1962

The effects of readability and interest on the comprehension and retention of written messages.

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Boston University

http://hdl.handle.net/2144/17929

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An Analysis Of READABILITY and INTEREST: How They Determine The EFFECTIVENESS Of A Public Relations Message*

by

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(October, 1962)

* Originally prepared as a thesis for the degree of Master of Science in Public Relations, Boston University School of Public Relations and Communications, Boston, Massachusetts.
ACKNOWLEDGEMENTS

The author wishes to express his thanks to those who helped him in his work.

Jerry Lewis, Adrianne Weir, and Arthur Pfeiffer of Boston University; Renwick Curry of M. I. T.; and Dr. W. Pinard, Professor of Psychology at Boston University, rode herd on the subjects used in the experimental procedures.

V. C. Troldahl, Assistant Professor of Journalism at Boston University, devoted a good bit of time and energy to the statistical analysis of the data.

Finally, Valarie C. Curry provided the wifely encouragement and good humour that kept the author going when he most wanted to stall.
# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACKNOWLEDGEMENTS</td>
<td>11</td>
</tr>
<tr>
<td>LIST OF TABLES</td>
<td>iv</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>PART I: DISCUSSION</td>
<td>5</td>
</tr>
<tr>
<td>Effective Written Messages</td>
<td>5</td>
</tr>
<tr>
<td>Readability and Interest: A Relationship</td>
<td>26</td>
</tr>
<tr>
<td>PART II: A CONTROLLED EXPERIMENT</td>
<td>31</td>
</tr>
<tr>
<td>PART III: PUBLIC RELATIONS SIGNIFICANCE</td>
<td>49</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>57</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>64</td>
</tr>
</tbody>
</table>
## LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Overall Effects of Interest and Readability on &quot;Learning&quot;</td>
<td>40</td>
</tr>
<tr>
<td>2</td>
<td>Analysis of Variance: Interest vs. Readability, Effects on &quot;Learning&quot;</td>
<td>40</td>
</tr>
<tr>
<td>3</td>
<td>Overall Effects of Interest: Subjects Reading Hard and Easy Messages</td>
<td>41</td>
</tr>
<tr>
<td>4</td>
<td>Overall Effects of Readability: Subjects of High and Low Interest</td>
<td>41</td>
</tr>
<tr>
<td>5</td>
<td>Effects of Readability by Sex, Age, and Grade Average</td>
<td>42</td>
</tr>
<tr>
<td>6</td>
<td>Effects of Interest by Sex, Age, and Grade Average</td>
<td>43</td>
</tr>
</tbody>
</table>
INTRODUCTION

The public relations practitioner must be a skilled communicator. Observe the public relations objectives of 24 Chicago area companies:

1. To interpret the company, its goals, policies, practices and type of business to the company's publics.

2. To interpret to management the attitudes and opinions of the publics about the company.

3. To anticipate, ferret out and prevent internal difficulties that might cause trouble for the company.

4. To obtain customer acceptance of company products, increase sales and obtain franchises by winning customer friendship or improving service.

5. To take care of several miscellaneous company functions which don't belong in other departments.

6. To guide management in making the right move for the company.\(^1\)

Fulfilling these objectives (with the possible exception of nebulous number five) takes communication—effective communication.

Public relations people communicate over various media—radio, TV, newspapers, magazines, speeches, books, fliers, comics, rumours, skywriting, etc. The skilled communicator must know which medium will be most effective in each communication situation. Considerable research has been done comparing the effects

of competing—and complementing—media.

The printed word is one of the most popular mediums of public relations men. Immense circulation figures of newspapers and magazines are attractive. And placement of a message may cost no more than the price of a mimeograph job. Joseph Klapper, a media researcher, found some special advantages of print as a media. He writes:

Print, unlike the other media, permits its audience to set their own pace, allows for repeated exposure, allows for treatment of any length. Less reluctantly than the other media, print gives expression to minority views. Publications designed for minority or special-interest groups are particularly effective persuasive agents. In addition print is believed by some authors to possess greater prestige than the other media, but this belief can not at present be either substantiated or disproved.2

Print is appealing to the public relations executive for reasons other than its effectiveness. An airline public relations chief once demonstrated an airplane-length roll of paper covered with newsclippings announcing the airline's adoption of a new type of aircraft. What boss wouldn't be impressed by such a show of newswire inches devoted to his products and services! Another public relations counselor solicited accounts with pictures depicting him sitting in a squash court that had its walls plastered with newspaper and magazine stories and pictures he had placed on behalf of his former clients.

But the filling of newspapers and magazines with articles favorable to a client or employer should be a means to an end, not

an end in itself. The author once did some publicity work for a
golf course. The golf course had an interesting origin—it was
built by a man in his spare time. This tidbit of information was
tossed around the country via the wire services, much to the delight
of its perpetrator. Clips of the story bearing exotic mastheads
came pouring in. But their value was only to inflate the author's
ego. For what golfer in Michigan will travel to New England for
a round of golf, regardless of the course's uniqueness? Only those
articles appearing in newspapers serving the area of the golf
course were effective—they drew paying customers.

In short, written public relations messages must be judged
practically, in terms of their effects upon the readers of the
messages. If they are unread, passed over or forgotten, they are
worthless. And what good are they if they are read by the wrong
audience? The essential task of this study is to explore the
dynamics of effective printed messages—to find out which messages
are effective, and why.
PART I

DISCUSSION
EFFECTIVE WRITTEN MESSAGES

The most valuable written message in public relations work is that message which does something to people: changes attitudes or opinions; re-inforces favorable attitudes and opinions; or merely informs people about something. But there is more to consider than the message alone. Bernard Berelson sums up a discussion of the effects of communication:

Some kinds of communications on some kinds of issues brought to the attention of some kinds of people under some kinds of conditions have some kinds of effects.3

To be effective, the communicator must arrive at the best combination of message, media, readers, and situation.

Many experiments have been conducted in an effort to answer the Big Question:

What kinds of communications on what kinds of issues brought to the attention of what kinds of people under what kinds of conditions will have what kinds of effects?

Abelson's Persuasion4 sums up most of the experiments on the communicator, message, audience and situational variables. Some

---


of his conclusions are stated as "There will be more opinion change in the desired direction if the communicator has high credibility than if he has low credibility,"5 or "When opposite views are presented one after another, the one presented last will probably be more effective."6

The task of this thesis is not to arrive at a pat formula which the public relations man can tack on his office wall like the IBM "THINK" sign. Rather, it is an attempt to arrive at some valid generalizations about the relationship between the written message and the reader in a persuasion/information situation. But for the sake of discussion, the following hypothesis is advanced in answer to the Big Question:

A written message will be better understood and retained if it is readable, and if people are interested in it.

This hypothesis may be best examined by breaking it down into three parts: (1) understanding and retention, (2) readability, and (3) interested people.

Understanding and retention.

Understanding (comprehension) and retention are important concepts here since a message can hardly be effective if no one understands or remembers it. Hovland, Janis, and Kelley, in their book Communication and Persuasion, state:

The extent to which a communication is effective... depends in part on the extent to which the content of

5Ibid., p. 6.
6Ibid., p. 12.
the communication is attended to, understood, and remembered. When none of the supporting arguments are grasped and retained, beliefs and expectations based on them will generally be unaffected.\(^7\)

They point out the relationship between an information situation (as in a classroom) and a persuasion situation. A teacher's lecture may not have any real effect on the students if they do not understand what he is saying or promptly forget what he said.

The public relations practitioner's written message—be it a news release, brochure, inter-office memo, or what have you—will not affect anyone if people cannot understand it or will not remember it. According to the hypothesis, the degree to which people remember and understand a written message depends upon the readability of the message and the interest of the readers.

**Readability.**

A readable written message is "easy and interesting to read."\(^8\) Such a definition is quite easy to make, but the whole concept of readability and readable writing should be well understood by the public relations person—especially since it has been hypothesized that highly readable written messages are more effective in terms of their being remembered and understood.

To understand the concept of readable writing, one might examine some samples of writing that are not readable. Dr. Rudolph Flesch, the chief warrior in the crusade for readable writing, cites


some examples of writing that are scarcely readable. Here is a section of a life insurance policy:

If total disability occurs during the grace period for payment of a premium, such premium shall not be waived, nor refunded if paid; provided that failure to pay such premium within the grace period thenceforward shall not of itself invalidate a claim hereunder for total disability commencing during such grace period if such premium with compound interest at the rate of 5 percent per annum is paid at the time due or proof of the claim is furnished by the Company. 9

And part of a labor union contract:

Such grievances shall be submitted to such impartial umpire in writing and he shall promptly afford to the Employee or Employees concerned, the Union and the Company, a reasonable opportunity to present evidence and to be heard in support of their respective positions with regard to such grievance. 10

The above examples are not interesting and easy to read. Similar examples may be found in abundance in "fine print," directions and textbooks everywhere. Flesch's primary rule for writing in a readable manner is to "write as you would talk to your reader--if you were a perfect conversationalist." 11 Here is the insurance policy translated into his "plain talk":

You have a 31-day grace period to pay a premium after it is due. Suppose you become disabled during such a period before you have paid the premium. In such a case you can stop paying any more premiums, but you'll still have to pay the one that's already overdue.

10Ibid., p. 153.
11Flesch, How to Test . . . . , p. 42.
You have time to pay it (with 5 percent interest) when you furnish us proof that you're totally disabled.\(^{12}\)

And here's the union contract so everyone, union and management, can understand it:

The next step is a letter to the umpire. As soon as the umpire gets it, he must give everyone a chance to tell his side of the story and prove it.\(^{13}\)

The difference is obvious.

Felsch has done more than merely campaign for readability. He devised a method for measuring it. His test for readability is based on a statistical analysis of 350 reading lessons used for comprehension tests of New York school children.\(^{14}\) His revised formula consists of two parts: a measure of "reading ease" and "human interest."

"Reading ease," according to the Flesch formula, is dependent upon average sentence and word length in a piece of writing. Reading ease increases as sentence length and word length decreases. To arrive at the Reading Ease Score of a sample of writing, one:

1. Adds the average sentence length, multiplied by 1.01, to
2. The number of syllables per 100 words, multiplied by .846.
3. This sum is subtracted from 206.835.

The difference is the Reading Ease Score. This score may lie on a continuum from 0 (almost unreadable) to 100 (easy for any


\(^{13}\)Ibid.

\(^{14}\)Flesch, How to Test ..., p. 38.
The Reading Ease Score can be interpreted in terms of description of style, magazines where such writing is usually found, and typical figures for sentence length and word length, as shown on the chart below:

<table>
<thead>
<tr>
<th>Reading Ease Score</th>
<th>Description of Style</th>
<th>Typical Magazine</th>
<th>Syllables per 100 Words</th>
<th>Average Sentence Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>90-100</td>
<td>Very Easy</td>
<td>Comics</td>
<td>123</td>
<td>8</td>
</tr>
<tr>
<td>80-90</td>
<td>Easy</td>
<td>Pulp Fiction</td>
<td>131</td>
<td>11</td>
</tr>
<tr>
<td>70-80</td>
<td>Fairly easy</td>
<td>Slick Fiction</td>
<td>139</td>
<td>14</td>
</tr>
<tr>
<td>60-70</td>
<td>Standard</td>
<td>Time, Most Non-Fiction</td>
<td>147</td>
<td>17</td>
</tr>
<tr>
<td>50-60</td>
<td>Fairly Difficult</td>
<td>Harper's, Atlantic</td>
<td>155</td>
<td>21</td>
</tr>
<tr>
<td>30-50</td>
<td>Difficult</td>
<td>Academic</td>
<td>167</td>
<td>25</td>
</tr>
<tr>
<td>0-30</td>
<td>Very Difficult</td>
<td>Scientific</td>
<td>192</td>
<td>29</td>
</tr>
</tbody>
</table>

The life insurance policy and labor union contract in their original forms, have Reading Ease Scores of Minus 12, and 10. In their revised forms, they rate Reading Ease Scores of 65 and 85, respectively. Comparison of both versions of the passages shows how sentence and word length have been cut down for the sake of clarity.

The second part of the revised Flesch readability formula is the Human Interest Score. This score is derived by counting the number of "personal words" and "personal sentences" in a piece of writing, or a sample from a larger written message.

15Ibid., p. 4.
16Ibid., p. 6.
18Flesch, How to Test . . . , p. 6.
"Personal words" in a passage are:

1. All first, second, and third-person pronouns except the neuter pronouns it, its, itself, and the pronouns they, them, their, theirs, themselves if referring to things other than people.

2. All words that have masculine or feminine natural gender, e.g. John Jones, Mary, father, sister, iceman, actress.

3. The group words people (with the plural verb) and folks.19

"Personal sentences" are:

1. Spoken sentences marked by quotation marks or otherwise, often including speech tags like "he said," set off by colons or commas.

2. Questions, commands, requests, and other sentences directly addressed to the reader. For example: Does this sound impossible? Imagine what this means. Do this three times. You shouldn't overrate these results, etc.

3. Exclamations, e.g. It's unbelievable!

4. Grammatically incomplete sentences or sentence fragments whose full meaning has to be inferred from the context. Examples: Doesn't know a word of English. Handsome, though. Well, he wasn't. The minute you walked out. No. Not so. No doubt about that. I was going to. 20

To ascertain the Human Interest Score of a written message, count the number of "personal words" and "personal sentences" contained in it. Then:

1. Add the number of "personal words" per 100 words, multiplied

19Ibid., p. 6.

20Ibid., pp. 7-8.
by 3.635, to

2. The number of "personal sentences" per 100 sentences, multiplied by .314.

The sum represents the Human Interest Score. It will fall on a continuum from 0 (no human interest) to 100 (full of human interest).\(^{21}\)

Like the Reading Ease Score, the Human Interest Score can be interpreted in terms of description of the style, magazines where such writing is usually found, and the typical figures for "personal words" and "personal sentences."\(^ {22}\)

<table>
<thead>
<tr>
<th>Human Interest Score</th>
<th>Description of Style</th>
<th>Typical Magazine</th>
<th>Percent &quot;Personal Words&quot;</th>
<th>Percent &quot;Personal Sentences&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>60-100</td>
<td>Dramatic</td>
<td>Fiction</td>
<td>17</td>
<td>58</td>
</tr>
<tr>
<td>40-60</td>
<td>Highly Interesting</td>
<td>New Yorker</td>
<td>10</td>
<td>43</td>
</tr>
<tr>
<td>20-40</td>
<td>Interesting</td>
<td>Digests, Time</td>
<td>7</td>
<td>17</td>
</tr>
<tr>
<td>10-20</td>
<td>Mildly Interesting</td>
<td>Trade Journals</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>0-10</td>
<td>Dull</td>
<td>Scientific</td>
<td>2</td>
<td>0</td>
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</tbody>
</table>

Both the insurance policy and labor union contract in their original forms rate "Dull" according to the formula (0 and 7 in their respective Human Interest Scores). Flesch re-wrote them by using more "personal words" and "personal sentences" and raised their Human Interest Scores to 79 and 26.\(^ {23}\)

The revised readability formula of Dr. Flesch has been put

\(^{21}\)Ibid., p. 8.

\(^{22}\)Ibid., p. 10.

on trial and tested experimentally. Charles E. Swanson found that "increased readability appears to make for the readership of a larger number of paragraphs. Where writers for mass media can apply the principles of readability as tested in [his] experiment, they can expect some increase in readership of their words in print." In other words, more people read more words of a readable article in a newspaper than a less readable version of the article.

Highly readable writing is also easier to comprehend. Flesch found that students comprehended written materials of high readability better than messages of low readability. Also important, a written message of high readability is judged by subjects to be "easy" to read compared to low readability messages. The Flesch formula is reliable.

Practical uses of the Flesch formula are many. Journalists have used the formula, or some applications of it, since Flesch served as a consultant to the Associated Press and drafted a manual for the use of AP writers.

The formula has also been used in other fields. Researchers applied the formula to a national sample of employee handbooks and


found that only 6 of 71 could be read by more than 54 per cent of the potential readers. The larger companies had less readable handbooks.\footnote{K. Darin and J. C. Hopkins, "Readability of Employee Handbooks," \textit{Personnel Psychology}, 1950, 3, pp. 317-326.} Others tested occupational information booklets and discovered that 66 per cent of the booklets rated "Very Difficult" and another 32 per cent were rated "Difficult," according to the formula. The majority of the rest were "Dull" or only "Mildly Interesting."\footnote{A. Bradfield and F. Reed, "How Readable are Occupational Information Booklets," \textit{Journal of Applied Psychology}, 1950, 34, pp. 325-328.} In the educational field, Johnson discovered that many IQ tests favored those who have good reading skills, since many commonly used tests were poor in "reading ease."\footnote{R. Johnson, "Reading Ease and Commonly Used Tests," \textit{Journal of Applied Psychology}, 1950, 34, pp. 319-324.}

As might well be expected, many people are not overly enthusiastic about the principles of "plain talk" and "readable writing" as expounded by Flesch. For one thing, Flesch does not feel that "arty" writing necessarily delivers the message. Observe some of his rules for "plain talk":

Do not use rhythm. (Maybe your readers won't catch on).
Do not use periodic sentences.
Do not use rhetorical questions.
Do not use metaphors without an explanation.
Do not use contrasts without an explanation.
Do not use irony. (Half the people won't get it).\footnote{R. Flesch, \textit{The Art of Plain Talk}, (New York: Harper and Brothers, 1949), p. 105.}
But Flesch defends himself by asking the question:

What's more important to you--getting your ideas across or giving your readers an intellectual workout? If it's getting your ideas across, then you have to meet conditions as they are and write so that people won't be baffled or bored. And if you think that difficulty is the hallmark of great literature, look at the classics; most of them are highly readable by any standards.32

Bryant Kearl cautions writers about the readability formulas. He claims that they leave out the climate of opinion in which a piece of writing appears, character and purpose of the writer, the format of the publications, and the reader's expectations whether he expects the item to be dull or interesting.33 And Irving Lorge, himself a creator of a readability formula, states that "the formulae pay no attention to the motivation of the reader or the appeal of the passage, nor do they evaluate the impact on the reader in terms of his actions, his learnings, or his appreciations."34

In other words, the readability formulas are not to be used as a pat recipe for good writing, but as a tool which a writer can use to help him construct written messages that will best get his ideas across to a particular set of readers. We may safely assume that Dr. Flesch agrees with this philosophy. In a section on raising readability scores in his How to Test Readability, he

32Flesch, How to Test . . . ., p. 50.


34Irving Lorge, "Reading and Readability," Teachers College Record, 1949, 51, pp. 90-97.
first recommends:

**FOCUS ON YOUR READER**

There's no point in controlling readability if you don't know who you are writing for. Find out as much as you can about your reader's education, reading habits, age, sex, occupational background, and so on. Even a clear conception of the characteristics of the "general reader" is better than writing in a vacuum.35

And:

**FOCUS ON YOUR PURPOSE**

What are you writing for? What do you expect your readers to do? Read your piece casually? Study it? Use it for reference? Read it for entertainment during leisure hours? Be sure of what you are trying to do and write accordingly.36

Flesch realizes that his readability formula only tells the writer how easy and interesting the material is for a particular audience. He knows that some writing shouldn't be overly dramatic. "There's nothing wrong with abstract condensed writing as long as you pick your readability level deliberately," he contends.37

And how do you pick this level? Flesch states a rule of thumb:

To reach an audience at a certain level of reading or listening, you not only have to talk the kind of language they will be able to understand without effort, but ordinarily, you have to go one step below that level to be sure your ideas will get across.38

35Flesch, How to Test . . . , p. 25.

36Ibid.

37Ibid., p. 49.

38Flesch, The Art of Plain Talk, p. 137.
In summing up our discussion of readable writing, we might state the following generalizations:

1. Readable writing is "easy and interesting to read."

2. Readability formulas have been devised to measure the readability of written messages.

3. Dr. Rudolph Flesch has devised a readability formula which has two parts: one measures "reading ease," the other measures "human interest."

4. Written messages that are of high readability are read and comprehended by more people than less readable messages.

5. The Flesch formula can be used in such fields as journalism, education, and business--any field where clear communication via the written word is important.

6. The Flesch formula does not take into consideration the reader or the context of the written message. It is a tool writers can use--not a panacea for effective writing.

Interested Persons.

What is an interested person? This sounds like an easy question to answer, but most people would answer it with a hesitating "Well, ah, it's, er, someone who is... interested." Key does a good job of answering this thorny question in his article in *The American Editor*. His highly readable style calls for extensive quotation of his summation of the many arguments about the meaning of interest.

The Concept of Structuring Reality and the Concept of Tension both tend to view behavior from a rather simple fundamental question. What is the individual trying to do? One answer to this question speculates that individuals are striving for goals. In essence, goals (consider this word related to interests) are always involved with any aspect of human behavior.
This abstraction goal could include anything from wanting to reach Heaven, desiring a T-Bone steak for dinner, chasing a job promotion, a blind, etc. At present it appears impossible to enumerate definitely all the goals that underlie human behavior.

Yet regardless of what these goals might be, the means of reaching them are never entirely free of obstacles. To the individual, this means delays, frustrations, and detours.

As these obstructions are encountered, they are analyzed in relation to previous experience. An individual attempts to reorganize his ability to overcome the obstruction. A person may, of course, modify or throw out or turn to other goals (interests) in the process.

One assumption that can be made from this concept of structuring reality is that individuals need constantly to structure and restructure their worlds in order to live in them. The structuring may be simple or complex, adequate or inadequate. But it is always related to the environment and past experience. And it seeks to create a degree of order and coherence within the individual. It also seems to provide the individual with interest in more or less specific areas of life.

The Concept of Tension presumes that an individual will never reach a state of absolute stability with his environment. A temporary balance (homeostasis) may be reached by an individual but it is a precarious situation. Disturbances and unexpected changes of environment, new needs to be served, minor and major threats to goals, etc. will always exist. The conditions continually maintain a state ranging from mild to intense instability. This instability creates tension, or if you will, interest.

Assuming that a perfect balance between an individual, his environment, and his needs or goals may be approached but never achieved, we can say the level of tension is constantly changing. And the individual always strives to reduce tensions when he becomes aware of them. The constant need to establish a more stable position—in relation to environment and goals—produces tension, and we can also say interest.

In other words, Professor Key concludes, that interest is "inextricably involved with—and perhaps synonymous with—phrases such as tension, need for meaning, anxiety, goal seeking, aspirations, 39

etc."\(^4^0\) He infers that the "interested" person wants, needs, or seeks something. And interest will continue until the want or need is either fulfilled or discarded.

In his discussion of interest, Key draws heavily from Krech and Crutchfield's *The Theory and Problems of Social Psychology*. In this book one can find a more complete study of the tensions that accompany a blockage of a goal as well as the steps that can be taken to reduce this tension. Briefly, there are two types of behavior which may reduce this tension: adaptive and maladaptive.

Adaptive behavior to reduce tension may be:

1. An intensification of effort.
2. Reorganization of perception of the problem.
3. Substitution of goals.

Maladaptive behavior which may occur can be listed as aggression, regression, withdrawal, repression, sublimation, rationalization and projection, autism, and identification.\(^4^1\) Sherif and Sherif point out the differences individuals have in regard to their goals. They write:

One college student may aim at getting a C in his course; his classmate may feel frustrated unless he gets an A. The rich man may not feel satisfied unless his riches are second to none in his community, whereas a poor man who has difficulty making ends meet may experience achievement if he is able to make steady living for his family. The vice-president of a company


may feel miserable until he becomes president.\textsuperscript{42}

Just as people have many goals, they have many different means of reaching these goals. This thesis is concerned with the written word. Reading can be used as a means of reducing tensions or achieving goals. But people read different things to achieve different goals. Take the newspaper, for example. Dad reads the news and sports to "keep up with things." Mom flicks over the fashion columns and "Dear Abby" to see what other people are wearing and what's wearing on other people. Junior is entertained by the comics. And Sis reads the news so she can win the praise of her Problems of Democracy teacher.

People read for a wide variety of reasons because they have a wide variety of needs. Berelson took advantage of a newspaper strike to discover "What 'Missing the Newspaper' Means." He found that people relied on the newspaper for information and interpretation of public affairs, as a tool for daily living (radio programs, advertisements, etc.), for respite, for social prestige, and for social contact.\textsuperscript{43} He also discovered that the act of reading alone gives pleasure or satisfies some needs. He states, the newspaper "serves as a (non-'rational') source of security in a disturbing world and finally...reading of the newspaper has become a ceremonial or ritualistic or near-compulsive act for many people."\textsuperscript{44}


\textsuperscript{44}\textit{Ibid.}, p. 47.
Waples, Berelson, and Bradshaw concluded that people have certain predispositions making up the total personality of an individual that lead the individual to select certain written messages to read.\(^{45}\) Can this not be related to Professor Key's comments? An individual has certain goals or needs—prestige, security, success, information, or whatever—all stemming from his past experiences. By reading, he can lessen the tension which arises with the presence of obstacles to these goals. What an individual reads depends upon the reading material he has found in his experience that best structures his reality and reduces his goal or need-related tensions. A large group of people with similar predispositions will read the same type of material. Or, as Key puts it:

The Ladies Home Companion and McCall's, though overlapping somewhat in their audience, are fundamentally shooting for different audiences. The audience of readers is presumably a group of people structuring reality about themselves in a somewhat similar way relative to age, income, education, etc. The notion might be clarified if the group regularly reading Male magazine were compared with subscribers to the New Yorker. These two groups are clearly distinct in the way they adjust their needs to their environment.\(^ {46}\)

Several writers have concluded that the greater the interest an individual has about a written message, the better he will learn it. Hovland, Janis, and Kelley state that the "degree of interest in material affects the extent to which the individual will learn the content of the communication. How well it has


\(^{46}\)Key, "How to Hold Readers," p. 7.
been learned will then affect how well it will be retained."

Wilbur Schramm, in reviewing the research done on the effects of mass communication, comes to essentially the same conclusion. Schramm does not state the word interest, but his words "motivation," "tension" and "reward" (in terms of a release from "tension" or gain of "prestige") indicate his definition of interest would coincide with the goal-related used of the word. Schramm writes:

The amount of learning from mass communication, when other variables are controlled, tends to be proportional to the degree with which the individual can relate himself to the situation being presented, and therefore to the extent to which he can anticipate a reward for attention. (This reward may be immediate or remote, real or psychic. It may be a release from tension, the kind of prestige that comes from belonging to an in-group, or information that will be useful in future problem situations.)

And:

The amount of learning from mass communication, when other variables are controlled, is proportional to the motivation which compels the attention. (In most situations involving mass media, attention is significantly lower than in usual situations where theories of learning apply only to a limited degree to many mass communications effects.)

If the foregoing statements are accepted, then someone who wishes to get people to read and remember his messages must know their needs, goals, tensions, motivations, etc.—the interests—

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49Ibid.
of these people. Knowing these, he can relate his message in terms of his readers' interests. Editors have this problem to solve. Key illustrates this with the following story:

Assume a wire service foreign editor in New York receives a straight factual story on, say a mutual security treaty signed between, say, Lebanon and Jordan. Our editor has only documentary information--treaty signed at a certain site, by certain individuals, promising certain assistance in case of military attack, containing certain bilateral agreements.

Our editor must decide whether this story will be teletyped all over the United States or thrown into a wastebasket. It is in every way a legitimate story which perhaps would be disseminated among American readers--as part of vital information about the Middle East. But our editor realizes treaties are signed almost every day in some part of the world. And that probably few people in this nation could even vaguely identify Jordan and Lebanon. There is simply no interest per se among his potential readers.

Our editor is also well aware that if he transmits uninteresting material on the expensive wire facilities, and subscribing newspapers throw his stories out, he could find himself out of a job.

So, our foreign editor--if he considers the story potentially interesting--might first sit down and attempt to analyze his readers' potential interest or tension or opinions in relation to the story.

A few tension factors that might be considered are the threat of Soviet influence in the Middle East (the Communist threat always seems to provide a strong interest base in the United States), possible renewed hostilities between Arabs and Jews, influence of the treaty upon United States oil importation, etc. Any one of these, our editor may decide, represents a national tension or interest. If he can relate his--on the surface--uninteresting treaty story to a strong national tension, he might come up with a story that could hit front pages in dozens of papers all over the country.50

Professor Key points out the fact that the editor, or anyone who wants a message to be read and remembered, must analyze the interests of the people whom he wishes to reach. Knowing their

interests or tensions, he can relate his message to them. But does it end here? Can't steps be taken to arouse the "tensions," needs, wants or goals of readers to make a message effective? It has often been done.

Motion picture promotion provides an example. For a matter of weeks, national advertisements with the cryptic words, "The Thing is Coming" appeared in most of the popular publications. No mention of a movie was made. After a while, people began asking themselves and each other, "What is this Thing thing?", thus showing their interest. When news releases about the movie appeared, readers naturally read them to ease the slight tensions (interest) which had been built up by the preceding mysterious advertisements. Of course advertisements are not the only way to build interest in a message or an event--the circus parade is used to create interest in ticket buying! Other examples are countless.

** ** ** ** **

What, then, is interest or an interested person? Our discussion has led us to the following generalizations:

1. Interest is goal-related. It may be synonymous with the tension accompanying blockage of an individual's goals. An interested person, in a sense, is a motivated person.

2. People have an interest in reading, since it reduces tensions by fulfilling certain needs; e.g. needs for information, security, prestige, respite, social contact, etc. These needs may be either "rational" or non-"rational."

3. The reading material an individual selects depends upon his past experience--his recollection of the reading material that satisfied his needs in the past.
People structuring reality about themselves in a somewhat similar way relative to age, education, income, etc., will probably select the same kinds of reading material.

4. The more interested a person is in a written message, the more likely he is to read and "learn" that message.

5. If a writer or editor wants someone to read his message, he should write it in terms of the interests of his would-be readers.

6. Interests (tensions, motivation, etc.) may be aroused in an individual's mind so that he will want to read a particular message so that it will reduce his tensions.
READABILITY AND INTEREST: A RELATIONSHIP?

What is the relationship between readability and reader interest, if there is one? In exploring this question, we might turn to Schramm's Fraction of Selection:

\[
\text{Selection} = \frac{\text{Expectation of Reward}}{\text{Effort Required}}
\]

The Fraction of Selection illustrates how a person tends to select a communication from the mass media if his expectation of reward for attending to the communication is increased and/or the effort required to attend to the message is decreased. Schramm illustrates his Fraction as follows:

You are much more likely to read the newspaper or magazine at hand than to walk six blocks to the news stand to buy a bigger newspaper or magazine. You are more likely to listen to a station which has a loud clear signal than to one which is faint and fading and requires constant effort from you to hear at all. But if the big game of the week is on that faint station, or if your favorite author is in the magazine at the news stand, then there is more likelihood that you will make the additional effort. If you were a member of the underground in occupied France during World War II you probably risked your life to hear news from the forbidden Allied radio. You aren't likely to stay up until 2 a. m. simply to hear a radio program, but if by staying up that long you can find out how the Normandy invasion is coming or who has won the Presidential election--then you will probably make the extra effort just as most of the rest of us did. It is hardly necessary to point out that no two receivers may have exactly the same fraction of

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selection. One of them may expect more reward from Milton Berle than will the other. One of them may consider it less effort to walk six blocks to the news stand than does the other. But according to how this fraction looks to individuals in any given situation, the audience of mass communication is determined.52

Schramm's fraction explains the process of selection of a message from the mass media. This study is concerned with understanding and retention of a written message. It will be remembered that the hypothesis "A written message will be understood and retained if it is readable and if people are interested in it" was advanced. Drawing from Schramm's model, the relationship between reader interest and readability in terms of understanding and remembering of the message is expressed as:

Understanding-Retention \[=\] Reader Interest
\[=\] Lack of Readability

This fraction may be increased by increasing its numerator and/or decreasing its denominator. For example, Kant's Categorical Imperative is a very abstract piece of writing of low readability. Yet students read it because they are interested in it (as would be a philosophy major) or someone has motivated them to read it (the professor who threatens them with a quiz or bestows good marks on students who shine in class). The goals of learning about Kant or getting a good mark have made the students interested in the piece of writing. By reading it, they can meet these goals or reduce tension—or they can restructure

52Ibid., p. 20.
themselves by eliminating the goal with a thought like "Who needs to know that stuff anyway?".

The denominator of the fraction may be lowered by a decrease in the lack of readability of Kant's writing. How? Through use of an easier version sold in many book stores. It seems logical to assume that more students will understand and remember Kant if they can get their hands on an easier version—or a classmate's notes.

Reader interest and readability may work together. If the fraction is valid, the most interested students who read the most readable version of Kant will understand and remember the most. The least interested or motivated students who read the difficult original version will understand and retain the least.

But is the fraction—call it a Fraction of Comprehension—valid? It would seem that motivation or interest is often more important than readability. Won't any message be comprehended by individuals who are sufficiently interested in it? Flesch cites part of the Kinsey Report as an example of unreadable writing, but comments that "it wasn't exactly readability which made it a best seller."53 It may be hypothesized that highly interested people will comprehend a less readable version of a message as well as a more readable version of the same message if other variables are isolated. A note of caution must be interjected. The highly readable message, according to Flesch, contains "personal words" and "personal sentences." These words and

53 Flesch, The Art of Readable Writing, p. 135.
sentences refer to things the reader is vitally interested in—himself and other people. Therefore, a readable message will increase motivation or interest in the message. Thus the hypothesis expressing the relationship between readability and interest is interested people will comprehend and retain a highly readable version of a message slightly better than a less readable version of the same message.

But readability may become more important if interest in a written message is low. First, high readability increases motivation. More important, the "effort required" as seen in Schramm's Fraction is reduced. Therefore, people with little interest in a written message will comprehend and retain more of a highly readable version of a message than a less readable version of the same message.

Discussions of theories and concepts are useless unless they are checked through data supplied by scientific efforts. Aristotle hypothesized that light objects fell to the earth more slowly than heavy objects because he observed that a feather floated to the floor more slowly than an iron ball. Part II of this study is devoted to an empirical check of the hypotheses discussed here in an effort to avoid a similar misrepresentation of fact.
PART II
A CONTROLLED EXPERIMENT
A CONTROLLED EXPERIMENT

The experimental procedures described here attempt to explore the effects of readability and reader interest on the comprehension and retention of a written message. The readings discussed previously tend to support the hypothesis:

A written message will be better understood and retained if it is readable and people are interested in it.

But in an experimental situation, accurate working definitions and specific hypotheses must be stated so as to insure the validity of the findings—and to make all limitations clear cut.

Working Definitions.

Interested people, according to the theories of Tension and Structuring Reality discussed previously, are those individuals who are trying to fulfill a need. Tension arises when this need is unfulfilled—and the tension is erased when the need is either fulfilled or the individual restructures reality in such a way that his needs are discarded. In this experimental situation, the subjects became interested in a written message because they were told that their close attention to the message would result in their receiving a high mark. They became "interested" or motivated to read the message since it represented a blockage of certain goals: good grades, high prestige that accompanies good marks, a feeling of a job well done. Therefore:
1. **High Interest Subjects** are those subjects who have been told that their comprehension and retention of a written message will be reflected in their course grades.

2. **Low Interest Subjects** are those subjects who were told that the written message has no relation to their course or course grades.

Readable and less readable messages may be measured by the Flesch readability formula which assesses the "reading ease" and "human interest" values of a written message. In this experiment:

3. A readable (Easy) written message is one which is "Easy" and "Interesting" according to the Flesch readability formula.

4. A less readable (Hard) written message is one which is "Difficult" and "Dull" according to the Flesch readability formula.

The original hypothesis implies that readability and reader interest will affect a reader's "understanding" and "retention" of a written message. These concepts are more difficult to define than to measure. Communication may be roughly defined as a transfer of information; "understanding" and "retention" are considered to be the amount of transferred information that is comprehended and remembered. This transfer may be measured by the feedback mechanism of a test. For the sake of ease, understanding and retention are hereafter called "learning."

More formally:

5. "Learning" is the amount of information contained in a written message that is understood and retained, as measured by recognition, recall, and comprehension test of the information in the message.
Working Hypotheses.

Since the Flesch formula was derived from comprehension tests, one would expect to find that people will "learn" more from a message of high readability. The previously cited experiments by Flesch and Swanson indicate this to be true. The experimental procedures of this study lend themselves to further testing of the hypothesis:

\[ H_1: \text{Subjects will learn more from reading an Easy message than subjects who read a Hard message, if other variables are controlled.} \]

Several authors (Schramm; Hovland, Janis, and Kelley) cited in the discussion on interest indicated that the greater an interest an individual has in a written message, the more he will "learn" from it. The concept may be put to test in this experiment. Thus, a second hypothesis is formed:

\[ H_2: \text{High Interest Subjects will "learn" more from a written message than Low Interest Subjects who read the same message, if other variables are controlled.} \]

But in discussing the interaction between interest and readability, the author mentioned his belief that interest is often more important than readability. In other words, he thinks that readability differences will have less effect on "learning" when interest is high. Two hypotheses expressing this viewpoint may be stated as:

\[ H_3: \text{High Interest Subjects will "learn" as much from reading a Hard version of a message as from reading an Easy version of the same message, if other variables are controlled.} \]
**H₄**: Low Interest Subjects will "learn" more from reading an Easy version of a message than from reading a Hard version of the same message, if other variables are controlled.

**Design.**

In order to test the four hypotheses, an experimental situation had to be constructed so that both High and Low Interest Subjects would read both Hard and Easy versions of a message. A test of what they "learned" from the messages had to be constructed to measure the effects, if any, of readability, interest, or the interaction of readability and interest. The independent variables of readability and interest had to be easily manipulated while the dependent variable, "learning," effectively measured. All extraneous variables had to be controlled to insure the validity of the findings.

**Independent Variable--Readability**

**Hard Message**--A passage containing factual information about Japanese propaganda was selected from a textbook (See Appendix for actual message used). The passage rated a Reading Ease Score of 27.287 ("Difficult") according to the Flesch formula. Its Human Interest Score was 11.632 ("Mildly Interesting").

**Easy Message**--The Hard Message was re-written in an effort to raise its readability without losing any of the factual information. (See Appendix). The new version, the Easy message, scored 77.704 in "reading ease" ("Fairly Easy"), and 32.501 ("Interesting") in "human interest."

**Independent Variable--Interest**

**High Interest**--A set of verbal instructions was constructed
so that High Interest would be aroused in the subjects previous to their reading of the messages. The High Interest instructions were:

What we are doing here is helping Dr. Pinard determine the final grade you will get in this psychology course. When I give the word, turn over the paper on your desk and read the passage on the other side. The passage is about Japanese propaganda in World War II. Don't take notes, but try to get as much out of the passage as you possibly can. Studies have proved that students who have kept up in class usually learn more from a passage like this. So, try to learn as much as you can from the passage. You'll be tested on it, and the test score will count as 1/5 of your final grade. You'll have several minutes to read the passage. O. K., begin reading.54

Low Interest—Another set of verbal instructions, designed to create Low Interest on the part of the subjects, was constructed. Unlike the High Interest instructions, the Low Interest instructions were presented in a casual manner. They read:

My boss over at SPRC is doing some kind of a study... don't ask me what it is, I just work there. It's about propaganda, I guess. I'm supposed to hand out a passage about Japanese propaganda in World War II. Read it over, if you will. You don't have to take notes, or anything. This is no assignment. I'll put it face down on your desk. Start reading when I give you the word... but don't hold your breath... it'll never be a best seller. You'll have several minutes to read the passage.

54 Some writers have criticized the use of deceptive manipulation in social science research. Edward Shils, in his "Social Inquiry and Autonomy of the Individual," The Human Meaning of the Social Sciences, ed. D. Lerner, (New York: Meridian Books, 1959, pp. 114-157), speaks strongly on this point. But the author felt that his "high interest" instructions caused no injury and, after explanation of the experiment was completed, there were no permanently damaging effects. Of course the subjects may be more wary of experimental manipulation in the future, but as psychology students, their increased sophistication regarding techniques learned from the experiment in which they were subjects may be of value. It is probable that they will recall the experiment more readily than a lecture on subject manipulation.
Dependent Variable--"Learning"

A test was constructed (See Appendix for entire test) that would measure how much information an individual understood and retained from either message version. It consisted of six multiple choice items and three recall questions—maximum possible score being 9. In order to reduce bias in favor of either message version, key words of both versions were included in the test questions. For instance, the word "attitudes" appearing in the Hard message was translated to "feeling" in the Easy version. (See Question #3 in the test in the Appendix).

As a check against the test's being too easy in the light of the subjects' general knowledge, it was administered to a group of professional public relations people and graduate students without their previously reading either message. Since their mean score was 2.53 (a chance score of 1.25 was probable), it was concluded that the subjects would not be able to score highly on the test unless they had understood and retained information contained in either message version.

Extraneous Variables Control

Randomization was the main guard against the effects of extraneous variables: sex, age, intelligence, general knowledge, etc. The subjects were placed into the High and Low Interest groups by random procedures. Since half the High Interest and half the Low Interest subjects read the Hard version and the others read the Easy, the message versions were stacked randomly so that each subject had an equal chance to read either version.

Subjects

The subjects used were enrolled in two summer school
psychology classes at Boston University. The abnormal psychology students were college seniors; median age 21.5 years; 14 females, 24 males. The general psychology students were largely college sophomores; median age of 19 years; 16 females, 31 males.

Procedures.

Half an hour from the end of his class lecture in Abnormal Psychology, Dr. Pinard, Professor of Psychology, acknowledged the two administrators as his "assistants" and turned the class over to them. One "assistant" read off the names of the High Interest groups and told the subjects to accompany him to an adjoining room (where both versions of the message had been randomly placed). A helper was present to see that the subjects did not look at the messages or communicate with each other.

The High Interest instructions were presented and the subjects were given three minutes to read the passage. The test was administered. Then the subjects filled out a Personal Data Sheet on which they gave such data as age, sex, and average college grades. The papers were collected, and the subjects were informed that the experiment had no bearing on their class marks. A show of hands revealed that most of the students did believe their comprehension of the passage would be tested.

After the High Interest Subjects had left the original classroom, the Low Interest instructions were presented. Both versions of the message were randomly distributed, and the subjects had three minutes to read them. Then the "assistant" explained that he "wanted to find what they got out of the passage, as well
as something about themselves." In order that the Low Interest Subjects would try as hard to excel on the test as their colleagues, the Personal Data Sheet was attached to the test to make the subjects think their scores would be recorded. The "assistant" also remarked that they should try as hard as they could since "Dr. Pinard wanted to see how each of them made out on the test."

The test was then administered. A show of hands revealed that less than half the Low Interest Subjects thought they would be tested on the material.

The procedures described here were then replicated with the general psychology class. Due to the nature of the summer school sessions, it was believed that no interaction occurred between the two classes. In other words, both classes of subjects were naive.

The tests were sorted and computed into four cells:

High Interest Subjects who read Easy message.
High Interest Subjects who read Hard message.
Low Interest Subjects who read Easy message.
Low Interest Subjects who read Hard message.

The mean "learning" scores for each cell were computed. Likewise, the mean "learning" scores of all subjects who read the Hard messages and the Easy messages were worked out combining interest levels. And the mean scores of all the High and Low Interest Subjects were found. Further breakdowns according to the effects of interest and readability on age, sex, and grade averages were made.
Results.

Table 1 shows the differences in "learning" between the High and Low Interest Subjects who read the Easy and Hard versions of the message. As was expected, the High Interest subjects who read the Easy version "learned" the most (X=7.052). The Low Interest Subjects reading the Hard version "learned" the least (X=3.833). It is interesting to note that the High Interest Subjects who read the Hard version "learned" about the same amount as the Low Interest Subjects who read the Easy version.

In order to determine whether the differences in "learning" were significant, an analysis of variance was made by a competent statistician. Table 2 illustrates the results of the analysis. Both readability and interest were shown to have significantly affected "learning" (p<.01). In this experiment, interaction between readability and interest made no significant differences in "learning."

Table 3 shows the overall effects of Interest on "learning," regardless of readability. High Interest Subjects had a mean score of X=6.052; Low Interest Subjects' "learning" was X=4.765. Table 4 demonstrates quite similar effects on "learning" by readability.

**Effects of Interest and Readability on "Learning," by Sex, Age, and Grade Average**

Table 5 indicates that readability had a greater effect on the male subjects as well as on the subjects who were 21 years of age or more. The grade averages seemed to make little difference.

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55 Verling C. Troldahl, Assistant Professor of Journalism, Boston University.
Table 1

Overall Effects of Interest and Readability on "Learning" (Mean "learning" scores)

<table>
<thead>
<tr>
<th>Interest Level</th>
<th>Message Version</th>
<th>Mean &quot;Learning&quot;</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Easy</td>
<td>7.052</td>
<td>19</td>
</tr>
<tr>
<td>High</td>
<td>Hard</td>
<td>5.052</td>
<td>19</td>
</tr>
<tr>
<td>Low</td>
<td>Easy</td>
<td>5.739</td>
<td>23</td>
</tr>
<tr>
<td>Low</td>
<td>Hard</td>
<td>3.833</td>
<td>24</td>
</tr>
</tbody>
</table>

Total Number Subjects: 85
Total Mean "Learning" Score: 5.341

Table 2

Analysis of Variance: * Interest vs. Readability, Effects on "Learning"

<table>
<thead>
<tr>
<th>Source of Variation</th>
<th>df.</th>
<th>S.S.</th>
<th>M.S.</th>
<th>F</th>
<th>Signif.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interest</td>
<td>1</td>
<td>32.7477</td>
<td>32.7477</td>
<td>8.4024</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Readability</td>
<td>1</td>
<td>79.6783</td>
<td>79.6783</td>
<td>20.4440</td>
<td>&lt;.01</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>.9625</td>
<td>.9625</td>
<td>.2470</td>
<td>N.S.</td>
</tr>
<tr>
<td>Within Cells</td>
<td>81</td>
<td>315.6879</td>
<td>3.8974</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>84</td>
<td>431.1059</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 3

**Overall Effects of Interest: Subjects Reading Hard and Easy Messages (Mean "learning" scores)**

<table>
<thead>
<tr>
<th>Interest Level</th>
<th>&quot;Learning&quot;</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>6.052</td>
<td>38</td>
</tr>
<tr>
<td>Low</td>
<td>4.765</td>
<td>49</td>
</tr>
</tbody>
</table>

Table 4

**Overall Effects of Readability: Subjects of High and Low Interest (Mean "learning" scores)**

<table>
<thead>
<tr>
<th>Message Version</th>
<th>&quot;Learning&quot;</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy</td>
<td>6.333</td>
<td>42</td>
</tr>
<tr>
<td>Difficult</td>
<td>4.372</td>
<td>43</td>
</tr>
</tbody>
</table>
Table 5
Effects of Readability by Sex, Age, and Grade Average* (Mean "learning" scores)

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Hard</th>
<th>Easy</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>4.2</td>
<td>6.7</td>
<td>2.5</td>
</tr>
<tr>
<td>Women</td>
<td>4.6</td>
<td>5.9</td>
<td>1.3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Age</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>20 Years or Less</td>
<td>4.3</td>
<td>5.9</td>
<td>1.6</td>
</tr>
<tr>
<td>21 Years or More</td>
<td>4.1</td>
<td>6.9</td>
<td>2.8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade Average</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>B- or Higher</td>
<td>4.6</td>
<td>6.8</td>
<td>2.2</td>
</tr>
<tr>
<td>C+ or Lower</td>
<td>4.2</td>
<td>6.3</td>
<td>2.1</td>
</tr>
</tbody>
</table>

* Subjects own estimation. 3 subjects gave no grade averages.
Table 6

Effects of Interest by Sex, Age, and Grade Average*  
(Mean "learning scores")

<table>
<thead>
<tr>
<th>Subgroup</th>
<th>Hard</th>
<th>Low</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>4.9</td>
<td>6.0</td>
<td>1.1</td>
</tr>
<tr>
<td>Women</td>
<td>4.5</td>
<td>6.4</td>
<td>1.9</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 Years or Less</td>
<td>4.8</td>
<td>5.8</td>
<td>1.0</td>
</tr>
<tr>
<td>21 Years or More</td>
<td>4.7</td>
<td>6.4</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>Grade Average</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B- or Higher</td>
<td>4.9</td>
<td>6.2</td>
<td>1.3</td>
</tr>
<tr>
<td>C- or Lower</td>
<td>4.9</td>
<td>5.7</td>
<td>0.8</td>
</tr>
</tbody>
</table>

* Subjects own estimation. 3 subjects gave no grade averages.
on the effects of readability.

Table 6 shows the differences in "learning" according to age, sex, and grade average. There are some differences, but they are too small to be considered significant.

**Summary and Interpretation.**

The purpose of this experiment was to determine the effects of interest, readability, and any interaction of interest and readability on the comprehension and retention of information in a written message. Verbal instructions were used to form groups of High and Low Interest Subjects. Half the High and Low Interest Subjects read an Easy version of a written message; the other half read a Hard version of the same message. All the subjects were then tested as to how much information they had comprehended and retained.

It was found that the High Interest Subjects who read the Easy message "learned" the most. The Low Interest Subjects who read the Hard message "learned" the least. An analysis of variance revealed that different degrees of readability caused significant differences in "learning." Therefore, the $H_1$ hypothesis may be accepted:

Subjects will learn more from reading an Easy message than subjects who read a Hard message, if other variables are controlled.

The analysis also showed that interest significantly affected understanding and retention. These findings lead to the acceptance of the $H_2$ hypothesis:
High Interest Subjects will "learn" more from a written message than Low Interest Subjects who read the same message, if other variables are controlled.

The fact that the High Interest Subjects reading the Hard message "learned" about the same as the Low Interest Subjects who read the Easy message is difficult to interpret without further research. If the experiment were replicated using reading material of different readability scores and a similar relationship were found, then a proportion between interest and readability might be set up. The same holds true if the experiment were replicated with different interest levels being aroused in the subjects and the results were parallel.

The analysis of variance revealed that no interaction between readability and interest affected "learning." Thus, we must reject the H3 hypothesis:

High Interest Subjects will "learn" as much from reading a Hard version of a message as from reading an Easy version of the same message, if the other variables are controlled.

Had the H3 hypothesis been valid in this study, the High Interest Subjects who read the Easy message would not have "learned" significantly more than the High Interest Subjects who read the Hard version.

There may be several reasons why the experiment did not validate the H3 hypothesis. More sophisticated studies may reveal interaction between interest and readability. Lack of such evidence in this case may have been caused by:

1. An actual lack of interaction between readability
and interest.

2. Some unknown variable preventing interaction.

3. A lack of time needed for the High Interest subjects reading the Hard message to adequately absorb the message.

4. The Hard message may have been too difficult for the subjects to adequately comprehend.

Even though interaction was found to be lacking, the $H_4$ hypothesis is still valid since readability affects "learning" no matter what the reader interest was. Therefore:

Low Interest Subjects will "learn" more from reading an Easy version than from reading a Hard version of the same message, if other variables are controlled.

As it turned out, the experimental data support the Fraction of Comprehension as discussed earlier:

$$\text{Understanding-Retention} = \frac{\text{Reader Interest}}{\text{Lack of Readability}}$$

In other words, understanding and retention will increase if reader interest is raised or lack of readability is lowered (Flesch score is raised). For optimum "learning," the raising of reader interest and readability of the message should be combined. According to the data, reader interest is neither more nor less important than readability in affecting "learning" of a written message.

A case might be built for the existence of interaction between readability and sex as well as age. In our samples, readability caused greater "learning" by the male subjects as well as by those
21 years of age or older. Further research is needed to establish the validity of this indicated interaction.
PART III

PUBLIC RELATIONS SIGNIFICANCE
PUBLIC RELATIONS SIGNIFICANCE

It was mentioned in the first pages of this study that public relations practitioners are in the business of communicating to various publics. If he is to be effective, the public relations man's messages must be effective. If the premise that an effective message is one which is comprehended and retained by those for whom it was intended is accepted, this study is of significance to the public relations man.

In the previously described experiment, interested subjects who read a highly readable version of a written message retained and comprehended significantly more than disinterested subjects who read a less readable version of the same message. And disinterested subjects who read the highly readable message "learned" about as much as the interested subjects who read the less readable message. The data thus indicates that the public relations practitioner or professional communicator (1) must make sure his audience is interested in his message, and (2) must make sure his message is readable. This is not to say that a readable message brought to the attention of interested people will change attitudes or have any lasting effects. But the fact that these conditions bring about more retention and comprehension should be noted. A message not understood or remembered is probably not very effective.

Arousing Interest

Before the communicator can bring his message to people
interested in it, he may have to arouse interest. The example of interest-arousing preceding messages in promoting the movie, "The Thing," was cited. Other means of arousing interest have been used. Authors who want their books to be read (sold) appear at bookstores and sign autographs. And many paperback books are read because they are sandwiched between lurid, interest-arousing covers. Other methods of arousing interest in masses of people range from circus parades, skywriting, and other more or less sophisticated forms of ballyhoo.

It must be remembered that here we are discussing the arousal of interest in a message so that the message will be retained better, and thus be more effective. But it may be that the tension or interest aroused may diminish to such a point after people have finally read the message that the message itself is ineffective. Also, clumsy attempts to arouse interest in a message may backfire. People are wary of having the wool pulled over their eyes. Various forms of interest-arousing techniques often smack of Barnum's "A sucker born every minute" philosophy. In the experiment, the subjects' interest in the message was aroused through deception on the part of the experimenters. One doubts that they could be duped a second time.

It was a fairly easy matter to arouse interest in the subjects because of their homogeneity. Being students, their interest in grades can be intense. But a mass audience's interests are difficult to arouse since there are so many different types that make up the great amorphous mass.

Since interest-arousing techniques often imply exaggerations
that are often difficult to put across, other means may be used to insure that an audience is interested in the message one wishes them to retain and comprehend. There is little reason to arouse interest in people when they already have strong interests or tensions.

Tapping Interests

The professional communicator does not have to arouse interest in his message if he can construct it so that it relates to the pre-existing interests or tensions of his audience. His only problem is to discover what the specific interests of his audience are. Thus, before any communications strategy can be planned, the communicator must assess his audience. This evaluation of an audience can range from an informal "educated guess" to a formal survey. This process of audience evaluation takes place in the simplest of communications situations—a conversation between two individuals. Each of the conversationalists constructs his messages in relation to his audience. For instance, a Fuller Brush salesman wouldn't use the same verbal messages in talking to a wealthy French banker and to a woman from the Harlem slums. The language, idiom, and content of the messages would differ drastically even though the intent of the message is the same.

But the professional communicator, unlike the door-to-door salesman, communicates to a number of people with the same message. Since he can not address a radio announcement or magazine article to an individual, he must compromise by relating his message to the interests or tensions that all the individuals in his audience have in common. A highly heterogeneous audience poses a problem
since its members' interests are varied. The communicator must relate his message to the basic interests shared by all people: sex; security; being needed; prestige; food; etc. For this reason, pretty girls have been used in advertising messages designed to sell everything from razor blades to roller bearings.

A message can relate to more specific interests held in common by a more homogeneous audience. Many publications address themselves to people with quite specific goals—and thus specific interests. Messages transmitted via media designed to reach homogeneous audiences should be related to the special interests of that audience. For instance, a public relations man employed by the Ajax Nail and Tack Company writes a release for a magazine read by building contractors, which starts out:

Rustproof nails don't have to be expensive. A new alloy, "nailium" developed by the Ajax people is being used to make nails that won't tarnish, rust, . . . .

Building contractors want to build attractive, inexpensive houses. Thus they are interested in messages which show them how they can achieve these goals. According to the data of the experiment, building contractors would be more likely to retain and comprehend the above message than a routine announcement of a new line of nails.

The man from Ajax, realizing that women buy many do-it-yourself articles, may take a little time to ascertain the interests or tensions or women. With a little cooperation from his superiors, he might place a release in the women's pages of the newspapers that begins:
A new way has been found to "nail down" a husband! A set of wedding rings fashioned out of nails is on display at the Ajax Nail and Tack offices. The rings are made out of a new alloy, "nailium," that is being used to make rustproof, stainproof nails.

The data indicate that this release might be retained by more women than the message in the building contractor's trade magazine since one relates itself to their interests while the other is of little interest.

The examples used here may be rather crude, but they point out the necessity of relating the message to the readers' interests. A company's announcement of a new line of nails may be a dull affair, easily forgotten. But it doesn't have to be.

**Planning Readability**

The experiment showed a direct correlation between readability and "learning," regardless of the subjects' interest in the message. Perhaps even more significant was the fact that the disinterested subjects who read the readable message comprehended and retained as much information as the interested subjects who read the less readable message. The implication is obvious—a disinterested audience should be exposed to more readable messages. In fact, the disinterested subjects who read the less readable version of the message "learned" little. They scored only slightly higher on the comprehension test than subjects who read neither message version. Of course factors other than interest in the message should determine the readability of the message. High interest but low mean intelligence in an audience would deny the use of less readable writing.

One hypothesis of this study was that interested persons...
will learn as much from a less readable version of a message as from a more readable version of the same message. In other words, if interest is high, readability makes less of a difference. The data did not support this hypothesis. Instead, readability had an equal effect on the interested as well as the disinterested subjects. Does this fact dictate the need for every message's being as readable as possible, regardless of reader interest? A case can even be made for the use of less readable writing in some instances. For example, Master's theses fall beneath academic standards if they are written in the "folksy" Fleson style. Scientific works would certainly be bulky if concepts and theories were spelled out simply. And it would be interesting to find out what readers feel about two messages of varying readability in regard to their acceptance. Which do people feel has more credibility or prestige?

As with the interest factor, the readability level of a written message should depend on a proper assessment of the audience. It is conceivable that many college professors would instantly reject messages in professional journals that were not laden with long sentences or human-less words. But clear writing is usually needed for people to comprehend the message.

**In Summary**

The experimental data support the hypothesis that readable messages brought to the attention of interested people are better comprehended and retained than less readable messages brought to the attention of disinterested people. Since interest is defined
as the tension that accompanies the blockage of a goal, interest may be aroused by increasing the desire for some goal. If the reading of a message is a means of reaching the goal, the message is more likely to be retained and comprehended by the goal-seekers who read it.

After accurate assessment of audience interest, messages can be constructed to relate to the interests of the audience. Messages can be related to more specific interests in more homogeneous audiences. A message which relates to a specific interest of an audience may be better retained and comprehended by that audience.

The readability level of a written message should be high for the message to be comprehended and retained, especially in the case of a disinterested audience. But the readability level may also depend on other factors such as audience intelligence, education, and background. Further research is needed to probe the attitudes of people toward messages of varying readability.
APPENDIX
There seems little doubt in the writer's mind that the assumptions of Allied disunity and suspicion were the most accurate of those made by the Japanese and their propaganda of disunity potentially the most dangerous. A certain suspicion or dislike of Britain among rank-and-file Americans is deep seated and long standing. Perhaps equally generally, and in some quarters much more acute, was the fear and distrust of Russia. That to preserve unity and to make effective co-operation possible was one of the major problems of the Allies seems to have been recognized by Tokyo.

Americans were predisposed to be critical of British colonial policy, British "imperialism," and schemes to monopolize world trade, for of these aims, most Americans consider themselves innocent. As to charges of atrocities, racial discrimination, and the like—these were likewise leveled against us, and with no less justification, but this fact was perhaps no bar to our developing a righteous indignation against our allies over their acts.

The relatively greater accuracy of the Japanese assumptions regarding America's international attitudes does not in the writer's opinion invalidate the thesis of this study, for their assumptions on this point rested less on knowledge of American culture and internal conditions than on observations of international relations in which Japan, too, had been a participant.

The failure of this propaganda, and the identical German
line, to achieve an actual rupture among the Allied powers was not because it was inappropriate but because of the effectiveness of our counter-measures, the obvious advantages of wartime collaboration, and the depth of the American antagonism toward Japan which made her proferred peace terms generally unacceptable.

I am sure that the Japanese were most correct in thinking the Allies were not unified and did not trust each other. And Japanese propaganda causing disunity among the Allies might have been quite harmful.

For some time, many Americans have had a certain suspicion or dislike of the British. We feared and disliked Russia. The Japanese knew that lack of harmony was a big problem of the Allies.

We Americans didn't like some things about the British. Their colonial policy. British "imperialism." British schemes to rule world trade. Of course we Americans didn't think ourselves guilty of these acts. Some charges were made against us: atrocities, racial strife, and the like. Yet our faults didn't stop us from judging our allies.

The Japanese were pretty sharp in gauging America's feelings about other nations—but this doesn't destroy my thesis. The Japanese didn't really know what things were like in America. Their knowledge about us came from observing our dealings with other nations.

Japanese—and German—propaganda of disunity failed even though it was fitting. Why did it fail? There are three reasons:

1. We fought their propaganda with good results.
2. The Allies had to unite in the war effort.
3. The Americans hated the Japanese.
COMPREHENSION AND RETENTION TEST

Name__________________________

This is a test of how much you learned from the passage about Japanese propaganda. Answer all questions in terms of the passage, not your own opinions.

PART I Multiple Choice--Circle the letter preceding the statement that best completes each question.

1. According to the passage, the Japanese:
   a. were aware that the British feared and distrusted Russia.
   b. believed that the Allies were unified.
   c. were themselves not unified with Germany in their propaganda efforts.
   d. knew that the Allies were not unified.

2. The writer of the passage claimed that Japan:
   a. knew little about America's feelings and attitudes about other countries.
   b. knew little about life and conditions within the United States.
   c. had better propaganda than the Russians.
   d. kept contradicting the propaganda put out by Germany.

3. According to the passage, Japan's information about American feelings and attitudes about other nations came from:
   a. Letters and documents sent to Tokyo by Japanese-Americans.
   b. Japanese spies in the State Department.
   c. Japanese observations of our dealings with other countries.
   d. The passage did not say.

4. According to the passage, one of the things Americans did not like about the British was:
   a. British "isolationism."
   b. British "snobbishness."
   c. British schemes to monopolize world trade.
   d. British use of our lend-lease to outfit their armies.

5. According to the passage, Japanese propaganda of disunity was:
   a. inappropriate and ineffective.
   b. inappropriate but effective.
c. appropriate and effective.
d. appropriate but ineffective.

6. According to the passage, one of the things other countries didn't like about America was the:

a. reluctance of America to use spies.
b. atrocities committed by Americans.
c. slum-ridden cities in America.
d. aggressiveness America used in dealing with other nations.

PART II

List the three reasons why Americans tended to resist Japanese propaganda of disunity, as mentioned in the passage. Be brief, but clear.
PERSONAL DATA SHEET

Please supply all information asked for. It will be kept confidential.

1. Name__________________________  Sex__________________

2. Age____________________________

3. Level of education: (Check highest level completed).
   college—1st year____ 2nd____ 3rd____ 4th____ 5th____
   degrees——H.S. diploma—— A.B., B.S.—— M.A., M.S.——

4. What are the average grades you have received for your work in college? Circle the letter grade below that best approximates your previous college grades.
   A A- B+ B B- C+ C C- D+ D

5. Put the number and letter appearing on the back of the passage you read here.   
   ————————————
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