Experiments on Mass Communication: Persuading the American Soldier in World War II

On Sunday, December 7, 1941, Americans, in near disbelief, heard from their radios that Japanese aircraft had without warning attacked U.S. naval and other military forces at Pearl Harbor. The heavy loss of life and disastrous destruction of ships, aircraft, and Army bases left the nation reeling. Nearly a quarter of a century of peacetime had come to a sudden end.

How could it be? Who were these strange people who came from nowhere to commit such a dastardly deed? The Japanese, in the minds of most Americans—if they thought of them at all—were a rather pathetic little nation of slant-eyed people who made cheap imitations of products developed by more advanced countries. It simply did not seem possible that such people could dare to assault the might of the United States of America! Nevertheless, the forces of the Empire of Japan had blasted most of the U.S. Pacific Fleet to ruined hulks and had humiliated the armed forces of what Americans regarded as the finest nation on earth.

The next day, President Franklin D. Roosevelt in a special joint session of the Congress addressed the country by radio to declare that a state of war existed between the United States and the Empire of Japan. The President called December 7 "a day that will live in infamy." The state of war was extended to include all of the Axis Powers who were allied with Japan.

In the days that followed, Japan's victories at Pearl Harbor were to be repeated in other areas of vital significance to the United States. The Philippines were quickly overrun, and their American defenders were subjected to a terrible "death march" on the Bataan peninsula. The Japanese overran virtually the whole Southwest Pacific, threatening Australia and New Zealand. They even landed on remote parts of Alaska. For the first time the United States was called upon to fight for its very existence against the hostile forces of a foreign enemy.

THE NATION AT WAR

World War II was a conflict with a clear-cut moral purpose. The Axis Powers (Germany, Japan, and Italy) vowed to subdue the world with military might

and to dominate it with their various brands of dictatorship and fascism. The Allied Forces, made up of the United States, what was left of the British Empire, and the remnants of various armed forces from countries that had been overrun by the early victories of the enemy, vowed to fight back to an eventual "unconditional surrender" of the Axis nations.

From the point of view of the United States, it was a war with the highest possible justification—a very different situation from more recent conflicts. The Japanese had "stabbed America in the back." In the minds of most citizens, the Japanese were sneaky, cruel, and virtually subhuman. The Germans had overrun helpless people in Europe and violated every treaty that had been forged at the end of World War I. They were widely held to be ruthless, cunning, and brutal. The Italians, on the other hand, were regarded with low esteem—a joke as soldiers, but a bother nevertheless.

All of these attitudes and beliefs were quickly taken up and reinforced by the mass media, by thousands of political speeches, cartoons, posters, and barroom exchanges. Hollywood epics and newspaper editorials portrayed the Germans as "pretty tough," but the Japanese as monkeylike people who should not be taken seriously. Some people maintained that the enemy would be easily defeated and the war brought to an end within a year. But as many a soldier, sailor, and marine found out later in combat, crude stereotypes obscured the fact that the enemy was tough, determined, and thoroughly courageous.

Turning Citizens into Soldiers

For a few weeks after Pearl Harbor, volunteers lined up at the recruiting offices and even scuffled with each other to be among the earliest to enlist. But the rush to get into the fight soon waned, and the less enthusiastic had to be brought in by the Selective Service System—the draft. Actually there was little resistance; to be a "draft dodger" during World War II was considered a disgrace. Even those classified as 4-F (not suitable for military service because of health or occupation essential to the war effort) were all but accused of being cowards. By the war's end, some 15 million Americans, mostly males but a few females, had donned uniforms.

The sheer logistics of locating, sorting, classifying, training, and assigning 15 million people to military duties staggers the imagination. Nevertheless, it was done. Young men and women from every walk of civilian life were transformed from their roles and statuses as bank clerks, secretaries, truck drivers, farmers, and so on, into riflemen, artillerymen, bosuns, sergeants, cooks, signalmen, pilots, navigators, and all of the other specialists that were required by the military services. What is more, it was done in a very short time.

Camps were set up in all parts of the nation, and recruits were quickly brought in for training. Their hair was cut short, and they exchanged their civilian clothes for uniforms. Awkward at first, they soon settled into the [illegible] weapons, the intricacies of

military life, and the inevitable specialized training required in the complex division of labor of a modern army or navy.

Teaching a recruit such matters as wearing a uniform, how to salute, march, and use weapons is the less difficult part of military training. Beyond that lies the more complex task of shaping his motivation and morale. He has to be taught to hate the enemy and love his country, to be intensely dedicated to his military unit, and to place its survival and welfare above his own. In other words, in developing an effective fighting force it is essential to instill attitudes and loyalties that can provide critical psychological and social supports that sustain the combat soldier when the going gets tough. As a matter of fact, the vast majority of those so trained never saw combat. Nevertheless, they had to be taught to place military goals above their personal convenience and comfort even when the job was boring, seemingly endless, and obviously insignificant. For those who would see combat, indoctrination was needed to prepare them psychologically to confront and defeat a very determined and dangerous enemy. There was simply no other choice.

Turning millions of young civilians into effective teams of military personnel was no easy task. The training was made more difficult by the sheer diversity of American society. Draftees were called into service from every corner of the country. They came from ethnic communities in urban centers, small towns in the midwest, farms in the rural south, and cattle ranches in the far west. Not only were they diverse in regional origin, but they varied greatly in every other respect. They differed in education, income, occupation, religion, political affiliation, and so on. This diversity in social origins meant that the recruits also represented a broad range of individual differences in intelligence, aptitudes, values, skills, and other psychological factors. It was not easy to assess their differences and to assign these human resources to military tasks that they were capable of performing. To do so the Army (and other services) made use of psychologists, sociologists, and other social scientists who developed tests to measure intelligence and other attributes so that the proverbial "square pegs" among the recruits would not wind up in the "round holes" among the tasks that needed to be performed.

The Lessons to be Learned: The *Why We Fight* Films

Another serious problem was the sheer ignorance of the majority of the draftees concerning public affairs. Few of the recruits had any real grasp of the complex international events that had led up to the entry of the United States into the war. They knew well enough that "the Japs were the dirty guys" because they had bombed Pearl Harbor in a sneaky way. They also knew that "the Germans were mean guys" because they had overrun some of the countries of Europe and wanted to take over the world. That was about it! Beyond those simple ideas, the majority had very little knowledge of the political history of the period between the two world wars, the existence or substance of the negotiations

between the United States and Japan before Pearl Harbor, or the sequences of events that led to the rise of totalitarian governments in Europe, or the strategies of those governments for world conquest.

Why were they so ignorant of international events? In large part, the United States was isolated from world problems, by both its physical location in the new world and its preoccupation with its own internal affairs. Since the end of World War I, Americans had been focusing their attention on such domestic matters as Prohibition, the Great Depression, the Dust Bowl, and the New Deal. The troubles in Europe and Asia were beyond the interest and comprehension of all but a few of the draftees. Yet, it was essential that the recruits have a good understanding of these events.

The Army was painfully aware of the need to inform its recruits, but how it could be done was another matter. Army leaders saw immediately that they needed a rapid and effective means of teaching soldiers about the nature of the enemy, their allies, and why it was necessary to be there training for war. The use of a series of training films to do the task quickly and for large numbers of trainees seemed a sensible way to get the job done. However, there were no such films, and they would have to be prepared very quickly.

Early in 1942, General George C. Marshall, newly appointed Chief of Staff of the Army, turned to Hollywood to assist in the preparation of the necessary orientation films. Specifically, he sought the aid of Frank Capra, a well-known director. His proposal was simple:

> Now Capra, I want to nail down with you a plan to make a series of documentary, factual information films—the first in our history—that will explain to our boys why we are fighting and the principles for which we are fighting.[1]

Capra wanted to help, but he wasn't certain that he was the right person to do the job. He explained to General Marshall that he lacked the right kind of experience. He had never made documentary films before. General Marshall had a simple answer:

> Capra, I have never been Chief of Staff before. Thousands of young Americans have never had their legs shot off before. Boys are commanding ships today who a year ago had never seen the ocean.[2]

Capra was convinced and began work immediately. In a very short time, he had produced seven 50-minute documentary films, and the Army started making them a part of the training program for its recruits.

> The style of the films was for the most part objective and documentary, with direct quotations, reference to official sources, animated diagrams, cuts from [illegible] newsreels and propaganda

> films. The visual presentation was drawn together by a running narration which told the story of the war and explained the scenes. While the general tenor of the films was "let the facts speak for themselves," they were not dryly factual. Foreign speech was frequently translated into English with a "foreign accent," "production" shots using actors were employed to tie the documentary material together, the films were scored throughout with background music, and montages and trick photography were used in trying to achieve vivid and dramatic presentation.[3]

Generally, these seven films traced the history of World War II from the rise of fascism in Italy and Germany, and the Japanese in Manchuria in 1931, through America's mobilization for war and participation in the conflict following Pearl Harbor.[4] The title of the series was *Why We Fight*, and the films were seen by hundreds of thousands of Americans as they trained for war. However, only four of these films were used in the research described in the present chapter. The content of these four films can be summarized briefly.

Prelude to War. This first film in the series described the rise of Mussolini and fascism in Italy, the rise of Hitler and Nazism in Germany, and the manner in which a military clique gained control in Japan. It showed the Japanese attack on Manchuria in 1931 and the Italian conquest of Ethiopia in 1935. In contrast, the film showed how the United States had followed a noninterventionist policy and had not prepared for global war. It made clear how the Axis countries had emphasized the growth of aggressive militarism and the massing of armed might. The major theme of the film was that the three Axis countries had joined in a plan to conquer the world and to divide it up to suit themselves. There was no way for the United States to ignore the war, and it had to defend itself; this defense was all the more difficult because of the lack of preparedness.

The Nazis Strike. This film presented a summary of the past military conquests of Germany under Bismarck and Kaiser Wilhelm, indicating that Hitler's aggressions were repeat performances of such behavior. The way in which Hitler had built up his war forces was described and his first acquisitions of territory were shown (the Austrian *Anschluss* and other actions in which Britain tried to appease Hitler by agreeing to his activities). The straw that broke the camel's back was Hitler's attack on Poland, which brought a declaration of war by Britain and France. The Polish campaign was shown in great detail to illustrate the ruthlessness, brutality, and efficiency of the German forces. The major theme of the film was that Hitler could not be appeased and that the Allies had to stop him by declaring war.

Divide and Conquer. This was a sequel to *The Nazis Strike.* It continued to show the strategy of the Nazis. It explained how they overran Denmark and Norway to the north. They were aided in this activity by traitors among the local populations (called quislings, after Vidkun Quisling, a Norwegian Nazi collaborator) and by the failure of Allied efforts to help the Norwegians. To the south, the Nazis invaded the Low Countries (Holland and Belgium) and broke

through the French defensive fortresses, which permitted the Germans to move through France and catch Britain in a kind of pincers from both North and South. The theme of the film was that the early defensive strategies relied upon by the Allies were unsuccessful in the face of the strategy and tactics used by the Germans.

The Battle of Britain. This film dealt with Hitler's plan for world conquest, which had succeeded thus far as his forces defeated France and forced the British to evacuate their armies from the beaches at Dunkirk. The next step was to conquer Britain itself. If Hitler had taken over the British Isles and neutralized the British fleet, the United States would have found itself in a very dangerous situation. The film showed how Hitler failed to conquer England because of the tough resistance of the British, both in the air and on the ground. The Royal Air Force stopped the Luftwaffe cold, even after weeks of the latter's relentless bombing and fighter attacks; the British were bombed severely, but they continued their war effort in spite of the attacks. Thus, winning the "Battle of Britain" gave the United States precious time to prepare.

Overview of the Research Mission

Generally, two basic assumptions were made by the War Department concerning the *Why We Fight* films. First, it was assumed that they would do an effective job of teaching the recruits *factual knowledge* about the war, the enemy, and the Allies. Second, it was assumed that such factual knowledge would shape *interpretations* and *opinions* in ways needed to improve acceptance of military roles and the sacrifices necessary to achieve victory.

In more detail, the orientation program using these films had a number of specific objectives that were spelled out in a directive from the office of the Chief of Staff to the Information and Education Division, which was in charge of the orientation program. According to this directive, the films were intended to foster:

1. A firm belief in the right of the cause for which we fight.
2. A realization that we are up against a tough job.
3. A determined confidence in our own ability and the abilities of our comrades and leaders to do the job that has to be done.
4. A feeling of confidence, insofar as is possible under the circumstances, in the integrity and fighting ability of our Allies.
5. A resentment, based on knowledge of the facts, against our enemies who have made it necessary to fight.
6. A belief that through military victory, the political achievement of a better world order is possible.

Each of the films had been designed to achieve these objectives, although every one of the seven *Why We Fight* films told only a part of the story.

The big question, of course, is did the films work? The films seemed great,

and common sense implied that showing them to the recruits as part of their training would not only teach them the factual information, but would raise their commitment and morale. Yet, common sense is not always an adequate basis for reaching reliable conclusions. A systematic and objective evaluation was needed to see if these films were in fact reaching their goals. To accomplish this assessment, the task of designing and conducting evaluation studies of the orientation program was assigned to a special unit within the War Department's Information and Education Division.

Early in the war, the Army had taken the precaution of bringing a number of distinguished social and behavioral scientists into the service. These scientists, in consultation with civilian colleagues, assisted the armed services with a variety of problems involving psychological measurement, evaluation of programs, surveys of many kinds, and studies of "morale." Within the Information and Education Division, the Research Branch was composed of the Experimental Section and the Survey Section. These units often cooperated with the Military Training Division of the Army Service Forces. Indeed, the present research represents just such a cooperative venture between the Experimental Section and Training Division.

While there were a number of psychologists and social psychologists involved in the evaluation of the *Why We Fight* series, the main team that planned and conducted the studies for the Army consisted of Frances J. Anderson, John L. Finan, Carl I. Hovland, Irving L. Janis, Arthur A. Lumsdaine, Nathan Macoby, Fred D. Sheffield, and M. Brewster Smith. The report on which the present summary chapter is based was prepared as Volume III in the "American Soldier Series," which was published several years after the war. The authors of the report were Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield. Like the others in the longer list above, each went on after the war to become an internationally known psychologist. The remaining sections of the present chapter are devoted to a presentation of the highlights of *Experiments on Mass Communication*, which brought together the results of the film evaluation studies and a number of additional experiments on communication issues. The work touched off a considerable interest, as we will note later, in the experimental study of the persuasion process.[5]

THE FILM EVALUATION STUDIES

A series of experiments were carried out, aimed at assessing the degree to which exposure to the films described above resulted in changes in their audiences. These changes were, broadly speaking, the acquisition of factual information about various aspects of the war and modification in the recruits' interpretations and opinions concerning the six objectives listed earlier.

In designing this research, the experimenters had advantages that had seldom before existed regarding control over their subjects. They could choose

where, when, and how many subjects would see a particular film. They did not have to rely on voluntary cooperation in the completion of the questionnaires. They were already in possession of a substantial amount of background information on each subject from Army records, to which they had complete access. The population they were studying had limited variation in terms of age, sex, race, and current residential circumstances. And finally, the costs of the research were not really a consideration. For contemporary scholars struggling with the realities of research among today's populations, such conditions seem close to ideal.

Assessment of *The Battle of Britain*

Somewhat parallel experiments were completed on each of the four films described earlier. The main difference between them was that the research on *The Battle of Britain* assessed the impact of a single film, whereas the remaining experiments studied the cumulative impact of two or more films or made use of alternative research designs.

Objectives. *The Battle of Britain* presented a considerable amount of factual material, but in the list of the Army's six objectives to be achieved it emphasized number four (a feeling of confidence in our allies). The overall purpose of the research itself was to measure both knowledge and opinion orientations among the subjects before they saw the film, to expose them to the film, and then to assess any *change* in knowledge and opinions that had been created by seeing the moving picture.

Various procedures and strategies were used to minimize the influence of other sources of information about topics covered in the movie so that whatever change took place could realistically be regarded as due to exposure to the film. The situation of the subjects, relatively isolated from civilian life, was an aid to the researchers in this respect.

Experimental Procedures. The research was organized around (1) the use of an *experimental group* of subjects that actually saw the film and a *control* group of very similar subjects who did not see the film and (2) the administration of anonymous checklist questionnaires to both groups *before* and *after* the time when the experimental group viewed the film. While such procedures are now common in research, at the time this was a relatively new research strategy in communication studies. This way of conducting such an experiment is called a "before–after design with control group." However, an additional study was done with an "after-only" design, where no "before" measure was used and the control and experimental groups were simply compared after the film was shown to the experimental group.

The measuring instruments for the experiment were constructed with great [illegible] part of the questionnaires was carefully

pretested to make certain that it could be understood by the subjects and that it gathered the exact information that was needed by the researchers. Such pretesting, item by item, is a hallmark of careful research procedures today. The items finally used in the checklist questionnaires were of two types. These were (1) *fact-quiz* questions, such as those found on a multiple choice test, where the subject selects the correct answer from a list of alternatives, and (2) *opinion* items, either in a multiple choice style, expressing varying opinion positions from which the subject could select that closest to his own, or agree–disagree statements that the subject could endorse or reject as consistent with his own opinions. Some of these opinion items were highly related to the factual information and were quite specific. Other items dealt with broader and more general issues less tied to the facts. The questionnaires also included several personal history items (education, age, and so on) that could be used, along with handwriting, to match the before and after questionnaires of each subject. Finally, there was a need to direct the attention of the subjects away from the idea that they were simply being tested to see what they had obtained from the film. The study was portrayed to the soldiers as a sort of "general opinion survey." For this reason, the questionnaire contained a number of "camouflage" items intended to distract the subjects from perceiving its actual purpose. (Ethical considerations today might raise questions about deception, but it was not a problem for the Army at the time.)

Two such questionnaires were prepared around the content of *The Battle of Britain.* They were intended to be parallel and to cover the same items in essentially the same way. This permitted a "before" and "after" measure to be taken on each subject without using the same measuring instrument, which could have confused the results.

The time interval between seeing the film and responding to the "after" questionnaire was one week. (One segment of the group of subjects was measured nine weeks later to study long-term effects. This will be discussed later.) At one camp, 2100 subjects (half of whom saw the film) were studied in the "before–after with control group" design. In another camp an additional 900 were studied in the same way. Finally, the "after-only with control group" design was used for the study of another 1200 subjects. Overall, this added up to an impressive 4200 subjects, all of whom responded to the questionnaire at least once and half of whom saw the experimental film.

The sampling was done in a practical way by selecting company units rather than individuals. However, considerable effort was made to equate or "match" the experimental groups and the controls. Various background variables on the soldiers were studied well beforehand, and those companies most alike in their distributions of such variables as age, region of birth, and scores on Army tests were paired.

As was mentioned, the questionnaires were presented to the men as a "general opinion survey" to find out "how soldiers felt about various subjects

connected with the war." The subjects were assembled in platoon groups (of about 50 men) to fill out the questionnaires in their mess halls under the watchful eyes of trained personnel. Anonymity was assured, and no officers were present.

To distract the men from wondering why they had to respond to the questionnaire twice (in the before–after design) it was explained that "the questionnaire had been revised" on the basis of the earlier results, and it was being studied again. In fact, the second version had REVISED printed in large type at the top. A number of other precautions were taken to avoid suspicion that some other purpose was at stake.

Results. The outcome of the evaluations of the *Battle of Britain* can best be understood by contrasting the responses of the control and experimental, or as we will call it, the "film" group. We noted that various objectives were built into the content of the film, and these were assessed by items in the questionnaire. Simple percentage comparisons show the influence of the film in reaching those objectives. A difference of 6 percent between the control and the film group constitutes a statistically significant result, ruling out chance and implying that the film did have an effect on those who saw it.

Generally, it is convenient to review the findings around four major issues. These define broadly the kinds of effects that the makers of the film hoped to achieve. These effects concern the following questions:

1. Was the film effective in improving *factual knowledge* about military events?
2. Did the content of the film alter the *opinions and interpretations* of viewers regarding several major themes presented in the film?
3. How much did the film improve the *general attitudes* of the soldiers toward their British allies?
4. Was the film a significant factor in improving *overall motivation* among the recruits to fight a tough war?

Each of the above was a complex issue, and only the highlights of the results of the experiment can be presented. Nevertheless, the findings were relatively clear.

First, the film did have a major effect on the acquisition of factual knowledge. Differences between the control and the film groups were consistently large. For example, the questionnaire asked why the Germans "were not successful at bombing British planes on the ground?" The answer given in the film was "because the British kept their planes scattered at the edges of the field." Only 21 percent of the control group checked this answer, whereas 78 percent of the film group got it right. Similarly, other factual items were consistently answered correctly by much larger proportions of the film group.

The effects of the film on opinions and interpretations were also in the

direction desired by the designers of the film, but the differences between the control and film groups were not as great as with the factual material. There were four major content themes present in the film about which opinions or interpretations could be altered. Each can be discussed briefly.

One major content theme was that the actual battle of Britain was a major defeat for the Nazis. Many of the soldiers had not previously interpreted the German bombings of England early in the war in this light. The film increased the percentage of soldiers who concluded that the German raids were part of a preparation for invasion and that the Nazis suffered a defeat. For example, one questionnaire item stated that "They heavy bombing attacks on Britain were an attempt by the Nazis to. . ." The key answer provided by the content of the film was "to invade and conquer England." Only 43 percent of the control group checked this, whereas 58 percent of the film group selected this answer. Several similar items showed parallel patterns.

A second content theme in the film was that the British resisted heroically. Items in the questionnaire probed the degree to which the control and film groups differed in their opinions on this issue. A typical item asked "What do you think is the real reason why the Nazis did not invade and conquer Britain after the fall of France?" Only 48 percent of the control group checked the answer provided by the film, "the Nazis tried and would have succeeded except for the determined resistance by the British." By contrast, this answer was selected by 70 percent of those who saw the film.

Two additional content themes in the film produced similar results. More of the film group agreed that the Royal Air Force did a magnificent job than did the control group. And finally, the belief that the British resistance provided other nations time to prepare (the fourth content theme) was held by more of the film group than the control group. Generally, then, the experience of seeing the film did alter the opinions and interpretations of its viewers regarding these four content themes.

The film had less effect on the general attitudes of the soldiers toward the British. In contrast to the clear influence on learning factual information about military events, and in changing opinions concerning the content themes of the film, the viewing experience did not improve general attitudes toward the British allies. This was found in a variety of items where the differences between the control and film groups were consistently negligible. For example, the questionnaire posed the following item: "Do you feel that the British are doing all they can to help win the war?" The difference between the control and the film group in terms of those who answered positively was only 7 percent. A number of other items designed to measure general attitudes toward the British showed even smaller differences between the two groups. On several of these items, two and three percentage points of difference were found. In other words, it could not be concluded that the film had improved attitudes toward the British.

The film was also clearly ineffective in strengthening the overall motivation

and morale of its viewers. Major objectives of the film were to increase willingness to serve, encourage attitudes toward demanding unconditional surrender, and deepen resentment of the enemy. To put it simply, the film had no effect at all on these issues. On such items as whether or not the trainees would prefer military duty in the United States, or would like to join the fighting overseas, only 38 percent of the control group wanted to go fight. For the film group—supposedly fired up by the film—the comparable figure was 41 percent, not a significant difference. Similarly, about the same percentage of the control group and the film group thought unconditional surrender was important (control group, 60 percent; film group, 62 percent). Finally, resentment of the enemy, measured by several items, showed differences that ranged from 1 to 4 percent between the two groups. It was not possible to conclude that the film improved motivation or morale. These were very important findings. Their significance to mass communication theory will be made clear.

There were many additional issues probed by analyzing data from the questionnaire. Mainly these issues pertained to checks on whether or not one set of ideas in the film might have adversely affected reactions to some other set of ideas to create a kind of "boomerang" effect. Generally, no significant effects of this kind were located.

The research design used with *The Battle of Britain* was also used with the other three orientation movies that were part of the overall film evaluation studies: *Prelude to War*, *The Nazis Strike*, and *Divide and Conquer*. However the last two films were shown to the men in combination to test for cumulative effects. Two days were allowed between these showings, and then the combined effects were measured by the questionnaire in the usual way.

The findings of these additional studies need not be presented in detail because they parallel on almost every point those obtained from the evaluation of *The Battle of Britain*. Instead, the implications of the findings from the research on all of these films can be discussed together because of their close similarity.

Implications. The film evaluation studies made use of research procedures such as sampling, control groups, matching, pretesting, and measurement that were the equal of some of the best social science research conducted today. There are few grounds, if any at all, to reject the findings of these experiments as misleading because of methodological or procedural flaws.

The films themselves were produced by the best talent in the nation at the time, and no expense was spared in their production. Even by today's criteria, nearly a half-century later, these films offer a powerful message, in which totalitarian and militaristic forces make brutal war on neighboring nations that had done little to provoke such a conflict. The films portray, in short, a very [illegible] These are four features of these films, other than color

photography, that could be used to improve their technical, dramatic, or persuasive quality.

Given these qualities of the stimulus material and of the assessments of their impact, what can be said about the overall results? Clearly, these films did well in achieving some kinds of results but poorly at gaining other objectives. The authors of *Experiments on Mass Communication* summarized the findings of the film evaluation studies as follows:

1. The *Why We Fight* films had marked effects on the men's knowledge of factual material concerning the events leading up to the war. The fact that the upper limit of effects was so large—as for example in the cases where the correct answer was learned well enough to be remembered a week later by the *majority* of the men—indicates that highly effective presentation methods are possible with this type of film.
2. The films also had some marked effects on opinions where the film specifically covered the factors involved in the particular interpretation, that is, where the opinion item was prepared on the basis of film-content analysis and anticipated opinion change from such analysis. Such opinion changes were, however, less frequent and in general less marked than changes in factual knowledge.
3. The films had only very few effects on opinion items of a more general nature that had been prepared independently of film content but that were considered the criteria for determining the effectiveness of the films in achieving their orientation objectives.
4. The films had no effects on the items prepared for the purpose of measuring effects on the men's motivation to serve as soldiers, which was considered the ultimate objective of the orientation program.[6]

An important issue is *why* these films were so ineffective in achieving their major objectives. As noted above, neither attitudes nor motivations were influenced. Hovland and his colleagues had a number of possible explanations that they explored as best they could. For example, they speculated that information from the civilian mass media about many of the topics and themes treated in the films had reached the recruits before they were drafted (after all, material was used in the films from earlier newsreels). This could have reduced the differences found between control and film groups because a substantial number in each case already had positive attitudes toward the British and at least some motivation to serve. By contrast, neither the control nor the film groups had the factual type of knowledge presented to any great degree, so larger effects could be predicted.

Moreover, motivation to serve and fight in the armed forces is a very complex phenomenon with many dimensions: pressures from one's family, general social norms, fear of death or injury, or prior feelings about the combatants. All could have been factors in the dynamics of change when trying

to modify such motivation through the use of persuasive films. There are a number of additional issues about which one can speculate, the amount of time between film and measurement being one of those issues. For example, there may be a "sleeper" effect. That is, even though little change had taken place in the viewers by the time the measurements were made after seeing the film, perhaps much later the film's influences could have been found. Finally, there is the question of the entire configuration of a given subject's values, system of beliefs, and personality traits. These can interact in a dynamic way with new stimulus material to produce one kind of effect or another. However, in spite of rather sophisticated attempts to address some of these issues, no clear answers were obtained as to why these films achieved clear effects in the area of factual knowledge, but failed to do so with respect to attitudes and motivations.

Other Film Studies

In using a film to try to change knowledge, opinions, attitudes, or motivations, it is important to know how the audience itself evaluates the film. That is, do they like the film, find it interesting and objective, or do they dislike it, become bored by it, or believe it to be a biased presentation? Such perceptions on the part of the audience may be closely related to whether or not a given film can achieve the objectives for which it was designed.

The Army researchers made extensive studies of the reactions of the men to various aspects of the orientation films. They were concerned about their level of interest and whether the viewers saw it as "propaganda" designed to manipulate them. The researchers were also concerned as to whether the soldiers saw the movies as Hollywood products, staged with actors and props, or as films of actual events as they happened.

Another significant question about films as media for training or orientation is, how do they compare to the available alternatives? Films like the *Why We Fight* series are obviously very expensive to produce, and the process takes a long time. In contrast, a recorded radio-type program with a lecture, or even filmstrips (which are like projected slides), can be used with narration and are both inexpensive and rapid to produce. Finally, if a film *is* used for training or orientation, what are some ways by which retention of the material presented can be enhanced? For example, having the audience engage in discussion of the content in small groups is one way; having a speaker lead them in a simple review is another. All these questions and issues were under study, and the *Why We Fight* films provided convenient vehicles for trying to find answers. As we will note, however, other kinds of films were also used in these parts of the research program.

Audience Evaluation of Films. Both questionnaires and group interviews were used to try to understand how the recruits themselves evaluated the *Why* [illegible] questionnaires were aimed at

three basic issues: Did the men *like* the films? What did they think was the *purpose* of the films? And did they believe that the films gave a *true picture* of the events depicted? For the most part, the men studied were those involved in the film evaluation studies who had seen the film. However, as we will indicate, some additional subjects were included.

In general, the men liked the *Why We Fight* films. They liked some more than others, but fewer than 10 percent gave a negative appraisal on any film (or could give no answer). Those who did not like the films tended to be less educated or to have foreign-born parents from Axis countries.

The *Battle of Britain* study provided more information about the perceived purpose of the film than some of the other films under study. The majority of the men questioned simply saw it as an effort to teach them the facts of the war in an interesting way. Few thought that they were being used as "guinea pigs" or manipulated in some way. A sizeable number did connect the film with its real objective. For example, 27 percent on the questionnaire studies wrote in on the space provided for comments that its purpose was "to raise our morale," "to improve the fighting spirit," or even "to make us want to kill those sons of bitches." Even with this recognition of its manipulative intent, they still tended to like the film.

The majority of those involved in the study saw the *Battle of Britain* as a true picture of what had happened during those days when Britain stood alone (some 65 percent gave such an evaluation). Another 33 percent believed that it gave essentially a true picture even though it was "one-sided" at times. Only a handful (2 percent) said that it did not give a true or honest picture. Similar assessments of the film *The Nazis Strike* yielded results with even larger numbers believing that the film was truthful (some 81 percent), a smaller number feeling that it was basically truthful, if one-sided (18 percent), and only 1 percent who felt that it was "mostly untrue or one-sided."

These audience evaluations are important in trying to sort out the overall effects of the films. The evaluations indicate that there were no glaring problems with the films themselves: By and large the soldiers liked them; they did not see them as untruthful propaganda, and they did not feel improperly manipulated. The reasons for the films' failure to achieve their objectives in the areas of attitudes and morale lie elsewhere.

Group interviews were conducted with 150 men selected so as to be a representative cross section of the recruits under training. These men were not part of the film evaluation experiments discussed earlier but a completely different group. The interviews were conducted in an informal setting after the subjects had seen the film; each interview group discussed the film, and an effort was made to put together a picture of how the men evaluated the film.

About the only additional insights obtained from this approach were that some of the men thought the films had some poor features. For example, in the air combat footage, the same German plane was shown being shot down several

times. Some of the men thought that shots of Hitler and his staff planning the assault on England were Hollywood actors (they were not; the footage was genuine). Generally, however, the findings from these group interviews supported those obtained from the questionnaire studies.

A second series of studies of audience evaluation of films did not focus on the *Why We Fight* series, but another separate and rather different series. These were short features, similar to newsreels, shown in conjunction with regular feature films at the base theater. Attendance at these regular entertainment movies was, of course, voluntary. However, those who went to the movies saw a different short feature each week called *The War* as part of the regular program. Each of these short features was made up of five episodes, with the content of each varied every week. However, the same titles for these episodes were used in each issue of *The War*. For example, Issue 5 of *The War* had the following five episodes:

> Episode a: *Finishing School*. This showed training of amphibious (Ranger) troops in invasion tactics such as embarking and disembarking and advancing under live ammunition.
>
> Episode b: *Back Home*. This showed machine tools being produced by a small family shop in Connecticut which was awarded the Navy "E" for contribution to war production.
>
> Episode c: *I Was There*. This featured an Army nurse's eye-witness account of the bombing of Manila and the fall of Corregidor, with action shots to illustrate part of her commentary. The whole story was told in the nurse's voice and was introduced and concluded by shots of the nurse telling her story.
>
> Episode d: *First Birthday*. This documentary reviewed the founding and first year's activities of the Women's Army Corps and depicted the training and duties of WACs.
>
> Episode e: *Snafu*. This was an animated cartoon showing the adventures of a comic character called "Private Snafu," whose complaints about Army routine and duties led to his magically being put in charge of the camp, with disastrous consequences.[7]

Two means of studying evaluations of this type of film were used. Questionnaires filled out by men who had seen the film were used, and a special recording device (called the "program analyzer") was used in the theater itself. This device consisted of a small box for every viewer with two clearly marked buttons. As the viewer watched the film, he pushed down the "like" button if he found the material interesting. If not, he pushed down the "dislike" button. There was no neutral button, but the viewer could refrain from pushing either the like or dislike buttons.

The results from these two approaches show similar patterns. Figure 5.1 summarizes the questionnaire data and Figure 5.2 shows a typical pattern [illegible] program analyzer. The findings are not definitive

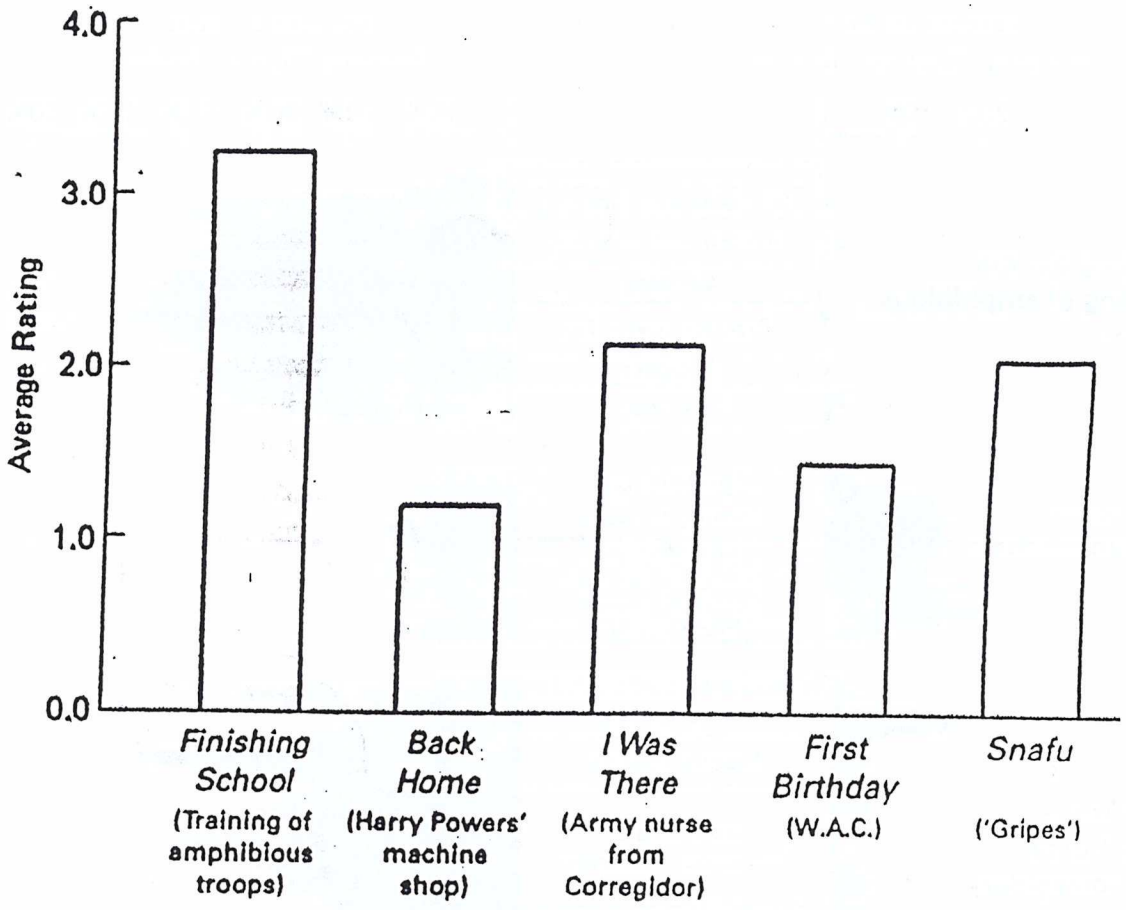

Figure 5.1. Questionnaire Ratings of the Five Episodes in Issue 5 of *The War.* The men were asked to rank the five episodes in the film as "best," "2d best," etc. Ratings for each episode were then scored as follows: "best," 4 points; "2d best," 3 points; "3d best," 2 points; "4th best," 1 point; "worst," 0 points. The values plotted are the average scores for the men whose polygraph records are averaged in Figure 5.2.
Source: Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, *Experiments on Mass Communication* (Princeton, N.J.: Princeton University Press, 1949) p. 110.

because of the limitations on sampling. But, along with supplemental information obtained from written comments on the questionnaires, and after pulling together findings from studying four separate issues of *The War*, the following generalizations seemed to apply:

1. Where the film simply showed someone talking, interest tended to be low.
2. Where real shots of military action were shown, interest was high.
3. Where shots of action were shown with voice-over narration, interest remained high.
4. Repetition of shots seen earlier in the film (as in seeing the same plane shot down) was not well received.
5. Highly realistic material, as opposed to Hollywood versions acted out with props, was much preferred.

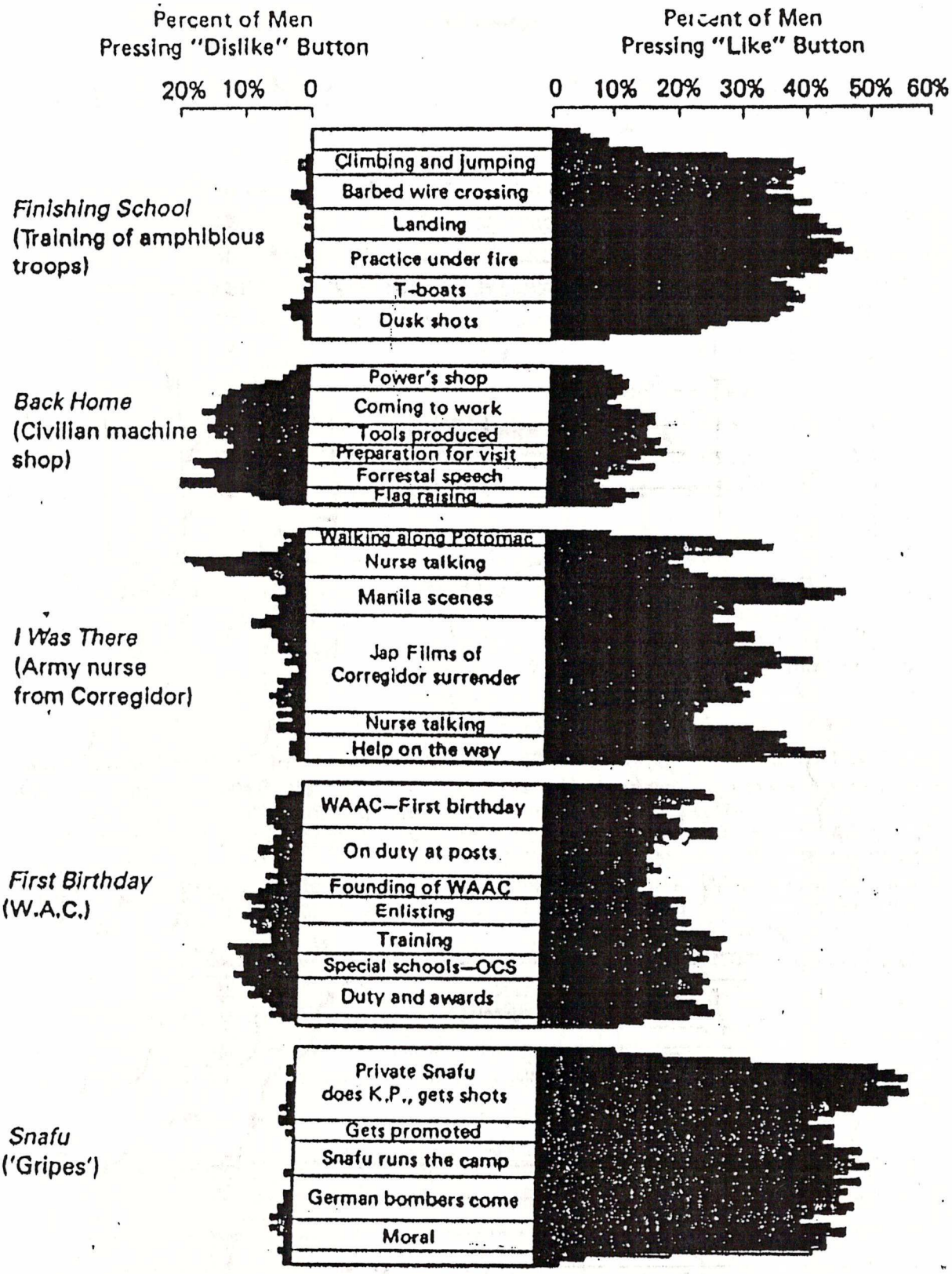

Figure 5.2. Continuous Polygraph Records of the Group "Likes" and "Dislikes" During Showing of Issue 5 of *The War.*
Source: Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, *Experiments on Mass Communication* (Princeton, N.J.: Princeton University Press, 1949) p. 111.

Again, these were tentative conclusions pertaining only to the films studied and should not be regarded as guides to audience evaluations of all kinds of films. Yet, they offer useful hypotheses for studying other types of training films for military personnel.

Alternative Presentations. The relative effectiveness of various media for accomplishing a given objective still merits much research attention. The Army researchers made attempts to probe this issue. They were quite aware that this is a very difficult question to answer, being based on assumptions that the medium may have special properties that themselves can influence change in the audience (i.e., that the "medium is the message" in its own right). However, in spite of the difficulties, the investigators saw such research as possible beginning analyses of any factors that might underly the use of various media for instructional or persuasive purposes.

Among the studies completed, three still appear to be important. One compared a motion picture versus a filmstrip presentation of the same subject; a second compared two types of radio program styles (a "commentator" versus a dramatized "documentary"); and the third compared the technique of having an introductory lecture to a film before seeing it to a review summary of what its salient points were after seeing it. The purpose was to see whether the introduction or the review was the best means of enhancing learning from an instructional film.

Although it may be tempting to conclude that a motion picture with a sound track is obviously a better training device than a filmstrip supplemented with a verbal presentation, the findings did not support such a conclusion. Six companies were matched on the Army's General Classification Test (AGCT) and the educational level that they had achieved. Two were designated as the control group. Two others saw a 43-minute sound film designed to teach map reading. The remaining two companies saw a 50-minute filmstrip presentation on map reading with an accompanying lecture.

After viewing these presentations, the soldiers (plus the control group) responded to a 39-item multiple choice test on the topics covered in the film and the filmstrip. The comparative effectiveness of the two media is shown in Figure 5.3. As it turned out, the film with sound had no inherent advantage over the still pictures of the filmstrip (supplemented with the lecture). The experiment was by no means definitive, but it points to the need for empirical checks on untested assumptions that one medium (e.g., television) automatically has some "greater power" than a simpler medium in all cases.

Of the remaining two studies in this series, the one of most contemporary interest is the comparison of the introductory versus the review lectures on the content of a film as a means of enhancing learning. Films are still widely used in teaching settings, and this issue has not been fully tested in more recent times.

More specifically, the question addressed by the research was the following:

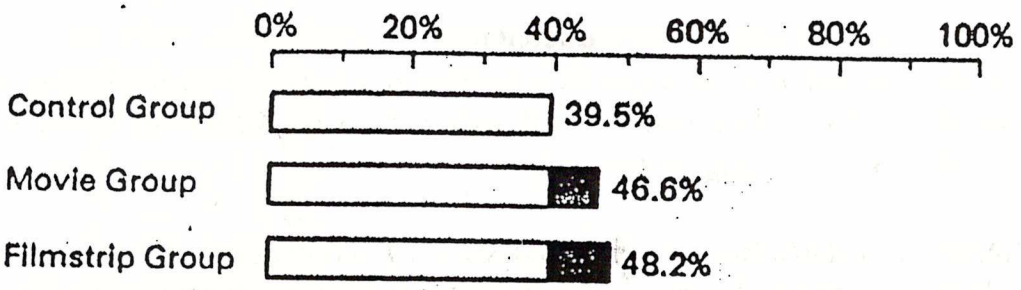

Figure 5.3. Average Test Scores Received by Men in Each Group (N = 253 in each group). *Source*: Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, *Experiments on Mass Communication* (Princeton, N.J.: Princeton University Press, 1949) p. 126.

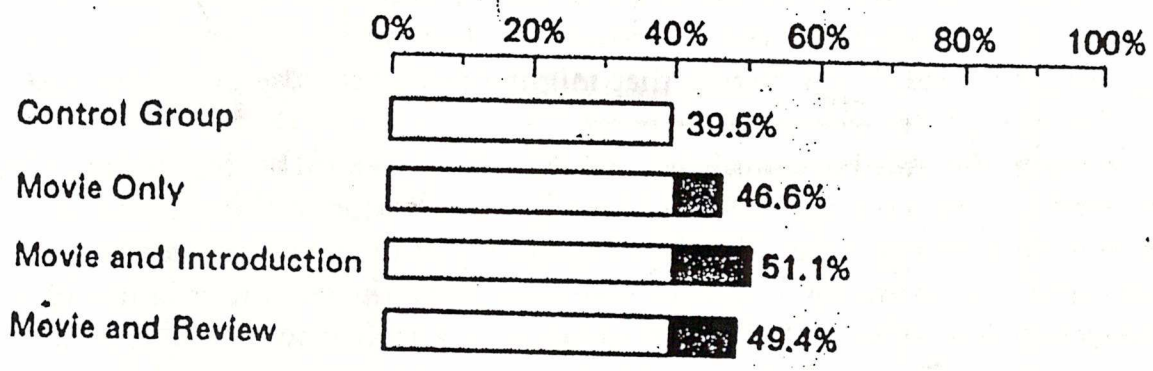

Figure 5.4. Average Test Scores for Each Group (N = 253 in each group). *Source*: Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, *Experiments on Mass Communication* (Princeton, N.J.: Princeton University Press, 1949) p. 143.

In using a film for training purposes, is it better that an instructor provide a preliminary commentary on the major points that will be covered in the film, or is it better to review its salient points after the audience has seen the film? Which approach will most increase learning from the film?

In the Army studies on this issue, four platoons of soldiers were shown the 43-minute film on mapreading after receiving a 20-minute lecture on its main ideas. Another four platoons saw the film first and then had a 20-minute review of its salient points. Care was taken that the persons doing the reviews and preliminary lectures were not greatly different from each other in terms of style or ability. The trainees did not know that they were part of a research effort.

After these presentations, each soldier took a 15-item quiz about the major topics that had been covered in the film. The results of this testing are summarized in Figure 5.4. As can be seen, viewing the movie by itself (as did the control group) improved performance rather considerably. However, both the introductory lecture and the review increased learning even more. The former seemed to have a slight advantage, but the difference was not significant. Results such as these indicate that just "showing a movie" is not the most effective practice in using film as a teaching device. Supplementing the [illegible] presentation before or after the film enhances learning effects.

Films and Intellectual Ability

A complex question concerning the film evaluation research described earlier (the *Why We Fight* series) concerns the degree to which different patterns of effects were observed among different categories of viewers. In the Army studies, the influence of such demographic variables as education, religious affiliation, marital status, intellectual level, and other social categories on the learning of factual material and opinion change was studied wherever possible. Among all these variables, the one most often related to differences in the results was the intellectual ability of the viewer. A brief summary of some of the main findings relating intellectual ability to learning factual material and to opinion change will demonstrate the major points.

Measurement. It was not possible to give the soldiers who saw the *Why We Fight* films, or who served in the control groups, an IQ test. This not only would have been difficult, but would have violated the assurances of anonymity involved in the research. Fortunately, it was not necessary to do this. Two indices of general intellectual ability were readily available. One was the individual's score on the AGCT. A considerable accumulation of research had established that these scores were highly correlated with intelligence test scores. An even simpler index was the level of educational attainment of the soldier. Research had also established the high correlation between amount of schooling completed and IQ test scores. Educational attainment was also, logically enough, highly correlated with AGCT scores. For this reason, the researchers felt confident that they could categorize the men in terms of simple classifications of educational attainment (such as completion of grade school, high school, or college) and use this as a reliable measure of intellectual ability. And, since all subjects in the film evaluation studies had been asked to give their level of educational attainment, the data were already a part of their questionnaire responses.

To determine if seeing a film such as the *Battle of Britain* had different effects on men in these three educational levels, the control and the film groups from the evaluation studies were contrasted. Simple comparisons of the percents in each group who had learned factual information, or whose opinions had been changed, were sufficient, and for the most part, the results showed clear patterns.

Learning Factual Material. It was found, first of all, that even before seeing the films the men with the most education already knew more factual information about the war than those whose educational achievements were lower. For example, on a brief fact quiz, the men in the control groups (who never saw the film) showed very different levels of factual knowledge, depending on their educational level. Only 21.1 percent of those who had completed grade school only could answer all of the items on the fact quiz

correctly. The figure for high school men was 28.6 percent and for college men it was 41.8 percent. These figures represent significant differences.

Similar findings were noted in studies of the map-reading film. Before seeing the material, those with higher levels of education *already* knew larger percents of the answers to the multiple choice test on map-reading than those in lower categories (grade school, 26.1 percent; high school, 28.9 percent; and college, 37.1 percent). In other words, intellectual ability, as measured, was a significant indicator of the initial level of factual knowledge commanded by the men, even before they saw any of the films.

But even though those with higher levels of intellectual ability already knew more, they also learned more from the film. A 29-item factual information test was prepared on the *Why We Fight* films. Comparisons were then made of the percents of these items learned, on the average, by the men in each of the three intellectual levels. Substantial differences were found. For example, the grade school men averaged only 16.3 percent on this test after seeing the films. The high school men averaged 36.6 percent, and the college men had 54.2 percent correct. These differences in levels of performance were even more pronounced when only the items of greatest difficulty were taken into account. Clearly, intellectual ability was the key factor in accounting for how much an individual learned from the films.

Opinion Changes. The relationship between intellectual attainment and opinion change presents a more complex picture. A trend was noted for the effects of the films on opinion change to increase with higher intellectual ability. However, in some opinion items, the opposite was found. But another situation was noted in the data that helped to explain what had happened. The more factual material that had to be grasped, especially more difficult material, the more opinion change was seen only among the men of higher intellectual level. The authors considered such changes as "informed opinion." On the other hand, the men of lower intellectual levels often changed their opinion position on the basis of a minimal number of facts or those easier to grasp. This was considered "uninformed opinion." To make matters even more interesting, the findings showed that men of lower intellectual ability were prone to change their opinion on the basis of facts that men of higher intellectual level did not regard as particularly valid.

Implications. Higher learning ability (intellectual level) led to increased levels of initial knowledge. However, it also led to learning more factual material from the film. On opinion change, the more complex the issue and facts concerning it, the more likely that opinion change would be primarily among the more intelligent men. Those of lower ability tended to change their opinions on issues of lesser complexity, less well supported by the facts, and on [illegible] more intelligent men found difficult to accept. While, as the authors

note, these are tentative conclusions based on this research only, it would appear that the less educated are easier to sway with propaganda.

ADDITIONAL EXPERIMENTAL STUDIES

The research findings on films summarized above were obtained for the most part from evaluation studies where the film had been prepared by persons other than the experimenters, and it was introduced in its entirety as the experimental treatment. In these studies, the dependent variable was one or more of the objectives set by the War Department for the film series. Extraneous variables were controlled by a variety of techniques, methodologies, and designs.

Another type of research on the effects of communication on opinion change employs variations in some specific aspect of the message, some characteristic of the audience, or some factor in the communication setting. Generally, such research seeks to find those conditions of the persuasive message, the communicator, the mode of presentation, etc., that will lead to a maximum degree of opinion change. The underlying assumption is that changes in opinion (or attitude, value, belief, and so on) are *keys to changing overt behavior*. After all, mere changes in opinion mean relatively little unless they are linked to changes in action.

The remainder of the present chapter summarizes briefly the results of two (from a set of three) experiments that sought such keys to opinion change. One experiment attempted to see whether opinion change after seeing a persuasive communication was a short-term effect or if it had stable long-term effects. The second experiment assessed a persuasive message that was structured in one of two ways. One structure was one-sided, and presented only arguments in favor of an opinion change under study. The other was essentially the same persuasive message, but some points on the opposite side were also presented in an effort to make the message seem more objective. The goal, of course, was to see which provided a better key to changing opinions in the direction desired by the communicator.

Short-Term versus Long-Term Effects

A significant question in the search for ways to change people's opinions through the use of persuasive communications is whether the effects achieved, if any, will disappear rapidly or persist over a long period. Studies of remembering and forgetting have been made by psychologists for decades. Such research has established that there is a "curve of forgetting" of factual information learned by a subject. The greatest amount of forgetting takes place rather quickly, and then the curve levels off after a few days to decline more slowly. Since opinion changes are based on factual information, the Army

researchers hypothesized that opinion changes would follow a somewhat similar pattern. That is, they expected changes of opinion achieved through persuasive communications to have a relatively short life, with the subject regressing over time to his earlier position.

The study of short-term versus long-term effects was carried out with one of the orientation films—*The Battle of Britain*—because the film was clearly capable of producing effects on both factual knowledge and opinion change. The sample used for this study had already been given their "before" measures as part of the film evaluation studies. In those studies, the subjects took their "after" measures a week after seeing the film. All that was needed was a group of subjects who had seen the film and whose opinions could be measured a relatively long time after seeing the film. It was also necessary, of course, to match the various groups so that any differences in effects could be assigned to the time variable, rather than to differences of some other kind between the two sets of subjects.

The "before–after with control group" design was used for both the short-time subjects and the long-time group. The long-time group was treated in the same manner as the short-time subjects, except that they received their "after" questionnaire *nine weeks* after seeing the film (rather than one week). Table 5.1 shows the general plan.

A clear pattern of forgetting factual material was found. On a ten-item fact quiz based on *The Battle of Britain*, there was a substantial decrement in recalling facts when comparing the short-time and the long-time experimental groups. Over the nine weeks, the long-time groups retained only about 50 percent as many of the fact items as had the short-time group at the end of the first week after seeing the film.

But the main question was the influence of time on opinions. To assess

TABLE 5.1. GENERAL RESEARCH DESIGN FOR COMPARING SHORT-TIME AND LONG-TIME EFFECTS OF SEEING AN ORIENTATION FILM

	Short-time Groups		Long-time Groups	
	Experimental (3 Companies)	*Control (3 Companies)*	*Experimental (2 Companies)*	*Control (2 Companies)*
First week:	"Before" questionnaire	"Before" questionnaire	"Before" questionnaire	"Before" questionnaire
Second week:	Film showing	——	——	——
Third week:	"After" questionnaire	"After" questionnaire	——	——
Eleventh week:	——	——	"After" questionnaire	"After" questionnaire
No. of subjects	450	450	250	250

Source: Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, *Experiments on Mass Communication* [illegible] Princeton University Press, 1949) p. 183.

opinion shifts caused by the film, and to compare the long- and short-time subjects, a 15-item opinion measuring instrument was prepared and used. The results of the comparison revealed some unexpected findings. On approximately a third of the opinion issues, the long-time group showed less change than the short-time group. This was the pattern to be expected from the "curve of forgetting." After all, the underlying factual material had shown a clear pattern of being forgotten. However, on more than half of the 15 opinion issues under study, the long-time group showed a *greater* change than the short-time group. This was not expected. The researchers referred to this kind of outcome as a "sleeper effect." It was difficult to explain, but what had happened was that the subjects had forgotten some of the facts in the film on which their opinions had originally been changed to some degree. Then, freed from the factual basis, the opinions changed even more.

In an attempt to understand this phenomenon better, a number of rather complex analyses of the data were made. The analyses were not particularly enlightening except in one case. There was a high probability of being influenced by the film on a long-time basis if one was *initially predisposed* toward a given opinion change (on a particular topic). Finally, the authors noted that changes in opinion of a general rather than specific nature may show increasing effects with lapse of time. Such general opinions are less firmly anchored to specific facts.

The sleeper effect raises many difficult psychological problems, and the investigators felt that they could not answer them within the context of the data of their studies. The effects of time on opinion change following persuasive communication remains a significant issue around which much research was organized in the years following the Army studies. The problem of initial position on an issue, however, was to prove a valuable key to understanding some of the effects in the next study to be discussed.

Effects of Presenting One versus Both Sides of an Argument

When attempting to change opinions on a controversial topic, is it more effective to present only the materials and arguments supporting the position of the communicator ("one side")? Or is it better to introduce at least some of the opposing arguments ("both sides") to make the persuasive communication look like a balanced treatment of the issues? These were the main questions for a study of the influence of a persuasive message that was used in 1945, toward the end of the war. New draftees were still being trained even though the European war was clearly about to end. The grim facts were that the war in the Pacific was seen likely to continue for two years or more. Although American forces had defeated the Japanese in a number of bitterly fought assaults on island bases, the main body of the Japanese Army had remained at home, anticipating a major invasion attempt. It was estimated that if this were to take place, the Americans would probably suffer hundreds of thousands of casualties. In fact, the war

could drag on for years. The Japanese had reserved supplies at home in spite of the heavy bombings of major cities. Each island was a fortress. And there was the vast Pacific to cross: the Americans would have to bring troops and supplies over thousands of miles of ocean. Even the high-level planners in the War Department did not know of the atom bomb that made the assault on Japan unnecessary. This closely guarded secret weapon was known only to a handful at Los Alamos, to the President and his staff, and to a few select people in the military. Thus, the War Department issued directives to begin preparing *all* troops to anticipate a long war. A factor complicating this need was that, with Italy out of the war and Germany clearly about to collapse, the majority of the soldiers felt that the war was about to end. This posed a potential morale problem of serious proportions. The troops *had* to be made to understand and believe that there were still tough years ahead and that there was no choice but to carry on.

Under the new directives, the social scientists of the Experimental Section set about to study the most effective ways to persuade trainees that it would be a long and difficult war in the Pacific. The keys to such persuasion were badly needed. For this reason, the social scientists moved away from films made in Hollywood and prepared their own persuasive messages so that they could build in various message factors in a search for those keys. Fortunately for hundreds of thousands of American young men, the atom bomb *was* used, and the war came to a speedy end. This aspect of the bomb's use tends to be overlooked today. In any case, if it had not been used, it is likely that this phase of the research program would have been greatly extended.

Included in the routines of the training camp was a weekly "orientation hour" that had been used for soldiers to see films, fill out questionnaires, participate in discussions, and so on. This tradition made it possible to use the same general approach for the new research program as had been used earlier with the *Why We Fight* film evaluations.

Since there was no time to prepare films, the more rapid and flexible medium of radio was used. The Armed Forces Radio Service prepared recorded materials according to the specifications of the researchers. The new research program began with a study organized around the issue posed at the beginning of the present section. Would a one-sided radio talk be more effective in changing the opinions of the soldiers concerning the probable length of the war in the Pacific, or would it be more effective to use a radio talk that presented at least some of the arguments on both sides (with the weight of arguments still on the side of a long war)?

Some careful preliminary work was done before designing the two radio programs. Interviews were held with 200 men to see how long they thought that the Pacific war would last and why they felt the way they did. What, in other words, were the counterarguments to the position that the war would be lengthy? This preliminary work paid off, because those counterarguments could

The two transcripts were prepared as a commentator's analysis of the Pacific war. The one-side presentation (about 15 minutes in length) marshalled all the factual information and arguments supporting the conclusion that the war would last at least two more years. The both-sides presentation had essentially the same material, but an additional four minutes of arguments on the other side were included early in the message. These were then carefully rebutted. Overall, the program as a whole supported the conclusion that the war would last at least two more years.

The "before–after with control group" design was used to assess the results. Considerable effort was made to obscure the idea that there was an experiment going on or that the men were being tested in some way. The before and after measurements took place in very different locations for very different announced purposes. Furthermore, in each case the central items were embedded in larger questionnaires addressed to different purposes. This camouflaging of the experiment within other important activities appears to have been entirely successful.

As in previous experiments, the subjects were selected in group units. A total of 24 platoons were used in all; 625 men were involved, with 214 in each of the two experimental groups and 197 in the control group. The after measures were made one week after the men in the experimental groups heard the radio programs. Once again, anonymity was assured, but it was possible to match the before and after questionnaires with the use of background data and handwriting.

When the results were first reviewed it appeared that the two forms of the persuasive message had not achieved different results. The opinions on the length of the war were compared for both experimental groups (one side versus both sides) by calculating the percent of men from each treatment who thought that the war would last more than a year and a half. These differences could then be compared to those found for the two measures of the control group. The results are shown in Table 5.2. Thus, it appeared that both programs were capable of changing the opinions of the men concerning the length of the war.

A different pattern of results became evident when the initial opinions of the men were taken into account. For those who were initially *opposed* to the conclusion that it would be a lengthy war, the one-side program had some effect (36 percent extended their estimates). But for such men the both-sides program had a much greater effect (48 percent extended their estimate). This is a difference of 12 percent. On the opposite side, the effects were even more striking. For those who initially *favored* the opinion that the war would be longer, 52 percent extended their estimates after hearing the one-side radio commentary. But when these initially favorable men heard the both-sides program, only 23 percent extended their estimate. This is a difference of 19 percent and in the opposite direction! Clearly, initial position on the issue seemed to be one of the keys concerning the effectiveness of a persuasive

TABLE 5.2. OVERALL EFFECTS OF THE TWO PROGRAMS ON DISTRIBUTION OF ESTIMATED LENGTH OF WAR

	Percentage Estimating a War of More Than One-And-One-Half Years		
	Experimental groups		
	Program I "One Side"	*Program II "Both Sides"*	*Control Group*
Before	37%	38%	36%
After	59	59	34
Difference	22%	21%	−2%
Probability	<.01	<.01	

Source: Carl I. Hovland, Arthur A. Lumsdaine, and Fred D. Sheffield, *Experiments on Mass Communication* (Princeton, N.J.: Princeton University Press, 1949) p. 210.

Intellectual ability proved to be another important key to the results. A striking set of differences was found when comparing men of different educational attainment levels (used as an index of intellectual ability). Briefly summarized, the two-sides program was more effective with those of at least high school level (49 percent changed to a long war estimate). The one-side program produced a change of 35 percent in this category. Exactly the opposite was found for men with limited schooling. For those with only grade school or less, the one-side program persuaded 46 percent to extend their estimates. The two-sides program brought only 31 percent of this category to make such an opinion change.

When both initial position and intellectual level were considered, even greater differences were noted. For example, among those of lower education who initially favored a longer estimate, the one-side program brought an increased estimate of the war's length among 64 percent. This result can be compared to the effects of the both-sides program on the same type of men. Here, estimates of the length of the war actually *decreased!* It appears that the two-sides program confused these poorly educated men and created an effect in the opposite direction from that desired by the communicator. For other combinations of initial position and intellectual ability, the differences were not dramatic.

CONCLUSIONS AND IMPLICATIONS

The various research programs described in *Experiments on Mass Communication* constitute a remarkable effort to bring the research expertise of the social psychologist and other social scientists to the practical problems imposed by the urgencies of a national crisis. The researchers, drawn into the war effort from the academic world, were able to make a significant contribution to the

practical problems of designing and testing orientation, teaching, and persuasive communication. But perhaps their most significant contribution was that they uncovered significant issues that would be explored by communication researchers in the decades that followed the war.

The film evaluation studies showed that this form of communication could teach factual material effectively to large numbers of people in a short time. The studies also showed that it was possible to alter opinions and interpretations of those facts and that at least some of these opinions would remain stable through time. Yet, it was clear that the films did not create more general effects on broader attitudes and motivations. In other words, the effects of the films were *clearly limited.* Such communications were not the all-powerful shapers of the psychic structures of their audiences that had been assumed by the magic bullet theory of prior decades. The findings from *Experiments on Mass Communication* led clearly toward a "limited effects" hypothesis concerning the short-term influences of a single communication on its audiences, rather than a "powerful effects" interpretation.

From the standpoint of research methods, the film evaluation studies and the other research programs reported set new standards for communication research. The "before–after with control group" design was not new to social science, but it had not been used so effectively before in communication research. It became a standard. The meticulous care taken in studying the *Why We Fight* films posed other models for later researchers. The investigators carefully analyzed the content of each film and developed their questionnaires around their findings. They took numerous precautions to pretest and fine-tune their instruments. They carefully disguised what they were doing so that their subjects would not modify their behavior according to some conception of the demands of the experiment. They matched groups, used controls, and camouflaged their tests and assessments in larger survey instruments. Finally, they carefully sorted through every set of results so that they understood as fully as possible what they had found and why. Of course their lack of concern over costs and their almost complete control over their subjects made this an almost unique situation that would be hard to duplicate in civilian life.

The results of their experiments supported the perspective that the effects of mass communication are strongly influenced by *individual differences* among the members of the audience. Individual differences led to selective perception, interpretation, and change. Such factors as the initial position of the subject were found to be very important in understanding the results. Similarly, there were differential influences that were related to the *social categories* (e.g., educational attainment) of the audience. Curiously, however, the researchers did not look into the *social relationships* that prevailed among their subjects as a source of influences on their results. Research on the role of the mass media in an election campaign was uncovering such influences, but the results of that work were not available to the Army researchers at the time.