relation to it and the need for stewardship by all. The communication process is the major tool utilized in the

²¹B. Stidsen and T. F. Schutte, "Marketing as a Communications System: The Marketing Concept Revisited." Journal of Marketing, No. 4, Oct. 1972, p. 23.

operationalization of the concept of interpretation.

Hopefully this definition will further advance the state of interpretation. It will be used as the basis of this study and as can be observed, has its roots in the minds of many concerned with the field of interpretation.

CHAPTER II

A MODEL OF THE INTERPRETIVE COMMUNICATION PROCESS

It is surprising that with the vast amount of related behavioral, marketing and communication information and models available that students of interpretation have not pursued this line of work. In addition, considering the complexity of the interpretive concept it is obvious that a model or formal structure is needed to provide a coherent explanation sorting out the various components involved and their interrelationships.

A model is essentially an analogy that is used because it is easier and less costly to manipulate than the real system in the real world and/or because it is impossible to manipulate or experiment with the total real world system. When developing a model, a process and accompanying structure or flow is established which contain all the elements of the system. One major purpose therefore is understanding, another is prediction.

As identified by Engel, Kollat and Blackwell, the major advantages of models are:

1. A frame of reference is provided for research through description of elements and relationships, gaps in information and potential areas for fruitful inquiry are identified with a clarity not otherwise possible.
2. Research findings can be integrated into a meaningful whole. When a model is available of the entire process of interpretation, it becomes feasible to utilize research findings from a variety of behavioral sciences with greater sophistication and precision. In other words, an understanding of underlying relationships provides a perspective for assessing the significance of new research data.
3. Models become useful in theory construction. Researchable hypotheses flow readily from a carefully designed model, and a basis is thus provided for extending knowledge.
4. Explanations are provided for performance of the system. A mere description of the motivational determinants of (the park user) is of little use; it is necessary, rather, to explain relation and thereby gain in ability to predict outcomes under varying sets of circumstances. This process is virtually impossible without a model of some type, no matter how crude.²²

Practitioners of interpretation in the past have not been amenable to this model approach in spite of the many advantages. Models are often viewed as theoretical or non-pragmatic techniques that really do not help the interpreter understand his field or improve his work in the field. It should be recognized, however, that models are

²²J. F. Engel, D. T. Kollat and R. D. Blackwell, Consumer Behavior (New York: Holt, Rinehart and Winston, Inc., 1968), p. 35.

not intended to give fast "frontline" information. Rather, their purpose is to provide a conceptual framework for the philosophical and theoretical basis of interpretation from which implications for fieldwork become evident. In addition, models can help interpreters isolate areas of concern of which little is known. In this way future research to increase knowledge is identified and can be pursued. The importance of models and theoretical conceptualizing is emphasized in a brief discussion by McCombs as it relates to communication work:

To be fruitful this consolidated approach must be presented in theoretical terms. What has passed for mass communication theory has been, in reality, a loose collection of orientations toward data and a few empirical generalizations. While our knowledge has high empirical import, it has little of theoretical import to contribute to an explanation of mass communication and its role in political behavior. The few concepts that exist should be classified and linked with new insights. Descriptions cast in primitive terms abound about what there is, but explanations of why it is are missing.²³

In an attempt to circumvent such an occurrence in the field of interpretation, the model methodology is being used.

Another concept to be applied is systems theory.

Systems are composed of the three components of inputs, a

²³M. E. McCombs, "Mass Communication in Political Campaigns: Information, Gratification and Persuasion," in The Effects of the Mass Media: Readings in Mass Communication and Society, ed. by C. Atkin (U.S.A.: Department of Communication, Michigan State University, 1973), p. 25.

process or manipulative cycle and an output or result. The result is then fed back into the first two stages based upon and determined through, an evaluation stage. Ellis and Ludwig define this concept as:

. . . a device, procedure, or scheme which behaves according to some description, its function being to operate on information and/or energy and/or matter in a time reference to yield information and/or energy and/or matter.²⁴

Combination of the two concepts of model and system gives rise to a systems model which purpose it is to provide a component by component structure that will represent the interpretive communication process. The systems model will be used in this thesis as a tool to aid in the conceptual analysis of the use of communications as applied to interpretation. Communications, it is felt, offers the student of interpretation a potential source for better understanding of his complex field.

In addition to communication work, investigations in the field of marketing are also seen as important to this thesis. As such, both disciplines are investigated with respect to model construction.

Communication Models

To date, there are four widely known basic communication models that have been proposed. They will be briefly

²⁴D. O. Ellis and F. J. Ludwig, Systems Philosophy: An Introduction (U.S.A.: Prentice-Hall, Inc., 1962), p. 3.

presented to indicate past and current thinking in this area.²⁵

The first major model postulated was the hypodermic needle model which conceptualized mass media as having a direct, immediate and strong effect on the public at large. It had as its basis, the stimulus-response principle developed in the field of psychology. It did not recognize any intervening or mediating variables; all that existed was the media that had the ability to control the masses in any fashion desired. As with most overly simplistic models and theories it soon gave way to more sophisticated thoughts. Today the hypodermic needle model is used mainly for historical perspectives.

The two-step flow model was "discovered" more than it was "conceptualized." In the classic study of the 1940 presidential election, Lazarfield et al were expecting to discover more about the hypodermic needle model when their empirical findings suggested that almost no voting choices were directly influenced by the mass media. They discovered that ideas flowed from radio to print to opinion leaders to the general populace. Therefore, the two-step flow model was hypothesized; the first step was from sources to opinion leaders and the second step was from opinion leaders to their followers. This model, therefore put the people

²⁵For a more detailed explanation see Rogers and Shoemaker, pp. 203-209.

back into the picture but many researchers felt it did not tell them enough.

The one-step flow model was a revision of the hypodermic needle model with three important improvements:

(a) the media was not considered all-powerful; (b) selective exposure, perception and retention affect message impact, and; (c) various members of the audience view the communication message differently. This was an important step forward but critical factors such as opinion leaders and the like were not incorporated.

The most recent and perhaps most widely accepted model is the multi-step model which does not set down a particular number of steps nor their sequence. Some receivers obtain the message directly from the source while others are several times removed. It is probably the most accepted model because of its inherent flexibility allowing the researcher or user to account for the various aspects of different communications.

Marketing Models

In addition to these four basic models the field of marketing has developed several models which were also important in the final determination of a model for the interpretive communication process. The models considered were the Howard Model, the Nicosia Model and a model developed by J. F. Engel, D. T. Kollat and R. D. Blackwell. This latter model will be referred to as the Consumer Behavior Model.

The Howard Model is based primarily upon learning theory and problem-solving behavior.²⁶ In this model, behavior begins with a drive represented as a goal which then makes the individual attentive to some triggering cue that will satisfy the drive. The cue activates a choice preference which is mediated by high or low predispositions to buy. If the predisposition is low the individual searches out other information til a selection is made. The results of the decision are then stored and become important for future decisions. This model appears to be the first true sophisticated and interdisciplinary approach but suffered the same major problem as the two-step flow model of communication--it just did not go far enough in explaining the processes involved.

The Nicosia Model includes more detail than the Howard Model but still leaves much to be discussed.²⁷ This model proposes four fields that interact through the receiver's or consumers's lens in his decision process. These four fields are: (1) firm's attributes and the consumer's attributes; (2) the search and evaluation of products and information; (3) the act of purchase, and (4) storage.

²⁶J. A. Howard, Marketing Management Analysis and Planning (U.S.A.: Richard D. Irwin, Inc., 1963), chapters 3-4.

²⁷F. M. Nicosia, Consumer Decision Processes: Marketing and Advertising Implications (U.S.A.: Prentice-Hall, Inc., 1966, Chapters 6-7.

The Consumer Behavior²⁸ model attempts to go beyond the two previously mentioned models especially with respect to detail of explanation. It borrows heavily from the behavioral studies in both theory and empirical evidence. The model is presented on the diagram 1. It is presented here because the model and the multi-step flow model are used as the primary basis for the construction of the interpretive communication model.

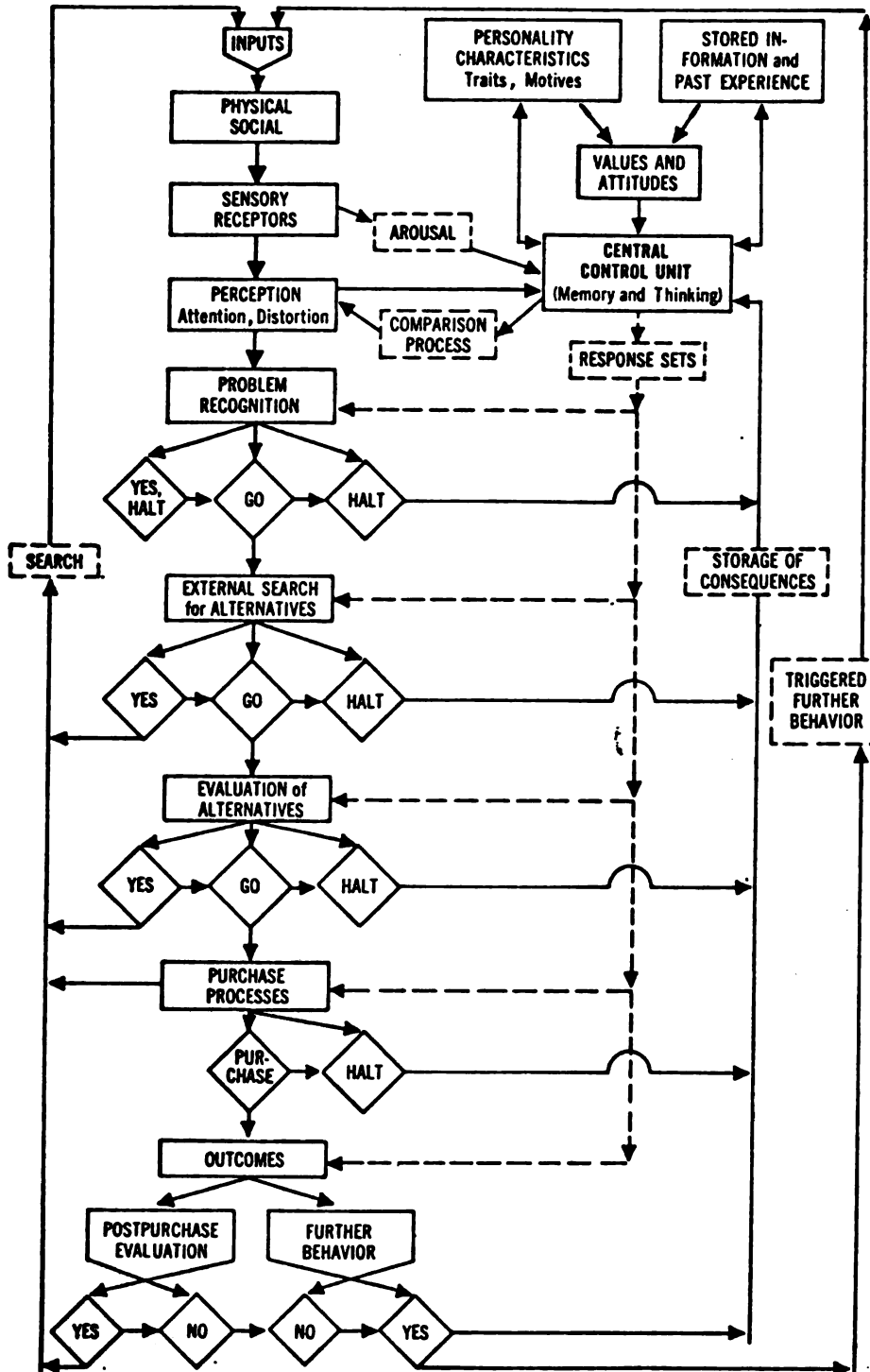
Interpretive Communication Model

In the interpretive communication model presented herein, the structure of the basic communication model is utilized; that is, the source (sender)--message--channel (vehicle)--receiver--effects--feedback process. It is presented in diagram 2.

In understanding this model it is advantageous to understand the components in the following order of priority: 1, 5, 4, 2, 3. This priority listing indicates that the sender must first understand the role he plays in the process and secondly, clearly determine the result he hopes to attain. The result, or at least the anticipated result, is the objective that the sender has identified as being important to communicate. After these components are identified and implications determined the next step is to

²⁸J. F. Engel, D. T. Kollat and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston, Inc., 1968), pp. 40-51.

DIAGRAM 1
A MODEL OF CONSUMER BEHAVIOR



Source: J. E. Engel, D. T. Kollat and R. D. Blackwell
Consumer Behavior (U.S.A.: Holt, Rinehart and
Winston Inc., 1968), p. 50.

understand the receiver or target of the message. This involves several sub-components to be detailed later. The last two steps utilize the information gathered and applies it to the vehicle or communication channel to be used and finally the construction of the message itself.

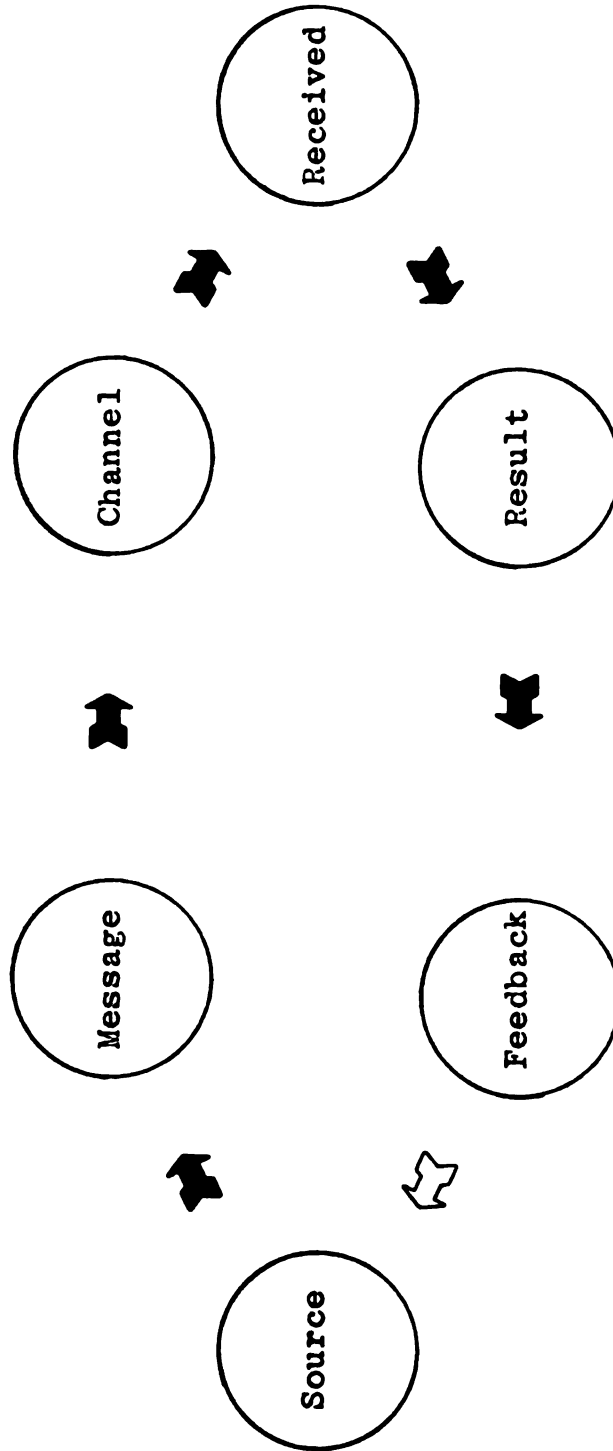
The remainder of the discussion in this chapter will address the four components of the sender, the result, the message and the channel and their implications for interpretive communication. The receiver component, due to its complexity, will be the topic of the next chapter. It will only be briefly mentioned in this chapter to complete the model components as seen in diagram 2.

The Sender

In acting as a communicator it is obvious that one must know something about the message or subject and also something of the market the message is directed toward. Less obvious, though, is consideration of the characteristics of the institution or agency that is the author of the message. In a business framework this is often referred to as the "corporate image." Before a message can be designed and developed to reach the receiver, the sender therefore, must first determine this image. For the purposes of this thesis, the focus of this section will be formal organizations.

The main feature of any formal organization is that they are deliberately created to achieve pre-determined

DIAGRAM 2

ELEMENTS OF THE S-M-C-R-E COMMUNICATION MODEL

Source: E. M. Rogers and F. F. Shoemaker, Communication of Innovations
(U.S.A.: The Free Press, 1971), p. 20.

goals. It is defined as:

A formal organization is a social system that has been deliberately established for achieving certain pre-determined goals; it is characterized by prescribed roles, an authority structure, and a formally established system of rules and regulations to govern the behavior of its members.²⁹

Pre-determined goals and objectives are established to guide the organization in decisions that affect the course of action that the organization chooses. Therefore, they are representative of what it is the organization is attempting to achieve and are used as criteria against which decisions are made. Obviously, if an organization's goal is to maximize profit through the production of various goods, the persuasive power of a communication message can be easily measured in terms of sales to determine success. In a similar manner, the message communicated will present all the good points of the product without discussing drawbacks.

It is important therefore to clearly identify organizational goals and objectives before a message is designed or communicated in order to ensure that the message and media channel used and target receiver are consistent with the organization's purpose and not at cross purposes.

The clear identification of the organization's goals

²⁹E. M. Rogers and F. F. Shoemaker, Communication of Innovations (U.S.A.: The Free Press, 1971), p. 304.

and objectives is equally important in another framework; one related directly to the effects of a communication. For example, a message designed for a particular reason that is not consistent with the organizational goals and results in a poor image for example, may tend to raise serious doubts as to the worth of the communication process. At this stage in time--a point where the process of communication is beginning to be widely accepted--a decrease in esteem and necessary resources, both financial and human, could adversely affect the image of the communication process.

The credibility of the organization is an important point to be raised here. It refers to the degree to which the organization, as the source or sender of the message is seen as trustworthy by the receiver. A generalization drawn from communications theory and indicated through empirical work as related to innovations refers to this concept:

Change agent (organization or the sender)
success is positively related to his
credibility in the eyes of his clients.³⁰

As is implicitly and explicitly indicated in this discussion, the image and goals and objectives of the or-

³⁰E. M. Rogers and F. F. Shoemaker, Communication of Innovations (U.S.A.: The Free Press, 1971), p. 245. (This generalization has been supported by 84% of empirical studies related to the issue, Rogers and Shoemaker, p. 380). Also see T. J. Crawford, "The Effects of Source Characteristics Upon The Perception of Ambiguous Messages" in Journal of Personality, Vol. 41, 1973, pp. 151-162.

ganization must be noted in the design of any communication process.

The Sender--Interpretive Implications:

In park related terms the image of the park system is created by legislation, by politics, by the personnel in the field, by park messages and by controls placed on the user. In addition, this image is evaluated by a wide array of users and interested persons. The creation of messages, that although fulfill the intent of interpretation, do not conform to the institutional image as seen by the politicians and the users are not likely to succeed. For example, the attempt at the establishment of an interpretive communication system emphasizing sand dune fragility and man's destruction of same may be a mistake if, (a) the area has a high use of snowmobiles in the winter and dune buggies in the summer and (b) political pressure indicates a continuation of traditional use. To openly contravene the implied trend could easily lead to (1) a loss of credibility; (2) a loss of institutional consistency; (3) a loss of image on behalf of the politicians; and (4) a very possible loss or deterioration of the interpretive program.

In determining the agency's image the criteria listed on table 2 may be of some aid. It is not presented as an existing process utilized by agencies but rather as guidelines and suggested topics for analyzing the agency's

image in the early stages of interpretive communication process. Whether utilized directly or not the importance of this stage of the process should not be underestimated.

The Result

Logically, following from an analysis of the sender, the result(s) to be achieved by the communication must be determined. It is at this point in time that the exact purpose of the message is established in very clear terms. In the field of problem solving this fact is well recognized.

To solve any problem realistically, and to know whether we have in fact reached a viable solution, we must have some prior measures for evaluation. We should have a very clear notion of what we actually want. These measures are known as a solution's goals or objectives.³¹

Also;

To enable us to state, clarify and rank our objectives in terms that we can understand, we must first deal with the overall objectives of the organization as stated in its policies.³²

Therefore, the broad and often general goals and objectives of the organization, are given more specificity with respect to usually one particular factor. Again, objectives are required for the message; these must be clearly founded upon the objectives of the organization and must be consistent with them.

³¹J. J. Bannon, Problem Solving in Recreation and Parks (U.S.A.: Prentice-Hall, Inc., 1972), p. 68.

³²Ibid., p. 69.

TABLE 2

THE SENDER--SOME CONSIDERATIONS FOR INTERPRETATION

Image may be considered in terms of:

1. types and maintenance of the physical plant: a brief analysis of the physical plant of the park will indicate what concepts and types of opportunities to be presented to the user are important.
2. user regulations: activities that are viewed as being important enough to control are good indicators of the image the agency has of itself.
3. apparell: the degree to which the park personnel are instructed and follow dress regulations is an indication of how important the park image is to the park user and general public.
4. expectation of user: traditional use, lifestyle of the local people and the like must be considered.
5. legislation: the importance placed on the purpose of the park is also a good indicator as is the goals and objectives of the park.

Source: Adapted from W. Anderson, Interpretive Resources: Working Guidelines (Manitoba: Department of Tourism, Recreation and Cultural Affairs, September, 1975), p. 24.

To the author's knowledge little, if any, work has been done in this area. It appears, on reviewing the literature, in communications theory and marketing, that the analysis of both the sender and the result components have been overlooked, usually in favor of studying the other three components of the communicative process; the channel, the message and the receiver. This is an oversight. The investigation of the rich complexity of three lastly mentioned components, to the exclusion of both the sender and the receiver is unfortunate. In fact, as implied above, the creation of the message and selection of the channel to meet the characteristics of the receiver may result in communicative messages that are inconsistent with the objectives of the organization.

At this point in time, there is no available supportive empirical evidence from the fields of communication theory or consumer behavior that refers to this area of concern. There is, however, numerous managerial and administrative work that address this topic, indirectly to the needs of this thesis, and the great importance of it.

To the extent that an individual accepts business objectives as being desirable, fulfilling them becomes one of his needs. So, he must understand the objectives of his job if he is to work most productively.³³

Although not directly related to the issue of interest of this thesis, this quote does indicate the

³³W. H. Newman, C. E. Summer and E. K. Warren, The Process of Management (U.S.A.: Prentice-Hall, Inc., 1967), p. 471.

implications that must be recognized. To accomplish the objective that the communicative message was established for, that objective must be understood.

The result-Interpretive Implications:

From an interpretive point of view the implications are obvious. The sender of the message must determine what the purpose of the message is--what is being attempted. This first leads us to a previous section dealing with the concept of interpretation and its goal. Any agency or private enterprise that utilizes interpretation is first and foremost engaging in behavior modification; this is predetermined by the interpretive concept itself. Therefore, in terms of the interpretive communications model the sender is directing the message to the receiver in order to change (or if the receiver already is a believer in the concept it is a reinforcer) his attitude. It is important that this factor be recognized overtly if the message is to be communicated to the receiver and is to have any chance of succeeding.

In addition to this overall goal of all interpretive communication, the specific objectives that each communicative effort is directed toward must be clearly identified. The setting of objectives is a most important stage, one that is often glossed over with little clarity and one that is usually based on intuitive and unwritten objectives.

Often, in the zeal of doing his work, the interpreter

loses sight of the objective; in fact, objectives often are not considered. The detail of the message becomes important typically to the detriment of the purpose of the message. For example,³⁴ the work involved in the establishment of an interpretive self-guiding trail is great; first the area must be selected along with the theme, the specific features and finally the actual construction of both the trail and the messages. In all this work, the appeal of the theme and its features often become dominant to the interpreter. The end result is a trail system that fulfills the needs of the interpreter, is designed and communicated to other interpreters or naturalists and does little to achieve the basic purpose of interpretation. This area of concern is one that is usually acknowledged and then promptly ignored based on one's intuitive knowledge of the objective of the message, that is, the result. It is strongly suggested that when establishing an interpretive communicative message that is directed toward some predetermined result, that that result be written down in the form of objectives and used as an evaluative measure as the message evolves and as decisions on content and channel design are made.

³⁴The opinion expressed here is solely that of the author based on field experience.

The Message

The Cincinnati Plan for the United Nations, a six-month experimental campaign of information, was used as a case study in mass education. A survey of local opinion and attitudes on the United Nations, made by the National Opinion Research Center before the campaign opened, demonstrated that it is those already interested, even if poorly informed, and who will welcome information, while the well informed, if not interested, pay little attention to it, and that the interested also tend to be favorably inclined toward the United Nations. Therefore, the recommendation was made that the campaign be planned so as to interest certain specified classes which were found to be the most in need of enlightenment. But a second survey made immediately after the campaign disclosed that the materials circulated by the plan, voluminous and ingenious though they were, reached few of these people. The principle derived from the experiment, is that information, to be disseminated at all, must be functional, that is, interesting to the ordinary man because he has been made to see that it impinges upon his own affairs.³⁵

The most important issue that is raised here is that of directing the message content to the scope of the receiver's concerns. This apparent and inescapable conclusion can also be seen in another light; an area that has popularly been termed public apathy and the often used scapegoat in the failings of many communication messages.

³⁵S. A. Star and H. M. Hughes, "Report on an Educational Campaign" in The Effects of Mass Media, ed. by C. Atkin (U.S.A.: Department of Communication, M.S.U., 1975), p. 1.

. . . apathy is generally used to describe a non-reaction to information stimuli in terms which suggest that somehow the targets of given messages are at fault for the absence of effect, rather than the creators or the content of messages, or the media through which they were disseminated. To put it another way, when the communications 'hypodermic needle' fails, the patient is to blame.³⁶

Interest appears to be mandatory prior to any communicative effort. How then is it built into the message? How are messages designed that create interest?

Information and any communicative message appears to be positively related to the relatability of the message to the receiver's frame of reference. In other words, the more related the message is to each person's own concerns, the greater the interest generated. Technical facts, obscure organizational functioning, numbers and figures of abstract origin and purpose mean little to the average person who does not see the relevance of such a message to his lifestyle. These must be avoided. The message must be shown to have a bearing on the receiver's interests, if the receiver is to exhibit interest. The opening quote to this section clearly indicates that the conceptual range of interest is a real psychological barrier that has to be accounted for in message construction.

³⁶H. Mendelsohn, "Some Reasons Why Information Campaigns Can Succeed" in The Effects of the Mass Media, ed. by C. Atkin (U.S.A.: Department of Communication, M.S.U., 1975), p. 1.

Along similar lines, the concept of compatibility is important. As described in a communication of innovations framework:

Compatibility is the degree to which an innovation (or communication message) is perceived as consistent with the existing values, past experiences, and needs of the receivers. An idea that is not compatible with the salient characteristics of a social system will not be adopted so rapidly as an idea that is compatible. Compatibility ensures greater security and less risk to the receiver and makes the new idea more meaningful to him.³⁷

In essence, therefore, the message must be designed not only considering the product and its positive salient features but also the receiver in terms of message interest or compatibility. Also, when a message is directed to a large segment of society the particular social system identified must be considered in the same fashion.

Another factor to be considered in the creation of the message content is the complexity of the product as it appears to the receiver. A complex product or message must be designed to appear as relatively simple as perceived by the receiver. Again, borrowing from the field of communications the empirical research completed to date suggests that:

The complexity of an innovation, as perceived by members of a social system, is

³⁷E. M. Rogers and F. F. Shoemaker, Communication of Innovations (U.S.A.: The Free Press, 1971), p. 145.

negatively related to its rate of adoption.³⁸

Observability refers to the extent to which the product of the message is visible and/or touchable by the receiver. A product that has high observability relates more to the scope of concern of the receiver because he is not forced to conceive of the product in abstract terms but rather can see or touch or manipulate it and assess it in this way. In other words it is more real and can therefore be more easily evaluated. The discipline of communication theory is well aware of this principle as formed in the generalization:

The observability of an innovation, as perceived by members of a social system, is positively related to its rate of adoption.³⁹

The Message--Interpretive Implications:

The first most notable point to raise with respect to this section is the issue of "message relatability to the individuals affairs." As will be remembered, Tilden makes reference to this very fact in his second principle.

Interpretation must relate what is being displayed or described to something within the personality or experience of the

³⁸Ibid., p. 154. (This generalization has been supported by 56% of empirical studies related to the issue, Rogers and Shoemaker, p. 351).

³⁹Ibid., p. 156. (This generalization has been supported by 78% of empirical studies related to this issue, Rogers and Shoemaker, p. 352.)

individual.⁴⁰

1. Avoid technical facts, organizational plans, numbers, figures and abstract purposes.

In interpretation it is easy to use scientific names of species, list species by numbers to be found, indicate time perspectives for archaeological purposes or geological reasons and the like. All this however means little to the average person and is therefore usually avoided. To reach these audiences, numbers, figures and the like will have to be replaced by imaginative, creative and attracting messages.

2. Compatibility:

This one word indicates that the interpretive message must be compatible with the attitudes and values of the receiver(s). To do this, the target audience must be identified and analyzed. The section dealing with the receiver considers this compatibility factor.

3. Complexity:

Obviously the more complex the message or story to be communicated to the receiver the more time and energy is required by the receiver. Therefore, since most people tend to minimize energy spent it is advisable to keep interpretive messages simple. In addition, complexity is often feared

⁴⁰Tilden, p. 9.

since the individual may feel he is taking a risk if he attempts to understand the message. A simple message can be expanded upon but a complex message can not communicate anything to an ignoring individual.

4. Observability:

Similar to the first point raised, it is beneficial to the success rate of an interpretive message if the receiver can touch, see, smell, taste or hear something about the message. This has great implications for those inclined to produce "DO NOT TOUCH" signs; the most probable result is not one that is consistent with the objectives of interpretation. The receivers must be encouraged not prohibited.

The Vehicle

Also referred to as the channel through which the message is communicated to the receiver, this part of the model is also important. Some messages are transmitted by the sender easier than others; some channels are less expensive and require less mechanical, technical and professional expertise. Also, the manner in which messages are transmitted affects the acceptance of the message by the receiver. As stated by Rogers and Shoemaker dealing with concept of innovations;

The communication channel by which the new idea reaches B is also important in determining B's decision to adopt or reject the innovation. Usually the choice of communication channel lies with A, the source, and should be made in light of; (1) the purpose of the

communication act, and (2) the audience to whom the message is being sent.⁴¹

Communication channels are the means used by the sender to transmit the message to the receiver and can be seen as two different kinds or categories, interpersonal and mass media. Interpersonal channels are face-to-face or individual to receiver type of channels--in fact the individual becomes the channel. Mass media communication channels include items such as television, the print media and the radio and have the inherent capability of increasing the number and speed at which a message is communicated and the size of the receiver audience. Some of the more distinguishing characteristics of the two channel types are presented in Table 3. As can be seen, both types have positive points in their favor and should be used in situations where these positive aspects can be exploited.

However, before these positive aspects can be used, it is necessary to consider what is presently known about media channels and their impact upon the receiver. Therefore, this discussion format closely follows that presented previously, dealing with the sender and the message components analyzed from the point of view of (1) receiver and (2) effectiveness.

⁴¹E. M. Rogers and F. F. Shoemaker, Communication of Innovations (New York: The Free Press, 1971), p. 24.

TABLE 3
CHARACTERISTICS OF INTERPERSONAL AND MASS
MEDIA COMMUNICATION CHANNELS

<u>Characteristics</u>	<u>Interpersonal Channels</u>	<u>Mass Media Channels</u>
1. Message Flow	tends to be two-way	tends to be one-way
2. Communication context	fact-to-face	interposed
3. Amount of feedback readily available	high	low
4. Ability to overcome selective processes (primarily selective exposure)	high	low
5. Speed to large numbers	relatively slow	relatively rapid
6. Possible effect	attitude formation and change	knowledge change

Source: E. M. Rogers, "Mass Media and Interpersonal Communication" in The Effects of The Mass Media, ed. by C. Atkin (U.S.A.: Department of Communication, Michigan State University, 1975), p. 2.

The type of media channel to be used that is most directly related to the receiver must be cognisant of the type of media channels the target receiver prefers. Both sociological and psychological factors are important here. In a sociological view the position of the receiver or target group in the life cycle is important. The following list of generalizations indicate the importance of life cycle position as well as IQ level and socio-economic status as related to the type of media channel utilized.

Preschool children typically watch television for more than three hours per day. Viewing time drops when the child begins school, then increases again to around three hours per day somewhere between the sixth and eighth grade. During the teenage years viewing again drops off. Use of the print media increases from the middle school years onward. Radio listening, an important part of adolescent culture, which can be engaged in simultaneously with other activities, shows a strong increase in the teenage years.

Teenagers with high IQ's are less often among the ranks of heavy television viewers, tending more often to use the print media. Among preteen children, however, there appears to be no relationship between mental ability and television viewing.

A pattern of light or heavy television viewing and light or heavy print use will usually be consistent throughout a family. Generally, socio-economic status is positively related to use of print media and negatively related to use of pictorial media.⁴²

⁴²D. F. Roberts and W. Schram, "Children's Learning From the Mass Media" in The Effects of the Mass Media, ed. by C. Atkins (U.S.A.: Department of Communications, M.S.U., 1975), p. 3.

In terms of the mass media then, it appears that all major types are used as a primary source of information or communication sometime in one's life-cycle. The question of maximizing the effectiveness of a communication message through the proper selection of the best channel then seems to be tied into life-cycle, that is, the best communicative mass media channel to use is partially related to the position in the life-cycle that the target receiver(s) is typically located.

Along similar lines, those related to the receiver, message effectiveness and channel selection, work directed toward the urban poor is important. The following excerpts present an excellent summary of the research to date.

1. Given the higher overall viewing of the poor, a natural consequence is that for any one type of television content their viewing is higher than that of the general population.⁴³
2. The four available (studies in this area) generally agree that the breadth of low-income readership within a newspaper is low.⁴⁴
3. Generally (the five available studies) findings show that the preferred radio content is music, which is what radio mainly offers.⁴⁵

⁴³B. Dervin and B. S. Greenberg, "The Communication Environment of the Urban Poor" in The Effects of the Mass Media, ed. by C. Atkins (U.S.A.: Department of Communication, M.S.U., 1975), p. 11.

⁴⁴Ibid., p. 13.

⁴⁵Ibid., p. 13.

4. T.V. comes out on top as the most reliable medium, the most important, the most preferred for world news, and the most believable.⁴⁶

Studies such as these from the communication discipline are the basis of the four above mentioned generalizations and clearly indicate that the socio-economic make-up of the receiver(s) is indeed important in terms of mass media channel selection. From the field of marketing Mathewson also indicates

. . . that age, education and income strongly influence the demand by consumers for media services.⁴⁷

With respect to the persuasive effectiveness of the two basic types of communication channels, interpersonal and mass media, two important generalizations are identified by research and conceptual work.

The first generalization appears to indicate that while the mass media channel type is more important in the creation of awareness of a particular product or message, that the interpersonal channel type is more important in the area of persuasion and behavior modification.

Different communication channels function most frequently and effectively at different stages in the receiver's innovation-decision process. Diffusion studies indicate that individuals pass from (1) aware-

⁴⁶Ibid., p. 14.

⁴⁷G. J. Mathewson, "A Consumer Theory of Demand for the Media" in Journal of Business, Vol. 45, 1972, p. 222.

ness-knowledge of an innovation, (2) to persuasion of a favorable or unfavorable attitude toward the innovation, (3) to decision to adopt or reject, and (4) to confirmation of this decision. Mass media channels are primarily knowledge creators, while interpersonal channels are more important at persuading, that is, forming and changing attitudes.⁴⁸

Or, as stated by Dervin and Bradley,

Most agree that the mass media are more important in creating awareness of possible societal changes while interpersonal communication is more important in persuasion and actual change.⁴⁹

From all the research and work to date it readily appears that the interpersonal channel is much more apt to induce change than is the mass media. However, one point has been apparently overlooked and that concerns the time frame of the persuasion process. The discussion on the second generalization will clarify this.

The second major generalization that receives wide support in the communications field is the apparent great control that the mass media exerts on the content of what the receiver(s) receives. In essence this amounts to a determination of what the receiver should be concerned with--

⁴⁸E. M. Rogers, "Mass Media and Interpersonal Communication" in The Effects of the Mass Media ed. by C. Atkins (U.S.A.: Department of Communication, M.S.U., 1975), p. 8.

⁴⁹B. Dervin and B. S. Greenberg, "The Communication Environment of the Urban Poor," in The Effects of the Mass Media ed. by C. Atkin (U.S.A.: Department of Communication, M.S.U., 1975), p. 17.

in other words the mass media channel can control what is communicated to the receiver. A primary reason, of course, is the speed and wideness of scope of message communication to a large audience. As clearly identified, this impact is enormous:

A small group of men, numbering perhaps no more than a dozen anchor men, commentators and executive producers, settle upon the twenty minutes or so of film and commentary that is to reach the public They decide what forty to fifty million Americans will learn of the day's events in the nation and in the world.⁵⁰

Perhaps not dramatically stated, but determined and based upon research. McCombs presents this statement:

It (the press) may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think about. In other words, mass communication may have little effect on the affective component of attitudes, but it has a significant cumulative effect on the cognitive aspects of attitudes, especially their salience.⁵¹

If this ability of the mass media to schedule what the audience is to think about is valid then it may be equally valid that over a long time period continuous

⁵⁰T. White, "Power Struggle: President Versus Press" in The Effects of the Mass Media, ed. by C. Atkin (U.S.A.: Department of Communication, M.S.U., 1975), p. 4.

⁵¹M. McCombs, "Mass Communication in Political Campaigns, Information, Gratification and Persuasion" in The Effects of the Mass Media, ed. by C. Atkin (U.S.A.: Department of Communication, M.S.U., 1975), p. 17.

exposure may create enough persuasive power to induce change. Therefore, it appears that the strength of the persuasiveness of a mass media channel may change over time. If this is, in fact, true the implications for the use of mass media channels may change; that is, by returning to Table 3 the last characteristic should possibly indicate the following:

<u>Characteristic</u>	<u>Interpersonal Channels</u>	<u>Mass Media Channels</u>
Possible Effect	Attitude formation and Change	Knowledge change Attitude formation and change over a longer time period.

The Vehicle--Interpretive Implications:

Later in the thesis a detailed discussion will address the relative advantages and disadvantages of interpersonal interpretive communications as compared to mass media interpretive communications. Therefore at this point, suffice it to say that; (a) both types of channels do have advantages and their combination is probably the most effective manner of designing an efficient interpretive message and (b) the persuasive effect of the mass media over a longer time period requires investigation and empirical research.

The Receiver

It is this section of the model that is the most complex because of the human implications. In the field of consumer behavior this fact is clearly recognized.

The study of human beings presents real methodological difficulties, which in turn, have led to the variety of conceptual and empirical schemes confronting the analyst of consumer behavior.⁵²

The human being, in what is often called the Central Control Unit, perceives various stimulus, interprets these based on factors such as motivations, personality, social and psychological backgrounds and then the person acts in a certain way. The manner in which the incoming stimulations are perceived and interpreted are not known; the theory of the Central Control Unit pictures this process as a black box. It is the outcome of these interpretations that is typically studied in an attempt to better understand the mediating factors involved. Therefore the field of behavioralism is utilized. This field of human study attempts to understand and explain this "black box" by viewing what the human being does under certain circumstances and then attempts to understand what factors caused the reaction. It is the complexity of this Central Control Unit that poses many of the uncertainties.

The major components that are looked at in addressing this problem are stimulus, perception and behavior. The first two are mediating factors that must be studied by the interpreter in an attempt to understand the user and better

⁵²J. F. Engel, D. T. Kollat, and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston Inc., 1968), p. 19.

design the message he wishes to communicate to the user with the intent of achieving the goals of the sender.

Behavior

The behavior component of the model are those actions that can be seen. It is the outcome of final decision to proceed or act in a certain way and it is the result of the mediating variables modifying and interpreting the stimulus input that reaches the mind of the individual.

Since the behavior of an individual can be observed, it can be measured. This is an important point in that, the effectiveness or success of the message, the channel and the analysis of the receiver can be determined and compared to a target that has been predetermined. This predetermined target obviously is the objective that has been identified prior to analysis of the factors involved and construction of the message to be relayed to the receiver. As such, the importance of interpreting the observed behavior in terms of criteria that can be tested and used in the feedback process is great. Although many agencies engaged in interpretive work are working on some aspects of a systematic approach to interpretation, few have recognized the vital role the evaluation phase plays in the process.

The major problem with respect to measuring behavior as it relates to interpretive communication work is the apparent lack of knowledge as to what constitutes sound

evaluation criteria in this field. However, an attempt must be made if (a) the process is to be evaluated, (and it must be) and, (b) the process of evaluating such issues is to improve in quality and accuracy. The four areas of evaluation as suggested by this thesis are found on Table 4. One may be used to the exclusion of the others or combinations may be employed depending upon the kind of information desired, its depth and the need for accuracy. Obviously, a combination of all four would yield the best results.

Feedback

The feedback process is just that--a process. It is an exercise that utilizes the evaluation information. If this information indicates that targets or objectives were not achieved, the feedback process ensures that the message that was communicated is modified or adjusted based upon manipulation of either the message itself or the channel selected. It also ensures that the objectives were properly set, that the receiver was adequately and accurately assessed and that the evaluation process in fact measured the outcome accurately. In short, this process evaluates the total interpretive communication in an effort to determine why the evaluation did not meet the target set, if in fact the target was not achieved.

TABLE 4
TECHNIQUES FOR EVALUATING

TYPE	CHARACTERISTICS
1. Volume Indicators	Used to measure the volume or size of a specific program or activity: e.g. - number of trail users - number of interpretive contacts referring to communicated messages - number of inquiries
2. Performance Indicators	Used to gauge the production and/or efficiency of operations of a programme in whole or in part. These are found by measuring the volume and comparing it against - previous years - planned results - results of other agencies
3. Measures of Effectiveness	Used to indicate achievement in terms of contribution to the programme objectives. The selection of the appropriate measure, therefore, is dependent upon the definition of the programme objective in a way that is measurable. e.g. - changes in vandalism - changes in the amount of litter and garbage - changes in use patterns
4. Measures of Benefit	Used to indicate program accomplishment (as in number 3). They are usually measured in monetary terms and can be determined in terms of both direct (monetary) and indirect (increase in naturalist groups) benefits to obtain total benefits

Source: Federal-Provincial Parks Conference, Park Systems Planning Committee. A Park and Outdoor Recreation Systems Planning Process for Canada (Canada; A paper presented to the F.P.P.C. in Yellowknife, 1975).

CHAPTER III

UNDERSTANDING THE RECEIVER COMPONENT OF THE INTERPRETIVE COMMUNICATION MODEL

The introduction to this thesis was presented in Chapter I. Chapter I also considered the concept of interpretation and proposed a definition that is used as the basis of the work of this report. Chapter II suggested a good course of action in the operationalization of the interpretive concept in viewing it through a communications model and continued on to present such a model (with a detailed description and analysis of the various components excluding the receiver component).

In Chapter II the complexity of the receiver component was alluded to indicating that this was primarily due to the myriad of mediating factors. It is necessary now, to delve more deeply into this component in an attempt to understand the receiver of the message.

Prior to discussing this section on the receiver, in detail, it is important to first state an hypothesis concerning the intent of the following information and analysis and second, to indicate the purpose of this section for clarity purposes.

Hypothesis: Park users, both as individuals and in groups, behave in a consistent and purposeful manner and it is possible to identify the characteristics of individuals and groups. Through this identification and analysis the process of interpretation will be in a better position to communicate messages to the receivers.

Purpose: The basic purpose is to investigate possible behavioral factors that may influence behavioral change or bring about behavioral modification.

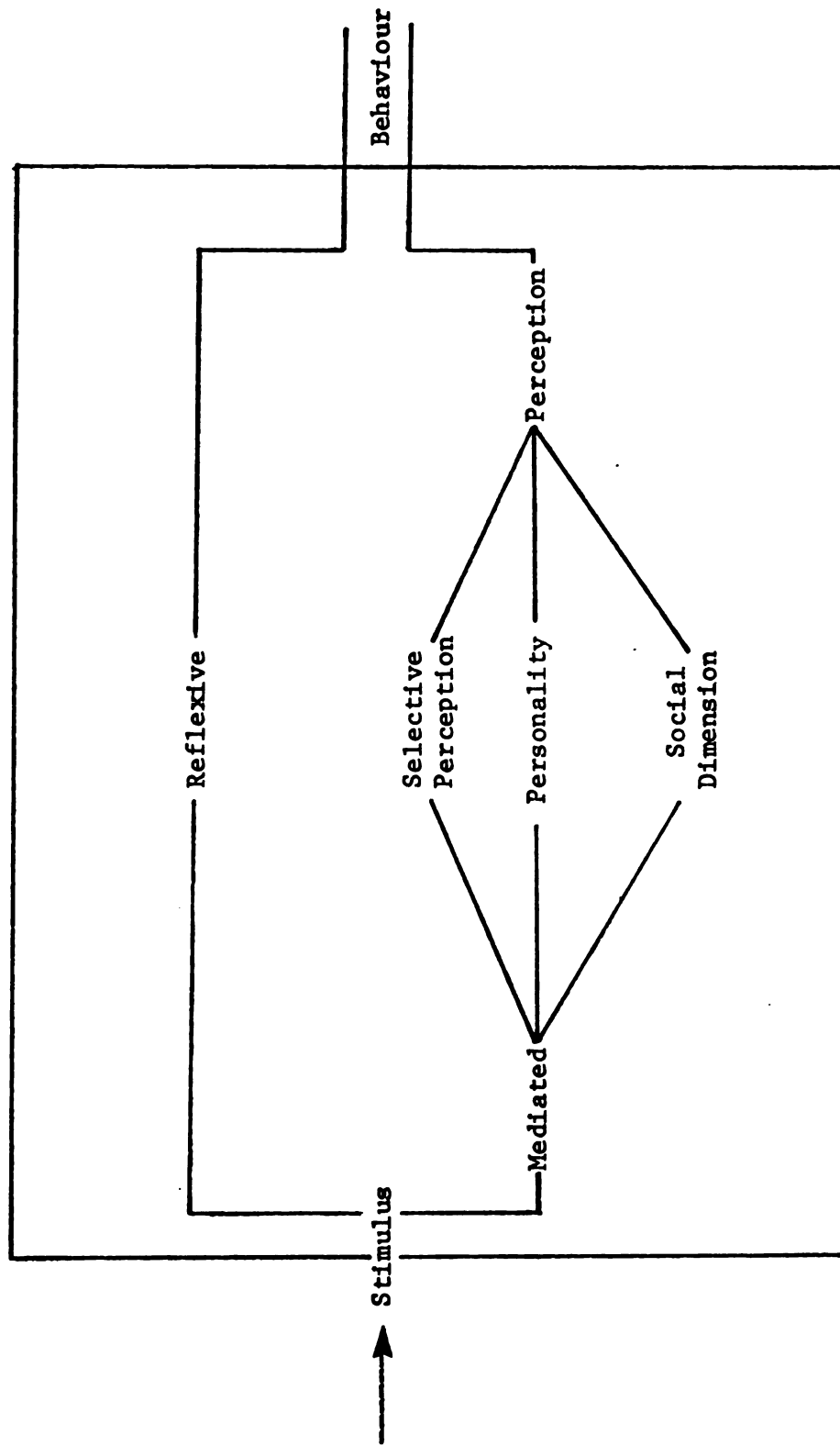
This thesis has been arranged in a manner that the information derived from Chapters I, II and III are utilized as a basis for Chapters IV, V and VI. These latter chapters indicate how the information derived can be used. Each component has a section titled "General Interpretive Implications." It is the purpose of these sections to summarize the preceding section from an interpretive viewpoint. No attempt will be made to apply the information directly since Chapter IV has been designed for this.

THE RECEIVER

In the analysis of the receiver, the number and implications of the subcomponents involved, are considerable as is the research related to them. In order to more easily organize and understand this, an extension to the original model is suggested. This extension includes the three factors of stimulus--perception--behavior. The perception factor is further divided into personality and the social dimension. Diagram 3 schematically describes

DIAGRAM 3

ELEMENTS OF THE RECEIVER COMPONENT



this. It indicates that the message transmitted through the media channel is tapered or processed by each individual based on that individual's perception. The outcome of this is the motivation that the individual exhibits. Since it is this motivation that is exhibited in terms of behavioral patterns it is important that we attempt to understand the mediating factors in the process. Let us now look at these mediating factors and some related literature and their implications for interpretation.

Stimulus

Hebb, in a technical vein, defines stimulus as:

". . . events which excite the neuron from outside the CNS" ⁵³ The Concise Oxford Dictionary in more easily understood terms defines stimulus as: "Thing that rouses to activity or energy . . . that that evokes functional reactions in tissues" ⁵⁴ A stimulus is an event that is registered through one of the five senses, sight, touch, smell, hearing or taste.

The most familiar and often used reference to stimulus is with respect to the stimulus-response formula. From this formula two types of behavior result; one that is reflexive and the other that involves mediating factors. The stimulus itself is the event that is required to

⁵³D. O. Hebb, A Textbook of Psychology (U.S.A.: W. B. Saunders Company, 1967), p. 72.

⁵⁴The Concise Oxford Dictionary, ed. by H. W. Fowler and F. G. Fowler (Great Britain: Oxford University Press, 1964), p. 1263.

"trigger" the response. In other words it initiates the total process.

For reflexive responses "triggered" by a stimulus, sensory guidance is at a minimum.

. . . sensory events themselves take charge and elicit the complete pattern of response as long as no other event interferes.⁵⁵

Hebb further states:

The formula describes the fundamental pattern of behavior: each movement of the animal is a response to an immediately preceding stimulation and is predictable from that stimulation.⁵⁶

In the second type of behavioral response some type of mediating factors are involved. These factors are often referred to as intervening variables.

The qualifying adjective 'intervening' is used to convey the notion that postulated states, conditions, or processes intervene between the behavior and its observable correlates or antecedents.⁵⁷

The "observable correlates or antecedents" refers to the stimuli.

There are three major types of stimuli, bodily needs or drives, environmental stimuli and autistic think-

⁵⁵D. O. Hebb, A Textbook of Psychology (U.S.A.: W. B. Saunders Company, 1967), p. 85.

⁵⁶Ibid., p. 86.

⁵⁷J. S. Brown, The Motivation of Behavior (U.S.A.: McGraw-Hill Book Co., Inc., 1961), p. 28.

ing.⁵⁸ For the purpose of this thesis only the environmental stimuli are deemed important.

Environmental stimuli are those cues that reach the sensory pathways of the individual and produce a guidance or informational effect. Hebb describes these as,

. . . the direct routes from eye, ear and skin to the corresponding cortical sensory areas.⁵⁹

These stimuli then activate, within the individual, a tendency for action; a tendency and expectancy that a specific action will be satisfying. From the point of view of understanding this concept the word satisfying is emphasized. The individual will always seek a satisfying experience and therefore aspects of past experience, learning and socialization processes are important. They are important insofar as they provide the guidance mechanism for acceptance, rejection or modification of the stimulus cues. This area of acceptance, rejection or modification is seen as the second major sub-component of perception.

Stimulus--Interpretive Implications:

As seen, there are two major types of stimuli, reflexive and behavioral response. Both have interpretive implications primarily directed to the area of the design

⁵⁸For examples and discussions of all three types see J. F. Engel, D. T. Kollat and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston, Inc., 1968), Chapter 10.

⁵⁹Hebb, p. 207.

of the message content and the channel selected. In addition, both are concerned with the eye as the stimulus receptor.

Reflexive responses, using the eye as the receptor, revolve around visual emotional eliciting factors such as color, size of pictorial presentation, style of the design, pattern of the presentation and the like. Therefore in the construction of the interpretive message these factors must be identified and developed into the presentation. In other words, in the design of the interpretive message, one must be cognisant of these factors and utilize them.

Behavioral responses also revolve around the same factors of color, pattern and the like. They are not however, as easily identified for use in interpretive message construction; more is involved than a simple stimulus resulting in a given action. In this latter instance the concept of perception will be introduced to indicate the complicating factors.

In summary form then the stimulus component can be seen as follows:

Stimulus	
Reflexive	Behavioral
Identify and utilize visual reflexive factors such as color, presentation pattern etc., in the design of the message and channel selected.	Identify and utilize visual behavioral factors. These are primarily environmentally oriented and therefore the concept of perception becomes important. Factors such as color, presentation pattern are also important but important from a learned or social viewpoint.

Perception

It is in this sub-component that the mediating factors earlier described are discussed. As stated, perception

requires a sequence of stimulations, and even when recognition occurs with a single glance it may depend on an internal sequence of mediating-process activities; it is very much influenced by learning, and its relation to stimulating events is highly variable.⁶⁰

Selective Perception:

There have been identified two basic types of selective perceptions, one referring to the great amount of environmental stimuli directed toward the individuals senses and the other referring to one's personality and the social dimension. The second type is discussed further in the report.

In everyday life, one's senses are literally bombarded by stimuli, each competing for recognition by the individual. Because of this large input, the individual must be selective, he does not have the capability to recognize all the input. As McKeachie and Doyle point out:

- (1) information comes into the central nervous system from over two hundred and sixty million visual cells alone;
- (2) forty-eight thousand cells are available for auditory perception;
- (3) the other senses each have at least seventy-eight thousand receptor cells; and

⁶⁰Hebb, 257.

- (4) it would take a brain the size of a cubic light year to process just the information received by the eyes.⁶¹

With this great amount of environmental stimulation seeking recognition, obviously a great amount must be ignored because of the limited capacity of the brain. The result is that the perception process becomes highly selective.

In the field of marketing, certain tools have been devised to aid the marketer in developing stimuli that will break through the selective process and capture the individual's attention. Harrison suggests exactly the importance of such factors when he states:

There is, in short, the realization that interesting messages may be available to us. And, during the formation stage, we may make some assessment of just how rewarding those messages will be. We may assess how costly. How much time and energy will it take to interact with that person, or read that book, watch that show?⁶²

Some of the more obvious tools used are novelty or contrast, size, position, color and distance; only novelty, size and color are discussed here. Novelty or contrast attracts the receiver's attention because it deviates from the norm and therefore is separate from other incoming stimuli. Factors such as dominance with respect to background, unusual

⁶¹W. J. McKeachie and C. L. Doyle, Psychology (U.S.A.: Addison-Wesley Publishing Co., Inc., 1966), p. 171.

⁶²R. Harrison, An Introduction to Nonverbal Communication (U.S.A.: Prentice-Hall, Inc., Revised Draft, Spring, 1973), pp. III-10.

appearance and the like all contribute to the novelty of the stimuli. Other illustrations as proposed by Engel, Kollat and Blackwell are:

1. A black and white advertisement featuring an unusual amount of white space with no print or illustration can stand out sharply when competitive messages are in color.
2. An unusually shaped package captures attention when all others on a shelf are similar in design, shape and color.
3. The announcer's voice advertising a product during a break in a classical music program is likely to be noticed because of the sharp stimulus contrast.
4. An unusual price, say five dollars and thirty-seven cents, is more likely to attract attention than an even dollar amount such as five dollars or six dollars.⁶³

H. Mendelsohn, also refers to this novelty tool in his discussions on political campaigns and apathy. In reference to a National Driver Test he suggests,

. . . that innovative information-giving format, abetted by strong prior promotion, can overcome pre-existing so-called public apathy to a great degree.⁶⁴

Although stimuli such as presented may attack attention there has been no evidence to support the persuasive

⁶³J. F. Engel, D. T. Kollat and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston, Inc., 1968), p. 88.

⁶⁴H. Mendelsohn, "Some Reasons Why Information Campaigns Can Succeed" in The Effects of the Mass Media: Readings in Mass Communication and Society, ed. by C. Atkin (U.S.A.: Department of Communication, M.S.U., 1975), p. 4.

power of such actions.

This of course says nothing about the persuasive power of the message itself.⁶⁵

Therefore, the true usefulness or practical applicability is unknown. Presently, advertisers assume that if the stimuli can be designed to break through the filter system of the receiver, the product has a chance of selling. In this vein, it is felt that once attention is captured, other factors built into the advertisement, such as emotional or pleasant atmospheres or positive information, will sell the product. It appears that the purpose of a tool such as novelty and contrast should be recognized as primarily attracting attention and not selling or behavior modification.

The size of the advertisement can also be used to break through the receiver's filter system. Again novelty and contrast are involved to some extent in that if a competitor's advertising is large, a smaller ad may have more appeal.⁶⁶ Also size of print on the advertisement plays a critical role in drawing attention to the important parts of the message. This logic is often employed in newspapers, magazines and various other publications to aid the reader in identifying articles he is interested in

⁶⁵Engel, Kollat and Blackwell, p. 88.

⁶⁶L. G. Ulin, "Does Page Size Influence Advertising Effectiveness?" Medial Scope (July, 1962).

without having to read every word of every article.

The use of color today is exceptionally frequent. There are many reasons for this most of which seem to revolve around either the pleasure or emotional aspects that color can elicit or the "attention probing power" of colors especially vivid colors.⁶⁷ The effectiveness of color has been shown in many studies and it has become a very commonplace tool in advertising today. Color is discussed in more detail later in the thesis.

Cognitive Dissonance:

A major area of interest with respect to perception concerns the concept of cognitive dissonance. Cognitive dissonance refers to a mental inner state within an individual that arises when information is received that is not in agreement with that individual's framework. The result is a state of imbalance which is uncomfortable for the individual who proceeds to eliminate the discomfort. Brown in his book Social Psychology explains the concept as follows:

A state of cognitive dissonance is said to be a state of psychological discomfort or tension which motivates efforts to achieve consonance. Dissonance is the name for a disequilibrium and consonance the name for an equilibrium. Two cognitive elements, A and B, are dissonant if

⁶⁷J. F. Engel, H. G. Wales and M. R. Warshaw, Promotional Strategy (U.S.A.: Richard D. Irwin, Inc., 1967).

one implies the negation of the other; i.e., if A implies not-B. Two cognitive elements are consonant when one implies not the negation of the other element but the other element itself; i.e., A implies B.⁶⁸

This idea is very important to perception in that the individual will not tend to expose himself to information that creates the imbalance. However, since it is the purpose of much communication to modify to change attitudes and overt behaviors, the process of communication is made increasingly difficult by dissonance situations.

The existing opinions and interests of people, or, more generally, their pre-dispositions, have been shown profoundly to influence their behavior vis-a-vis mass communications and the effects which such a communication are likely to have upon them. By and large, people tend to expose themselves to those mass communications which are in accord with their existing attitudes and interests. Consciously or unconsciously, they avoid communications of opposite hue. In the event of their being nevertheless exposed to unsympathetic material, they often seem not to perceive it, or to react and interpret it to fit their existing views, or to forget it more readily than they forget sympathetic material.⁶⁹

This tendency to expose oneself to communication in accord with one's operating opinions and attitudes and to avoid unsympathetic or opposing material has been shown

⁶⁸R. Brown, Social Psychology (New York; The Free Press, 1965), p. 584.

⁶⁹J. Klapper, "The Effects of Mass Communication" in The Effects of the Mass Media: Readings in Mass Communication and Society, ed. by C. Atkin (U.S.A.: Department of Communication, M.S.U., 1975), p. 4.

in numerous situations. Lazardfield, Berelson, and Gaudet demonstrated this in their study of Erie County voters in 1940;⁷⁰ Cartwright⁷¹ discovered similar findings in his study as did Cannell and MacDonald⁷² and Schramm and Carter.⁷³ For a good general explanation and detailed study results see J. Klopfer 1960, M. McCombs 1973, E. M. Rogers and F. F. Shoemaker 1971, R. Brown 1965, and J. F. Engel, D. T. Kollat and R. D. Blackwell 1968.

It appears undeniable that the process of cognitive dissonance is important in its effect upon perception. Therefore it must be understood and planned for in any communication designed to achieve behavior modification. The key of course lies in what can be termed how is cognitive dissonance planned for or accounted for. More will be said on this in the discussion dealing with the implications

⁷⁰P. F. Lazardfield, B. R. Berelson, and H. Gaudet, "Radio and the Printed Page as Factors in Political Opinion and Voting" in Mass Communications, ed. W. Schramm (U.S.A.: University of Illinois Press, 1949), p. 481-495.

⁷¹D. Cartwright, "Some Principles of Mass Persuasion: Selected Findings of Research on the Sales of United States War Bonds," Human Relations (Vol. 2, 1949), pp. 253-267.

⁷²C. F. Cannell and S. C. MacDonald, "The Impact of Health News on Attitudes and Behavior," Journalism Quarterly (Vol. 33, 1956), pp. 315-323.

⁷³W. Schramm and R. F. Carter, "Effectiveness of a Political Telethon," Public Opinion Quarterly (Vol. 23, 1959), pp. 121-126.

of cognitive dissonance to interpretation.

Personality

A great deal of literature and research is available with respect to personality--a large amount of which pertains directly to the field of behavioral disorders and which is of limited relevance to the topic of this thesis. Therefore, of the information that relates to the area of personality, only selected areas are presented herein. For a complete discussion of personality literature, theory and research the reader should turn elsewhere (see for example Hebb, 1966 and J. D. Guilford, 1959).

Personality is a difficult area to identify. Engel, Kollat and Blackwell recognize this,

There is by no means a consensus on the components of personality and the manner in which they become organized into a meaningful whole.⁷⁴

In attempting to devise a definition for this term Hebb also refers to this fact,

Personality is a relatively vague term, not susceptible of very precise definition.⁷⁵

Hebb does however, go on to define personality as:

Personality will refer to the total picture of such emotional, motivational and social characteristics as friendliness, selfishness, sluggishness, initiative, leadership, cheerfulness and forth.⁷⁶

⁷⁴Engel, Kollat and Blackwell, p. 145.

⁷⁵Hebb, p. 12.

⁷⁶Ibid., p. 12.

From this definition it appears there are two basic aspects involved in the concept of personality that are relevant to the issue of this thesis; the first is motive the second can be referred to as dispositions.

Motives are defined as,

A state of the organism in which bodily energy is mobilized and directed in a selective fashion toward states of affairs, often though not necessarily in the external environment, called goals.⁷⁷

Motives are relatively stable and are therefore highly resistant to change and pressures exerted through stimuli exposure.⁷⁸

The importance of the motive aspect is clearly seen in a generalization put forward by Rogers and Shoemaker as related to the idea of change agent and innovations.

Change agent success is positively related to the degree to which his program is compatible with client's needs (needs is a term equivalent to motives).⁷⁹

This generalization has been tested empirically in ten separate studies with all studies confirming it.

From this definition the importance of motivation or motives is evident. Motives can be classified into

⁷⁷T. M. Newcomb, R. H. Turner and P. E. Converse, Social Psychology (New York: Holt, Rinehart and Winston, Inc., 1965), p. 22.

⁷⁸B. A. Maler, Principles of Psychopathology (U.S.A.: McGraw-Hill Book Company, 1966), p. 422.

⁷⁹E. M. Rogers and F. F. Shoemaker, Communication of Innovations (U.S.A.: The Free Press, 1971), p. 380.

two divisions, (a) primary motives and (b) secondary motives.⁸⁰ The survival of an individual depends upon the availability of things in the environment such as food, water, shelter, rest and the like. These are primarily motives and definable in physiological terms. As they relate to the issues of this report, primary motives are not considered relevant.

In our society motives related to the secondary level such as prestige, social worth, achievement and the like are more prevalent with respect to motivated behavior. To a large extent the stimuli necessary for these motives are not found in the realm of physiology but rather the environment.

As far as we can tell, the stimuli necessary to initiate this behavior are to be found in the environment rather than in the physiology of the subject.⁸¹

The second major aspect of personality can be referred to as dispositions. These dispositions are a manifestation of each individual's characteristic manner of reacting and behaving. For example, some people are aggressive while others are passive, some dominant others submissive, some sociable other unsociable and the like.

⁸⁰Other sociologists and psychologists divide motives in many other fashions. See for example, A. H. Maslow, Motivation and Personality (U.S.A.: Harper and Row Publishers, Inc., 1954).

⁸¹Maher, p. 61.

Krech, Crutchfield and Ballachey⁸² have categorized these into three main areas; role dispositions, sociometric dispositions and expressive dispositions. Role dispositions are further classified into the four areas of ascendance-social timidity, dominance-submissiveness, social initiative-social passivity, and independence-dependence. Sociometric dispositions are divided into (1) acceptance of others--rejection of others, (2) sociability--unsociability, (3) friendliness--unfriendliness and (4) sympathetic--unsympathetic. Expressive dispositions are sectioned into the four areas of competitiveness--non-competitiveness, aggressiveness--non-aggressiveness, self-consciousness-social poise and exhibitionistic--self effacing.

It should be evident that the existence of some dispositions to the exclusions of others will lead the individual to prefer some types of behavior manifestations to satisfy perceived bodily tensions while avoiding others.

Implications for such dispositions are seen as of great importance in the marketing field.

If he holds the viewpoint that a trait (disposition) is pervasive, then he will expect to see it reflected in many buying activities and situations. The issue is, therefore, of central importance.⁸³

⁸²D. Krech, R. S. Crutchfield and E. L. Ballachey, Individual in Society (U.S.A.: McGraw-Hill Book Company, Inc., 1962).

⁸³Engel, Kollat and Blackwell, p. 150.

In some empirical studies, Riesman's hypothesis,⁸⁴ that other directed people are susceptible to social influence, has been verified. Kassarian, applied this hypothesis to marketing, studied the effect of mass communication upon inner-directed and other directed people. Although his results are inconclusive he does suggest that Riesman's hypothesis is meaningful in determining promotional targets. According to this line of thought, people who are other directed will be most responsive.

Researchers in marketing have completed a good deal of theorizing and have conducted some empirical studies with respect to dispositions. Most address the pervasiveness problem: Can a disposition be identified and are these useful in identifying target groups. Martineau⁸⁵ hypothesized that consumer's preferences and tendencies to purchase goods are expressions of that person's personality. Evans⁸⁶ tested the assumption that car buyers differ in

⁸⁴D. Riesman, The Lonely Crowd (New Haven, Conn.: Yale University Press, 1961). In this publication Riesman suggested that people can be divided into three groupings.

- (1) Tradition directed--resistance to change
- (2) Inner directed--personal values guide behavior
- (3) Other directed--others are depended upon strongly for leadership and guidance.

⁸⁵P. Martineau, Motivation in Advertising (U.S.A.: McGraw-Hill Book Company, Inc., 1957).

⁸⁶F. B. Evans, "Psychological and Objective Factors in the Prediction of Brand Choice: Ford Versus Chevrolet" in Journal of Business (Vol. 32, 1959), pp. 340-369.

personalities and concluded that personality is of little use in predicting automobile brand ownership. Koponen⁸⁷ studied personality in purchases of various items and the relation was found to be low.

As evidenced by much of this work the relationship between personality and marketing communications appears to hold little promise. Why, when the theories and explanations seem reasonable and logical? Perhaps the reason is not that such a relationship does not exist but rather as suggested by Jankins and Hykken the reason lies with the research methodology.

We regard it as an unhappy misapplication of the important notion of construct validity to sieze upon some new instrument which claims, with negligible justification, to measure an ill-defined but important variable and then to proliferate its correlations with other things in the hope of somehow discovering about the variable in question this way.⁸⁸

Jankins and Lykken are indicating that the problem with not finding positive correlates between marketing and personality is largely due to the researchers, and perhaps they are correct. In any event, in the face of apparent

⁸⁷ A. Koponen, "Personality Characteristics of Purchasers" in Journal of Advertising Research, Vol. 1960, pp. 6-12.

⁸⁸ J. J. Jankins and D. T. Lykken, "Individual Differences" in Annual Review of Psychology, ed. by P. R. Farnsworth and W. McNemar (U.S.A.: Annual Reviews, Inc., 1957), p. 96.

failure on the part of marketing researchers to clearly identify relationships between personality and marketing this field of endeavor is still thought to be a correct line of pursuit as evidenced by continued financial and human resource expenditures. Perhaps the future will hold more success.

One line of inquiry is found in the field of innovations and communication where Rogers and Shoemaker have compiled a list of generalizations (based on empirical research) that address the issue of personality as it affects the concept of early adopters of an innovation.⁸⁹ The authors further delineate a total of five such personality adopter categories. The other four are innovators, the early majority, the late majority and the laggards. They describe these groups as venturesome, deliberate, skeptical and traditional; early adopters are referred to as respectable. It is this type of work and evidence that suggests the great impact of personality on the effectiveness of the communication system. As Rogers and Shoemaker go on to state:

⁸⁹E. M. Rogers and F. F. Shoemaker, Communication of Innovations (New York: The Free Press, 1971). Chapter 5, pages 187 to 190 presents twenty-two generalizations based on studies. As defined by the authors, early adopters have the following characteristics:

- (a) They are a more integrated part of the local social system.
- (b) They are localites as opposed to cosmopolites.
- (c) Greatest degree of opinion leadership.
- (d) Considered to be 'the man to check with' before using a new idea.
- (e) Respected by peers.

Thus, a set of characteristics of each adopter category emerges from past diffusion research. The important differences among these categories suggest that change agents might utilize somewhat different strategies of change with each. Thus, one might appeal to innovators to adopt an innovation because it was soundly tested and developed by credible scientists, but this approach would not be effective with laggards.⁹⁰

The Social Dimension

This subcomponent addresses the concept of attitude as viewed through the aspect of socialization. It is felt this factor is the basis of attitude which in turn represents the social dimension.

Attitude is defined as:

An attitude is a learned, emotionally toned, predisposition to react in a consistent way, favorable or unfavorable, toward a person, object, or idea. An attitude of an individual is inferred from his behavior and cannot be measured as directly as skills, facts and concepts.⁹¹

It is important to study the concept of attitude within this thesis because of its effect upon the way in which the receiver perceives the message relayed to him. Any factor that may affect the success rate of an interpretive message is important in terms of the model developed in this thesis and with respect to the concept of interpretation.

⁹⁰Ibid., p. 191.

⁹¹H. J. Klaussmeier and W. Goodwin, Learning and Human Abilities (U.S.A.: Harper and Row Publishers, 1966), p. 343.

Attitudes are acquired in two basic fashions; either in an emotional framework or based on information. Emotionally acquired attitudes have usually been presented in a favorable light with little information. They are often accepted because the attitude appears to satisfy some motive that the individual has. Informationally acquired attitudes are accepted on the basis of the information that represent the true factors involved. There is no attempt made to couch the information in an emotion-pleasing environment. The two attitude acquiring manners are better seen as a spectrum ranging from emotion to information. Diagram 4 visually presents this. It implies both components can be involved simultaneously. This theory is conceptualized by Klaussmeier and Goodwin in their discussion of the topic as it pertains to learning.

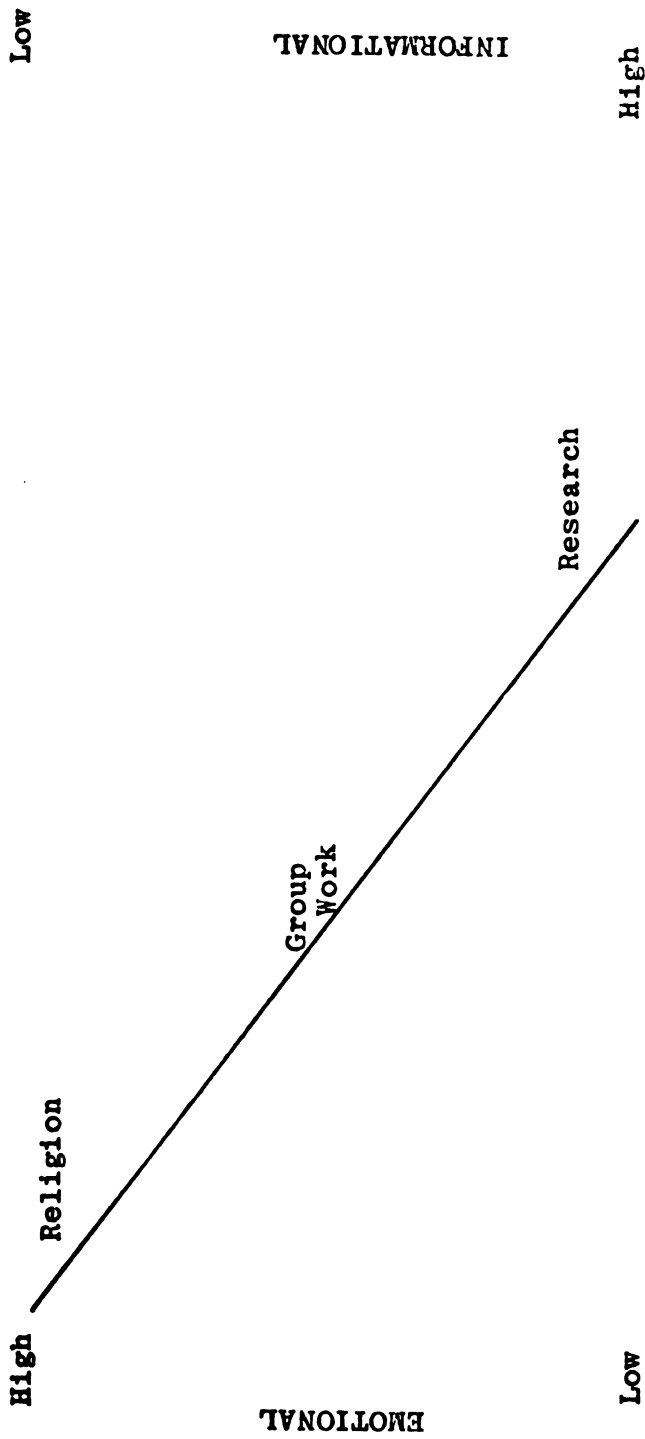
In general, commercial advertising uses the 'A' (emotional) approach, whereas schools use the 'C' (information) approach. The advertiser, of course, wishes individuals to acquire a favorable attitude toward a product so he presents it in a most pleasant emotional setting with a minimum amount of information which is all favorable. When the teacher wishes individuals to acquire an attitude without attempting to influence the accepting-rejecting dimension, he gives all information--favorable, unfavorable, and neutral.⁹²

A major influence on the acquisition of attitudes is one's membership in groups, especially primary groups. The concept of socialization is important here, socializa-

⁹²Ibid., p. 345.

DIAGRAM 4

THEORETICAL WEIGHTING OF THE EMOTIONAL AND INFORMATIONAL
COMPONENTS OF ATTITUDES



Source: H. J. Klaussmeir and W. Goodwin, Learning & Human Abilities.
(U.S.A.: Harper and Row Publishers, 1966), p. 345.

tion is important here, socialization is defined by Broom and Selznick as follows:

From the point of view of society, socialization is the way the culture is transmitted and the individual is fitted into an organized way of life. Socialization is a life long process. It begins very early, and in due course the child learns to take part in group life and to embody in some degree the values of his society and of groups within it. As the individual participates in new social forms and institutions, he learns new disciplines and develops new values.⁹³

Primary groups such as the family, cliques, hunting buddies, and the like usually have a core of common attitudes or group norms which holds the members together. Therefore the influence of the communication upon various individuals is largely dependent upon how the group, whether it is family or friendship oriented, construes the message and its importance. Thus the lines of inter-group communication act as a filter through which any messages communicated from the outside to that group must pass. Group norms, which is the sociological bond of the group, therefore, often dictate what communication should be accepted and what should be rejected or modified.

Quite aside from providing anchorage for existing opinions, group membership may facilitate reinforcement and impede conversion by intensifying selective exposure. Intra-group discussion, formal or informal, probably increases the

⁹³L. Broom and P. Selznick, Sociology (U.S.A.: Harper and Row Publishers, 1968), p. 84.

likelihood of given members being aware of sympathetic media offerings, and actual group exposure to such communications may occur either casually, by virtue of shared interests, or by organizational fiat. The sacrament of teen-age clique and fan club attendance on particular radio, record, and film stars, for example, has been long observed by wearied parents and recently validated by social research, and similar quasi-spontaneous or pre-planned exposure to persuasive communications obviously occurs among groups of all ages. Various highly successful persuasive campaigns, including the rightist attempts of Father Coughlin, the essentially apolitical urgings of Billy Graham, and the continual indoctrination program of Communist states, have urged or demanded that the faithful listen to reinforcing media offerings in groups.⁹⁴

It is generally acknowledged, therefore, that communication does not take place in what can be termed a "social vacuum,"⁹⁵ but rather in a complex array of group fabrics wherein individuals act and react within the norms or expectations of that group. These established behavior patterns define the range of tolerable behavior and serve

⁹⁴J. Klapper, "The Effects of Mass Communication" in The Effects of The Mass Media: Readings In Mass Communication and Society, ed. by C. Atkin (U.S.A.: Department of Communication, Michigan State University, 1975), p. 8.

⁹⁵T. M. Newcomb, "Attitude Development as a Function of Reference Groups" in Readings in Social Psychology, ed. by E. E. Maccoby, T. M. Newcomb, and E. L. Hartley (U.S.A.: Holt, Rinehart and Winston, Inc., 1958), pp. 265-275. He goes on to state "Attitudes are not acquired in a social vacuum. Their acquisition is a function of relating oneself to some group or groups, either positively or negatively," p. 275.

as a guide for the members; and as mentioned they can act to form a barrier to acceptance of a communication message, facilitate acceptance or modify a message. But in addition to this, experience has shown that norms also influence how a communication message will be received and acted upon.

As described by Rogers and Shoemaker:

When horses were introduced into the Shoshone culture, the Indians readily accepted them for they had prior experience with horses, which they had stolen from prisoners for food. Although U.S. Bureau of Indian Affairs agents had intended that the horses be used for transportation, the Indians ate them!⁹⁶

Norms can be conceptualized in a variety of ways. One such manner is to section norms into modern and traditional and predict or research the implications of this for communication theory. Although, pragmatically, such conceptualizations do not represent the true world in every extent, they are useful in analyzing situations and designing empirical studies to determine their exact representativeness. For the purposes of this thesis, Table 5 indicates the two divisions. Generally, modern norms are more likely to be oriented to change or behavior modification.

It should be noted that this thesis is not stating that modern norms are preferable in society. Obviously much negative remarks have been made to the change factor such as A. Toffler in his work Future Shock. All that is

⁹⁶E. M. Rogers and F. F. Shoemaker, Communication of Innovations (U.S.A.: The Free Press, 1971), p. 31.

TABLE 5

CHARACTERISTICS OF TRADITIONAL AND MODERN NORMS

<u>Norm</u>	<u>Characteristic</u>
Traditional	<ol style="list-style-type: none"> 1. Lack of favorable orientation to change. 2. A less developed or simpler technology. 3. A relatively low level of literacy, education and understanding of the scientific method. 4. A social enforcement of the status quo in the social system, facilitated by affective personal relationships, such as friendliness and hospitality, which are highly valued as ends in themselves. 5. Little communication by members of the social system with outsiders. Lack of transportation facilities and communication with the larger society reinforces the tendency of individuals in a traditional system to remain relatively isolated. 6. Lack of ability to emphasize or to see oneself in other's roles, particularly the roles of outsiders to the system. An individual member in a system with traditional norms is not likely to recognize or learn new social relationships involving himself; he usually plays one role only and never learns others.
Modern	<ol style="list-style-type: none"> 1. A generally positive attitude toward change. 2. A well developed technology with a complex division of labor. 3. A high value on education and science. 4. Rational and businesslike social relationships rather than emotional and affective. 5. Cosmopolite perspectives, in that members of the system often interact with outsiders, facilitating the entrance of new ideas into the social system. 6. Empathic ability on the part of the system's members, who are able to see themselves in roles quite different from their own.

Source: E. M. Rogers and F. F. Shoemaker, Communication of Innovations (U.S.: The Free Press, 1971), p. 32.

being said, is that traditional versus modern norms have great implications for any communicative process aimed at behavior modification and therefore should be accounted for in the message planning stage.

Social classes also are important considerations similar in some respects to group norms. A social class is any aggregate of individuals who are considered to be on the same social level measured in terms of economic, social or political terms. Usually, all three are grouped together with the end result being the social class one belongs to. The economic order refers to people who share a common situation in the organization of economic production; the social order is based upon social status; the political order is based upon power.⁹⁷ For the purposes of this thesis social class will be divided into five segments, upper class, upper-middle, lower-middle, upper-lower and lower-lower.⁹⁸ They are defined as:

Upper-Class - social elite; wealthy; powerful.

Upper-Middle - most educated; professionals; financially stable.

Lower-Middle - technical, respectable, blue-collar.

Lower-Lower - unskilled, economically disadvantaged.

⁹⁷ L. Broom, P. Selznick, Sociology (U.S.A.: Harper and Row Publishers, 1968), p. 154.

⁹⁸ J. M. Carman, The Application of Social Class in Market Segmentation (U.S.A.: University of California Graduate School of Business Administration Institute of Business and Economic Research, 1965), p. 53.

Social classes typically are homogeneous in behavioral tendencies and therefore, are assumed to be quite useful for prediction functions in various fields of endeavour. In the discipline of marketing this assumption is referred to as the "cultural homogeneity assumption." In addition, social classes are considered to be the largest homogeneous grouping within the society.⁹⁹

As a mediating factor, one's social class operates in a manner similar to norms for in fact, one's social class is a norm on a macro scale. This being the case, it also appears logical that social class can be segmented, in a conceptual fashion, with a view toward identifying differences that are important to the communicative process. Martineau has made such a framework conceptualization and it is presented on Table 6. Although Martineau's two social classes do not completely correspond to the listing presented by this thesis, on page 86 they do provide an indication of the type of separation that is possible. Obviously, the message the sender is attempting to communicate, will receive better attention and may result in more action if the message is directed to the target class, if such a basis for separation is useful to the overall objectives of the communication.

⁹⁹ J. E. Engel, D. T. Kollat and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston Inc., 1968), p. 265.

TABLE 6

CHARACTERISTICS OF SOCIAL CLASSES

<u>Social Class</u>	<u>Characteristic</u>
Middle	<ol style="list-style-type: none">1. Pointed to the future.2. Viewpoint embraces a long time frame.3. More identification with urbanization.4. Rationale approach to decision making.5. Presents a well-structured sense of the universe.6. Few limitations on personal horizon.7. Greater sense of freedom of choice.8. More self-confident and not afraid to take risks.9. Abstract thinking.10. Views himself as part of national happenings.
Lower	<ol style="list-style-type: none">1. More interested in the present and the past.2. Think and live within a short time framework.3. More rural in identification.4. Less rationale in thinking and decision making.5. Unclear of world structure.6. Horizons are sharply defined and limited.7. Feels freedom of choice is limited.8. Concerned to a great extent with security and insecurity.9. Pragmatic in thinking.10. World consists mainly of his family and his body.

Source: P. Martineau, "Social Classes and Spending Behavior"
Journal of Marketing, Vol. 23, Oct., 1958, pp. 121-130.

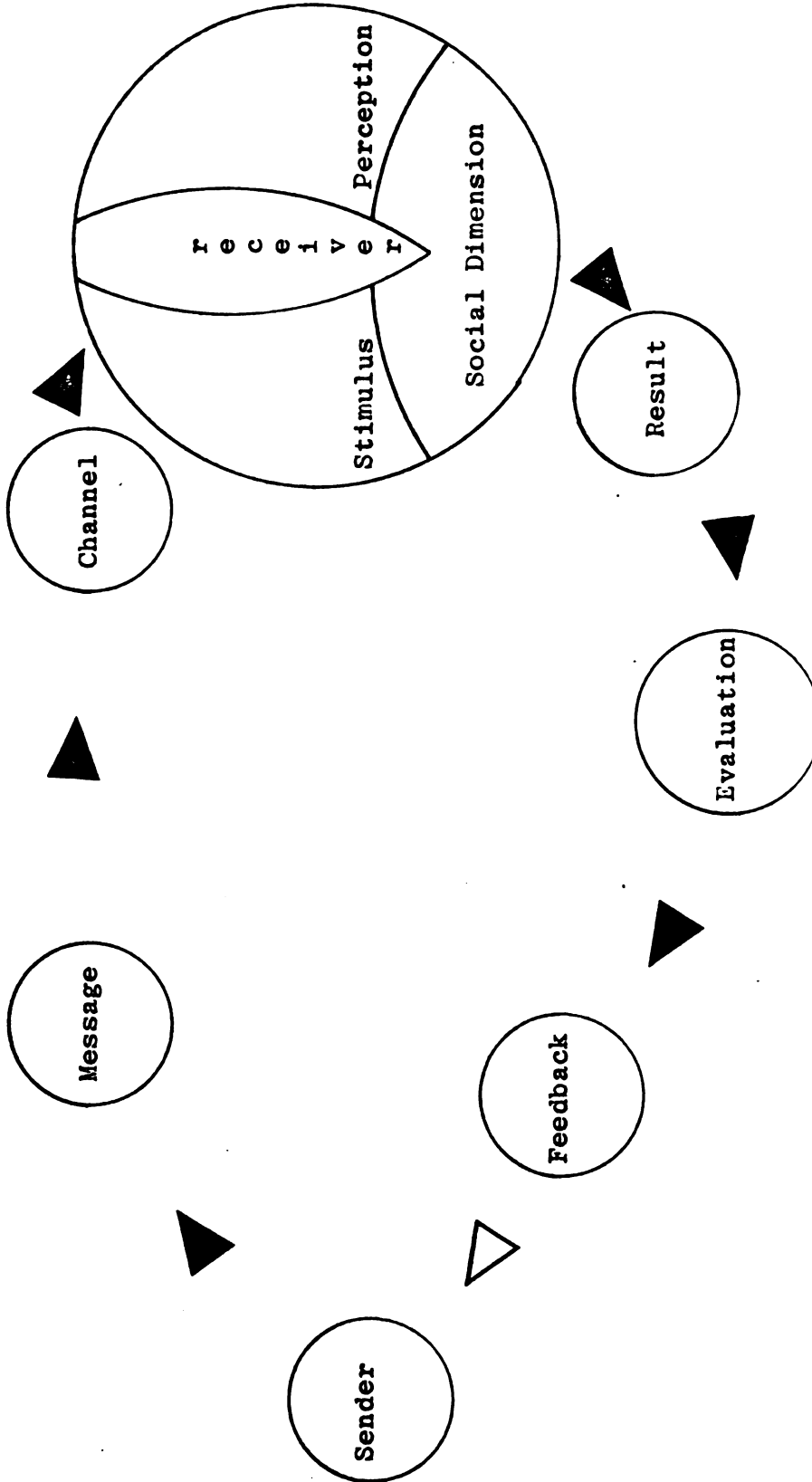
In addition to the above, the major importance of the identification of social class is in the proper designing and selection of the media channel to be utilized as was indicated in Chapter II of this thesis.

Perception--General Interpretive Implications:

This subcomponent has been the most complex and has been the subject of most of the research to date in the various fields of communication, marketing and behavioral studies. In summary form the major topics discussed are presented on Diagram 5.

From an interpretive viewpoint the implications of selective perception are quite obvious and were partially discussed in the sub-component of Stimulus. Since a filter mechanism does exist, it is necessary to develop stimuli that "stand above" others. For interpretive purposes however, this is not as easy to be done as for the general field of marketing since the objectives of the organization often place restrictions on what is consistent with a park and what is not. Therefore, many of the tools mentioned previously (novelty, size and color) must be used within these organizational objectives. For example, although bright red is a color that would attract attention, that is "break through" the selective perception filter, its use would probably not be allowed in say a naturally oriented park due to the total atmosphere that is being attempted to be created for the park. In a similar manner the size and

DIAGRAM 5
THE SUB-COMPONENTS OF THE RECEIVER ELEMENT OF THE S-M-C-R-E
COMMUNICATION MODEL



novelty tools must be used with care.

Cognitive dissonance plays a major role in the planning stages of an interpretive communication message. Since cognitive dissonance refers to an internal imbalance, the interpreter or creator of the interpretive message should recognize all such situations and proceed slowly. For example, in many parks today problems are evident with respect to consumptive recreation versus non-consumptive recreation. Hunting, belonging to the first category, is participated in by many individuals on park land and often policies are created that are directed toward the banning of such activities. An interpretive communicative message system designed to change this use pattern should not have as its first objective to attempt to convince the hunter that his interests are wrong in a park. Obviously, such a message would not be in the best interest of the target group and would create an imbalance within the hunter, one that would probably be directed toward the park administration. Rather, the approach should be slow, emphasizing the good points of non-consumptive use yet saying nothing detrimental to the activity of hunting. After time, such messages may gain credibility and when the ban is instituted the change may not be as difficult to accept. Change takes time, if rushed, serious adverse consequences will result.

From the discussions on personality, two important interpretive implications are seen; (a) that the interpretive message must be designed to fit the needs or motives of the

audience--the receiver must find some gratification and (b) if the receivers can be grouped by personality dispositions then specific interpretive messages can be designed for specific groups.

The gratification that the receiver must find has been previously indicated in the definition of interpretation suggested by the author in this thesis. It is important therefore, that the motives of the groups visiting the park are identified and that messages be designed to either (a) complement these motives or (b) recognize their existence if behavior modification is the prime objective.

Implications for interpretation with respect to dispositions have not been studied although in the identifying of target groups dispositions may be very useful. If, for example, user surveys were designed to ascertain the park users characteristics by disposition character (either that identified by Krech, Crutchfield and Ballachey or that identified by Riesman) and the same survey posed meaningful interpretive questions, cross tabulations may prove beneficial in the identification of target groups, message and message channel. Till such point in time when this type of research is investigated use of hypothesis and findings from other fields of endeavour will have to be used carefully and with caution.

In the social dimension three important implications are drawn. With respect to the two possible ways in which attitudes may be acquired, informational and emotional,

implications for interpretive messages are obvious although the direct applicability may not be as clear. In some ways interpretation is similar to the learning discipline in that the organization typically predetermines the broad objectives to be achieved. In both fields therefore, the ethic of providing all the available and pertinent information is usually evident. On the other hand, park users are not a "captive audience" as with school children and therefore the non-use of the emotional end of the spectrum may lead to poor reception or acceptance of the message by the receiver. This aspect is considered relatively important by the author and a position along the spectrum should be selected by the sender prior to message construction. As Klaussmeier and Goodwin go on to state:

No matter how an attitude is acquired--through emotional or informational experiences--it guides behavior in a consistent way.¹⁰⁰

A model developed for the teaching profession deals with the idea of facilitating attitude learning. Suggested by Klausmeier and Goodwin this model was intended to aid teachers in attitude formation or modification of the students and is presented in Table 7 because of the possible implications for interpretive communication.

The second major area of implications for interpretive messages concerns the issue of group norms. Since group

¹⁰⁰Klaussmeier and Goodwin, p. 345.

TABLE 7

LEARNING THEORY GENERALIZATIONS AND IMPLICATIONS FOR INTERPRETATION

Generalization	Principle	Implications
1. Attitudes, as other outcomes, are learned and can be taught	Identify the attitudes to be taught.	Identify the objectives of the specific interpretive communication as consistent with the objective of interpretation.
2. A receptive, responding observer incorporates a model behavior into his own repertoire through imitation.	Provide exemplary models.	This is impossible in mass media channels but the aspect of allowing the receiver to interact with the message is important (i.e., touch, see, taste, smell, hear).
3. Positive reinforcers strengthen attitudes through contiguity of response and reinforcement and through the linking of pleasantness with the reinforced response.	Provide pleasant emotional experiences with attitude objects.	In addition to providing all the pertinent information use well designed stimuli for a pleasant emotional experience.
4. Cognizing information and thinking productively modifying attitudes differentially, according to the strength of the attitude.	Extend information.	Same in interpretive content.
5. Group interaction provides for testing of and commitment to behavior in harmony with group standards.	Use group techniques to facilitate commitment.	Encourage family use of facilities. Encourage group use--group identified as indicated in Chapter II and III.
6. Practising an attitude in relevant situations provides for stable organization.	Arrange for appropriate practice.	If interpersonal channels also available encourage discussions of interpretive messages found in the park.
7. Purposeful learning may be initiated by an individual in order to acquire or modify attitudes.	Encourage independent attitude cultivation.	Same (i.e., challenge individuals or groups with the message style).

Source: H. J. Klausmeier and W. Goodwin, "Learning and Human Abilities"(New York: Harper and Row: 1966), p. 357.

norms do determine, to a large degree, what messages will be accepted, rejected or modified and the manner in which the information will be used, their identification is also important. Typically, most park users are largely attending a park in a family unit. As such, the roles of father, mother and siblings become important in terms of message design. For example, if parents enjoy explaining things to their children self-guiding trails with adequate interpretive sign messages may be the proper course of action.

Similarly, the identification of the third major issue, social class, may also be a valuable tool for the understanding of the park user and the designing of messages and channels to meet the basic tendencies and interests of these groups.

Market Segmentation

An often used tool for isolating and analyzing the receiver types and then developing communication messages is market segmentation. This process delineates target groups, on some basis, in an attempt to identify those who are interested in a topic to those who are not.

When products are developed or modified especially to meet the desires of a particular group, the policy is called market segmentation, and it is sometimes contrasted to a policy of trying to satisfy the whole market, called market aggregation.¹⁰¹

¹⁰¹J. F. Engel, D. T. Kollat and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston, Inc., 1966), p. 13.

The complete process typically involves more than just identifying the groups however, it also usually involves an analysis of the particular aspects of the product in an attempt to determine preferences. Marketing people refer to this as consumer tastes and summarize the market segmentation process by matching the consumer preferences with social divisionable characteristics such as demography. The result is the isolation of groups toward which their marketing effort can be profitably directed.

Many attempts have been completed with respect to segmenting the market. One such effort in the marketing field differentiated buyers by the degree to which they use the product and the brand.¹⁰² As summarized, the results were:

From this research it is clear that there are important demographic differences between users and non users. Therefore, it is possible through skillful use of advertising media to avoid certain segments if this is deemed desirable. Specially designed questions also isolated some important personality differences.¹⁰³

Other studies also found similar results with respect to

¹⁰²J. F. Engel, H. G. Wates, and M. R. Warshaw, Promotional Strategy (U.S.A.: Richard D. Irwin, Inc., 1967), pp. 91-92.

¹⁰³J. F. Engel, D. T. Kollat and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston, Inc., 1968), p. 161.

market segmentation.¹⁰⁴

The basis of analysis is perhaps the most important factor when discussing market segmentation. It is important because the information derived must be useful in prediction terms. For example, to identify a set of personality traits that positively correlate with the message or product is useless unless the identified personality traits are grouped in the public so that the communication message can be directed toward them. The following four factors are seen as essential in the identification of market segments for consumer marketing. Although they relate specifically to the personality dimension, this author feels they can be applied in the identification of all market segments.

1. People with common personality dimensions must be homogeneous in terms of demographic factors such as age, income, and location so that they can be reached economically with mass media of marketing. This is because data are available on media audiences mostly in terms of demographic characteristics. If they show no identifiable common characteristics of this type, there is no practical means of reaching them as a unique market segment.
2. Measures that isolate personality variables must be demonstrated to have adequate reliability and validity.
3. Personality differences must reflect clear-cut variations in buyer activity

¹⁰⁴R. P. Brody and J. M. Cunningham, Personality Variables and the Consumer Decision Process (U.S.A.: Harvard Graduate School of Business Administration, 1967), unpublished article. What I.B.M. Found About Ways to Influence Selling (Business Week, Dec. 5, 1959).

and preferences that, in turn, can be capitalized upon meaningfully through modifications in the marketing mix. In other words, people can show different personality profiles yet still prefer essentially the same product attributes.

4. Market groups isolated by personality tests must be of sufficient size that they can be reached economically. Knowledge that each person varies on a personality scale is interesting but impractical for a marketing firm, which, of necessity, must generally work with relatively large segments.¹⁰⁵

Clearly, market segmentation is a tool that can be very useful if the basis of segmentation is practical considering other criteria as suggested above. The use of personality as the basis has been seriously questioned as indicated in previous sections, however, personality norms and social dimension, and the like may be more important in other fields of inquiry rather than marketing. As such, it should not be dismissed prematurely. The objectives that are being attempted to achieve make a great deal of difference as to the applicability of any concept.

Market Segmentation--General Interpretive Implications:

The implications are obvious and perhaps somewhat repetitious. For interpretive communication purposes market segmentation is the term used for the process of identifying interpretive target message groups based upon some factor such as dispositions, social class, group norms and the like.

¹⁰⁵J. F. Engel, D. T. Kollat and R. D. Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston, Inc., 1968), p. 157.

Once identified, the other information presented in this chapter and Chapter II such as selective perception, cognitive dissonance and the like, are applied to the groups to ascertain the possible existence and strengths of these aspects as related to the objectives of the message and tools that are acceptable and may be useful in overcoming these as directed toward the specific group.

CHAPTER IV

A PLANNING PROGRAM FOR THE INTERPRETIVE SIGNAGE PROCESS

It is difficult to draw reliable implications from Chapters II and III because of the theoretical or conceptual level of much of the past investigations and because of the lack of experience in the interpretive use of evaluative mechanisms designed to measure effectiveness of the programmes. Chapter IV and V, however will present some of the implications that appear accurate based primarily on the information derived from the interpretation discipline. The process of interpretive signage¹⁰⁶ and an interpretive signage planning strategy will be the focus of the two chapters.

The Interpretive Signage Process

The decision to utilize interpretive signs on a large scale and the materials available are but two subjects that must be considered in interpretive signage. Table 8 indicates all the variables to be considered in this study and is presented as a path to be followed when

¹⁰⁶Term taken from Indian and Northern Affairs, Engineering and Architecture Branch, Park Signage (Ottawa: draft copy, March, 1974).

TABLE 8
INTERPRETIVE SIGNAGE PROCESS

1. Investigate and Understand the Concept of Interpretation	}	→	STAGE I
2. Investigate and Understand the Process of Interpretive Communication			
3. Determine the Relationship and Implications of the Organization or Agency, that is, the stated objectives and unstated policies	}	→	STAGE II
4. Identify the Specific Objectives of the Message--Park Specific			
5. Determine Possible and/or Anticipated Effects			
6. Understand the Receiver Component and Identify Target Groups	}	→	STAGE III
7. Determine Media Channel Type To Use	}	→	STAGE IV
8. Identify the Advantages and Disadvantages of Interpretive Signage	}	→	STAGE V
9. Identify the Kinds of Interpretive Signs Available and Purpose of Each. Determine Needs and Why?			
10. Analysis of Interpretive Message Content and Design	}	→	STAGE VI
11. Plan the Physical Aspects of the Mass Media Channel	}	→	STAGE VII
12. Determine Best Material To Use			
13. Implementation and Actual Construction of the Interpretive Sign			
14. Evaluation	}	→	STAGE VIII
15. Feedback	}	→	STAGE IX

organizing for the incorporation of a meaningful and effective sign system.

This report will also follow this path in presenting critical information related to interpretive signage. Throughout the report references will be made back to this table to enable the reader to follow the process in an organized manner.

Purpose of Interpretive Signage

The purpose of interpretive signage is to communicate to the visitor certain subject matters that are deemed appropriate for a park. Use of signs, however, requires a firm understanding of the advantages and disadvantages of this communication channel. At the outset it must be emphasized that interpretive signage is only a part of interpretation. It does have its role to play, however, and to maximize its effect we must first understand the limitations and strong features that are involved.

Without a doubt, the major limitation of interpretive signage is the lack of personal involvement. Communication is one-way and all questions that arise (hopefully there are many) must wait until the visitor is able to locate an interpreter or other source to answer his question. The inter-action and flexibility that are evident in personal service makes it an excellent method to accomplish interpretation.

Personal services have, with good reason, been considered the ideal interpretive

method when they can be used. All other interpretation may be considered supplementary to direct personal communication. It has the unparalleled advantage of being alive and capable of being tailored to the needs of individuals or groups. It can take advantage of unexpected and unusual opportunities (i.e., the teachable moment).

Most visitors enjoy and are therefore receptive to personal services. The personality of the interpreter can enhance the appeal of the message and the effectiveness of communication and can enable deeper penetration of subject matter.¹⁰⁷

It is the problem of ". . . when they can be used," that limits personal service. The costs of hiring, training and maintaining good interpreters, especially on a year-round basis, is usually not feasible. The return on the dollar often does not warrant the full-scale use of interpreters. In addition, good trained interpreters are in short supply. As such, techniques like interpretive signage are used. As is implicitly evident, the costs involved and the wide use they can be adapted to are two important positive advantages of interpretive signage.

Another drawback of interpretive signage is that presented on their own, they may not be able to present effectively a complete logical story. This limitation is likely to occur unless the visitor is extremely interested and capable of following the story line. Most visitors

¹⁰⁷D. C. Thompson, "Interpretive Planning in the National Parks Service," in Interpretive Skills for Environmental Communicators, compiled by J. W. Hanna (Texas: Department of Recreation and Parks, 1972), p. 38.

however, are either not that interested, or are incapable of following a story line. In addition, many visitors are not readers, they are listeners and as such, usually pass by signs of any kind with only a brief look. The design, plan, content, and presentation of the sign, however, can overcome many of these problems. Other problems related to the use of interpretive signage can also be overcome to a certain degree by the four above mentioned techniques. These techniques are to be discussed later at which time other problems facing interpretive signage will be mentioned.

There are numerous positive aspects with respect to the use of interpretive signage in parks, two of which have already been mentioned--cost and wide applicability. Seven other advantages are; viewing period, self-interpretation, souvenir value, presentation flexibility, number of individuals served, maintenance ease and receiver versus sender.

Viewing Period

This refers to the length of time one wishes to spend at a particular sign. For example, an interpretive sign may include an aerial photograph of the park with labels corresponding to various features in the park. One visitor may be exceedingly interested in it and later will follow up by going to a particular feature. Another person, however, may have come to the park to see and enjoy one particular feature, to him a glance is sufficient. In the first case the visitor is using the sign as an inter-

pretive feature, and will stay longer if not forced to move on before he is ready, whereas in the second case, the individual is using the sign more on an interpretive information source and is not forced to stay longer than he wishes. If a guided tour were to start here and the interpreter were to mention the map and dwell on it for a few minutes, neither visitor would be satisfied. In addition, an interpreter is forced by a limited number of working hours to schedule activities such as walks or trail hikes. Due to these constraints the visitor either shows up at 10:00 a.m. or 2:00 p.m. or he misses the conducted hike. Interpretive signage along a trail is not limited in this way and is always there when the visitor wishes to use it.

Self-Interpretation.¹⁰⁸

Many people enjoy going to a particular feature in a park and explaining it to their group or family. This is especially true of parents who often enjoy explaining things to their children. In such situations, although an interpreter may be able to explain the phenomena better and is more knowledgeable, the parent-child relationship is usually lost. Interpretive signage permits this situation and actually encourages it by posing questions or stimulating minds.

¹⁰⁸For examples from Communication Theory see Klopfer, ed. by Atkin, p. 9.

Souvenir Value

Interpretive signage can be of souvenir value. A sign located with an aesthetic background, detailing some phenomena is good material for photographs. For example, an interpretive sign located near the edge of a geomorphologically significant bluff, overlooking a lake can provide a good scene that not only depicts the scenery of the park but also the natural feature. The sign, if designed properly can greatly add to such a photograph and the memories it brings at later time periods.

Presentation Flexibility.¹⁰⁹

In interpretive signage your imagination is usually a major limitation on the use and attractivity of the interpretive sign. Pictures, maps, and diagrams all can be incorporated in an interpretive sign. A picture of a forested area before it was burned explaining the principle of natural succession can lead a visitor from the way it was, to the way it is, to the way it will be. Interpretive signs are often more realistic than an interpreter describing the way it was and the way it will be.

Number of People Served

The number of visitors an interpretive sign can

¹⁰⁹For examples from Communication Theory see Harrison, pp. iv-9 and pp. x-4-16.

reach in one day can be large. This is largely due to the fact that the sign is always there, whenever the visitor wants to make use of it.

Maintenance Ease

With the new materials for signage and the accompanying decrease in maintenance and with the improvement in maintenance techniques, the overall maintenance ease of signs has increased. Interpretive signs can now last up to twenty years with a minimum of maintenance. With this time frame costs are also reduced.

Receiver versus Sender

In a communication link (sender-receiver) it is usually easier to speak for the sender than it is to hear for the receiver. Messages can be easily lost due to a number of factors such as poor vocal projection and out of clear hearing range. Also, once stated, the message is gone. In addition, people often do not understand what is meant and repetition may be required. Illustrations, pictures and the like, easily clarify what is meant.¹¹⁰ For a person on a well designed interpretive trail the above problems are either eliminated or cut down via the use of signs.

¹¹⁰ As related to Communication Theory, Harrison states, "While the words seem ambiguous at first, the non-verbal context reduces uncertainty about what might be meant." Harrison, pp. 1-9. Also see Star and Hughes, ed. by Atkin, p. 6.

In addition, signage can augment interpretive trail walks. The interpreter can mention the plant and the sign will be there for all to read. Questions such as, "How do you spell that?" or "What did you say?" will be fewer.

Kinds of Signs

In the decision on what the interpretive sign will say, the knowledge of the various kinds of signs for use needs to be examined.

There are numerous signs in any park designed for a specific purpose. These can and have been categorized. Parks Canada suggests five kinds of signs as seen in Table 9. The objective of the interpretive sign as stated in this table is of first concern to this report because of its limited scope (see section on Definition of Interpretation). However, this is not the only concern. Interpretation relies on the other four kinds of signs and should be considered in this light.

Information is the basis of interpretation, without it there is nothing to be interpreted. As such, a sign directed primarily to information dissemination is still part of the interpretive signage in total. In like manner, the other three kinds of signs, identificational, directional and regulatory are also part of interpretive signage. To illustrate this an example will be given. A visitor arrives at Park Camp-in-the-Rain and wants to see and discover the major geomorphological features of the Park.

TABLE 9

BASIC KINDS OF SIGNS AND OBJECTIVE

KIND	OBJECTIVE	EXAMPLE
Directional	To direct by indicating distance	Provincial Park 2 Miles
	To direct by indicating direction	Frostbite Picnic Area -----
	To direct by indicating name	Park Frostbite
Identification	To identify a facility	East Entrance Gate
Informational	To inform someone of something	White Buffalo Historic Site: to commemorate the frontiersman John Richmond 1802-1876.
Regulatory	To control the users	Don't Feed the Bears
Interpretive	To interpret a natural feature	White Pine Grove Trail

The park has a Visitor Center which orients the visitor to the park and its offerings. As the visitor passes the gate he notices a sign stating Visitors Center -----> accompanied by a picture of the facility. This is a directional sign. As he parks his car he notices three buildings, one is labelled the Visitor Center Entrance. This is the identification sign. Within the center he is told via a display incorporating signs, that the park is located adjacent to a marvelous lake and has, within its boundaries, unique and world-significant parabolic dunes. These are informational signs. After completing his tour through the center he is directed to an exit that leads to the dunes area. As he walks along the trail he is told not to pick the flowers nor to step on the lichen that seem to thrive under the sandy conditions. This is a regulatory sign. Then he comes to the highlight of the trail--a very large sand dune hill that lays before him the whole dune system. The large hill has part of its side hollowed out. A large sign at this point explains to the visitor how the dunes formed and why it is moving. It also incorporates graphics. It ends by stating that this is a phenomenon known as a blowout and in this case it has been the result of improper recreational use destroying the vegetation which had anchored and stabilized the dune system. This is a true interpretive sign.

All the signs mentioned, however, are part of the total interpretive feature and as such, they must be

included in any report on interpretive signage. They are part of the Master Plan for Interpretive Signage at Camp-in-the-Rain Park. To make effective the true interpretive signs, the whole plan inclusive of identification directional, informal and regulatory signs must be included. They are all required to permit the functioning of the interpretive programme/facilities and interpretive signage. With this in mind Table 10 is suggested as the basic kinds of interpretive signs and objective.

As can be seen, the objectives are a modified version of the Parks Canada Table which emphasizes the point raised at the start of this report, that being, interpretive signage is the main issue of this report yet much of what is discussed can be easily related to all kinds of park signs. In this way this report can be used by those interested in the general area of park signage or one particular type. It was written with this aspect as a design feature.

TABLE 10

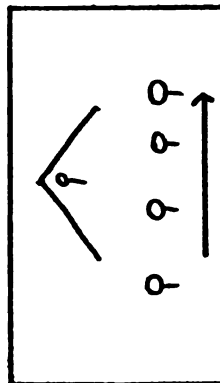
BASIC KINDS OF INTERPRETIVE SIGNS AND OBJECTIVE

KIND	OBJECTIVE	EXAMPLE
Directional	To direct by indicating distance	Visitor Center 1 Mile
	To direct by indicating direction	Visitor Center -----
	To direct by indicating name	Parabolic Dunes
Identification	To identify or interpret facility/feature	Entrance Bruce Trail Visitor Center
Informational	To disperse information about an interpretive facility/feature	Description of Parabolic Dunes
Regulatory	To warn or control the users	Capture the fragile lichens with your camera
Interpretive	To explain or interpret features to the visitor via interpretive techniques	Parabolic dunes such as these are created by nature and these are being destroyed by man

FIGURE 1

Examples of "Directional" and "Identificational" type signs.

Directional



Identificational

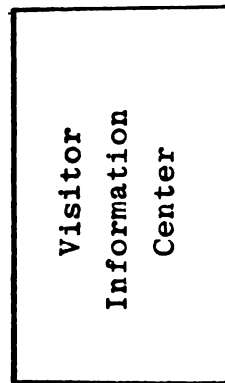


FIGURE 2

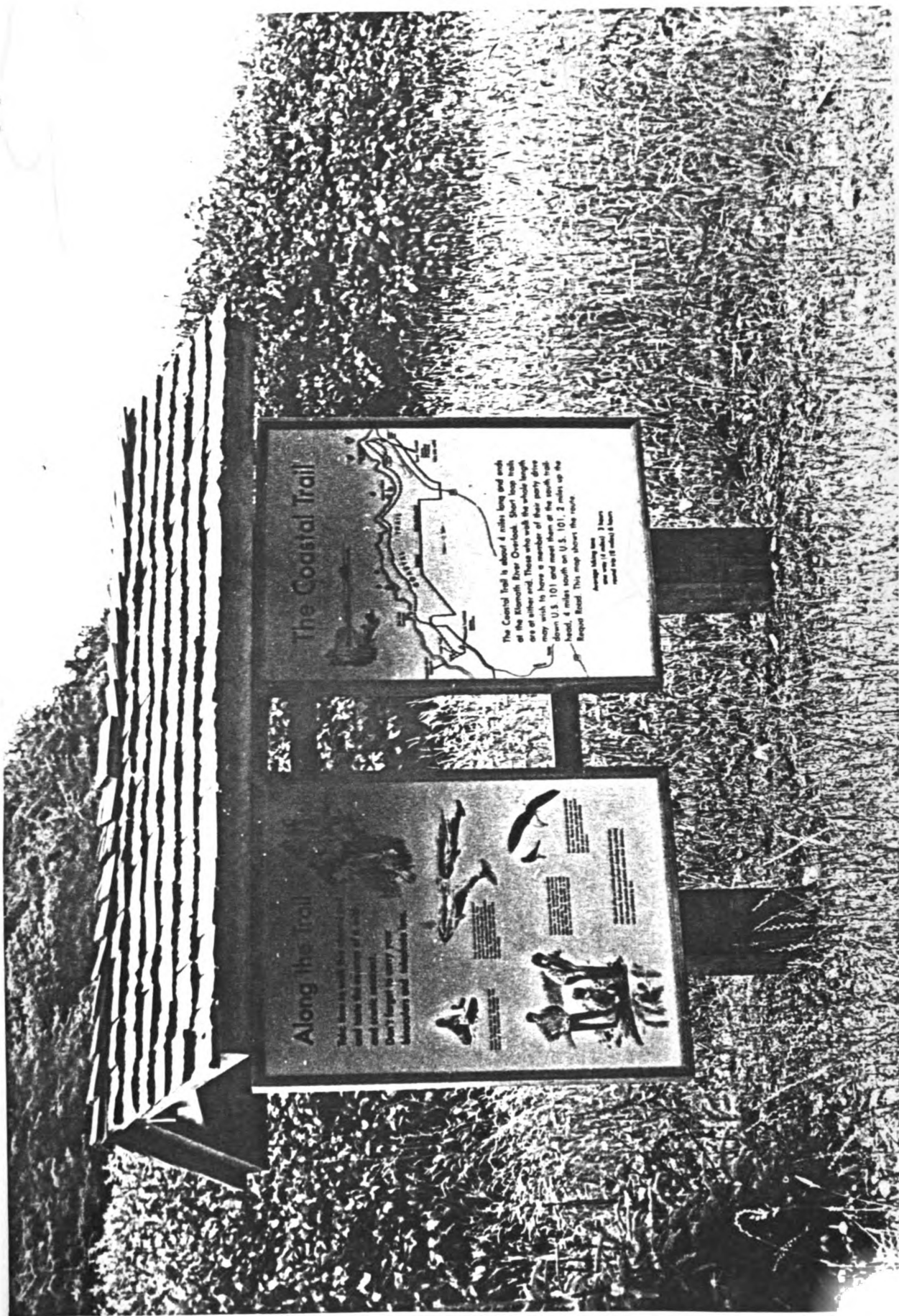


FIGURE 3

Example of a "Regulatory" type sign.

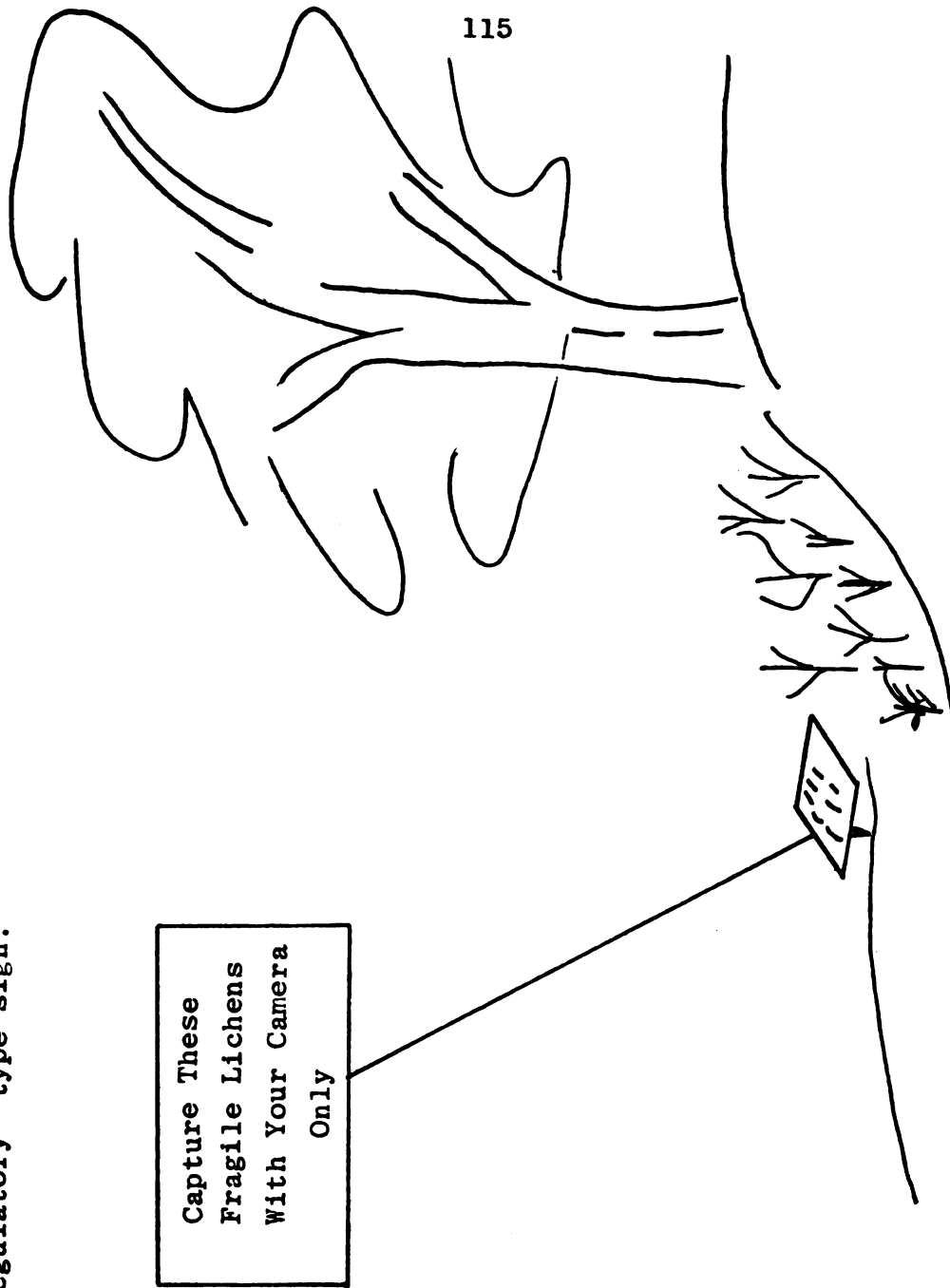
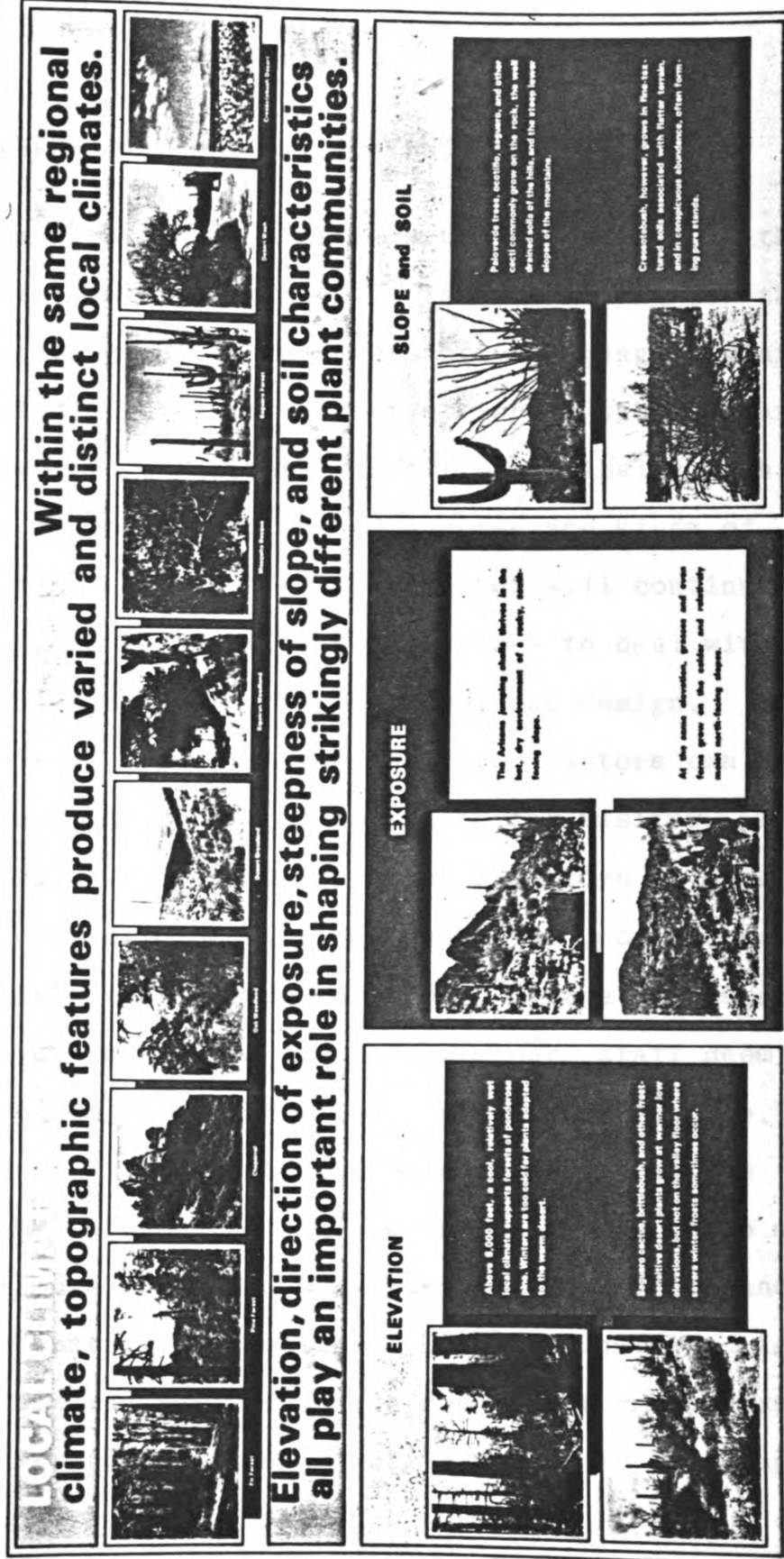


FIGURE 4

Example of an "Interpretive" type sign.



CHAPTER V

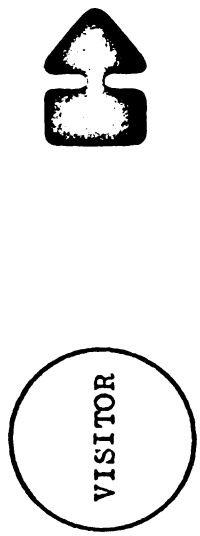
INTERPRETIVE MESSAGE CONTENT AND DESIGN

Communication of a message to the visitor is the essence of interpretive signage. Table 8 showed how the various factors involved in interpretive signage operated to produce the kind of interpretive signage system that will be effective. Chapter IV dealt specifically with the aspects of communication and purpose and kinds of signage available for use. This chapter will continue with the process as identified in Table 8 to deal with the two signage factors of message content and design.

Table 11 indicates how these two factors can be subdivided and their obvious impact on the visitor. The purpose, as seen, of these two signage factors is then to encourage the visitor to action, dependent upon the potential objectives that may be envisioned by the park staff. The objectives themselves are what the park staff deem as important, based on the particular park. For example, the destruction of significant parabolic dunes may be the feature to be interpreted and the objective may be to make the visitor more aware and sensitive to the feature and how man can control its destiny. Or, the objective might be to show how man relates to the dunes in terms of exploiter and preserver. Or, the objective may be to encourage

TABLE 11

SIGN FACTORS THAT INFLUENCE VISITOR TO ACTION

FACTORS	SUB FACTORS	VISITOR	ACTION	OBJECTIVE
Design	Sign Style Sign Size Sign Layout Lettering Color			To increase visitor sensitivity to the feature.
Message Content	Meaning Clarity, Concise Length Content Style Communication Type			To increase one's awareness of cultural and natural interrelationships.
				To permit the visitor to search out the phenomena to the depth desired, encouraging increased appreciation
				To encourage the visitor to participate and interact with the interpretive programme's subject matter.

the visitor to search out the detailed formation of dune systems to gain an appreciation for the complexities involved.

Each objective is best attainable via a particular matching of message content and design features. As an illustration, a blue background colour, with pastel type colours for a picture of the dunes will create a scenic, fragile atmosphere. This, combined with light lettering style, combined with very stern message style, combined with motivational wordage, such as "Dune Destruction" as the title, combined with an interesting, meaningful and sharp text on the destruction process of these significant dunes, comprise a feeling of a fragile, important natural resource being hastened to extinction by man's lack of awareness. In this situation the objective of the sign would be to show how man relates to the dunes in terms of exploiter.

In addition to utilizing the two signage factors to relay a message they are equally important in terms of motivation, ease of reading, interest in the subject matter, flow of traffic and other similar items. Table 11 indicates these items as sub-factors.

Message Content

Message content refers to how the message is to be communicated to the visitor. Is language to be utilized or symbolism? Are graphics, illustrations, pictures and the

like to be incorporated into the message content or not? If they are, to what degree? How long should the message be? or, How short? These questions must be answered if the interpretive signage in the park is to be effective.

As alluded to earlier, and diagrammed in Table 11, the visitor is a very important aspect in determining the answers to these queries. For example, if there is a large percentage of ethnics that visit the park, well designed symbolism may be more appropriate, or if language is to be used, a large portion of the sign should be allocated to illustrations of one kind or another. But above all, before the message content is written and put together it is imperative that thinking be a prerequisite.

Very seldom is a good label born out of sudden inspiration, and never does one just happen. It takes time and it takes effort.¹¹¹

In addition to the relation between the visitor and the message content, there is an equally important link between the message content and the overall interpretive signage programme. For example, the use of too many graphics or illustrations will take away from their effectiveness. They should be used only as required and not throughout the entire signage for the park.

The sub-factors will now be detailed.

¹¹¹D. W. Wilson and D. Medina, Exhibit Labels, Technical Leaflet 60 (U.S.A.: The American Association for State and Local History, April, 1972), p. 2.

Meaning

Without a doubt, unless the subject or phenomena that is to be conveyed has relevancy or meaning to the visitor's frame of reference, his tendency will be to ignore it. In this light, professional jargon and use of detailed technicalities should be avoided as they are not understood by the average visitor to a park. The objective is to break down communicative barriers by thinking out in common terminology the subject matter or feature you are attempting to relay to the visitor. In interpretive signage, therefore, it should be emphasized that the goal is to relate the message to the visitor so it has meaning. For example, read the following two examples that were utilized in an interpretive program: (a) Many of the dunes species are native xeric species, pre-adapted colonizers of dry sands, and (b) plants such as the red Indian Paint Brush that lie before you thrive on these dry sandy dunes. The first message was analyzed and the result of this process was the second message. As is obvious, the first is at the level of a professional discussion and is probably meaningless to the majority of people. The second discussion, however, can be understood by anyone who is literate in the English language and therefore has meaning. By providing a message content that has meaning, interest in the message can be instigated which further increases the visitor's desire to read on or inquire further. The first discussion however, leaves the individual with no interest to go on--

he does not understand.

Technical terms are often necessary when interpreting a feature or ecological principle to the visitor. When these terms are used though, they should be accompanied by an explanation of the term which must be clear and concise. The term succession, in its ecological sense, is meaningless to many individuals visiting a park, yet its use can be easily incorporated into an interpretive sign. As discussed before, succession after a forest fire could be the subject matter. In this situation, an interpretive sign as seen in Figure 5 makes use of terms as part of the interpretation message.

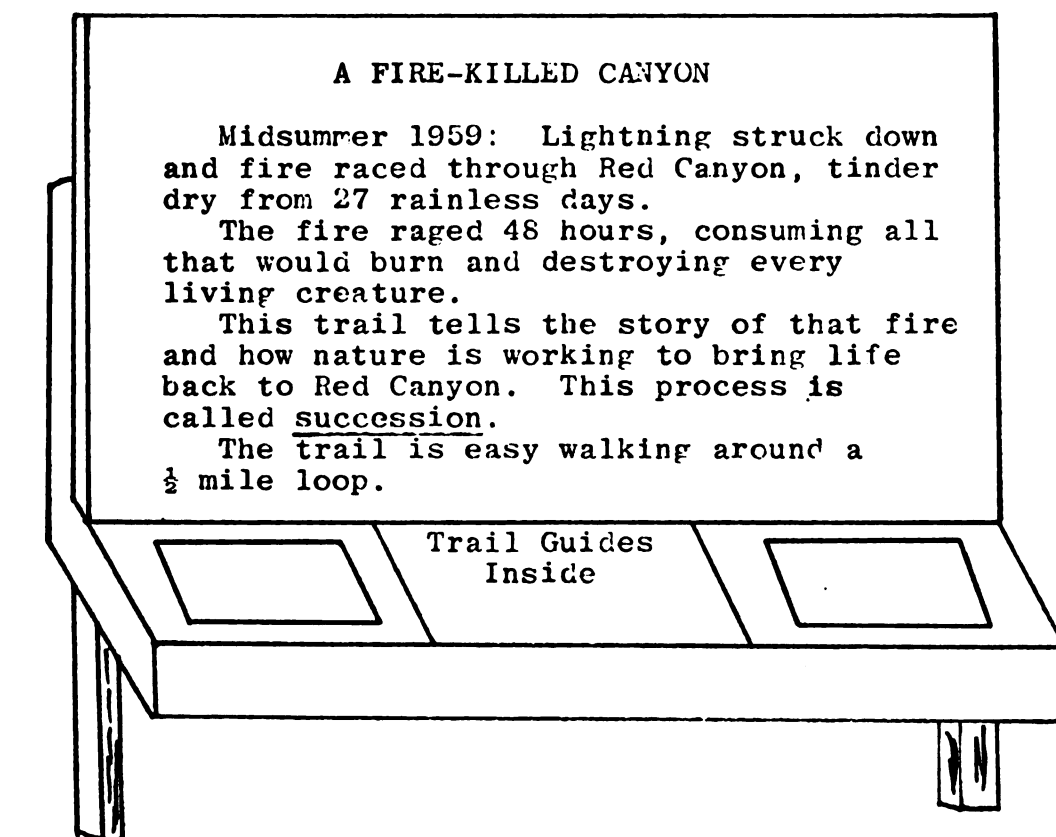
It is imperative that the use of terms or professional jargon not be completely eradicated. It is a phenomenon of the interpretive business that visitors want to know the name of a species, an archaeological term or ecological terms.¹¹² Once known they appear to feel satisfied in that it has a label, a name. After this the visitor is prepared to delve more deeply into the subject matter. As such, the general rule of thumb is not to completely avoid the use of technical terms but when used ensure that the term is clearly understood.

A last point deserves discussion in the area of meaning and the message content. This point addresses the

¹¹²This statement is based upon the author's personal field experience.

FIGURE 5

PROFESSIONAL JARGON AND INTERPRETIVE SIGNAGE



Source: U.S. Department of Agriculture, Forest Service,
Developing the Self-Guiding Trail in the National
Forests (U.S.A.: Publication 968, September, 1961),
p. 13.

proper usage and timing of the message with respect to the phenomenon it is describing. To place an interpretive sign discussing a phenomenon that only occurs for two weeks out of the year is meaningless.

Often, there is a temptation to label in absentia--to name a hibernating or nocturnal animal, a bird or insect that will not be seen, a flower that blooms and flourishes in another season. This 'over-labeling' confuses the visitor, clutters the landscape and is a waste of money and interpretive effort. Labels of this type lead to gross misunderstandings. For example, a label is placed on a tree and captioned, 'Bluebird,' with a story underneath about the plight of this particular bird. A number of people coming from such a trail say, 'Well, we saw the bluebird tree down by the open field.'¹¹³

In addition to the confusing nature of such a sign it is also meaningless. In this situation the poor planning of the message content with respect to time also leads to a false understanding. (It is poor planning to place the sign on the tree in the first case.)

Clarity, Conciseness

Meaning is critical to message content as is the clarity and conciseness of that meaning. In this sense, word ambiguity or double-entendre must be guarded against. The potential intent of the message content may be divergent depending on your viewpoint at the time of reading.

¹¹³B. L. Ashbaugh and R. J. Kordish, Trail Planning and Layout (New York: National Audubon Society, 1971), pp. 41-47.

Although an explanation or word may be clear to those constructing the message, this is no assurance all visitors to the park will find it clear. Many of us are familiar with reading a phrase or sentence that requires a second and third reading to decide upon its intent. In these cases, the text surrounding the phrase usually relays the context of the message and therefore, it does become understandable after a few readings. In interpretive sign message content writing there is no frame of reference to be extracted from the surrounding text because there is no surrounding text. The relative scarcity of words used in interpretive signage further exacerbates this matter of ambiguity.

In a similar way, subtle messages must be avoided because many may not understand the meaning and others may misinterpret it. Most constructors of the message content of interpretive signs are not experts in the field of utilizing subtle messages or hints. The usual result of this attempt is either an insult to the reader's intelligence or a confusing message content. Most individuals are not experts in linguistics, therefore, clear and concise message contents should be the norm. The use of commonly used terms, phrases and words should be the rule of thumb. In this respect, slang and abbreviations should be avoided. Slang means too many things to different people, is often not understood by all persons and generations and can easily be insulting. Abbreviations are not used often enough in

written forms and their use in interpretive signage is usually very confusing.

In addition to language considerations in the production of a clear and concise message, the number of subjects discussed at one time is also an important issue. Generally, only one subject should be discussed per sign. This of course, varies to some extent based on the purpose or goal of the sign and its size. Obviously, a larger sign has the capability of presenting a relationship of two features or principles whereas a smaller sign does not. If the purpose of the interpretive sign is to relate to the visitor a complicated principle, two or more other subject matters may be required. In this case the use of more than one subject matter facilitates the interpretive process.

Length

Brevity is often given as a rule of thumb concerning the length of interpretive sign message content. This generality is founded on the knowledge that longer messages have the tendency to overwhelm the reader, bore him or otherwise create a problem of the reader not reading the message. This is correct to a certain extent, however, a superior approach to length of message content is criteria evaluation. In some situations greater length is appropriate and therefore, should be incorporated. The effect of the sign and message length has ramifications for traffic flows. Interpretive signs can speed up traffic or slow it down.

Long, but well written messages, will slow down traffic and often produce a "bottle neck." For example, an interpretive directional sign with a brief script accompanying a map of the area and features/activities/facilities will will slow down traffic and therefore should not be utilized where a swift flow of traffic is essential. Conversely, in areas where traffic flow plays a secondary role to the length of the message, the message, if required and approached properly, should not be shortened. Along a trail for example, where the traffic is spread out, an interpretive sign of greater message content length would not interfere unduly in the traffic flow.

Variety is also a consideration in the length of the message content, albeit of lesser importance. A larger sign with accompanying longer message content, among small standardized sizes, provides the visitor with diversity--signs of the same size with approximately the same length of message content lacks dynamism. If the above criteria are satisfied, the issue of variety becomes an important factor influencing the decision to create a small message content, if there are numerous larger ones, or a large sign if there are numerous smaller ones. In this respect a balance of stimuli is accomplished.

Content Style

There are several types of styles that can be used separately or in combination in the writing of the message

content. These are descriptive, narrative, specific, provocative, personal, impersonal, humorous, and dramatic. Unless the writer is skilled in the styles of narrative, provocative, personal, humorous or dramatic he should take care in attempting to utilize these forms. If not properly used, the result may be ineffective, and poor or what is worse, it may be offensive to the visitor. Generally, the styles of descriptive, specific and impersonal are the norm. Attempts at other styles are encouraged but with care and input from other persons involved in the park. The various styles are exemplified in Table 12. As is seen, certain types or styles are very effective and can add a dynamic dimension to the interpretive sign.

Communication Type

There are three types of communications that can be utilized in interpretive signage. They are language, symbolism, and illustrations.

Symbols are pictures or artistic designs representing other objects or events and are likely to initiate action or an expectation from the visitor. They are usually non-verbal, highly stylized, and can be termed a language of vision. Symbols are used to overcome linguistic barriers that are often present in parks. They are also readily recognized and remembered in a standardized fashion.

To utilize fully and understand the applicability of symbols to interpretive signage, it is necessary to analyze the issue from the various kinds of signs point of

TABLE 12

CONTENT STYLES

TYPE	EXAMPLE
Descriptive	More than three hundred years ago Sainte-Marie among the Hurons was a pioneer community on a frontier of wilderness, of hardship, of danger and discovery.
Narrative (Story Telling)	In the early sixteenth and seventeenth century, Europeans began with probing steps to explore the new world of North America. They settled on rough coastlines or built along rivers that led to the sea. But amidst these tentative steps one band of pioneers and missionaries dared a giant leap into the interior--to found Sainte-Marie among the Hurons.
Specific	Sainte-Marie was built more than 6,000 miles from Rome, 5,000 miles from the security of France.
Provocative	Walk through a dynamic and turbulent era of History. Stand here, Explore. Touch. Listen. Learn. And Wonder.
Personal	As you can probably notice, the Sainte-Marie Museum is an excursion into both the old and the new worlds, across continents and oceans, through historic eras.
Impersonal	From the seventeenth century world of Sainte-Marie, the visitor moves to the cobblestones of a seventeenth century village in Normandy.

TABLE 12 (Continued)

TYPE	EXAMPLE
Humorous	The Hurons stood in wonder of European livestock and speculated that pigs, which they had never seen, must be small, hairless bears. ^a
Dramatic	Even life at Sainte-Marie was a life of hardship. Winter was darkness and cold. In buildings sealed against the harsh wind the only lights were flickering candles, lanterns or fire-places. Night temperatures in residences commonly dropped to far below freezing.

Source: Ontario Ministry of Natural Resources, Sainte Marie Among the Hurons 1639-1649, Brochure (Toronto: Queen's Printer, 1970).

^aFor a complete evaluation of humorous style see D. Sternthal and C. S. Craig, "Humor In Advertising" in Journal of Marketing. Number 4, Oct., 1973, pp. 12-18.

view. Different interpretive signs lend themselves to different degrees of symbolism.

Directional, identificational and regulatory, interpretive signs are more compatible with symbolism due to their standardized nature. Signs of this kind should not be complicated but rather simple--the message they are communicating to the visitor is uncomplicated. In this situation symbols can be used to aid the visitor in understanding and finding out facts that should be relayed in a fast, simple and brief fashion. Symbols aid in the accomplishment of these aspects. They should however, not be used on their own due to the fact that they must be learned.

The use of symbolism has a major drawback in that it has to be learned by the visitor. A directional interpretive sign to a trail using only an arrow and a symbol of the trail may be confusing. Therefore, the initial use of symbols on their own should be practiced with care--it requires a few exposures to the same symbol before its message is firmly imbedded in the mind of the visitor. Granted, after the learning process is completed, symbolism can be effectively used in the three interpretive signs mentioned above.

Informational and pure interpretive signs do not lend themselves as easily to the incorporation of symbols. The reason for this is the conflicting goals of the two. Symbols are used primarily in situations where the subject matter can be reduced to a standardization, within the park

and between parks. Facilities such as washrooms, camping areas, directions to a trail, swimming areas and so on are examples. Informational and pure interpretive signs are usually directed toward explanation and discussion of a feature or phenomenon. As such, simplicity of meaning is not the purpose but rather explanation: not standardization but rather uniqueness: not commonality but rather importance.

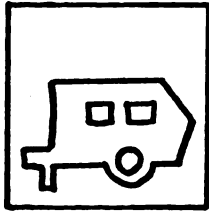
Symbols therefore, can be of use in the area of interpretive signage but care is necessitated. The kind of interpretive sign and purpose of that sign must be first isolated before the use of symbols can be incorporated.

Table 13 illustrates some of the possible kinds of symbolism that are available. Often companies dealing in this field, will create designs or symbols that are appropriate for a park. They usually have specialists in this field on staff.

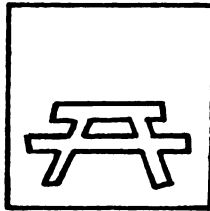
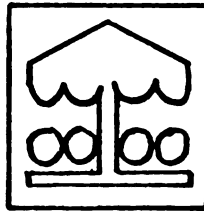
In a generalized format, the National Park Service, in the publication Signs,¹¹⁴ has developed some basic guidelines and principles concerning the area of message content. They have made a division between (a) basic principles of the writing of the message content and (b) guidelines to composing messages. As adapted and modified by this report the accepted principles and guidelines are as follows:

¹¹⁴United States National Park Service, Signs
(United States: National Park Service,), p.

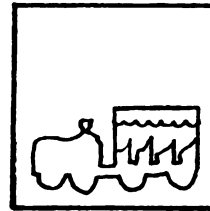
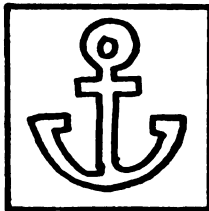
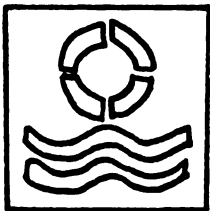
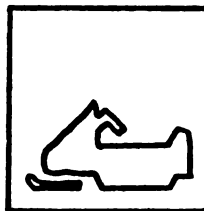
TABLE 13
EXAMPLES OF SYMBOLS



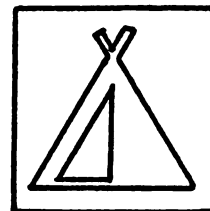
Campers

Picnic
Area

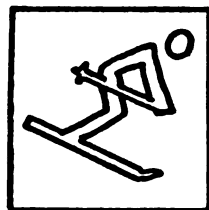
Midway

Trailer
TrainMarina,
BoatingLife
Preserver

Snowmobiling



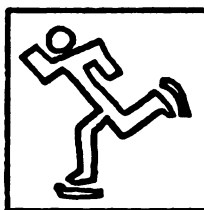
Camping



Skiing



Soccer

Ice
Skating

Football

Source: Spectralite 70 Limited, Pictographs: (Trademarks of Paul Arthur and Associates Incorporated).

Principles of Writing the Message Content

(1) Careful thought should be given to the place that each interpretive signage message will occupy in presenting a part of the total interpretive message to be communicated in the park--it may often supply the first and only understanding of the park that the visitor may receive.

(2) Before the message content is constructed, the writer must have a thorough knowledge of the park and all its features. Only in this way can a writer decide on the importance of what is to be communicated to the visitor.

(3) Message content requires two basic states: thinking and composition--with about eighty percent of the effort devoted to thinking and subject and twenty percent involved in presenting it through composition.

(4) In thinking through the subject of the message attempt to place yourself in the role of the visitor--what is it that you would like to know about the key meaning of the subject matter?--what is needed?--what is interesting?

(5) Since personal interpretation is not feasible under all conditions, the interpreter, therefore, cannot be on hand at every site or every trail and the like. As such the interpretive sign message should attempt to provide the visitor with the various communication styles. As mentioned however, be careful.

(6) The rule of thumb in the length of the message is to consider first and foremost the clarity of the message--do not employ brevity in all situations. The message should be adequate, the explanations complete and tricks to achieve brevity should be avoided.

(7) Express one or two thoughts per message and interpretive sign--certainly too many is a mistake.

(8) The use of quotations, or the fine thoughts previously expressed in a striking and eloquent manner may be considered for the enrichment of the meaning of a text. However, as Freeman Tilden has observed,

It is really uncommon to find one that
exactly fits the needs we are discussing . . . ¹¹⁵

(9) Message content should be revised and brought up-to-date to reflect advances in knowledge and information.

Guidelines to Composition of Texts

(1) Captions, if used, should have headline qualities in style and meaning.

(2) Do not repeat the caption in the first line of the message content.

(3) Get action and interest expressed in the opening sentences.

(4) Be dynamic in getting to the heart of the story to be told.

¹¹⁵Freeman Tilden, Interpreting Our Heritage
(Chapel Hill: University of North Carolina Press, 1967),
p. 61.

(5) Avoid the use of the passive voice; replace the verb "to be" with the action of participial form of the appropriate verb. Use words conveying a sense of movement.

(6) Attempt to make a few words tell the full story. Freeman Tilden cites the classic couplet inscribed on the monument at Thermopylae: "Go tell the Spartans, thou that passest by, that here, obedient to their laws, we lie!"¹¹⁶

(7) Avoid the use of technical or unfamiliar words as far as possible, since they make the text difficult for the visitor to understand and his interest in the site may quickly wane. When unfamiliar names of Spanish or Indian origin, for example, are used, a supplemental pronunciation guide would be helpful to visitors.

(8) Use expressive and descriptive words known to nearly all intelligence levels.

(9) Employ words accurately and in their most commonly used sense or meaning to the layman.

Design Factors

What makes the design factors important to the process of interpretive signage is its potential effect on the visitor. Managed to their fullest potential, these factors can have a great influence on whether the message content is read or not and the feeling engendered.

¹¹⁶Ibid., p. 58.

As identified by numerous experiments and studies, the eye is our most powerful communicative media. The importance of the eye is seen in Table 14. With these impressive statistics the importance of design is further exacerbated.

TABLE 14
COMMUNICATION AND THE SENSES

SENSE	% RESPONSIBLE FOR COMMUNICATION
Sight	83
Hearing	10
Smelling	4
Touch	2
Taste	1

Source: Harrison, R., An Introduction to Nonverbal Communication (U.S.A.: Prentice-Hall Inc., Revised Draft, 1973), p. 9.

There are four aspects to be considered subsumed under the general title of design. They are, sign style, sign size, sign layout, lettering and color.

Sign Style

The style of a sign refers to its shape; rectangular, elongated, chipped and the like. Its purpose is to create interest and attract the visitor to read the message content. As such the sign style should be dynamic.

To motivate the visitor to read the message content of an interpretive sign is imperative. Numerous signs plague the land, informing us of gas stations, hotels, motels, no parking, one-way and the like. Many people are

now presently at the state where they must limit the visual input they can process. Our minds can only handle a definite limit of stimulation and the rest is omitted. The numerous signs that are imposed on us cause a situation whereby many signs are not read--they become part of a scene that is not taken in. To overcome this, a novel or interesting sign style is required. The effect of these styles relates to the visitor that this sign is special and therefore, should be read--it may contain some information that is of interest to me.

There are however, two cautionary notes. The first concerns the needless dominance of the sign shape and the second addresses the issue of appropriateness and variety.

The first cautionary note to be recognized by the person responsible for the sign style is not to over stylize the sign so as to make the shape the primary factor.¹¹⁷ Priorities are the key issue here. The most important reason for the existence of the sign is the message to be communicated. Therefore, to design a sign that has a very unique shape that does attract the visitor but because of the novelty of the sign and not the message is over-design. Priorities are mixed up. The sign style should be attractive but the essence of what the interpretive sign is

¹¹⁷For a good example of this principle see M. Ray "A Decision Sequence Analysis of Developments in Marketing Communications" in Journal of Marketing. No. 1, Jan. 1973, p. 35.

all about must be the priority. The goal is first to interest the visitor in the sign style, then communicate a message to him. Do not have the visitor admire the sign at the expense of the message.

The second cautionary note concerns the appropriateness or variety of the interpretive sign. To produce unique, interesting interpretive signs each time a message is to be communicated would detract from the interest-getting appeal of the style. As such, dynamic sign styles should be used carefully and sparingly or else the purpose of the style will be defeated. A unique style should be used at the start of trails, at the location of very meaningful or unique features and so on. They are used to stimulate the visitor and this precaution should always be kept in mind.

Sign Size

Closely tied with the style of the sign is its size. The size of the sign is dependent on (1) the complexity of the message, (2) variety and (3) readability. Size, as related to message complexity and variety have previously been discussed in this chapter. Size of the interpretive sign and readability are discussed here.

Signs must be large enough to read. Two factors affect the size of the signs with respect to readability: (1) speed at which one is travelling and (2) the lettering style used (to be discussed in the next section, Lettering). The higher the speed the harder to read and consequently

the larger the sign and lettering must be to offset this. Also, straight letters make for easier viewing.

Standards are available concerning speed and sign size. Naturally, the sign size is a function of the letter size required. A standard developed by Parks Canada will be given as an example.

- (a) 0 M.P.H., or non-moving viewers, (i.e. Information sign should be $\frac{1}{2}$ " or 1" depending on the distance between the viewer and the sign (up to 50').
- (b) 1 - 5 M.P.H. pedestrian (i.e. guide directional trail sign) (lower case).
- (c) 5 - 10 M.P.H. vehicular (i.e. guide directional campground road sign) or from a distance of up to 100': 2" letter character (lower case).
- (d) 10 - 40 M.P.H. vehicular (i.e. guide directional recreation site access road sign) or from a distance of up to 150': 4" letter character (lower case).
- (e) 40 - 60 M.P.H. vehicular (i.e. identification recreation entrance area sign) or from a distance of up to 300': 6" letter character (lower case).
- (f) 0 - 60 M.P.H. vehicular (i.e. regulatory warning type signs) will follow existing traffic manual guide lines.

(The above are standards developed by Parks Canada in their preliminary draft copy of Park Signage.¹¹⁸

Most Federal and State or Provincial Governments have similar standards usually available upon request.

Sign Layout

One of the most important aspects of interpretive

¹¹⁸ Indian and Northern Affairs, Engineering and Architecture Branch, Park Signage (Ottawa: draft copy, March, 1974), p. 43.

sign design is layout--the relationship between the placements of the message, picture, illustration. It is important because of the readability and resultant effect of the interpretive sign. A sign with a poorly or unthought-out flow of message usually results in visitor confusion.

If the design is good, then all elements, will be combined in a unified arrangement that is both pleasing and effective. Whether this final arrangement is symmetrical or asymmetrical it must give proper emphasis to each element.¹¹⁹

What are these basic elements? They are the wordage used, titles and text, symbols and graphics.

These elements, or the ones that have been decided upon to use, should be arranged, rearranged, studied alone and together and in various styles for each interpretive sign. The title may be in one line or two; it may be along the top of the sign or along one of the sides. The text and wordage may be in one section taking up half of the sign; it may be spread out; it may be in caption form under a graphic; it may be a combination of these. The symbols and graphics may dominate the sign by size or be supportive and much smaller; they may be one or more than one; they may be along one side, covering half of the sign; arranged diagonally and the like. Before the final arrangement or layout is

¹¹⁹United States Department of Agriculture, Forest Service, "Developing the Self-Guiding Trail in the National Forests," in Interpretive Skills for Environmental Communicators, compiled by John W. Hanna (Texas: Department of Recreation and Parks, 1972), p. 31.

decided upon, various combinations should be tried and evaluated based on the purpose of the sign (perhaps large graphic is needed to depict the forest fire situation), the attractiveness of the arrangement, the flow of the message and the compatibility between the various elements used. It is important also in this stage to maximize space or else the sign will appear cluttered. Do not hurry through this phase of the sign design because the layout determined will have to be lived with for a long time. Figure 6 indicates several kinds of layouts.

There are several proposed guidelines that can be followed with respect to sign layout. After discussion with personnel from the Media Design Unit of the Parks Branch, Ontario Ministry of Natural Resources, the following points emerged:

(1) Attempt to balance the maximum number of messages per sign with conciseness. Also, attempt to balance the message with any graphics to be used.

(2) Since eyes are accustomed to reading and looking horizontally, this is the preferable method of lettering if possible.

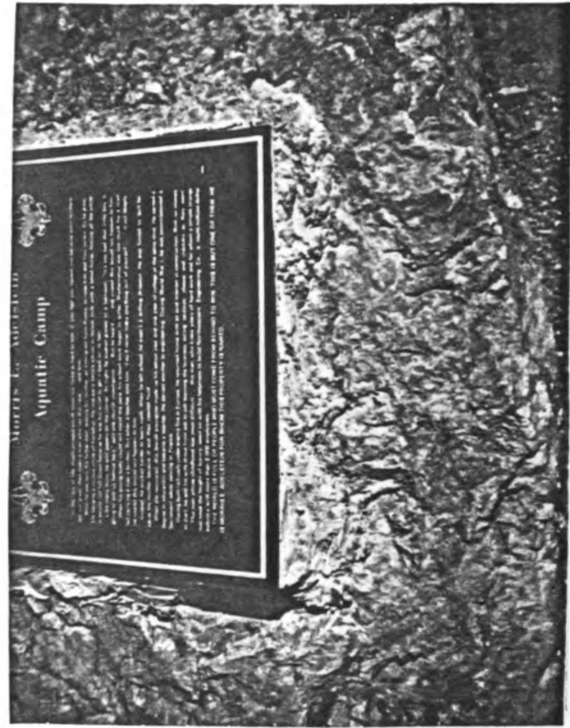
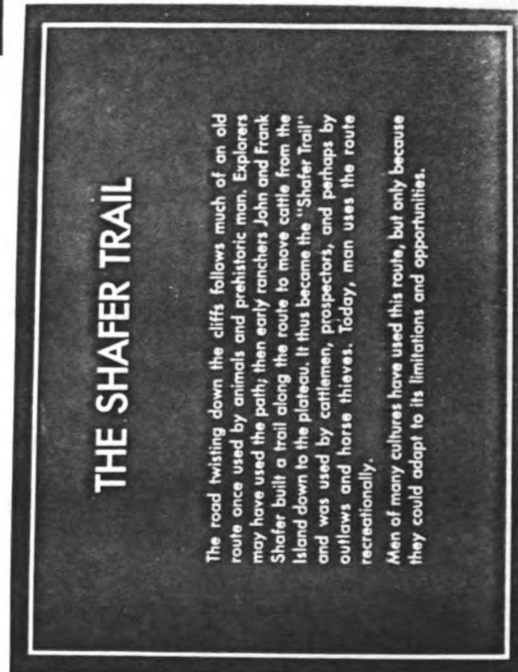
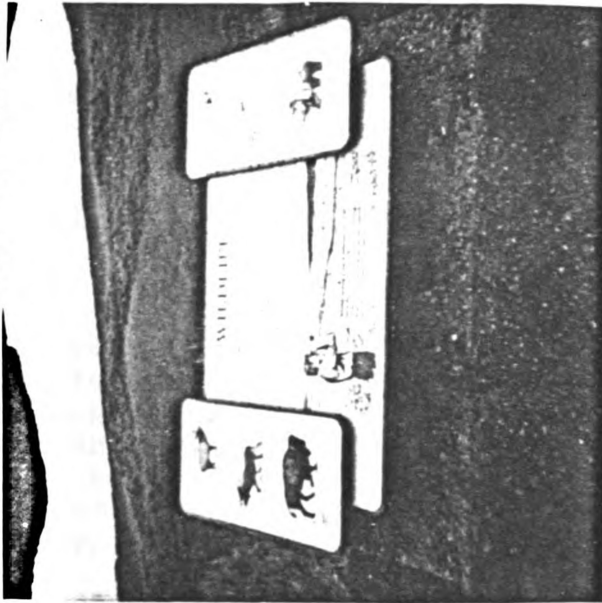
(3) Attempt to keep each line of the text approximately the same length.

(4) When combining the various types of messages to be relayed, a suggested method is:

activity/facility -----> direction -----> distance

FIGURE 6

These three signs indicate examples of different kinds of layouts. Try various ways of presenting these messages--you will soon discover the numerous patterns available.



Lettering

The purpose of proper lettering is to encourage the visitor to read the message and to facilitate the reading. Factors to be considered here are style of lettering, effects of various letters (and resultant words) and the spacing of the letters and words.

With respect to the use of capital letters it is usually beneficial not to utilize all capital letters in the word or sign message. Generally, people are not used to reading words in capital letters and if forced to they will become overwhelmed and not read the message at all. Compare the following two hypothetical message contents for readability.

More recently the glaciers passed over and altered the shape of the landscape. Long gouges, which were deepened as the ice pushed out of the Lake Ontario basin, can be seen today as low depressions running from southeast to northwest through the park.

MORE RECENTLY THE GLACIERS PASSED OVER AND ALTERED THE SHAPE OF THE LANDSCAPE. LONG GOUGES, WHICH WERE DEEPEINED AS THE ICE PUSHED OUT OF THE LAKE ONTARIO BASIN, CAN BE SEEN TODAY AS LOW DEPRESSIONS RUNNING FROM SOUTHEAST TO NORTHWEST THROUGH THE PARK.

The use of capital letters, as can be seen, is more difficult to read--it is overpowering to the eye which is not accustomed to reading sentence format material in this fashion. As such, the use of capitals should be minimized and applied only to titles if they are used at all.

Lettering styling as a general rule should be simple rather than ornamental. Although unusual or ornamental lettering sometimes does increase the meaning of the message its use should be carefully considered. If the visitor makes the effort to read the message and if the meaning of the message and the interpretive phenomenon are, therefore, lessened, the use of non-simplistic letter styling is not warranted. As mentioned, numerous throughout this report, the purpose of interpretive signage is to communicate something to the visitor--all techniques available to facilitate this communication should be used only insofar as they do not become the prime ingredient nor confuse the meaning or intent of the sign. Table 15 taken from the Letraset Company brochure lists some of the various lettering styles (available in various sizes).

Letters have optical weights and this is what is meant by the effects of letters. Due to this they do not all fit into the same width nor height--if forced into standardized dimensions the result is an awkward appearing word or phrase. Some letters require more room, others less; some, therefore, appear light or skinny, and others heavy. The following quote adequately discusses the effects of letters.

Compressing a wide letter, such as an M or W to fit into the same width as a narrow letter such as J or S will make the wide letter appear darker, or 'heavier' than the rest of the letters in the word.

Only these letters just touch both the top and bottom guidelines: B, D, E, F, H, I, K, M, N, P, R, T, X, Y, Z, because of an

TABLE 15

Old English
Palace Script
Park Avenue
 Playbill
 Pretorian
PROFIL
QUENTIN
 Ringlet
ROMANTIQUE
SANS SHADED
SAPPHIRE
STENCIL BOLD
Titopetto
Tip Top
Tabasco Bold
Tabasco Medium
Zipper

57 **Aachen Bold** 10
 85 **AIRKRAFT** 78
 85 **Arnold Bocklin** 12
 85 **ASTRA** 12
 85 **Avant Garde Bold** 13
 62 **Avant Garde Bold Cond.** 13
 85 **Avant Garde Med.** 13
 86 **Avant Garde Med. Cond.** 14
 86 **Avant Garde X-Light** 14
 86 **BABY TEETH** 14
 86 **BEANS** 15
 86 **BINNER** 79
 87 **BOMBERS** 16
 88 **BRANDING** 17
 71 **BULLION SHADOW** 80
 71 **BUSORAMA BOLD** 18
 88 **CALYPSO** 18
 Camellia 80
 Caslon Antique 81
Caslon 540 Italic 19

LETRAGRAPHICA

TABLE 15 (Continued)

sans serif

Annonce	11	Folio Medium Ext.	34
Antique Olive Bold	11	Franklin Gothic	35
Antique Olive	11	Franklin Gothic Cond.	35
Antique Olive Medium	12	Franklin Gothic Extra Cond.	36
Avant Garde Bold	13	Futura Bold	37
Avant Garde Medium	13	Futura Bold Italic	37
Avant Garde X-Light	14	Futura Demi Bold	38
Cable Heavy	18	Futura Extra Bold	38
Cable Light	80	Futura Light	39
Compacta Bold	23/24	Futura Medium	39
Compacta Bold Italic	24	Futura Medium Italic	39
COMPACTA BOLD OUTLINE	24	Gill Extra Bold	40
Compacta Italic	25	GILL SANS LIGHT	41
Compacta Light	25	GILL SANS	41
Compacta Medium	26	Grotesque 7	42
COMPACTA OUTLINE	26	Grotesque 9	42
Din 17 Medium	30	Grotesque 9 Italic	42
eurostile bold	81	Grotesque 215	43
eurostile medium	82	Grotesque 216	43
Folio Bold	32	Helvetica Bold	44
Folio Bold Condensed	33	Helvetica Bold It.	44
Folio Extra Bold	33	Helvetica Light	44/45
Folio Light	33	Helvetica Light Italic	45
Folio Medium	34	Helvetica Medium	46
		Helvetica Med. Italic	47

optical illusion the remaining letters are drawn as noted, to make them appear to be the same height as the other letters: The point of the letter A extends just a little above the top line, while the legs rest on the bottom; the top of the letters J, U, V, and W touch the top guideline, but extend just a little below the bottom line; the round letters C, G, O, Q, and S, extend just a little beyond both the top and bottom lines.

The middle bars or lines of a letter vary in height. If all were placed on the true center some would appear high and others low. The letters A, C, P, and R have bars just a little below center. The letters B, E, F and H have bars just a little above center. On some letters it is a good idea to keep them from looking top heavy. These are: B, G, K, R, S, X, Z.

All the differences noted above should not be so great as to be obvious.

One of the most frequent mistakes made by amateurs in lettering labels or signs is the mixing of capitals and lower case letters within a single word. Another is to have the slant of the N going in the wrong direction.¹²⁰

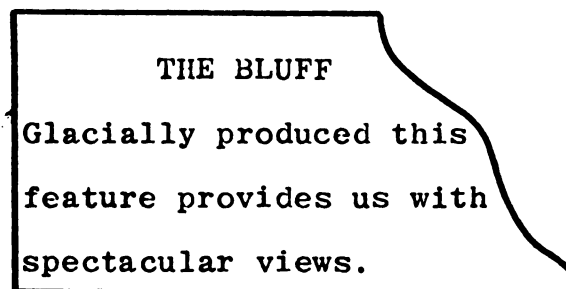
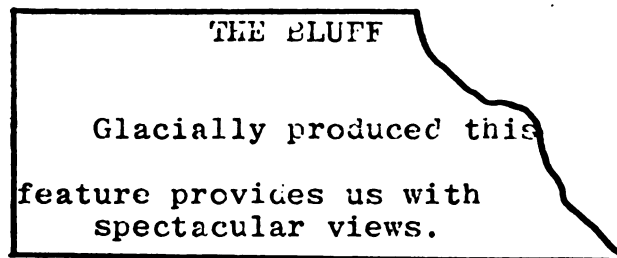
As is obvious, the above relates primarily to those who will be involved in preparing and constructing their own signs. Constructing your own signs can be much more inexpensive if there is talent within the park personnel to accomplish this task. If this is the avenue that is decided upon the publication by A. Neal will be of benefit.

The spacing of letters and words is dependent upon the optical illusion of letters and the sign style.

¹²⁰ A. Neal, Legible Labels, Technical Leaflet Number 22 (U.S.A.: American Association for State and Local History, 1971), p. 7.

The sign style affects the spacing of letters and words in that an irregular shaped sign may require spacing that accommodates this unusual shape. In the creation of the spacing in this instance, care must be taken in the layout as previously mentioned. For example, study the following two signs both with the same message and style. As is obvious, the second sign exhibits better spacing and layout with respect to words. The message in the second sign appears to flow with the sign whereas in the first sign the message is jumpy and cut off in places which does not lend itself to

FIGURE 7
LAYOUT EXAMPLES



easy reading. A few words from the publication, Developing the Self-Guiding Trail in the National Forests further emphasizes this point.

Spacing should be adequate for ease in reading. Never run sentences together. Never let spacing be so irregular as to make words in a sentence seem disconnected.¹²¹

The effect of optical weights of letters and words was previously briefly mentioned in a quote by A. Neal. Neal further goes on to state what effect this optical weight variance has on spacing and the procedure to follow to maximize, for your purposes, this effect.

Because the letters carry different optical weights, they will not appear properly spaced if they are placed on a line so that each letter occupies exactly the same area, or with exactly the same distance between each letter within the word. (e.g., LOCAL HISTORY) If a measuring unit is set up which is half again as wide as the letter 'I' is thick, it can be used to show the correct proportional spacing of letters to achieve the correct visual balance. (e.g., LOCAL HISTORY) Use half of this space when the letters S, L, T, V, W and Y are followed by a straight vertical. (e.g., AN, LETTER) Wedge-shaped letters occurring together, such as A, V, and W, should be kept a full space apart on the diagonal. (e.g., AWE, VASE)

When the round letters C, D, G, O, Q, and S come next to a straight vertical or occur together, they are placed closer together than the space between two straight vertical letters. (e.g., IDIOM) When the letter A is preceded or followed by T or Y, the bottom of the A comes directly under the curved part of the P. (e.g., HAY, YAK).

¹²¹United States Department of Agriculture, Forest Service, p. 30.

When the letter L is followed by T, V, W, or Y, the lower right hand corner of the L is directly under the top edge of the other letter. (e.g., BELT, ELVES). A letter which follows 'open' letters such as C, E, F, G, K, and P, is placed closer to the open letters than to a straight vertical, (e.g., FIG, KEG).¹²²

Although the above discussion on lettering may appear unduly lengthy and needlessly detailed, it is imperative. Due to the great amount of lettering that does take place by amateurs working in the park, it is necessitated. Signs and labels, especially in Visitor Centers, where rapido-graphs and other similar devices are used, often desperately require this information as evidenced by the product presently on display in numerous parks.

Color

It is widely recognized that color can add significantly to the effectiveness of any visual communication message. Some reactions to colors are the result of a learning process whereby certain colors are associated with certain concepts. Other reactions have their roots in a psychological dimension. In the first instance, arbitrary decisions were made that assigned certain ideas to colors. For example green means go, red means stop, amber means caution. By use of these arbitrarily assigned colors, actions can, therefore, be controlled in a uniform manner. Their uses

¹²²Neal, p. 9.

for interpretive signage is limited however, due to the fact that, as mentioned, these types of sign communications do not lend themselves to a standardized approach. In some cases though, their use can be incorporated, especially in the use of directional, identificational and regulatory interpretive signs.

It is the primary psychological effects of color that is of importance to interpretive signage. Psychologists working in the fields of industry, defense, decorating, media design, communications and the like have begun to provide us with the effects of color based on experiments and theory. Color has the following properties: as identified by Engel, Kollat and Blackwell in Consumer Behavior¹²³ and as adapted by this paper:

(1) Color can be used to create moods, ranging from the somber appeal of dark colors to the cooling affects of greens and blues.

(2) Color can increase the attention--attracting and holding power of the message.

(3) Color can emphasize certain features of an interpretive sign and de-emphasize others.

(4) Color can add a prestige or quality image to the interpretive sign. The combination of colors is also important in this respect.

¹²³James F. Engel, David T. Kollat and Roger Blackwell, Consumer Behavior (U.S.A.: Holt, Rinehart and Winston Inc., 1968), p. 89.

(5) Color, that impresses a message upon a visitor, facilitates greater message recall.

In addition to these impression oriented qualities of colors, they also have distance or weight qualities. For example, black has the visual impression of retreating whereas light bright colors come forward. Table 16 lists six colors and categorizes each by weight, distance and psychological effects. As is illustrated, orange is light, brings the message in closer and appears active; green is medium, tends to recede the message and refreshes. If, therefore, the interpretive sign is telling the story of how a volcano is activated and erupts, the orange color may be more appropriate. The previously mentioned aspect of defining what the purpose of the interpretive sign is, is seen to have relevancy to color.

As an example of possible usage of colors Table 17 is presented. It illustrates how color is used to communicate various messages.

Although interpretive signage does not lend itself to a categorization as presented in Table 17 some generalities will be suggested based on the above. The color or color combinations chosen for use in the design of the interpretive sign can, therefore, be selected using the following evaluative criteria.

(1) Color for backgrounds should be carefully chosen with a view towards enhancing the message; the case of a volcano in a park was given as an example above.

TABLE 16
VISUAL IMPRESSIONS OF COLOR

Color	Weight	Psychological Effect
Black	heavy	subduing
Red	heavy	lively
Blue	medium	cooling
Orange	light	lively
Purple	heavy	subduing
Green	medium	refreshing

TABLE 17
EXAMPLES OF COLOR USES AND CATEGORIZATION

National Safety Council		Air Force	
Red:	Fire protection equipment; severe danger, stop buttons.	Red:	Fuel
Green:	For safe materials; protective equipment.	Grey-Red:	Water injection
Purple:	Radioactive material.	Yellow:	Lubrication
Yellow:	Hazards such as overheads or edges.	Blue:	Coolant
Orange:	Dangerous parts of machines.	Green:	Breathing oxygen.
Source: Dymo Products Company, Visual Communication for Business and Industry (U.S.A.: 1971), p. 15.			

(2) Color (as seen in Table 16) can create an atmosphere. This must be consistent with the materials to be used, the setting of the sign and the message.

(3) Color has the ability to enhance or detract from the legibility or readability of the message content. Good color contrast between the various elements to be incorporated (language, symbolism, graphics and the like) is a prime consideration. Table 18 exemplifies how the National Park Service views color combinations for good legibility.

(4) Vivid colors can be easily used in small amounts to augment and intensify the message. Used in large amounts care and caution should be exercised.

(5) The primary consideration, when deciding upon the various colors and when and where they should be used, is the goal or purpose of that sign.

The most favored kind of colors and sign is the routed wooden sign using a brown background with yellow lettering. Although this combination does meet with the criteria listed above, care must be taken so as not to bore the visitor through redundancy. The cardinal error in the exclusive use of this type of color combination and sign material is that it countervails a primary purpose of the use of color, that is, to interest and attract the visitor. The yellow on brown suffers from a problem as mentioned earlier--that related to not reading a sign because it is just like any other and therefore, probably does not have anything of

TABLE 18

COLOR COMBINATIONS FOR BEST LEGIBILITY*

Letter Color	Background Color
Black	Yellow
Green	White
Red	White
Blue	White
Black	White
Red	Yellow
White	Blue
White	Red
White	Green
White	Black

*The best legibility is listed first.

SOURCE: National Park Service, Sign and Wayside Exhibit Handbook Part II (U.S.A.: 1960), p. 5.

interest for me.

To guard against this problem, imagination in the use of colors and combinations should be expressed and experimented with. By using the guides listed in this section and the accompanying criteria, more interesting interpretive signs should be resultant.

CHAPTER VI

INTERPRETIVE SIGNAGE PLANNING

In the creation of a meaningful and effective interpretive sign communication system, the purpose of interpretive signage, the role of communication, the kinds of signs available and design factors must all be part of the process. The extent of interpretive signage to be used, how communication influences the signage to be used, what signs will be used, what they will communicate and how they will be designed are all aspects that must be decided upon. In addition, after these aspects have been decided upon the location of the signs and siting of the signs must take place.

Sign Study Team

In addition to being aware of the various elements involved in the interpretive signage process, the setting-up of a sign study team is imperative.

This team is based on the assumption that a well planned sign system enhances the interpretation of the park via signs by creating a unified whole rather than an accumulation of unrelated pieces. The team should be composed of one person with technical knowledge of the various materials, one person with communicative/interpretive expertise, one person with design/landscape architecture ability and the

superintendent of the park. The communicator/interpreter is required for his input primarily into the areas of communications and message content. No one knows better than this individual what features, phenomena and so on are to be interpreted and how. The designer/landscape architect is needed for his ability to translate the message to be communicated into a system of interpretive signs coherent with the environment. Also, between the interpreter and designer the total sign system can be laid out to most effectively meet its goal. The technician is responsible for input from the possible range of materials available that would efficiently accomplish the task. The superintendent's role is one of co-ordinator and final decision maker exercising control, especially over the areas of costs, time and working relationships among the team.

The objectives of this sign study team are (1) to identify and determine the communicative and interpretive requirements by analyzing the park in its entirety, incorporating the uses of the park, the facilities (natural, recreational, service) any dangers or cautions that may exist and the existing (or proposed) vehicle traffic patterns, (2) to determine and isolate location and siting guidelines and apply them to the park and the interpretive signage to be used, (3) to prepare a sign system plan document that must be field checked, (4) to determine the maintenance schedule and procedure, and (5) to develop an evaluation or monitor form of the effectiveness of the interpretive signage

including all necessary factors.

In an attempt to meet or achieve these objectives of the team, the following guidelines and/or discussions are presented.

For maximum effectiveness the interpretive signage system must be tailored to the specific conditions, needs and users of the park. The effect of the users has been previously discussed in Chapters II and III. The specific conditions and needs of the park refers primarily to the interpretation that will take place in the park. Therefore, before the interpretive signage process can take place an interpretive directional plan is required based on the master plan of the park. The master plan determines the goal of the park; the interpretive plan determines the goal of interpretation in the park, the various themes to be used and the programmes, facilities, methods, techniques and media to be used to accomplish this. As is obvious, the interpretive plan lays the foundation for the interpretive signage plan which facilitates the goal and themes determined as important. The signage plan, therefore, should also use the interpretive plan goal in deciding upon issues such as purpose of the sign, kind of sign, message content and design factors.

Location of Signs

Locational guidelines depend upon the mode of transportation that will be used by the visitor when exposed to

the sign. There are two basic kinds of transportation, motorized and non-motorized. Non-motorized transportation is usually slower and also has the advantage of coming to a complete stop without causing a traffic problem. Conversely, motorized traffic is faster and therefore, the interpretive signage plan must accommodate higher speeds. The following is a list of guidelines to be considered in locating the interpretive sign.

(1) Clearly identify all intersections of roads, trails, trail and road, paths and the like. Look for traffic patterns and intersections.

(2) Follow all traffic patterns and isolate where interpretive features/facilities are located.

(3) Identify what interpretive signs are required and how many.

(4) Locate interpretive directional and identificational signs

- (a) at least twenty feet off shoulders of major roads;
- (b) at least ten feet off shoulders of internal minor roads;
- (c) at least three feet off shoulders of pedestrian or non-motorized trails and paths.¹²⁴

¹²⁴Indian Affairs and Northern Development, Park Signage, p. 74.

- (5) Locate interpretive regulatory signs,
 - (a) close to the safety hazard; and
 - (b) at regular intervals for control of visitors.

(6) Locate interpretive informational and interpretive signs close to the subject matter or central to the feature to be discussed. Also consider the traffic pattern with respect to interpretive informational signs.

(7) Entrance signs to trails, visitor centers, and the like are usually placed at or in close proximity to, the feature/facility.

(8) Interpretive signs should be set at an angle so they can be easily read from a car. This guideline loses importance on slower pedestrian routes.

(9) Interpretive signs should be located in such a position so as to allow sufficient time for corrective action by the driver of the vehicle. This is a convenient and safety oriented aspect. It again loses importance on slower pedestrian routes.

(10) Some examples of locations that should be isolated are:

- (a) park entrance, trail entrance and the like;
- (b) by parking lots and along traffic routes;
- (c) by facilities such as campgrounds, washrooms and swimming areas.
- (d) by natural features such as bogs, dunes, white pine groves, wild flower valley and

the like; and

(e) by historic features such as forts, canoe routes, battle fields and the like.

Siting of the Sign

After the location of each sign has been established, field checked and mapped, the siting of the sign takes place. The siting of the various interpretive signs must take into consideration the sign itself (height, size and the like) the visitor, the line of approach to the sign, the environment or background, the amount of sunlight that will hit the sign, safety and soil conditions. As is obvious, it is no easy job to decide upon the actual siting of the signs to be used. It is mandatory that each site decided upon, based on the above criteria, be field checked. To rush through this phase of the planning process may spell doom for the sign system and the effort expended to date.

To aid in the siting of the interpretive signs designated for use are the following guidelines.

(1) An attempt should be made to place signs at visual height of the reader where the natural focus of the eye is. Excessive placement of signs at various levels and positions tends to confuse and frustrate the user and also leads to missed instructions. Placing signs at standardized levels and positions facilitates the task of the park user.

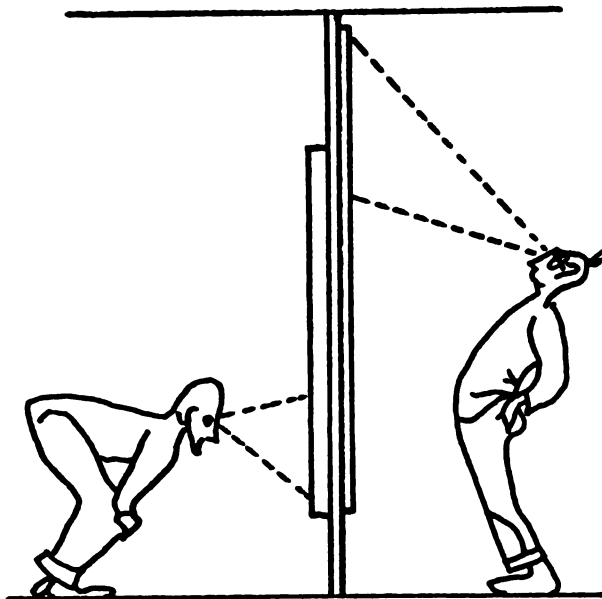


Figure 8. Placement of Interpretive Signs.

Source: A. Neal, Gallery and Case Exhibit Design, Technical Leaflet Number 52 (U.S.A.: American Association for State and Local History, 1969, Figure 1, p. 1.

(2) Too many signs within the same visual zone gives rise to confusion and poor aesthetics. A sign should be sited so that it is the center of interest and is not in competition with other signs or messages.¹²⁵

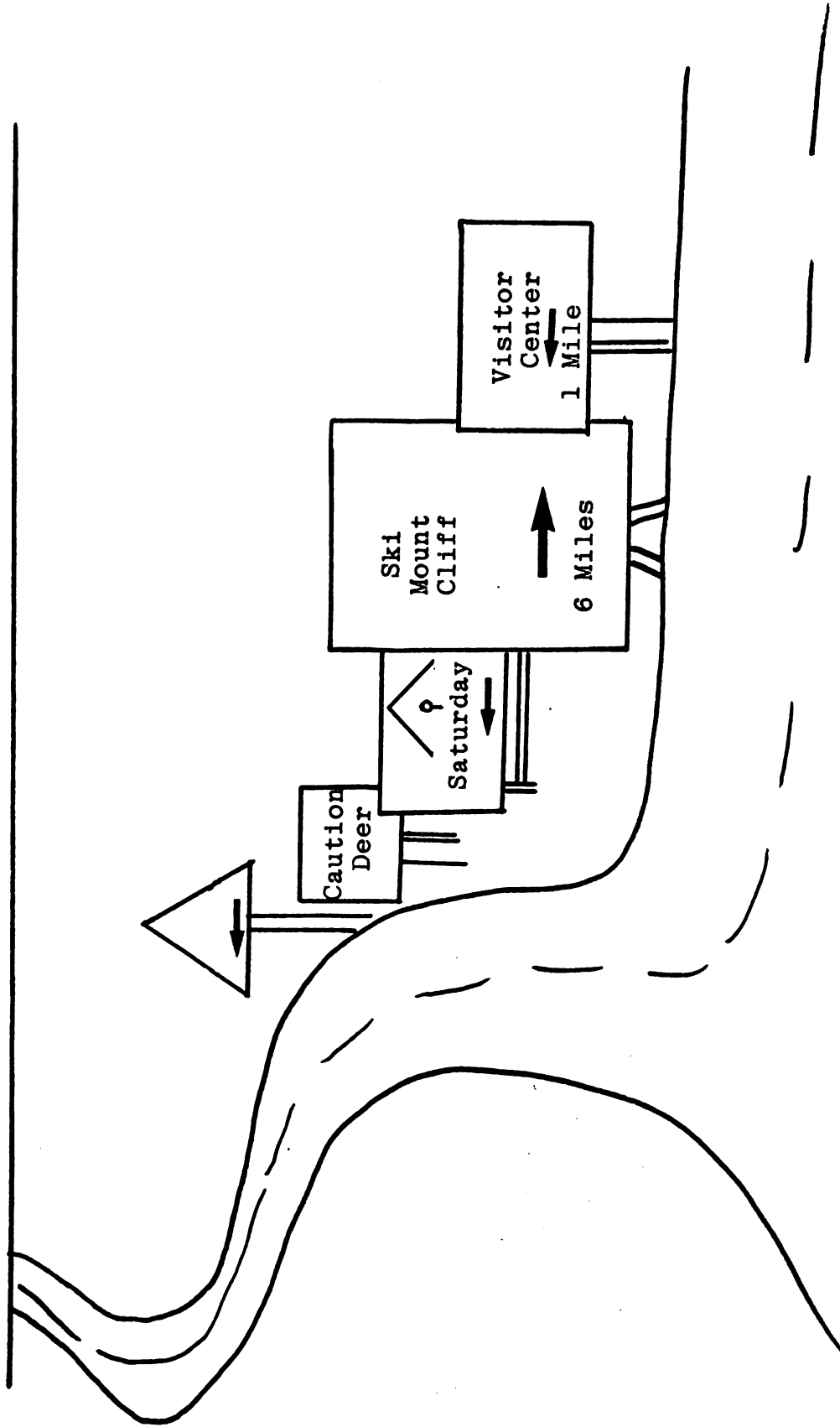
(3) Signs should not be sited where they may obstruct or detract from a scenic view. Good sign siting occurs when the sign is clearly seen but is not conflicting with a view zone.¹²⁶

¹²⁵ Indian and Northern Affairs, Engineering and Architecture Branch, p. 77.

¹²⁶ Ibid., p. 75.

FIGURE 9

Example of a situation with too many signs within the same visual zone.



(4) Signs located near natural or man-made visual conflicts are often missed. As such, these conflicts must be identified and the sign must be sited so as to avoid such conflicts.¹²⁷

(5) In an attempt to maximize the aesthetic nature of the sign it often blends too well with the environment. Signs should be clear to read and not hidden by the background of the park. They should be compatible but not hidden.

(6) Insufficient light or glare can reduce the readability of the sign. Each sign site should be checked to avoid these potential problematic factors.

(7) Is the siting of the sign safe? It must be determined if the sign is obstructing the view of an intersection, for example.

(8) The soil in which the sign is placed must be compacted and able to support the sign. This is especially important in the siting of large signs where weight and size are considerable.

Evaluation

All signs must be evaluated from the point of view of communication and structural efficiency. The evaluation should be continuous and have as its goal maintenance of an effective sign system.

¹²⁷Ibid., p. 76.

The objective of the evaluation is to collect meaningful information concerning the sign system so it can be analyzed, evaluated and corrected if need be. The study team should be the persons responsible for the setting-up of the evaluation of the system.

Without such a feedback mechanism the effectiveness of the sign system that is implemented will not be known. That is, no one will know whether the system is meeting its objectives or if it needs modification or change.

There are two evaluations which must be made, the communicative efficiency of the sign and the performance of the material.

The communication evaluation should take place on a continuous basis whereby park personnel make notes on siting, content, and so on. Two formal evaluations are required each year--one after the user season and again in the spring. These formal investigations could be accomplished in coordination with the maintenance program. The evaluation should be completed on-site (field work). Office evaluation may be incomplete since it is difficult to remember the location, content, siting, and so on, of each sign. There are typically too many signs in a park and recall will hurt the evaluation.

Parks Canada has established an evaluative system that incorporates the above mentioned factors. Their methodology and evaluation is given as an example of this process in Table 19.

TABLE 19

NATIONAL PARKS SIGNAGE MANUAL SIGNAGE EVALUATION

Region	Park	Date
Sign No.	Type	
Location	Legend	
SITING		
Sign Siting - Correct	Incorrect	Comments
READABILITY		
By Day - Readable from	Ft. Walking-	Ft. Driving-
By Night - Readable from	Ft. Walking-	Ft. Driving-
If readability suffers for any reasons, describe;		
Should sign size be increased	Decreased	
Comments		
CONDITION OF SIGN		
Date of Installation	Date of Inspection	
Does sign require constant maintenance	Yes	No
Comments		
Damage to sub Strate	Delamination - Yes	No
Surface	Others	Yes No
	Vandalism	Peeling
	Crazing	Color Retention
	Cracking	Reflectiveness
Comments		

TABLE 19 (Continued)

Hardware Condition	Good	Damaged	Replace
Posts	Good	Damaged	Replace
Comments			

Should sign be replaced	Yes	No
Comments		

PHOTOGRAPH

If additional photographs required
insert in envelope and attach to
this form.

NOTES

Evaluation carried out by	Title
	<u>Signature</u>

Source: Indian and Northern Affairs, Engineering and
Architecture Branch, Physical Planning, Park Signage,
Draft Copy, March, 1974.

The first point raised concerns the approach to the evaluative process,

They will allow the evaluator to approach the signs first as the visitor, second as the parks staff officer, third as a designer and fourth, from a personal point of view.¹²⁸

The method¹²⁹ is as follows:

(1) Observe the reaction of the visitor to the sign. This evaluation could be facilitated considerably by carrying out periodical, unofficial evaluations, in enquiring from the visitors about their reaction or lack of reaction to the sign.

(2) Using the portion of the form designated for this, look at the sign from its objective point of view, in other words, does it communicate its function properly?

(3) From a structure point of view, using the evaluation guidelines as a sample, go through a systematic inspection of the sign's physical condition.

(4) Briefly note your overall feelings on the sign's function physical performance.

(5) If the conditions of the sign get too complex for words, remember that a picture is worth a thousand words. Photograph it and fix the photo in the space allotted for it on the evaluation form.

¹²⁸Indian and Northern Affairs, Engineering and Architecture Branch, p. 93.

¹²⁹Ibid., p. 102.

(6) Indicate on a map of the park next to the area of the form allotted for the photograph, the location of the sign in the park.

Performance

To ensure that the cost/useful year of sign life is maximized, a performance program should be initiated. This program should incorporate a monitoring of the condition of each sign during the day and at night. Night monitoring is essential to check on the quality of the reflection of the sign. Day time inspection checks deterioration, vandalism and the like.

Monitoring for reflectiveness should be completed frequently--annually, or rotation throughout the region. Since the period during which the reflective quality deteriorates varies, it is wise not to over estimate the extension of the durability.

Day monitoring should occur at least once every two weeks because of the vandalism and accident problems. Deterioration, like loss of reflectability, is a gradual process and as such, signs need be checked within a consistent time frame.

Monitoring should be regulated and controlled or else its effect is diminished. Special crews are not required as the inspection can be completed by regular maintenance crews in the course of their other duties. However, two things must be noted,

(1) all routes must be covered and repetition must be avoided, and

(2) the crew must know that they are looking for in terms of deterioration, vandalism, reflectivity and the like.

There are six performance variables that will aid the maintenance crew in their evaluation of the sign system. These variables are a list of the possible problems that may arise and therefore, the crew will be able to identify what the problem is.

(1) Cracking and crazing of the surface

- essentially a drying out process.
- occurs anywhere between five and eight years.
- adversely affects visibility and legibility.

(2) Corrosion

- depends on substate (material acted upon by an enzyme or ferment), particularly noticeable with steel.
- corrosion or reflector coat in the sheeting itself.

(3) Pitting and Fragmentation

- caused by impact, bottle throwing and the like.
- adversely affects visibility and legibility.

(4) Peeling

- usually early condition, and caused by poor adhesion, possibly unsatisfactory fabrication at the place of construction, watch out for

cut out letters and numbers.

(5) Fading

- will be noticeable with colors used on sheeting
- colors should be equal in performance to the sheeting.

(6) Brightness

- loss of reflectivity
- occurs between five and eight years.
- less than fifty percent of original brightness not acceptable.
- dust and dirt coating may deteriorate.¹³⁰

¹³⁰Ibid., p. 96.

CHAPTER VII

SUMMARY AND CONCLUSIONS

This thesis had a four fold purpose: (a) to contribute to the philosophy of interpretation; (b) to present a model in an attempt to better understand the interpretive communication process; (c) to present a planning strategy for the interpretive signage process; and (3) to present information related to signage material. It was based primarily on the philosophy that interpretation, as a discipline, has a major objective to achieve and this objective can best be understood and achieved by use of an interpretive communication process. The interpretive communication process in turn was founded upon S-M-C-R-E Communication Model and a model of consumer behavior. The essence of the model developed in this thesis is based upon the premise that people can be grouped into "target groups" whose makeup can be determined. This makeup then is used in structuring the message content and message design and selection of the communication channel and its design, most likely to achieve the objectives set. The purpose of such messages is primarily behavioral modification, reinforcement or change. The objectives of both the organization and specific park interpretive message were noted as being critical as was the evaluation procedure.

In the construction of the interpretive communication model material was liberally used from the fields of marketing, communications and the behavioral sciences. In turn much information that presently is used for the basis of both the marketing and communications disciplines is derived from the behavioral sciences. This is necessary since these two disciplines deal with behavioral issues and consequences. The major problem area is however, the use to which behavioral theory and research is put. In other words, behavioral studies are for the most part not initially directed toward other disciplines and to liberally draw implications is at best hazardous. In addition, the implications drawn from the fields of marketing and applied to an interpretive framework suffer from similar drawbacks.

It was indicated that if the planning strategy developed in the thesis were followed, the use of interpretive signage in the communication of interpretive messages was great. Much information gathered from the area of interpretive signage was adjusted to follow the interpretive communication model suggested in Chapter II and was presented to provide a one-source document for such material and as a focus for the planning strategy.

Needed Research

Research is required because the interpretation discipline can only succeed if its students and practitioners have accurate and up-to-date knowledge dealing with the concept of interpretation, the process of interpretive

communication, the elements of that process and effective evaluation procedures. In addition, this research is a continuous task because the elements of the interpretive communication model are dynamic.

Problems and questions exist in the field of interpretation and the communication process. These questions and uncertainties were constantly referred to throughout this thesis. However, in the establishment of a research study or program more than generalized statements are required; clarity is necessary.

In the identification of research three important factors must be raised: (a) the question must be clearly stated; (b) the objectives or anticipated result must be clearly stated; and (c) the research study must be clearly organized.

The classification of the question to be answered is primary to all other issues; a question clearly identified is one half solved. A case in point is the numerous occurrences of the hiring of a consultant to solve a problem for an organization. The consultant, after months of work usually returns with two major statements; (1) an identification of the problem and (2) a strategy to solve it. In these situations, it is realized that a large amount of research is wasted due to poor initial classification.

In addition, it is necessary to clarify exactly what is to be achieved, that is, the objectives or anticipated results of the research. This process is one that identi-

fies what is attempting to be achieved in terms of the worth of the research. Questions to be answered concern "what will be the consequences or results if an answer to this question were known?"; "Has a decision already been made? and if so, what is the purpose of this research?" Will the answer change or alter the decision? "If a question is answered, can a program be implemented or is the financial and human resources inadequate?" When evaluating the objective of the research these types of questions must be posed if the research is to be useful to the overall program.

Based upon the thesis and material presented a great deal of questions come to mind. In fact, this thesis probably poses more questions than answers or possible solutions. For purposes of clearly identifying some of these issues and to provide future researchers subject matter related to the work of this thesis several research topics are offered.

1. General: How is the worth of interpretation impressed upon decision makers? How many individuals are reached through any interpretive program? What are the trends? Who are they?

Expansion: In order to convince decisions makers that an interpretive program is beneficial, numbers and descriptions are required. As related to interpretive signage: A questionnaire designed to determine the exposure rate as compared to (a) the depth of knowledge concerning the message content of the sign and (b) the acceptance of the message is important. In addition, this information could be compared to factors such as social class, dispositions, family versus singles and the like to determine who is reading the signs and who are being persuaded by signs. This type of

research is based upon the condition that a good interpretive signage situation is in existence in the park.

2. General: What markets or target groups is the message designed for? How are the target groups identified? What are their social class, dispositions, values, beliefs? How are their characteristics identified? Can they be grouped for effective message transmittal? What message design tools are required? How strong are their characteristics or attitudes? Do these conflict with the objectives of interpretation? How important is interpretation to these groups?

Expansion: Most public park interpretive objectives are designed to consider various user groups such as the handicapped, the socially-economic disadvantaged, and the teenager as well as those who initially exhibit an interest in interpretation. However, in addition to labelling these groups little is known as to how to communicate to them. As such, research programs are required that have as their objective to identify these groups and analyze their characteristics with a view toward achieving the interpretive objective.

3. General: How is the message and channel design and selection meaningfully integrated utilizing the characteristics of the target groups? What attributes of the message should be emphasized? What image should be created in the target groups' mind? What is the best media to use? How do the various tools designed to break through the selective perception filter work? Are they valid in a park setting? Do they work for all target groups?

Expansion: The process of identifying the target groups and their characteristics is only part of the overall problem to be solved. The other part is how are these characteristics used to facilitate message transmittal (through various communication tools) or, if these characteristics pose a situation of cognitive dissonance how is the message tapered to ensure the successful establishment of the interpretive objective.

4. **General:** How useful is an interpretive communication model? Will it help solve problems or answer questions? How feasible is it to all involved in interpretation? How valid are the elements? Is the model complete or are factors overlooked?

Expansion: The model presented in this thesis is not to be considered as the final product. Questions must be asked, proposals for additions or deletions given and in depth analysis of each element completed to determine its true worth to the field of interpretation.

CHAPTER VIII

INTERPRETIVE SIGN MATERIAL ANALYSIS

In the decision of what sign material to use, various performance variables must be evaluated. These criteria when applied to the specific park will aid in the decision-making process. Table 20 illustrates these criteria with appropriate comments. Many of the variables can only be evaluated by the particular park--weathering, space, equipment, placement, reflective quality, expertise, time, availability--others are evaluated primarily on the material available. The sign study team should be responsible for presenting the various possible material alternatives--the decision on selection is within the jurisdiction of the park superintendent or park system management.

The evaluation concerning what material to use should take place during the interpretive signage process. As seen in Chapter IV, page 101, the first evaluative stages concerning potential signage material occurs during the seventh stage. Although the possible material is probably considered before this stage, it must be considered at least by this time.

The remainder of this chapter will be directed to a major purpose of this report; that is to present the various possible signage material available in analysis form. Each

TABLE 20

PERFORMANCE CRITERIA

CRITERIA	CHARACTERISTICS
Cost	The cost of the material must be equal or less than the final product, the interpretive sign system.
Time	The time taken to order, purchase, construct and erect the signs must not be prohibitive nor unduly lengthy. Usually this is a minor consideration.
Availability	The availability of the material has effects upon cost and time and therefore, must be a prime consideration.
Expertise	If the sign is to be constructed at the park, expertise must be present at the park.
Space, Equipment	If the sign is to be constructed at the park, adequate space and equipment must be readily at hand or the cost of purchase of these facilities must be included in the cost of the sign.
Placement	Whether the sign is located indoors or out-of-doors makes an obvious difference in the selection of material.
Weathering	The climate of the area where the sign is to be located must be evaluated to determine the speed of material deterioration. Various materials therefore, should be evaluated in these terms.
Reflective Quality	Some materials are more reflective than others which is a definite performance criteria.

TABLE 20 (Continued)

CRITERIA	CHARACTERISTICS
Twenty-four hour Performance	Some materials are clearly visible during the day but can not be seen at night.
Maintenance	Maintenance ease, that is, ease of cleaning, refurbishing and the like is another criteria to consider.
Vandalism	The sign material used must maximize resistance to vandalism.
Handling Ease	Some materials are easier to handle (that is, form, color, stain and the like) than others. This is especially important if the signs are to be constructed in the park.
Durability	Although subsumed under numerous other criteria, the overall durability of the material is a wise criteria to evaluate across materials studied. It usually relates to how long the sign will be effective.

material will be discussed from the point of view of advantages, disadvantages and average prices. Following this, a brief examination will be presented dealing with miscellaneous subject matter deemed important to this report.

Methodology

The method used in the gathering of the material in this chapter was a mail-out letter. It was the purpose of the letter to pose questions with a view towards determining the various types of materials used, their qualities, cost and graphic examples. The letter was followed by one shorter version to non-respondents. The letter and follow-up are shown on page 226 Appendix II.

The information sources--that is, the agencies and organizations to which the letter was sent--were selected in a comprehensive fashion. A sample was not used. Publications, telephone books, public parks agencies and colleges (those that had an engineering section) were the original sources used to identify sign material handlers and producers. The list of agencies and sign producers to whom the letters were sent and questions posed are listed on page 220 Appendix I. Responses are also indicated here.

TYPE: Photo-Sensitized Aluminum.

Discussion

This process utilizes photo-sensitive anodized aluminum upon which any line artwork, drawings, maps or photographs can be embedded. The final image and scrip is

protected under an anodized, glass clear, sapphire hard surface. Both sides can be printed upon. Adhesives can be used to affix the sign or mechanical fasteners can be used.

Advantages

(1) Impervious to light, weathering, extreme temperatures, corrosion, abrasion, scratching, fading, peeling, chipping, salt spray, moisture, solvents, lubricants and fungus.

(2) Virtually vandalproof--the metal itself must be destroyed to destroy the image and scrip.

(3) Lasts up to thirty years.

(4) No maintenance. If sign becomes dirty simply wash; if spray painted simply remove with turpentine.

(5) Reproduces in great detail.

(6) Does not fade when exposed to sunlight (ultra violet radiation).

Disadvantages

(1) Requires additional support.

(2) Metallic appearance.

(3) May be undesirable reflections. The brightness and amount of reflection may be reduced by use of a screen in the photographic process.

(4) Limited color selection.

Cost

Not available.

Analysis

The durability of this material makes it ideal for outdoor use. The reproduction clarity is also a good feature. It is suggested that this material is good for areas and locations where (1) durability is primary and (2) the site is not one of a wilderness nature. In these latter areas the metallic appearance is a very undesirable characteristic.

TYPE: Fiberglass Embedded.

Discussion

The material is constructed of an acrylic modified polyester resin reinforced with high solubility chopped strand fiberglass matte. The graphics material that can be used is hand lettering, original art painting, silk screening, offset lithography, flexographic printing, black and white photography, color photography, print films, transparencies, photo gelatine prints.

Advantages

(1) Stronger than some metals yet very light, therefore, does not require elaborate support.

(2) Available in multicolors, opaque, or translucent, nonreflective matte or glossy surface finish.

(3) Lasts minimum of ten years.

(4) Material resists shattering impacts, scratches, cracking, warping, peeling, fire, crazing, solvents, acids, mild alkalis, chemical fumes, ultra-violet fading, wind-blown

sand and delamination.

(5) Weatherproof and waterproof.

(6) Easy maintenance.

Disadvantages

None found.

Cost

Fifteen dollars per square foot.

Analysis

This material appears to be highly advantageous to uses requiring a duration of ten years. It is a highly flexible material and considered by this report as one of the best types of materials available for the price.

TYPE: Metallic Photo-chemical Etching.

Discussion

The process involves photo-chemical etching wherein any photographable artwork, including halftones, may be reproduced in metals which have been electro-chemically hardened and colored by a proprietary process. Signs can be made from aluminum, copper, steel, brass, bronze and stainless steel.

Advantages

(1) Unaffected by temperature extremes, rain, snow, sunlight, saline humidity and will not rust, chip, crack, fade, peel or fracture.

- (2) Lasts up to forty-five to fifty years.
- (3) Weatherproof.
- (4) Easy maintenance.

Disadvantages

- (1) Limited colors.
- (2) Metallic appearance.
- (3) Reflection in sunlight.

Cost

Twenty-five cents per square inch--usually additional charge for halftone photographs.

Analysis

The extreme durability of this material is very attractive. The metallic appearance again is a drawback for certain areas, the material is considered by this report as excellent if located in the proper area.

TYPE: Cast Aluminum.

Discussion

There are four kinds of finishes that are utilized in this process; baked enamel, satin alumilite, brite alumi-lite and satin/oxydized bronze. Baked enamel is superior and the only process discussed here.

Advantages

- (1) Very durable--lasts.
- (2) Weatherproof.

(3) Resistant to extreme temperatures, ultra violet radiation, rust, chipping, cracking, fading, fracturing, expansion.

(4) Multicolor--takes durable enamel paint.

(5) Easy to mount.

(6) No reflection problems.

(7) Easy maintenance.

Disadvantages

(1) Limited in graphic detail.

(2) Limited to use of flat colors.

(3) Numerous steps in production.

(4) Requires a positive 3 - D plate (Dycril).

Cost

Fifty cents per square inch.

Analysis

This product is extremely durable and handsome in appearance, however, the major disadvantage is cost. When compared to other materials the cost of this material is a drawback.

TYPE: Wood.

Discussion

Wood is presently the most utilized material. When looking for good quality wood check against the following

criteria provided by Cooper,¹³¹

- (1) ease of routing and working the wood,
- (2) gluability, (3) natural durability or ease of preservative treatment,
- (4) finishing characteristics,
- (5) occurrence of extrative stains and resins and their effect on finishes,
- (6) dimensional stability, and
- (7) resistance to checking and raised and loosened grain.

Also since wood (both lumber and plywood) is used often in numerous sign shops, valuable information extracted in summary form from Cooper's study is presented.

(A) If cheaper paint is used it may not last as long and therefore, may be more expensive in the long run;

(B) Plywood is more economical if signs are over eight inches wide, but lumber is more economical if signs are under eight inches wide (slat signs);

(C) Lumber usually requires crosscutting, routing, sanding and finishing equipment. Large edge-glued signs require facilities and machines for clamping, grooving, splinining, boring and planing. Exhaust systems and handling devices are also required;

(D) Air dry wood to average moisture content expected when it will be in service. Green wood will shrink in service;

(E) Plywood reduces required labor and eliminates edge-gluing;

¹³¹G. Cooper, Durable Rustic Wooden Signboards (St. Paul, Minnesota: North Central Forest Experiment Station, 1969), p. 8.

(F) If large signs are irregularly shaped a medium density overlaid plywood is better than edge-glued lumber because layout can be done without regard to grain direction;

(G) Grade: higher grades have fewer natural defects and is more expensive than lower grades. For short slat signs it is advisable to use lower grades because it is cheaper. Avoid pitchpockets, bark pockets, the pith, knots and splits. Naturally occurring stains no problem if sign is to be painted;

(H) Difference between lumber and plywood:

- (1) Plywood panels have greater uniformity in strength than edge-glued lumber panels of equal length and width.
- (2) Plywood shrinks and swells less than lumber, and dimensional changes are about the same along the panel and across the panel.
- (3) Plywood has greater resistance to splitting than lumber, but it face-and end-checks more than flat-grained lumber of the same species.
- (4) Plywood has little tendency to warp, whereas poorly seasoned lumber and lumber without straight grain may warp badly in service.
- (5) Plywood veneers contain lathe checks that may open and cause finish failure where the end grain appears on all four signboard

edges. Lathe checks are not present in lumber, but seasoning end checks are often present.

- (6) Most plywood face veneers are 3/32 or 1/8 inch thick and routing letters deeper than 1/8 inch results in excessive bit wear at the abrasive plywood glue line. Thicker face veneers, available on special order, eliminate glue-line routing.
- (7) Many plywood inner plies contain voids where they are split or not tightly butted. Lumber sometimes contains pitch and bark pockets, but they are usually not as frequent as voids in exterior grade plywood.
- (8) Most plywood is dried to about a twelve percent moisture content whereas lumber can be purchased ranging from an eight percent moisture content to green condition.
- (9) Plywood is available from some manufacturers as precut sign blanks; often the manufacturers can also provide prefinished or custom overlaid blanks.
- (10) Commercial standards for softwood plywood, are established and lumber is sold by grade, but differing production practices among lumber manufacturers result in lumber size differences;

(I) Ultra-violet radiation degrades finishes and wood tissue. Pigmented finishes are more sun resistant than clear finishes;

(J) Rain, snow, dew and changing humidity cause moisture fluctuations that are damaging to wood and finishes. Windborne particles erode finishes. Atmospheric pollutants attack finishes. Warm, wet climates favor decay and insect attack. Birds, rodents and game animals mutilate signs. Some rodents are attracted to the glue used;

(K) Maintenance of wooden signs is generally high in terms of cost and time;

(L) Plywood edges should be sealed for best appearance and durability. This can be achieved by a good aluminum paint; and

(M) High density exterior grade plywood is the type most commonly used. Commonly used wood types are Douglas Fir, Red Pine, Jack Pine, Eastern Spruce, White Pine, Redwood, Purple heart.

Costs

Dependant on local supply and demand characteristics.

Analysis

Although wood is still a prime material in interpretive signage, it has less durability than other methods. It is also less flexible and requires a major maintenance programme. As the price of wood is high today, this material is seen as replaceable in many instances.

Its major contribution is the so-called rustic appearance fitting in well with a park environment.

TYPE: Plexiglass.

Discussion

Acrylic plastic that has potential use as a protective screen over another material or as a sign itself.

Advantages

- (1) Available in transparent (colorless) or translucent form.
- (2) The transparent form transmits about ninety-two percent white light while the translucent form transmits about sixty-five percent.
- (3) Light in weight.
- (4) Resistant to impact, fire.
- (5) Durable and weatherproof.
- (6) Lasts up to twenty-five years.
- (7) Maintenance is at a minimum.

Disadvantages

- (1) Artificial appearance.
- (2) Highly reflective.
- (3) Can be vandalized.

Costs

\$2.00/sq. ft. at $\frac{1}{4}$ " thickness.

Analy

junc

good

As a

suit

used

for

Two

It s

ness

TYPI

Dis

pla

tha

sov

gr

un

de

(2

in

al

an

Analysis

For the protection of exhibits or displays in conjunction with an interpretive sign system this material is good as it permits easy manipulation to change the content. As a sign material in the out-of-doors it is also well suited when used in letter form.

There are various kinds of acrylic that can be used, plexiglass is only one kind. For example Lexan is used for its greater ability against high impact projectiles. Two pieces spaced about one half inch apart is bullet proof. It averages about \$4.10/sq. ft. at one quarter inch thickness.

TYPE: Reflective sheeting.

Discussion

Microscopic glass bead lenses are bonded in a hard plastic. Each bead is an optically perfect retro-reflector that efficiently bounces incoming light directly back to its source without glare. Available in three grades--the Engineer grade has the highest performance and is the most durable under all weather conditions. Durable up to seven years but dependent on (1) substrate selection and preparation, (2) exposure conditions and (3) maintenance. Available in numerous colors and has a high performance rating under all weather conditions. It is also relatively easy to clean and maintain.

Costs

One dollar and thirty-five cents per sheet (24" x 30").

Analysis

Highly useful for places where signs come in contact with motor vehicles. Minimal use for interpretive signs except in instances such as interpretive snowmobile trails or the like.

TYPE: Vinyl Film and Markers.

Discussion

Multicolored, dimensionally stable glossy film that is able to withstand severe weather and handling conditions. Usually pressure sensitive and can last up to seven years depending on quality purchased. It is fungistatic and resistant to fire.

Cost

Not available.

Analysis

Good protective film especially where there is a high vandalism rate because it can be replaced cheaply.

TYPE: Polyester Films and Markers.

Discussion

This material is tough, dimensionally stable and effective both indoors and out. It is limited in color

range available with a durability rating of two to three years. It is fungistatic and resistant to water and salt.

Costs

Not available.

Analysis

Good for places where vandalism is extremely high because of its inexpensive cost and limited durability.

TYPE: Wood Finishes (Material adapted from Cooper).¹³²

Discussion

(1) Enamel - These are natural or synthetic varnishes or lacquers to which opaque pigments have been added. Varnish enamels are usually the most durable finishes. Pigmented nitro-cellulose lacquers are brittle and not durable. Varnish-base enamels form smooth, tough elastic films with better wearing properties than paints and transparent finishes. Furthermore, enamels dry faster than oil paints. However, enamels differ greatly in their properties according to their formulations. Usually the best enamels are the most expensive.

(2) Paints - Paints consist of finely ground pigments in a liquid vehicle. They protect the wood from weathering actions and splintering but do not prevent decay.

¹³²G. Cooper, Durable Rustic Wooden Signboards (St. Paul, Minnesota: North Central Forest Experiment Station, 1969), p. 11.

Two general types are in wide spread use on signs, oil paints and emulsion paints. Water vapor generally passes through emulsion paints more readily than through oil paints, and water vapor blistering may be greatly reduced. Such emulsion paints are sometimes called exterior latex or water-base paints.

The most widely used emulsion paints for signs are the acrylic resin and vinyl resin types. Both types usually dry faster, are more fade-resistant, and spread easier than oil paints. However, the emulsion paints may require more coats to build up the same thickness as an oil paint; and they can be stained by extratives. Some exterior emulsion paints are very durable and some are almost useless; furthermore, emulsion paint durability depends on how long the film has cured before it is exposed to rain.

Oil paints, if properly applied will last more than three years without failures on wood signs.

(3) Semi-Opaque Pigmented - These differ from paints in that they penetrate the wood. These stains do not raise the grain, and the colors are fairly light resistant. Furthermore, pigmented oil stains that penetrate wood surfaces do not blister, crack or peel. They are very durable on tough-sawn lumber, but on planed surfaces of signs they erode in about four years. However, stain finishes are easily refurbished. Often a roller-applied coat of boiled linseed oil will brighten a stain that has not lost its pigmentation.

(4) Varnishes - Transparent finishes, such as these, are usually not satisfactory on signs. Ultra-violet radiation causes photo chemical degradation of the finishes and of the wood fibers holding the finish.

(5) Lacquers - Clear lacquers are rapid drying, however, the film created is brittle and dimensional changes in the substrate often rupture the film. They are not durable on signs and usually begin to fail in less than one year.

Posts

In any discussion on signage the method of support is also important. For the most part the previous statements apply to potential kinds of material for posts. However, the use of wood demands that preservatives be applied. Pressure treatment of the wood is the most superior method because the greatest penetration of the wood by a sufficient amount of preservative is achieved. Possible preservatives as taken from Park Auto Barriers¹³³ is as follows:

(a) cresote and solutions containing cresote (not used if possibility of staining clothing exists), (b) oil-borne solutions in which petroleum oil acts as the vehicle for toxic chemicals such as copper napthenate and pentachlorophenol and (c) water-borne solutions using chemicals such as chromated zinc chloride and zinc meta-arsenite.

¹³³W. Wilcox, ed., Park Auto Barriers (East Lansing, Michigan: Michigan State College Agricultural Station and Co-operative Extension Service), p. 5.

Miscellaneous

There are numerous ways of producing interpretive signs in addition to the materials previously listed. However, the base of those materials are similar to the base of other methods; that is, the base may be aluminum, however, instead of a sign the process may be lettering of aluminum letters directly on a variety of substrates. Table 21 lists other possible sign products that can easily be secured from a local supplier dealing in signs, lettering, graphics, art materials (art store), hardware, lumber and the like. In the search for possible sign material (especially when concerned with price) only one's imagination is the drawback. Pages 199 to 212, give examples of these other methods inclusive of characteristics and prices.

Often signs per say, are not the most effective means of communication in a park. Also, signs can be more expensive than composing your own communication device. For example, letters on buildings can adequately be used merely by using the structure as the background. Since individual letters and numbers are of use they are incorporated into this publication.

TYPE: Plastic (formed).

Characteristics

Light weight, available in colors, durable to normal weathering.

TABLE 21

**LIST OF POTENTIAL SIGN PRODUCING
PROCESSES AND MATERIAL**

PROCESS	MATERIAL
Lettering, Numbering Arrows and Stencils	Plastic (acrylic, laminated, polyester and the like).
	Bronze
	Baked Enamel
	Cast Aluminum
	Vinyl Cloth, Vinyl Strip
	Plexiglass
	Wood, lumber and plywood
	Etched Aluminum
	Brass
	Plus others.
Tags and Markers	Cloth
	Aluminum
	Galvanized Steel
	Silver Aluminum Foil
	Plus others.
Plaques	Bronze
	Brass
	Aluminum
	Plus Others.

Mounting

Flush and stand-off.

Prices

	Height	Width	Stroke	Weight	Cost
Egyptian Round Face	6"	7/8"	1½"	6 oz.	2.10 ea.
Egyptian Flat Face	6"	1"	1 3/4"	6 oz.	2.25 ea.
Template					12.00
Glue					2.10

TYPE: Cast Aluminum.

Characteristics

Light weight, multicolor available, durable to normal weathering.

Mounting

Flush and stand off.

Cost

As listed on Table 22.

TYPE: Cut out aluminum.

Characteristics

Durable, weatherable, resistant to moisture changes and temperature extremes.

TABLE 22

COST OF CAST ALUMINUM

CAST ALUMINUM									
Height	Average Width ("")	Width of Stroke ("")	Depth ("")	Baked Enamel	Brite Alumalite	Brite Alumite	Satin on Oxidized Bronze	Letter Style	
3"	2½"	5/8	½	5.85	5.85	6.55	8.05	Gothic Futura	
3"	2	½	3/8	5.45	5.45(4.10)	6.10	7.40	Kabel	
3"	2	13/16 + 5/16	5/8		4.60			Broadway	
3"	2 7/16	5/8	5/8		4.90			Futura	
3"	2	3/8	1		4.05			Ribbon	
3"	3	1 3/4 5/8	3/4		3.45			Med. Bold	
3"	4	1 3/4 5/8	3/16		4.10			Bold Extended 25%	
6"	5	1 1/8	1	9.85	9.85	10.75	16.35	Gothic Futura	
6"	4	1	½	8.30	8.30(6.60)	9.10	13.35	Kabel	
6"	5	1 5/8 + 5/8	3/4		7.75			Broadway	
6"	4 7/8	1½	1		7.70			Futura	
6"	4	1 1/8	3/4		6.65			Gothic	
6"	4	½	2		8.35			Ribbon	
6"	6	1½ 1 3/8 ½	3/4		9.75			Med. Bold	
6"	8	1 3/4 1 3/8 1 1/8	3/4		10.55			Bold Extended	
6"	10	2 1½ 1 3/8	1		11.00			Bold Extended 25%	

TABLE 22 (Continued)

Height	Average Width (")	Width of Stroke (")	Depth (")	Baked Enamel	Brite Alumalite	Brite Alumite	Satin or Oxidized Bronze	Letter Style
12"	10	2	2	23.30	23.30	25.60	46.95	Gothic Futura
12"	8	1 3/4	3/4	16.75	16.75	18.40	30.65	Kabel
12"	10	3 1/4 + 1 1/4	1 1/4		(12.35) 15.95			Broadway
12"	9 3/4	2 1/4	1 3/4		16.40			Futura
12"	8	2 1/4	1 1/8		13.45			Gothic
12"	8	1 1/4	2		15.20			Ribbon
12"	16	3 3/4-3 3/8-3	2		34.75			Bold Extended
12"	20	4-3 1/2-2 1/2	1 1/2		52.60			Bold Extended 25%
18"	12	2 1/4	1 1/8	32.90	32.90 (20.55)			Kabel
18"	15	5 + 2	2 1/4		26.45			Broadway
18"	14 3/4	3 13/16	2 1/4		34.60			Futura
18"	12	3/4	1 3/8		23.05			Gothic
18"	12	3/4	3		31.30			Ribbon

As can be seen, three things are evident, (1) the letter style and sizes vary with price
 (2) there are many more styles and sizes with corresponding variance in price
 (3) Prices for same style and similar prices vary between source.

Prices

Cut from 1/8" Sheet Stock	<u>Height</u>	<u>Satin Buffed</u>	<u>Standard Color</u>
	4"	5.50	4.50
	8"	8.95	7.30
	18"	30.10	24.40
	30"	45.95	37.20
Cut from 1/4" Sheet Stock	4"	8.10	7.30
	8"	11.10	10.00
	18"	29.20	26.50

TYPE: Welded Aluminum.

Characteristics

Durable, maintenance-free, weather resistant as well as available in colors.

Prices

<u>Height (inch)</u>	<u>Depth (inch)</u>	<u>Gauge of Return and Face (inch)</u>	<u>Baked on Enamel-Bronze Satin-Natural Satin</u>
6	1 - 16.45	.063	Extra for punctuation, Recessed face letters, Spurred and Connected script letters, bright alumilite finish, two color baked-on enamel colors matched to sample, special porcelain colors, light guage aluminum back enclosures, ano- dized finish--standard mounting furnished at no extra cost.
12	2 - 25.20 6 - 29.55	.063	
24	3 - 45.90 8 - 54.00	.063	
36	4 - 73.15 12 - 94.75	.087	
72	6 - 191.00 12 - 223.40	.087	

TYPE: Vinyl Letters

For indoors or out, opaque black or whitest white tough.

Characteristics

Flexible, sharp cut, will not tear, pressure sensitive, self-adhesive back, removable from most surfaces.

Prices

Vary according to number of capitals, numbers and the like.

One inch set 93 capitals; 42 numbers; 2 figures; 8 periods.

Black 79¢ per set 12 sets/ea. 66¢

White 79¢ per set 12 sets/ea. 66¢

Six inch set 62 capitals only

Black 3.49/set

White 3.49/set

Six inch set 36 numbers only

Black 1.99/set

White 1.99/set.

TYPE: Vinyl cloth letter and number sets.

Characteristics

Bold black letters on yellow vinyl cloth--self adhesive, re-locatable, clear, sharp, fade resistant--ease of application superior to paints, stencils and marking pens, and long-term visibility. Comes in sets.

Price

<u>Size</u>	<u>Contents</u>	<u>Price</u>
5/8"	837 letters (32 each A - Z)	\$ 6.25
5/8"	800 numbers (96 each 1 - 5 and 64 each 6 - 0)	6.25
1"	260 letters (10 each A - Z)	6.25
1"	250 numbers (30 each 1 - 5 and 20 each 6 - 0)	6.25
2"	260 letters (10 each A - Z)	10.00
2"	250 numbers (30 each 1 - 5 and 20 each 6 - 0)	10.00
3"	156 letters (6 each A - Z)	14.70
3"	150 numbers (18 each 1 - 5 and 12 each 6 - 0)	14.70
3 7/8"	130 letters (5 each A - Z)	20.00
3 7/8"	125 numbers (15 each 1 - 5 and 10 each 6 - 0)	20.00

There are variations in the above, i.e., self spacing.

STENCILS

TYPE: Brass, Plywood

Characteristics

Adjustable, inexpensive, no special skills required,
fast, re-usable.

Mounting

Stencil either with brush, spray or rubber roller.

Prices

<u>Size (")</u>	<u>Price</u>	<u>Style</u>	<u>Description</u>
$\frac{1}{2}$.13	Gothic	Horizontal
1	.15	Gothic	Horizontal
2	.25	Gothic	Horizontal
3	.35	Gothic	Horizontal
4	.46	Gothic	Horizontal
5	.59	Gothic	Horizontal
6	.73	Gothic	Horizontal
8	5.50	Gothic	Horizontal
10	7.70	Gothic	Horizontal
12	9.90	Gothic	Horizontal
1	.50	Helvetica	Vertical
1	.50	Gothic	Vertical
$1\frac{1}{2}$.55	Helvetica	Vertical
$1\frac{1}{2}$.55	Gothic	Vertical
2	.65	Helvetica	Vertical
2	.65	Gothic	Vertical
3	.95	Gothic	Vertical

Plywood

<u>Size (")</u>	<u>Price</u>	<u>Description</u>
4	10.40	Lettering templates $1/8$ "
6	15.90	thick laminated plywood
8	21.90	easy tracing, fast lettering
10	26.90	various sizes, letters types.
12	32.90	

TAGS AND MARKERS

TYPE: Cloth tags.

Characteristics

Low cost, sturdy and simple. Durable up to one year (depending on weather), write on legend with pencil, ball pen, fibre pen or indelible pen. Colors are orange, yellow, white.

Mounting

Wire clip--cannot be removed without destroying tag.

Price

\$4.00/1000 tags.

TYPE: Pre-numbered aluminum.

Characteristics

Numerals stamped into tag, consecutive 1 to 100, weatherproof, not affected by rain, mud, ice or sunshine.

Mounting

Wire clip, flush or stand-off.

Price

\$4.50/100 1-100; 101-200; 201-300; 301-400; 401-500.
\$21.25/500 1-500;
\$40.00/1000 501-600; 601-700; 701-800; 801-900;
901-1000.

Runs above 1000 made on order.

TYPE: Blank aluminum with hole.

Characteristics

Same as pre-numbered aluminum above, without the numbers.

Mounting

Wire clip, flush or stand-off.

Price

\$3.50/100

\$16.25/500

\$30.00/1000

TYPE: Aluminum labels no hole.

Characteristics

Same as above.

Mounting

Same as above.

Prices

\$9.95/1000

\$87.00/10,000 (weight 30 pounds).

TYPE: Aluminum tags with cardboard backing.

Characteristics

Extra ease in writing into the aluminum.

Same as above.

Mounting

Wire clip, flush or stand-off.

Price

.75/25 with wires (add .25 for wire inserted in eyelets)

6.00/250 with wires (add 1.00 for wire inserted in eyelets)

10.25/500 with wires (add 1.25 for wire inserted in eyelets)

20.00/1000 with wires (add 3.75 for wire inserted in eyelets)

17.25/10,000 with wires

TYPE: Band attaching aluminum tag.

Characteristics

Same as above.

Mounting

Upper strip that forms attaching band.

Prices

\$9.95/1,000

87.00/10,000

TYPE: Double-faced aluminum label.

Characteristics

Able to write on both sides of label, weatherproof, not affected by rain, ice, mud or sunshine. Rolled edges.

Mounting

Wire (soft aluminum).

Prices

\$2.65/100 (plus wire)

13.00/500 (plus wire)

25.00/1,000 (plus wire)

PLAQUES

TYPE: Aluminum

Characteristics

Choice of ten letter styles (available in various letter sizes $\frac{1}{4}$ " to 4"). Choice of seven border styles. (Single line, single line bevel edge, bevel edge, double line, straight edge, plain edge, raised bevel). Durable and resistant to weathering.

Prices

Under 101 square inches **\$ 19.10 - \$63.60**

101 to 300 square inches	.64/sq. inch
--------------------------	--------------

301 to 1500 square inches .53/sq. inch

Over 1500 square inches (write)

By letter (spaces between words count as one letter)

(Insert letter chart).

By letter per square inch.

10 square inches .68/sq. inch

50 square inches .51/sq. inch

100 square inches	.45/sq. inch
100 - 200 square inches	.43/sq. inch
201 and over	.38/sq. inch

TYPE: Bronze

Characteristics

Choice of ten letter styles (available in various sizes $\frac{1}{4}$ inch to 4 inches). Choice of border styles (single line, single line bevel edge, bevel edge, double line, straight edge, plain edge, raised edge). Extremely durable and rich in appearance.

Price

Under 100 square inches	\$19.10 - 63.60
101 to 300 square inches	.76/sq. inch
301 to 1500 square inches	.64/sq. inch
over 1500 (write)	

Ordering

In ordering, attempt to specify exactly what you want. Ensure that you know what you are getting, the cost and its characteristics. Make sure that the supplier or manufacturer certifies that all products and the graphics or lettering they embody are to your specifications and that he will stand good for any failures. Furthermore, workmanship dealing with sharp, careful and a clean cut product must be guaranteed. Durability should also be stated.

REFERENCES

REFERENCE

- A guide for Developing Nature Trails. Extension Folder 66. Co-operative Extension Service, University of New Hampshire. Durham, New Hampshire: May, 1968.
- Alexander, M. Bristlecone Pine Interpretive Site. United States Forestry Service.
- Ashbaugh, B. Planning a Nature Centre. New York: National Audubon Society, 1973.
- Banks, S. "Trends Affecting the Implementation of Advertising and Promotion" in Journal of Marketing, No. 1, Jan. 1973, pp. 19-28.
- Bannon, J. J. Problem Solving in Recreation and Parks. U.S.A.: Prentice Hall, Inc., 1972.
- Barban, A. M. "The Dilemma of Integrated Advertising" in Journal of Business. Vol. 42, 1969, pp. 422-496.
- Bauer, R. A. and Greyser, S. A. Advertising in America: The Consumer View. Boston, Mass.: Division of Research, Graduate School of Business, Harvard University, 1968.
- Behr, E. A. Effectiveness of Ground Line Wood Preservative Treatments for Park Structures. East Lansing, Michigan: Michigan State University Agriculture Experiment Station. Research Report 112. March, 1970.
- Bernard, F. Dynamic Display Technique and Practice. Cincinnati: Display Publishing Company, 1953.
- Bettman, J. R. and Jones, J. M. "Formal Models of Consumer Behavior: A Conceptual Overview" in Journal of Business. Vol. 45, 1972, pp. 212-224.
- Bowditch, G. Preparing Your Exhibits. Technical Leaflet 45, Vol. XXVI, No. 2. American Association for State and Local History, February, 1971.
- Broom, L., and Selznick, P. Sociology. U.S.A.: Harper and Row Publishers Inc., 1968.
- Brown, R. Social Psychology. U.S.A.: The Free Press, 1965.

- Burt, H. Applied Psychology. Prentice-Hall, 1957.
- Charters, W. Jr. In a Public Relations Program Facts are Never Enough. Staff Relations in School Administration AASA Yearbook, 1955.
- Collery, R. H. Defining Advertising Goals for Measured Advertising Results. U.S.A.: Association of National Advertisers Inc., 1961.
- Cooper, G. Durable Rustic Wooden Signboards. St. Paul, Minnesota: North Central Forest Experimental Station. Xerox Copy, 1969.
- Cooper, J., and Duncan, B. L. "Cognitive Dissonance as a Function of Self-Esteem and Logical Inconsistency" in Journal of Personality. Vol. XXXIX, 1971, pp. 289-301.
- Crawford, T. J. "The Effects of Source Characteristics Upon the Perception of Ambiguous Messages" in Journal of Psychology. Vol. XLI, 1973, pp. 151-162.
- Delia, J. G., and Crockett, W. H. "Social Schemes, Cognitive Complexity, and the Learning of Social Structures" in Journal of Personality. Vol. XLI, 1973, pp. 413-429.
- Dymo Products Company. Visual Communication for Business and Industry. U.S.A.: 1971.
- Dyal, J. A. Readings in Psychology: Understanding Human Behavior. U.S.A.: McGraw-Hill Book Company, 1967.
- Engel, J.; Kollat, D.; and Blackwell, R. Consumer Behavior. U.S.A.: Holt, Rinehart and Winston, Inc., 1968.
- Engel, J. F.; Wales, H. G.; and Warshaw, M. R. Promotional Strategy. U.S.A.: Richard D. Irwin, Inc., 1967.
- Flesch, R. The Art of Readable Writing. New York: Harper and Row, 1949.
- Freeman, Tilden. Interpreting Our Heritage. Chapel Hill: The University of North Carolina Press, 1967.
- Goffman, E. The Presentation of Self in Everyday Life. U.S.A.: Doubleday and Company, Inc., 1959.
- Hanna, J. Interpretive Skills for Environmental Communicators. Texas A & M University: Department of Recreation and Parks, December, 1972.
- Harrison, R. An Introduction to Nonverbal Communication. Prentice-Hall, Inc., Revised Draft, 1973.

- Hebb, D. O. A Textbook of Psychology. U.S.A.: W. B. Saunders, 1967.
- Hughes, C. D. Demand Analysis For Marketing Decisions. U.S.A.: Richard D. Irwin, Inc., 1973.
- Indian and Northern Affairs, Engineering and Architecture Branch, Physical Planning. Park Signage. Ottawa: Indian and Northern Affairs, Engineering and Architecture Branch, Physical Planning. Draft Copy, March, 1974.
- Jones, W. Preparing Exhibits: The Use of Plexiglass. American Association for State and Local History. Technical Leaflet 40, Vol. XXIV, No. 2. February, 1969.
- Klausmeier, H. J.; Goodwin, W. Learning and Human Abilities. U.S.A.: Harper and Row, Publishers, 1966.
- Land, E. Experiments in Color Vision.
- Letraset Canada Ltd. Lettraset. Toronto: Lettraset Canada Ltd. Product Catalogue, 1974.
- Lindzer, G. and Aronson, E. The Handbook of Social Psychology. U.S.A.: Addison-Welsey, 1968.
- Luck, D. J.; Wales, H. G.; Taylor, D. A. Marketing Research. U.S.A.: Prentice-Hall, Inc., 1974.
- Maler, B. A. Principles of Psychopathology. U.S.A.: McGraw-Hill Book Company, 1966.
- Mathewson, G. F. "A Consumer Theory of Demand for the Media" in Journal of Business. Vol. XLV, 1972, pp. 212-224.
- Metropolitan Toronto and Region Conservation Authority. Signs Manual. Toronto: Metropolitan Toronto and Region Conservation Authority, June, 1959.
- McGinnis, J. The Selling of the President. U.S.A.: Holt, Rinehart and Winston, Inc., 1968.
- Neal, A. Gallery and Case Exhibit Design. American Association for State and Local History, Technical Leaflet 52, History News, Vol. XXIV, Number 8, August, 1969.
- Neal, A. Legible Labels. American Association for State and Local History, Technical Leaflet 22, Vol. XXVI, Number 7, July, 1971.
- Newman, W. H.; Summer, C. E.; Warren, E.K. The Process of Management. U.S.A.: Prentice-Hall, Inc., 1967.

Perception. Vol. I, 1972, pp. 1-122.

Perception. Vol. II, 1973, pp. 1-117.

Ray, M. L. "A Decision Sequence Analysis of Developments in Marketing Communications" in Journal of Marketing. Number 1, January, 1973, pp. 29-38.

Richmond, S. B. Operations Research for Management Decisions. U.S.A.: 1968.

Rogers, E. M. Diffusion of Innovations. U.S.A.: The Free Press, 1962.

Rogers, E., and Shoemaker, F. Communication of Innovations. U.S.A.: The Free Press, 1971.

Ross, H. "Swimming In a Sea of Instant Information" in Marketing. July 3, 1972, p. 23.

Schewe, C. D. "Selected Social Psychological Models for Analyzing Buyers" in Journal of Marketing. Number 3, July, 1973, pp. 31-39.

Shomon, Joseph, J., ed. Manual of Outdoor Interpretation. New York: National Audubon Society, Nature Centres Division, 1968.

Simon, H. A. Administrative Behavior. U.S.A.: The Free Press, 1957.

Smith, P. "Creativity." New York: Communication Arts Books. Hastings House, 1959.

Spence, H. E.; Moinpour, R. "Fear Appeals in Marketing--A Social Perspective" in Journal of Marketing, Number 3, July, 1972, pp. 34-43.

Sternthal, B.; Craig, C. S. "Humor in Advertising" in Journal of Marketing. Number 4, Oct., 1973, pp. 12-18.

Stidsen, B.; Schutte, T. F. "Marketing as a Communications System: The Marketing Concept Revisited" in Journal of Marketing. Number 4, Oct., 1972, pp. 28-35.

Summers, J. O. "Advertising Promotion" in Journal of Marketing. Number 1, Jan., 1972, pp. 43-49.

United States National Park Service. Signs. United States National Park Service.

Wasaga Beach Provincial Park. Wasaga Beach Provincial Park, Draft Master Plan. Xerox Copy, 1974.

Wilcox, A., ed. Park Auto Barriers. East Lansing, Michigan: Michigan State College Agricultural Station and Cooperative Extension Service.

Wilcox, A., ed. Picnic Tables. East Lansing, Michigan: Michigan State College Agricultural Station and Cooperative Extension Service.

Wilson, D., and Medina, D. Exhibit Labels. American Association for State and Local History, Technical Leaflet 60, Vol. XXVII, Number 4, April, 1972.

Wizechi, E. Color in Business, Science and Industry. Chicago: University of Chicago Press, 1967.

APPENDIX I

APPENDIX I

PUBLIC AND PRIVATE SOURCES OF INFORMATION AND MATERIALS

<u>NAME</u>	<u>ADDRESS</u>	<u>RESPONDED</u>	
		Yes	No
1. Letraset Canada Ltd.	A.J. Feheley Co. Ltd. 2106 Young Street Toronto, Ontario Canada.	X	
2. Dick Blick	Gatesburg Ill. 61401 U.S.A.	X	
3. Lake Shore Markers Inc.	654 W. 19th Street Erie, Pa. 16512 U.S.A.	X	
4. Metalphoto Corp.	18531 S. Miles Rd. Cleveland, Ohio 44128 U.S.A.	X	
5. Municipal Street Sign Company, Inc.	128-10 14th Avenue College Point N.Y. 11356, U.S.A.	X	
6. Photo Plate Corp.	15815 Jame Couzens Detroit, Michigan 48238, U.S.A.		X
7. Sargent-Sowell Inc.	1172-10-th Street Grand Prairie, Texas 75050 U.S.A.	X	
8. Chicago Architectural Bronze Company	17 N. Des Plaines St. Chicago, Ill. 60606 U.S.A.	N/A	
9. International Bronze Tablet Company Inc.	150 W. 22nd Street New York, N.Y. 10011 U.S.A.	X	

	<u>NAME</u>	<u>ADDRESS</u>	<u>RESPONDED</u>	
			Yes	No
10.	U.S. Bronze Sign Company, Inc.	101 West 31st Street New York, N.Y. 10001 U.S.A.		X
11.	Barron Plastics Inc.	100 Barron Drive Cincinnati, Ohio 45215, U.S.A.		X
12.	Northland Products	Department N.R. Route 22-282 Rockland Maine 04841 U.S.A.		X
13.	Ryther Purdy Lumber Company Inc.	501 Tiffany Street Bronx, N.Y. 10474 U.S.A.		X
14.	Althor Products	2260 Bensen Ave. Brooklyn N.Y. 11214 U.S.A.	X	
15.	The Ben Meadows Co.	553 Amsterdam Ave. N.E. Atlanta, Ga. 30306 U.S.A.		X
16.	Dymo Products Co.	P.O. Box 1030 Berkley Calif. 94701 U.S.A.	X	
17.	Everlasting Label Co.	Box 13, Delta, Ohio 43515 U.S.A.	X	
18.	Forestry Suppliers Inc.	P.O. Box 8397 205 W. Rankin St. Jackson, Miss. 39202 U.S.A.	X	
19.	Gaylord Bros. Inc.	155 Gifford St. Syracuse, N.Y. 13201 U.S.A.	X	
20.	The Green Co.	Box 9, Charles City Iowa, 50616 U.S.A.		X
21.	Grove Plastics Products	4245 Belle Aire Lane Downers Grove, Ill. 60515 U.S.A.		X

	<u>NAME</u>	<u>ADDRESS</u>	<u>RESPONDED</u>	
			Yes	No
22.	Labelon Corp.	10 Chapin St. Canandiaqua, N.Y. 14424, U.S.A.		X
23.	Paw Paw Everlast Label Company	Box 93C Paw Paw Michigan, 49079 U.S.A.	x	
24.	The Michaels Art Bronze Company	P.O. Box 668 Covington, Ky. 41012 U.S.A.	x	
25.	Indian and Northern Affairs--Parks Canada	Ottawa, Ontario Canada	X	
26.	U.S. Department of the Interior--National Park Service	Washington, D.C. U.S.A.	X	
27.	U.S. Department of the Interior--United States Forest Service	Washington, D.C. U.S.A.	X	
28.	U.S. Department of the Interior--Sport Fish- eries and Wildlife	Washington, D.C. U.S.A.	X	
29.	California State Department of Parks and Recreation	San Clemente California U.S.A.	X	
30.	New Brunswick Department of Tourism	P.O. Box 1030 Fredericton, N.B. Canada	X	
31.	Eastern Metal of Elmira, Inc.	139 Grand Central Ave. Elmira Heights New York 14903 U.S.A.	X	
32.	Cleveland Metropark	Cleveland, Ohio U.S.A.	X	
33.	Ontario Ministry of Transportation and Communications	Queen's Park Toronto Ontario, Canada	X	
34.	Ontario Ministry of Natural Resources	Queen's Park, Toronto Ontario, Canada	X	

	<u>NAME</u>	<u>ADDRESS</u>	<u>RESPONDED</u>	
			Yes	No
35.	Metropolitan Toronto and Region Conservation Authority	Toronto, Ontario Canada	X	
36.	U.S. Department of Agriculture and Forest Service	Rocky Mountain Region Building 85, Denver Federal Center Denver, Colorado 80225 U.S.A.	X	
37.	Department of the Environment and Tourism--Tourism Marketing Branch	P.O. Box 2000 Charlottetown, Prince Edward Island, Canada	X	
38.	British Columbia Department of Tourism--Parks Division	Victoria, B.C. Canada		X
39.	Newfoundland Dept. of Tourism--Parks Division	P.O. Box 9340 Postal Station "B" St. John's Nfld. Canada	X	
40.	Metalphoto Corp.	18531 South Miles Road Cleveland, Ohio 44128 U.S.A.	X	
41.	Nova Scotia Dept. of Lands & Forests	R.R. #1 Bemont Colchester County Nova Scotia, Canada	X	
42.	U.S. Department of Agriculture--Forest Service	Medicine Bow N.F. 605 Skyline Drive Laramie, Wyoming 82070, U.S.A.	X	
43.	Huron/Clinton Metropolitan Authority	600 Woodward Ave. Detroit, Michigan 48226, U.S.A.	X	
44.	U.S. Department of the Interior--National Parks Service	Harper's Ferry Center Harpers Ferry, West Virginia 25425 U.S.A.	X	
45.	Signal Signs Ltd.	141 No. 5 Road Richmond, British Columbia, Canada	X	

	<u>NAME</u>	<u>ADDRESS</u>	<u>RESPONDED</u>	
			Yes	No
46.	Permaloy Corp.	P.O. Box 1559 Ogden, Utah 84402 U.S.A.	X	
47.	S.G.L. Graphics Division	John Fitch Industrial Park, Warminster Penn. 18974, U.S.A.	X	
48.	Spectralite 70 Ltd.	Montreal, Quebec Canada	X	
49.	U.S. Department of Justice, Federal Prison Industries Ltd.	Washington, D.C. 20537	X	
50.	Art and Sign Technique	25 Davenport, Toronto Ontario, Canada		X
51.	Booth Signs Co. Ltd.	7 Mercer, Toronto Ontario, Canada		X
52.	Display Signs	50 Queen N., Toronto Ontario, Canada		X
53.	New Style Signs Ltd.	569 King St. West Toronto, Ontario Canada		X

APPENDIX II

MICHIGAN STATE UNIVERSITY EAST LANSING • MICHIGAN 48823

DEPARTMENT OF PARK AND RECREATION RESOURCES • NATURAL RESOURCES BUILDING

Dear Sir:

Mr. Paul Risk, Professor, Department of Park and Recreation Resources, Michigan State University, and myself are preparing to gather information dealing with signs in parks (both natural and historic parks). The data we are interested in is 1) the various kinds of materials that you use in the production of these signs; 2) the various qualities of the final product; 3) the cost of the final product; and if possible, 4) graphic examples of your product. The cost of the final product refers to F.O.B. price to the consumer (agency) and, therefore, does not include transportation or installation costs. We are utilizing this costing method to provide for a uniform starting point for the various kinds of signs produced. To make this publication more useable, Canadian/American information on both the Federal/Provincial and Federal/State levels is to be included.

To our knowledge there are five basic kinds of signs presently being utilized in parks for entrance signs, directional signs, interpretive signs, species identification signs and the like. These five kinds are:

1. wood rooted
2. wood and attached letters
3. metallic
4. photographic imprints
5. small interpretive signs, i.e., tree species identification

If there are any new kinds of signs being used that you know of, we would also appreciate this information.

The information that we are attempting to secure will result in an assemblage of the data indicated above in a publication form. It is felt that this compendium of information will be of great value to prospective sign requirements plus indicating the present state of the industry.

If perchance your agency does not produce all the signs required for your system, we would appreciate it if you could forward to us a list of companies that you do business with. In this way we are ensuring ourselves of good coverage of all sign producers.

Page Two

Thank you for your time and consideration in this matter and I hope to hear from you soon.

Yours sincerely,

Rich Nuxoll

RN/bp

DEPARTMENT OF PARK AND RECREATION RESOURCES • NATURAL RESOURCES BUILDING

Dear Sir:

Recently, I forwarded a letter to you requesting information concerning signs. If perchance you did not receive the letter, I have included a copy of it herein.

The original request stated a tentative deadline of April 30, 1974. However, since that time, information has been arriving slower than anticipated. As such I would appreciate it if you could forward the material asked for.

Thank you for your time and consideration.

Yours truly,

Richard Nuxoll

RN/bm

Please send reply to:

Mr. Richard Nuxoll
292 Ross Avenue
Kitchener, Ontario
CANADA

334

MICHIGAN STATE UNIV. LIBRARIES



31293101284341