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A psychological study of motion pictures

# PSYCHOLOGICAL STUDY OF MOTION PICTURES IN RELATION TO VENEREAL DISEASE CAMPAIGNS

BY  
KARL S. LASHLEY, Ph.D.  
AND  
JOHN B. WATSON, Ph.D.

WASHINGTON  
UNITED STATES INTERDEPARTMENTAL  
SOCIAL HYGIENE BOARD  
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## A PSYCHOLOGICAL STUDY OF MOTION PICTURES IN RELATION TO VENEREAL DISEASE CAMPAIGNS

KARL S. LASHLEY, PH.D.

AND

JOHN B. WATSON, PH.D.

*From the Psychological Laboratory of Johns Hopkins University*

### I. INTRODUCTION

In the early summer of 1919 the United States Interdepartmental Social Hygiene Board made a grant of \$6,600 to the Psychological Laboratory of Johns Hopkins University for the purpose of assisting the laboratory in "investigating the informational and educative effect upon the public of certain motion-picture films used in various campaigns for the control, repression, and elimination of venereal diseases." At the time the grant was made, Dr. T. A. Storey, executive secretary of the Board, suggested that the work should be carried out under the general supervision of an advisory board approved by the United States Interdepartmental Social Hygiene Board. Dr. Adolf Meyer, Dr. S. I. Franz and Professor R. S. Woodworth were asked to serve in this capacity, and the experimental work has been carried out by the writers in consultation and with the approval of this board.

The American Social Hygiene Association has given to the writers its full cooperation in the work, supplying films and literature and assisting in the organization of groups for study. They are specially indebted to Mr. Paul Popenoe and Dr. H. E. Kleinschmidt for various criticisms and suggestions as to problems and methods. They wish to express their thanks also to the many other individuals and organizations who have aided in the work; in particular to the medical officers at Camp Holabird, to the Maryland state and county authorities, and to the physicians and social workers in the various towns where experiments were carried out.

#### *Statement of the Problem*

The problem with which the experiments here reported deal is that of the informational and educational effects of certain motion-picture films used as propaganda against venereal disease. Popular education in sex hygiene aims toward two goals: first, it

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seeks to increase popular knowledge concerning the facts of sexual physiology and psychology with a view to equip the public for better methods of controlling venereal diseases and other sexual ills; second, it seeks to arouse an emotional attitude in the public which will stimulate real application of the information assimilated, since it is doubtful if any amount of information without accompanying emotional factors will lead to significant changes in behavior.

The need of information and emotional training for the public is universally recognized but what shall be taught and what emotions shall be aroused are questions which, at present, depend for their answer more upon the emotional reactions and traditions of the educators than upon any scientific data concerning the effects upon behavior of various methods and degrees of education. Our problem has been primarily the determination of the effects of the pictures already in use, the amount of information that can give, the emotions that they arouse, and the transitory and permanent effects which they produce upon the behavior of those who see them; but it is not possible to segregate this problem from the more general one of the effects of all sex-hygiene propaganda.

Whether a man learns from a lecture, a book, or a picture that venereal diseases are caused solely by microorganisms, the question of the value to him of that information remains the same, and unless it can be demonstrated that the information in some way modifies his behavior toward the control of disease he can scarcely be said to have grasped the facts. For the educational aspects of the pictures as for all other problems of education, the question is ultimately that of the social effects of the material presented; its efficiency in preparing the individual to fit into the social system with as little friction and as few personal conflicts as possible. We have sought, therefore, to determine not only the informational value of the pictures and the immediate emotional effects which they produce, but also their efficiency in instigating permanent modifications of behavior and the probable social effects of such permanent modifications. For the last purpose we have gathered data concerning the prevailing sentiment of psychiatrists and other medical men who are at the present time in the best position to judge the social effects of various types of sexual reaction. This work has been recorded in a separate publication,<sup>1</sup> the chief conclusions of which are reviewed in Section IV of this paper in their relation to the interpretation of the educational effects of the film.

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<sup>1</sup>Mental Hygiene. Vol. IV, No. 4, pp. 769-847, October, 1920.

For the determination of the effects of the picture upon behavior we have sought to follow up the sexual behavior of various groups for periods of from six weeks to three months following the showing of the films, gathering data upon prophylaxis, venereal incidence rate, general popular interest in sexual matters, possible serious emotional disturbances, and general popular reaction to the pictures. These data are presented in Section IV.

The motion picture within the last few years has come to reach a wider audience than any other educational agent, with the exception of the press and public schools. It is still largely recreational in character, however, and its possibilities for educational propaganda have yet to be exploited. One finds discussion in popular and educational writings of the merits of the motion picture as an educational agent, but this discussion seems to be based chiefly upon vague and dubious psychological notions that visual presentation is superior to auditory, that the interest of movement will be effective in fixing the material in memory, where less vivid presentations might fail; speculations which have at present no factual support. They fail to take into consideration the passive attitude taken by the subjects in viewing the pictures, the seeking of the theater for amusement, and the trifling character of the material which the public has been educated to expect from moving pictures. The investigation of the educational effects of sex-hygiene pictures should give rather valuable data, therefore, upon the real educational value of the motion pictures in general as compared with other educational methods. The exact amount of material presented may be measured and the percentage of this actually acquired by the audiences under different conditions of presentation may be determined. We have measured the information of the audiences before the pictures were shown and after the performance and compared the results, checking the data gained from questionnaires by personal interviews.

#### *Material for Study*

The need for control of venereal disease during the war led to the first serious attempt to develop motion pictures for popular education in the field of sex hygiene. Two pictures were produced and shown to men in army camps throughout this country and France. Later, other films were developed for women. The military campaign against venereal disease involved a simultaneous employment of a number of agencies, legal, educational, recreational and medical, with results which, as a whole, were successful. But it was not



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possible from analysis of the results to determine the relative parts played by the different methods.

More recently an attempt was made to utilize the pictures developed for army use with civilian audiences, but this met with opposition and the support of the government was, therefore, temporarily withdrawn. The films prepared for military use were "Fit to Fight," later modified and renamed "Fit to Win," the "Men's Lecture Film," and for women, "The End of the Road." A number of other pictures have been developed primarily for civilian use. The following is a comprehensive list of these sex-hygiene pictures prepared and published by the American Social Hygiene Association in the *Bulletin* of that Association.

"And the Children Pay"	The need of sex education in childhood.
"Birth—The Duties of Motherhood"	Delivery and care of the child.
"Cleared for Action"	Navy film.
"Damaged Goods"	Modified version of Brieux's play.
"The End of the Road"	Women's film emphasizing the need for instruction in childhood and the effects of venereal disease.
"Fit to Win"	Described below.
"How Life Begins"	The evolution of reproduction.
"Know Thy Husband" ("Some Wild Oats")	Emphasizing the need for sex instruction in childhood and the effects of venereal disease.
"Open Your Eyes"	Directed against the venereal-disease quack.
"The Scarlet Trail"	Directed against the venereal-disease quack.
"The Solitary Sin"	Effects of venereal disease and masturbation.
"The Spreading Evil"	Effects of venereal disease.
"Venereal Diseases—Their Origin and Results" ("Men's Lecture Film")	Diagrams and photographs of cases. For use with male audiences in conjunction with a lecture. A similar film has been prepared for women.

Since this is practically an initial attempt at measuring and evaluating, on a large scale, the effects of any picture, and since methods had to be worked out and tested, with accompanying waste of considerable time upon unprofitable methods, it seemed best to concentrate the investigation upon one film, rather than attempt a more superficial analysis of a number of films. "Fit to Win" in the revision adopted for civilian performances was selected as the subject of study. It offers certain advantages over the others for this

purpose, although in turn it omits important features which occur, for example, in the "Men's Lecture Film." In the first place, it seeks to impart both information and a definite emotional attitude; second, it employs dramatic methods for emphasizing some educational features and yet contains a certain amount of data presented without pictorial illustration; third, it is organized so that it may be used without an accompanying lecturer and without verbal introduction of any sort; fourth, it is perhaps the most direct of any film in use in its methods of presentation, giving venereal-disease data, advice on continence, prophylaxis, etc., without verbal or literary euphonisms.

Finally, it seems provocative of most of the criticisms which have been urged against sex-hygiene films in general. It emphasizes both the danger of disease and value of prophylaxis, without stressing the moral aspects of the sexual problem. The interest of the picture centers largely in questions of venereal exposure and infection with little dramatic interest or plot aside from this. The language of the legends is frequently crude and the scenes dealing with street soliciting and the bawdy house are open to the charge of pornography.

The study of the picture should, therefore, reveal most of the bad effects with which this and the various other sex-hygiene films have been charged. In the clearness of its presentation of the causes and effects of venereal infection the film is inferior to others which have been produced, but these in turn lack the dramatic interest of "Fit to Win" and are less typical of the majority of films produced.

The general outline of "Fit to Win" is in brief the following: The first 1,000 feet of the picture are devoted to the showing of lesions resulting from venereal disease, by photographs of cases and explanatory legends. A story is then introduced. It deals with five young men of diverse education and traditions. They are shown first as civilians, then as drafted and in training. On leave, they are approached by bootleggers and prostitutes. One, Billy Hale, influenced by the memory of his sweetheart, resists temptation. The others are exposed to venereal disease. Of the latter, Kid McCarthy resorts to medical prophylaxis promptly and escapes infection. The others are infected.

Kid McCarthy accuses Billy Hale of being a "mollycoddle," and a fight ensues in which Kid is defeated. He admits himself beaten and at Billy's instigation reforms. These two are then held up as examples of physical fitness and are selected for service abroad.

The other three, infected, are disqualified for foreign service. One, infected with gonorrhea, is discharged and the others, infected with syphilis, are sent to the hospital for treatment.

This ends the original film of "Fit to Fight," which forms, in itself, a complete picture. Under some conditions, owing to limitations of time at our disposal, we have used only this much of the film. We believe that this is justified, first, because it permits of more adequate replies to the questionnaires which we have used, and second, because the remaining parts of the film, as revised for civilian use, contain very few new facts concerning venereal disease and have relatively slight dramatic interest.

The remaining reels were constructed after the signing of the armistice and added as an epilogue to the original picture. Billy is shown returning from France as a captain. Kid McCarthy has been killed, after citation for bravery in action. The youth afflicted with gonorrheal arthritis is shown at home, his father heartbroken over his infection, his mother ignorant of its cause. Billy carries Kid McCarthy's medal for bravery to McCarthy's sweetheart. He then meets and sympathizes with the men afflicted with syphilis, telling them that they are now probably completely cured. He then bids farewell to his company, advising them to be wary of prostitutes and to keep morally clean in civilian life. After purchasing a civilian outfit, he visits his sweetheart, and in the final scene they are shown at the altar.

The lessons which the film seeks to teach are the following:

1. That continence is in no way injurious to health, but that the continent man is physically superior to the incontinent. This is brought out in three principal scenes: first, the leading man as a private is shown talking to a group of other soldiers and emphasizing the point that continence is not harmful but that incontinence leads to the risk of venereal disease. This scene consumes 43 seconds; second, a scene dealing with this topic shows a fight between the leading man and a pugilist whose incontinence is emphasized and who is badly beaten in the encounter; third, a scene bearing somewhat upon the point shows the principal characters at the end of a long hike. The leading man and the pugilist, now reformed, are unfatigued and fit at the end of the day while other characters, infected with venereal disease, are completely exhausted. The total time devoted to scenes dealing with continence is 453 seconds.

2. That seminal emissions are not harmful unless occurring more frequently than twice a week. Seventy-five seconds are devoted to this topic with legends and fairly dramatic scenes.

3. That venereal diseases are very serious and may lead to total disability unless given careful and long-continued treatment. One hundred and twenty-eight seconds are devoted to pictures of cases of gonorrheal arthritis and of children blind as the result of gonorrheal infection; 160 seconds are devoted to pictures of syphilitic ulcers and scars; 100 seconds to nervous disorders resulting from syphilis. A number of scenes show some of the principal characters incapacitated by venereal infection. A total of 220 seconds is devoted to these scenes, making a total of 608 seconds of data bearing on the seriousness of venereal diseases. The cases presented are realistic and impressive. The scenes dealing with infected characters are dramatic chiefly because of the disappointment shown by the characters at being unable to go to the front.

4. That venereal diseases are the result of infection by micro-organisms. Thirty seconds are devoted to micro-photographs of gonococci. These photographs are not very clear and the legends merely state that they are the germs which cause gonorrhea. Sixty-five seconds are devoted to micro-photographs of spirochetes and scenes showing preparation of smears. The photographs are excellent but the legends merely state that the spirochetes are the germs of syphilis.

5. That syphilis is communicable by contact or by the use of toilet articles of an infected person. A lip chancre resulting from an infection from a razor is shown for about 60 seconds. Three scenes show the infection of one of the characters, an unsophisticated country boy, by a kiss from a prostitute. These scenes consume 131 seconds and are dramatic throughout.

6. That the use of prophylaxis, after exposure, is advisable but that it must be used promptly and carefully in order to be effective. One hundred and fifty seconds are devoted to this topic. The original edition of the film contained a full illustration of the administration of prophylaxis. This, however, was eliminated from the civilian edition and the character and administration of prophylaxis are explained by legends, without detail.

7. That both gonorrhea and syphilis require persistent and long-continued treatment. This is brought out in the discharge of one character for disability incurred while not in line of duty, with the statement by the medical officer that the government has not time to bother with the prolonged course of treatment which would be necessary to cure him; and by the fact that the characters infected with syphilis are kept in the base hospital for the duration of the war.

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8. That the government maintains recreation rooms for soldiers and that various forms of wholesome recreation may serve as a substitute for the bawdy house. About 100 seconds are devoted to these scenes, which are rather badly taken and without dramatic interest.

9. That venereal infections constitute a serious loss to the government and a severe handicap in the prosecution of the war. This is given by legends only, consuming about 60 seconds.

10. That doctors advertising quick cure of venereal disease are unreliable. This point is not clearly brought out.

In addition to these informational parts of the picture, a number of emotional appeals for continence are made.

1. The sweethearts of the two characters are shown and their influence in keeping the men continent is brought out. Two hundred and seventy-five seconds are devoted to these scenes, which, however, are of rather slight dramatic interest.

2. The appeal is made to the men to remain continent in order to keep physically fit to fight. The greater part of the picture bears directly upon this subject. The leading man is shown as an athlete who, presumably as a result of continence, conquers the pugilist in the early part of the picture, wins general leadership among the men, and promotion to the rank of captain. The characters who are continent or properly use prophylaxis and escape venereal infection are shown setting out for France, and their exultation is contrasted with the disappointment of the infected men left behind in the base hospital. The appeal of this subject is primarily to patriotism but a still stronger motive is touched upon in a number of scenes.

3. The infected men are shown in strong contrast to the "fit" in a way that will probably touch the inferiority complex of the majority of men who see the picture. The desire to be superior, to gain leadership and promotion, to be hailed as a hero, or to avoid the shame of the infected men is played upon in some of the most dramatic scenes in the picture.

4. Appeal is made to parental and filial affection in a number of scenes. A country boy is shown saying farewell to his parents and receiving from his father brief and poorly expressed advice against prostitutes. Later cut-ins repeat and emphasize this scene. The part of this character throughout the picture is also such as to inspire sympathy and a protective attitude on the part of the audience. Scenes dealing with blind children also make a strong emotional appeal to sympathy for the innocently infected. In the

final scenes of the revised version one of the characters suffering from gonorrhoeal arthritis is shown at home. His father, who knows the nature of his infection, is shown as heartbroken while his mother, who is ignorant of the character of the disease, is resentful that her son has not received recognition for his services.

5. Many of the scenes are calculated to arouse fear of infection. Those showing active cases and infection by contact are especially vivid. The illustration of ulcers may also arouse other emotional reactions.

In addition to these emotions which the film is intended to arouse, there is a possibility that it may produce any one of a number of harmful reactions. Fear of infection may develop as a phobia which will interfere with necessary social adjustments. The picture may arouse an excessive interest and curiosity concerning sex matters and so defeat its own purpose. There is also the possibility that the attitude taken by the men in the picture toward prostitutes and the level of masculine ideals presented may serve to arouse in women an antagonism toward men in general. Finally, the picture may offend the esthetic or religious traditions of the audience and so lead to antagonism both toward the film and toward sex education in general.

An important part of our problem has been the accumulation of data bearing upon these questions. This has been done partly by questionnaires but chiefly by field work in towns where the picture was shown.

#### *Methods of Investigation*

The problems which are presented by sex education through motion pictures fall experimentally into three parts which are closely related but which require somewhat different methods for solution. These are the informational value of the pictures, the emotional reactions aroused by them, which again may be subdivided into the attitude towards sex matters and the attitude toward the film, and finally their effects upon sexual behavior.

For the study of the informational value of the picture we have employed chiefly the questionnaire method. Where possible, the audience was required to write out answers to a number of questions dealing with information concerning venereal disease, before the picture was shown. The picture was then projected and when it was finished the audience was again asked to fill out duplicate questions. Owing to the length of the picture it was not possible to use the preliminary questionnaire with the majority of the audiences. We, therefore, have used the average level of information

from those obtained, as a standard by which to judge the effects of the picture upon all of the audiences studied.

The use of the questionnaire method for a study of this type is open to a number of serious objections. The most important of these is the fact that it exercises a selection among the members of the audience. Illiterates are, of course, ruled out from the first. It may be also that only those who already have a serious attitude toward sex problems will trouble to answer the questions and that the large group who do not take the lesson of the picture seriously or who are accustomed to a frivolous attitude on sex matters will fail to return their questionnaires. Finally, those who are seriously emotionally disturbed by the picture or whose sexual inhibitions prevent them from employing language necessary for answering such questions as those asking the causes of venereal disease, will be prevented from coöperating by the emotional storm which is aroused by the picture.

We have sought to control some of these possible sources of error through personal interviews. Contact was made with about 75 men of various professions and degrees of education, and they were questioned closely as to their knowledge of venereal disease and other sex matters. Their replies are available as a check upon the information and emotional attitude of the other groups dealt with by the questionnaire method. In general, the difference which appears in the results of personal interview and of the written questionnaires is slight and seems to justify considerable confidence in the validity of the conclusion reached by the questionnaire method. We have, moreover, a check upon the question of the elimination of those who do not take the film seriously in the internal evidence from the questionnaires themselves, in the data upon the proportion of the men who filled out the questionnaires, and in observations of the behavior of the audiences while writing the answers. Thus, in the group of soldiers studied, 63 per cent of the audience returned questionnaires. Fully 20 per cent of the men were illiterate or had too limited a knowledge of English to handle the questions. Five per cent were engaged in distributing the material and other duties arising from the experiment. This leaves only a probable 12 per cent of the men who failed to answer the questions for no known reason. It is very probable that carelessness was the chief reason for their failure to reply. We must, therefore, make allowance for this group in considering the effects of the picture. Their inclusion, if it had been possible, would perhaps have influenced the data upon the emotional effects of the picture but it is doubtful

whether the information acquired by this group differed essentially from that of the others. As to a question of emotional shock during the picture, it is, perhaps, most likely to arise in the case of audiences of women. From two groups, one made up altogether of women, the other of men and women in about equal number, replies to the questionnaires were obtained from practically every member of the audience. The average of these replies does not differ significantly from that obtained from a small proportion of the women in a mixed audience. It thus seems unlikely that the selection error reduces the validity of the results which we have obtained by the questionnaire method to any great extent.

For the determination of the emotional effects of the picture we have likewise used the questionnaire method to get at the immediate emotional reaction of the audience. Observations upon the behavior of the audiences also furnish important data here, although some of our data indicate that there is little possibility of determining the later emotional attitude of the audience from their immediate reactions. The most important data upon the emotional effects of the picture, both in regard to the attitude toward sex matters and attitude toward the educational campaign conducted in this way, have been obtained by keeping track of members of the audiences and interviewing them later, either personally or with the aid of some social worker.

The most important of the problems centered around the film is that of its influence upon the sexual behavior of those who have seen it, and this is likewise the most difficult about which to gain information. We have been able to attack this problem only indirectly. Since there was little hope from the first of gaining any direct knowledge of changes in sexual behavior from members of the audience, questions were used after the performance which were intended to bring out the individual's own attitude toward changes in his sexual behavior. These inquired both what effect the individual believed the picture would have upon others and what effect it would have upon himself. These questions were inserted because it seemed probable that the subjects would be more apt to project his own emotional attitude to others than to express it definitely concerning himself, if it seemed to him likely to be objectionable to the experimenters, or in conflict with social dicta.

In addition to the use of the questionnaire method we have attempted to follow up the effects of the picture through the coöperation of social workers, physicians, and others in several towns where the films were exhibited and also in a military camp where



the largest audience was obtained. The results of this study are summarized in Section IV.

#### *Groups Studied*

The problem before us was to test the effects of the picture upon a number of individuals differing widely in education, social traditions, and economic standards. The principal groups from which we obtained sufficient data to justify our conclusions, are listed below:

*Medical Group:* About 40 physicians, nurses, and other members of the staff of a large hospital were invited to attend the showing of the picture. No questionnaire was used with them, but at the end of the performance voluntary expressions of opinion were requested. This led to a rather lively discussion which brought out chiefly the emotional reaction of the audience to the picture.

*Executive and Clerical Group:* The picture was shown to 45 members of an extension course in applied psychology made up of men and women engaged for the most part in executive business work. They were asked to fill out a questionnaire after the performance, the preliminary questionnaire not being used. Forty-five replies to the questionnaires were obtained.

*Literary Club Group:* This audience consisted of about 60 mature women, belonging to a social and literary club in a Pennsylvania city of about 25,000. Discussion of the picture was obtained from the group and 53 questionnaires were returned. It has been possible to follow up the effects of the picture with this group to a limited extent through personal acquaintance with some of the members.

*Mixed Audience:* In order to test the effects of the picture under the severest conditions of commercial use, we decided to undertake a public presentation without any restriction upon the character of the audience. A free performance of the picture was advertised in a village of 3,000 inhabitants in middle Pennsylvania, with no further indication of its character than that it was an educational film dealing with sex hygiene. The audience, about 250 in number, consisted of about equal numbers of both sexes. Fully half were boys and girls below the age of seventeen. Data were obtained concerning the behavior of the audience during the performance and concerning the after-effects of the picture in the town, through the coöperation of persons interested in social conditions there. Eighty-seven questionnaires were returned.

*Car Men Group:* Arrangements were made for an audience of employees, mostly motormen and conductors of a large street railway company in New York City. Between 350 and 400 men at-

tended. Unfortunately, at the close of the showing of the picture, the company physician, of whose presence we were ignorant, arose and delivered a twenty-minute address to the men, contradicting a great many statements made in the picture and advising the men that venereal diseases were not particularly serious and that if they would come promptly to him for treatment he would guarantee that they would have no trouble. This incident reduced the validity of the results obtained in the car men group to an unmeasurable extent. However, 147 questionnaires were returned and as a majority of these were filled out during the first part of the physician's lecture, it is probable that attention to them prevented his remarks from greatly influencing the results.

*Merchant Sailor Group:* Through the courtesy of the officers of the Seamen's Church Institute of New York City, we obtained an audience of between 450 and 500 sailors at the Church Institute. Some of these were officers but the majority were ordinary seamen. We obtained 134 questionnaires from them and notes on interviews from a considerable number who remained after the performance to discuss sexual questions in which they were interested.

*Soldier Group:* The picture was shown to about 1,200 men in an army training camp. The majority of these men were recently enlisted, though some few regulars were included. A large percentage of them were foreigners or illiterates and many of the questionnaires which they returned showed language difficulty. The men were ordered up and remained under military discipline throughout the performance. Seven hundred and sixty-four questionnaires were returned. It was possible to follow up the venereal-disease and prophylactic records of this group and compare them with records of the same group preceding the performance.

In addition to these groups from whom an attempt was made to get data during or immediately following the performances, we carried out two experiments, the object of which was to reach as many of the inhabitants of two towns as possible. The experiment as originally planned intended to employ diverse films or methods of presenting the films with audiences in two towns and to follow up the effects in both towns with a view to determine the relative merits of the different methods. This later proved impracticable, but accounts in part for the methods employed. For the purpose, two towns of 7,000 population each on the eastern shore of Maryland were selected. They were quite similar in character of population, both were rather isolated from large cities and dependent chiefly upon fishing industries. The populations of these towns are reputed

to be ultraconservative and should, therefore, constitute a fairly severe test of the possibility that the picture may arouse antagonism. Four performances were given in each town, one each to men and women, white and colored. "Fit to Win" was used for the men and "The End of the Road" for the women. In the two towns 730 white men, 920 white women, 208 Negro men and 450 Negro women were reached. The showing of the pictures was followed by study of their effects through interviews with ministers, physicians, social workers, druggists, and others.

We have tried also to measure the residual effects of the pictures by sending out a questionnaire to individuals who saw them, at an interval of from three to five months after the performance. Questionnaires have been returned from the Executive and Clerical Group, the Mixed Audience, and the Eastern Shore Groups last described. They are discussed in Section II.

We wished to make tests upon men engaged in educational work, upon mill workers, upon shop girls, and upon school children of public and high-school ages. Preliminary arrangements were made to exhibit the pictures at the annual meeting of the National Educational Association but owing to a change in their program at the last moment this was prevented. Attempts to gain coöperation for the organization of the other audiences have met with strong opposition, and we have not been able to carry out experiments upon them. In regard to the mill workers, the Car Men Group probably is equivalent both in educational level and social traditions upon sex matters. The lack of data upon the other groups is a real defect in our investigation, which we have been unable to remedy.

In the various experiments the picture has been shown to between 4,800 and 5,000 persons. Twelve hundred and thirty questionnaires were obtained and subjected to statistical analysis. The after-effects of the picture have been followed up by the method of interviews in three towns where they were shown to about 20 per cent of the population, and by actual venereal-disease and prophylactic statistics in the military camp. The groups studied range in education from the thoroughly informed medical and executive groups to the illiterates. It seems, therefore, that the data obtained may be looked upon as a fair sample of the effects which the picture might produce in any community.

## II. INFORMATIONAL EFFECTS OF THE PICTURE

### *Levels of Popular Information*

That the public is largely ignorant of matters relating to venereal diseases is obvious, but we have been unable to find in the literature, any estimate of the level of sex education of any social group. To determine the informational value of the picture, we must begin with groups of known informational level. We must give them definite facts, through the medium of the motion pictures, and finally must test them again to determine what facts, of those presented, have been assimilated. For the measuring of the informational effects of the pictures, we have been compelled to rely upon the questionnaire method. In most of our experiments, questions dealing with the causes and effects of venereal diseases were submitted to the group studied, before the picture was shown, and questions covering the same points were again submitted after the picture was exhibited. A comparison of the replies to the two sets of questions makes it possible to determine rather accurately just what facts, previously unknown, were acquired by the subjects as the result of seeing the picture.

We have carried out such tests upon a number of different groups, ranging from classes of university students and groups of cultured women, to groups of uneducated laborers. About 425 replies to the preliminary questionnaires have been obtained. The majority of these replies are from laborers and other groups having an average school education of not more than the fifth grade.

*Personal Interviews.* Before the questionnaire method was used we arranged personal interviews with about 75 men, seeking by questions and discussion to bring out their knowledge of venereal diseases. They were asked to tell all they could of the causes and effects of gonorrhoea and syphilis, of the use and theory of prophylaxis, of the necessity for sexual intercourse, and of the other subjects later covered by the questionnaires. Their replies were noted in detail. Our object in this was: first, to gain a knowledge of the popular vocabulary dealing with sex matters; second, to have a check upon the questionnaire method since we suspected that it might exert some selection upon the subjects, or that obscurity of some of the questions might produce misleading results; third, to give a more thorough insight into the men's organization of their

knowledge than is possible from the brief replies to the questionnaires.

Thirty of the men interviewed were incoming patients at the genito-urinary dispensaries of the city. These represent the most uneducated class that we have dealt with, many of them being illiterate and few exceeding the fifth grade in education. Forty more were selected at random from the patients at a military hospital. They range from illiterates to well-trained officers. The remainder were workmen and students picked at random.

The data obtained from these men are too varied and extensive for analysis here and will be considered chiefly for the help that they give for the interpretations of the questionnaires. In general there is a very close agreement between the distributions of opinion as brought out in interviews and by the questionnaires. We asked these subjects, in case they were reluctant to express an opinion, at least to hazard a guess. We found that these guesses divided in about the same proportions as the unhesitating answers returned. That is, the classes who at first state that they are ignorant of the subject, when they are pressed for an opinion give the same answers in the same proportions as those who give their opinions without urging. This point is important for the interpretation of answers to the questionnaires, for it means that the percentages of answers claiming ignorance may be largely disregarded, and that the percentage given for expressed opinions represent very nearly the true proportions of belief of the population.

The results of interviews indicate further that where either ignorance or carelessness may explain an imperfect answer to a question, ignorance is almost certainly the cause. Thus 25 per cent of the men give filth as the cause of venereal disease and we find that an even larger percentage of the men interviewed actually consider lack of cleanliness to be the cause of venereal disease and have no conception whatever of the true nature of infection.

*Preliminary Questionnaires.* Before showing the films we requested, where possible, that the members of the audience should fill out a preliminary questionnaire, designed to bring out their general information concerning the causes and seriousness of venereal disease, and their emotional attitude toward it. The data obtained from the questionnaires used before the showing of the pictures are of considerable interest aside from their bearing upon the educational effects of the picture, in that they give a fairly exact measure of the average level of information possessed by the public at large concerning venereal diseases. It seems worth while, therefore, to

present them in rather extended forms as a standard for use in formulating further educational measures.

The questions submitted before the showing of the picture are given below, with a classification of the replies received. The numbers are given in percentages of the total number of answers. These percentages are based upon about 425 replies and are, therefore, a fairly reliable index of the general information of the individuals and of the educational level of the groups studied before they had seen the pictures. The differences between the groups are less striking than might be expected and will be considered after the general results have been presented. The results of the preliminary questionnaire will be taken up in the order in which the points brought out by the picture were listed on pages 8-10.

1. *Relation of Continnence to Health.* The first of these was that continence is in no way injurious to health. *Is sexual intercourse necessary to keep men or women healthy?*

41 per cent answered that sexual intercourse is necessary for health.

47 per cent answered that it is not.

12 per cent stated that they did not know.

The belief that intercourse is necessary for health is widespread and, as appears later, this is one of the points upon which the informational effects of the picture are most apparent.

2. *Effects of Seminal Emissions.* No preliminary question as to the effects of seminal emissions was included, since this part of the questionnaire had to be made very brief. Data from interviews lead us to believe, however, that not less than 50 per cent of men having less than full high-school education believe seminal emissions to be injurious.

3. *Seriousness of Venereal Diseases.* A group of questions sought to bring out the subjects' knowledge of the after effects and seriousness of venereal disease:—

*What are the effects of gonorrhoea if it is not treated promptly?*

25 per cent gave vague statements, such as ill health, suffering, etc.

11 per cent described the symptoms of active infection.

14 per cent gave syphilis as an effect.

10 per cent gave other incorrect but serious effects, such as tuberculosis, leprosy, insanity.

13 per cent gave blindness, rheumatism, sterility, or other serious effects.

27 per cent stated that they did not know.

*What are the effects of syphilis if it is not treated promptly?*

24 per cent gave vague statements such as ill health.

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23 per cent referred to sores, skin diseases, etc.

9 per cent gave paralysis, insanity, heart disease, and other serious effects.

7 per cent gave serious but incorrect effects.

37 per cent stated that they did not know.

Only 23 per cent of the individuals studied have a correct knowledge of the effects of gonorrhoea, and 32 per cent, of syphilis. Serious effects are indicated by at least 48 and 39 per cent for gonorrhoea and syphilis respectively.

*Is a child born to parents having a venereal disease likely to become infected before birth? If so, what are the results of such infection?*

83 per cent stated that infection was probable.

2 per cent stated that it is not probable.

15 per cent stated that they did not know.

The effects described were the following:

Vague: fatal, serious, etc., 11 per cent.

Deformity, cripples, etc., 23 per cent.

Blindness, 31 per cent.

Mental defect, 10 per cent.

Skin diseases, 7 per cent.

No knowledge, 18 per cent.

The seriousness of venereal disease for children thus seems to be better known than the effects upon adults, or the subject arouses more interest and hence leads to a more conscientious answer to the question. Other data, given below, indicate that diseases in children make one of the strongest of all appeals presented by the picture.

*How quickly can gonorrhoea and syphilis be cured?*

Perhaps the best single index to the belief in the seriousness of venereal diseases is given by the questions concerning the time within which they can be cured, and the indication of cure.

25 per cent gave periods of less than 1 year.

13 per cent gave periods of 1 to 3 years.

4 per cent gave periods of 4 years or more.

15 per cent stated that there is no definite time limit.

4 per cent stated that cure is impossible.

39 per cent stated that they did not know.

The 25 per cent who gave periods of less than one year seem, to judge from other replies to the questionnaires and from the results of interviews, to consider that the diseases are not very serious. Exceptions of course occur, for some of the men are quite well informed concerning treatment, but in the majority of the cases this holds true. The 15 per cent who state that there is no definite time limit are in this respect also the most intelligent and best informed of the men and this percentage may be put down as representing roughly the proportion of the men

who are adequately informed. Nineteen per cent gave replies varying from one year to life time, and clearly have a realization of the seriousness of venereal disease. Forty per cent know little or nothing of the time required for cure. It appears that not more than 25 per cent of the men believe that gonorrhoea and syphilis can be cured quickly. Not more than 2 per cent distinguished between the two diseases in answering the question, but 31 per cent placed the time at more than a year; an indication that they regard the diseases as serious.

Knowledge of the seriousness of venereal diseases thus appears to be widespread, but there is little accurate knowledge of the precise results arising from infections.

4. *Venereal Diseases Result of Infection.* To determine the subjects' knowledge of the causes and modes of transmission of venereal diseases, the following questions were asked:—

*What is the cause of gonorrhoea (clap) and how is it contracted?*

19 per cent of the answers showed some knowledge of the infectious origin of venereal disease, either by reference to germs or to infection by contact.

27 per cent referred to sexual intercourse as the method of contraction without further comment.

25 per cent gave "dirt, filth," etc., as the cause of venereal disease.

7 per cent gave "strain" or other fantastic explanation of the disease.

22 per cent stated that they did not know.

*What is the cause of syphilis (pox) and how is it contracted?*

22 per cent of the replies showed some knowledge of infection, as above.

12 per cent gave sexual intercourse, without comment.

16 per cent laid emphasis upon filth as the cause of the disease.

13 per cent described syphilis as a late stage of gonorrhoea.

7 per cent gave other causes.

30 per cent stated that they did not know.

Other questions used after the showing of the film indicate that very few of the men have any clear understanding of the nature of infection (page 24) and that many of those who mention germs as the cause of disease believe that the germs may originate spontaneously. Thirteen per cent of the men give syphilis as a stage of gonorrhoea. These were spontaneous statements, and it is probable that a much larger percentage actually confuse the diseases. Questions concerning chancroid were also asked, but so few of the men distinguished between this and syphilis, either before or after the showing of the film, that it has not seemed worth while to include the data obtained.

6. *Effectiveness of Prophylaxis.* To reveal popular knowledge of prophylaxis, the following questions were asked:—



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*Is there any way to prevent catching venereal diseases if you have been exposed to them? What is it?*

55 per cent answered yes.

11 per cent answered no.

34 per cent stated that they did not know.

49 per cent mentioned prophylaxis or some specific prophylactic.

8 per cent advised abstinence.

3 per cent thought prevention possible but knew of no method.

Knowledge of prophylaxis thus seems disseminated among about half of the men studied. Not more than one fourth, however, gave any indication of effective knowledge.

*7. Length of Treatment Required.* Data bearing upon this point are given under 3 above. About 32 per cent of the men show a knowledge of the facts or a realization that long-continued care may be necessary.

*How can you tell when gonorrhoea and syphilis are cured?*

48 per cent would rely upon a "blood test" or doctor's examination.

40 per cent did not know.

8 per cent stated that it is impossible to tell.

4 per cent listed a disappearance of the symptoms.

Most of the answers clearly referred to gonorrhoea but so many of the men failed to distinguish clearly between the various venereal diseases that the fact is of little importance.

As an indication of a cure only four per cent listed a disappearance of symptoms, "When you can walk straight," "When it quits running," "When the sores heal," etc. Forty-eight per cent considered medical examination necessary for determination of cure. These men are likely to continue treatment until advised to stop.

*8. Recreation as a Substitute for Sexual Activities.* No preliminary questions were asked concerning this point as it was impossible to phrase it briefly in a way that would be intelligible to the majority of the subjects studied.

*9. The Effects of Venereal Disease upon Efficiency.* This point was also omitted from the preliminary questionnaire.

*10. Sources of Information Concerning Treatment.* One question was included to determine the probability that the men would avoid venereal-disease quacks.

*How would you find out the name of a doctor to treat the diseases?*

55 per cent listed a reliable source, family doctor, hospital, Public Health Service, etc.

32 per cent replied that they did not know.

11 per cent stated that they would inquire of friends who had been infected.

2 per cent referred to advertisements or specialists.

2 per cent also advised avoiding doctors who advertise.

Thus 45 per cent lack information which would make them likely to avoid venereal-disease quacks.

*Average Differences between the Groups Studied.* Answers to preliminary questionnaires were obtained from the Mixed Audience, the Car Men and the Sailor Group. These total 368. The other groups from whom preliminary questionnaires were obtained were too small, alone, to have statistical value and will be included later in the analysis of improvement in information resulting from the showing of the pictures.

The total audience to whom the preliminary questionnaires were submitted numbered 1,200, from whom a total of 425 usable questionnaires were obtained. The length of the picture and limitations of time with the other groups studied made it impossible to use the preliminary questionnaires with them. The significance of the failure of the large percentage of the members of the audiences to fill out the questionnaires is discussed on page 12.

The percentages of each group giving the various replies to the questions on information are tabulated below:

	Car Men	Sailors	Mixed Audience	
			Men	Women
<b>1. Effects of Continnence.</b>				
Necessary for Health .....	52	31	17	8
Unnecessary for Health .....	26	56	33	28
No Information .....	22	13	50	4
<b>3. Seriousness of Venereal Disease.</b>				
<i>Effects of Gonorrhoea:</i>				
Active Symptoms .....	15	18	6	0
Correct, Serious .....	17	32	6	0
Incorrect, Serious .....	22	13	28	26
Vague .....	24	18	12	30
No Information .....	22	18	48	44
<i>Effects of Syphilis:</i>				
Active Symptoms .....	25	23	6	0
Correct, Serious .....	20	26	69	42
Incorrect, Serious .....	3	13	13	0
Vague .....	14	19	6	16
No Information .....	38	19	6	42
<i>Transmitted to Children:</i>				
Yes .....	80	90	70	97
No .....	0	3	6	0
No Information .....	20	7	24	3
Deformity .....	25	36	31	38
Blindness .....	22	29	25	12
Mental Defect .....	5	16	19	12
Skin Diseases .....	13	6	0	12
Vague .....	8	6	19	16
No Information .....	27	7	6	10

## 24. A PSYCHOLOGICAL STUDY OF MOTION PICTURES

	Car Men	Sailors	Mixed Audience Men	Women
<b>Duration of Treatment:</b>				
Less than 1 year .....	18	33	22	5
1 to 3 years .....	10	18	0	13
4 plus, years .....	2	4	5	9
Indefinite .....	13	18	6	5
Cure Impossible .....	6	4	15	5
No Information .....	51	23	52	63
<b>4. Infectious Character of Diseases.</b>				
<b>Causes of Gonorrhea:</b>				
Infection .....	14	31	12	9
Sexual Intercourse .....	16	22	12	23
Filth .....	21	13	7	5
Bizarre Causes .....	8	8	12	13
No Information .....	41	26	57	50
<b>Causes of Syphilis:</b>				
Infection .....	16	34	21	15
Sexual Intercourse .....	4	18	0	10
Filth .....	21	13	7	5
Gonorrhea .....	25	8	21	5
Other Causes .....	3	5	7	0
No Information .....	31	22	44	65
<b>Infection from Dirty Women:</b>				
Yes .....	71	60	66	
No .....	7	15	0	
No Information .....	22	25	34	
<b>Infection from Menstruation:</b>				
Yes .....	54	58	66	
No .....	13	18	0	
No Information .....	33	24	34	
<b>Infection from Strain:</b>				
Yes .....	43	35	0	
No .....	36	44	17	
No Information .....	21	21	83	
<b>6. Effectiveness of Prophylaxis.</b>				
Prevention Possible .....	31	74	56	55
Prevention impossible .....	17	5	6	6
No Information .....	49	21	38	39
<b>7. Duration of Treatment.</b>				
<b>Recognition of Cure:</b>				
Medical Examination .....	35	65	25	29
Disappearance of Symptoms .....	55	4	0	0
Cure Impossible .....	9	7	18	16
No Information .....	51	24	57	55
<b>10. Sources of Information concerning Treatment.</b>				
<b>To Locate Doctor:</b>				
Reliable Source .....	41	66	36	37
Unreliable Source .....	12	17	21	16
No Information .....	47	17	43	47

From this table we can gain some idea of the relative amounts of information concerning venereal disease, possessed by the different groups. The Sailor Group seems in general to be the most widely read and to have the most accurate information of any of those

studied, with the exception of the small groups of university men not included in the table. Even they, however, are largely ignorant of the real character of venereal disease. About one third of the men show a knowledge of the infectious nature of disease, either by mention of the germ or of the contraction of the disease by contact with infected persons, yet more than 10 per cent of these believe that disease may be acquired by some sort of spontaneous generation, as indicated by the answers to Questions 3 and 4 and by the personal interviews with the men of this type. The men of the other groups show even slighter knowledge of the infectious character of disease and a large percentage of them hold mistaken ideas as to its origin. Among the women, the vast majority are completely ignorant of the cause of diseases. Only 9 per cent give indication of the infectious character of gonorrhoea, and only 15 per cent of that of syphilis. While we do not have definite data upon the point, it is probable that these women have no more understanding of the character of bacterial infection than the men who were examined in personal interviews. If this is so, the information which they do have is inadequate to serve as a foundation for any instruction concerning prophylaxis or venereal-disease control.

The effects of venereal disease are better known than the causes, probably because they require less appreciation of details. Practically all of the individuals examined recognize the danger of transmission of the disease to children of infected persons and have a fair appreciation of what the result of such transmission may be. The great majority also have an appreciation of the seriousness of the effects of venereal disease upon the individual infected, although almost half of them have only a vague or incorrect notion of the specific character of such effects. In this field also the sailors are better informed than any of the other groups of men, and the women are far more poorly informed. In answers to other questions which throw light upon the appreciation of the seriousness of the disease, the sailors again exceed the other groups, and the women seem to rank equally with the other groups of men.

Belief in the necessity for intercourse is very prevalent among the men of every group and almost completely absent among the women. The village group shows the smallest percentage of belief in the necessity, and the city men the largest.

The social conscience of all the groups toward venereal disease seems to be well developed. The majority of all the groups disapprove of marriage of individuals once infected with venereal disease and there is almost complete unanimity in the belief that certificates should be required before marriage.

The groups, then, seem to differ primarily in accuracy of knowledge of purely informational material. Wherever emotional factors are involved, as in the appreciation of the seriousness of diseases, of the effects on children, of the desirability of health certificates before marriage, etc., the groups are in essential agreement.

*Experimental Data on the Facts Conveyed by the Picture*

These data provide a foundation for the measurement of the informational effects of the picture. They are based upon a large enough number of individuals to constitute a fairly reliable sample of the information of the average middle-class American. We may compare with their average the amount of information shown by people who have seen the picture and so determine the average increase in sexual information which results. We have done this in the case of audiences with which, owing to limitations of time, it was not possible to use the preliminary questionnaires. These were the Executive and Clerical Group, the Literary Club Group, and the Soldiers. Questionnaires were used both before and after the picture with the remaining groups (pp. 28ff.), and their scores before and after the performance were compared.

To the first method above, there may be the objection that the knowledge of preliminary information is obtained from one group of individuals and of the educational effects of the picture from another, and that, therefore, the two groups of material are incomparable. However, as has been pointed out, the number of people included in the two groups is large enough to give the data significance as a purely statistical study, personal differences in education being largely ruled out as chance variations. Further, the groups from which answers to both questionnaires were obtained serve as a control of this statistical comparison which will reveal the effects of any great initial differences in the informational level of the other groups.

The knowledge of the points made by the film, which was acquired by the members of the different groups studied, is analyzed in the following series of tables. The different points made in the film are taken up in the order in which they are discussed on pages 8 to 11. Pages 19 to 23 present the questions used and for brevity the questions are not repeated here. Additional questions which were not included in the preliminary questionnaire are included under the points listed below. In the questionnaires the questions were arranged in an order which seemed least likely to prejudice the answers. Questions testing retention, as, "What facts have you learned from the picture that you did not know before?"

were placed on the first page, and those which seemed likely to suggest answers to others were placed last.

Limitations of space make it impossible to give separately the data of all the groups, so the data for the groups of somewhat similar training and traditions have been combined. The men of the Executive and Clerical (E. and C.) group and the men of the Mixed Audiences are treated together; The Seamen and Car Men form a second group (S. and C.) of which the former has the higher educational level to begin with; the women form a third group and the Soldiers a fourth. The latter are closely comparable to the Car Men in educational level but because of their specialized interests it has seemed best to consider them separately.

For brevity and convenience in comparison, the data are given in percentages of the men giving each answer. The percentages are based upon approximately the number of questionnaires given for each group on pages 14 to 16, and their statistical validity may be determined by reference to these numbers. In the following tables a uniform arrangement has been followed. The percentage of men giving each type of answer to the question, before the picture was shown, is given first (before). The percentages of the three groups (Executive and Clerical; Sailors and Car men; Soldiers) giving the same types of answer after seeing the picture follow (after). The data for the women are presented in the same way.

The first question to be decided is that of the power of the film to carry conviction. Three questions bearing upon this point were used:—

*Do you believe the statements made in the picture concerning the effects of venereal disease?*

The replies, as percentages of the total answers, were distributed as follows:

	Belief	Disbelief	Doubtful
Men			
E. and C. ....	100	0	0
S. and C. ....	98	0	2
Soldiers ....	98	2	0
Women .....	99	1	0

*Do you think the effects are exaggerated?*

	Not Exaggerated	Exaggerated	Doubtful
Men			
E. and C. ....	95	5	0
S. and C. ....	83	13	4
Soldiers ....	73	27	0
Women .....	97	1	2

*Do you think that the diseases are as easy to contract as the picture makes out?*

	As easy	Not as Easy	Doubtful
<b>Men</b>			
E. and C. ....	100	0	0
S. and C. ....	89	7	4
Soldiers ....	89	9	2
Women ....	97	1	9

The Medical Group who saw the picture objected to it chiefly on the grounds that it exaggerated the effects of venereal diseases and the ease of communication. The layman is not critical on these points, although from 13 to 27 per cent of the better informed men consider the effects exaggerated.

The analysis of the informational points made by the picture follows in the order in which they are listed in the introduction.

### 1. *Effects of Continnence.*

*Is continence harmful or not harmful to health?*

	Not harmful	Harmful	No information
<b>Men—Before</b> .....	47	41	12
<b>After</b>			
E. and C. ....	79	14	7
S. and C. ....	82	15	3
Soldiers ....	90	8	2
<b>Women—Before</b> .....	88	8	4
<b>After</b> .....	100	0	0

All the groups show a decided increase in the percentage of individuals believing that sexual intercourse is not necessary for a healthful life. A part of the increase is due to the failure of some men to answer the question after seeing the picture, but 28 per cent of those who answered showed a change in their belief as a result of seeing the picture.

Another question dealing with the relation of continence to venereal disease was inserted in the questionnaire used after the picture.

*What does the picture advise as the only sure way of keeping clear of the diseases?*

	Continnence	Prophylaxis	Other measures	No information
<b>Men</b>				
E. and C. ....	85	5	0	10
S. and C. ....	94	2	3	1
Soldiers ....	86	7	1	6
Women ....	88	9	3	0

Nearly 90 per cent of the people who saw the picture were impressed by the lesson of continence which it seeks to convey. Not more than 7 per cent understood that medical prophylaxis was advanced as a certain preventive. This fact is important in view of the criticism which has been urged against the picture that it over-emphasizes the efficiency of prophylaxis. This will be discussed again in the consideration of criticisms of the film.

2. *Effects of Seminal Emissions.*

Questions concerning this were asked only after showing the film and in the questionnaires for men only.

	Harmless	Harmful	Quote film	No in-formation
Men				
E. and C. ....	93	7	(15)	0
S. and C. ....	85	6	(28)	9
Soldiers .....	90	8	(10)	2

The number of men who quote the film concerning dangerous frequency of emissions makes it appear that a good percentage gained information from the film. About half the men interviewed in the preliminary work believed that seminal emissions are harmful, and if this can be taken as representative of popular information, the picture was quite effective in its emphasis on this point.

3. *Seriousness of Venereal Disease.*

*Effects of Gonorrhoea*

	Minor effects	Serious, correct	Serious, incorrect	Vague	No in-formation
Men—Before .....	19	23	17	21	20
After					
E. and C. ....	11	59	4	18	8
S. and C. ....	0	48	21	21	10
Soldiers .....	16	46	8	16	14
Women—Before .....	0	0	25	30	43
After .....	0	59	22	9	10

*Effects of Syphilis*

Men—Before .....	44	10	18	28
After				
E. and C. ....	47	14	29	10
S. and C. ....	52	18	20	10
Soldiers .....	83	7	4	6
Women—Before .....	42	0	16	43
After .....	58	23	6	13



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*Infection of fetus*

	Can be infected	Cannot be infected	No information
Men—Before .....	65	2	33
After			
E. and C. ....	100	0	0
S. and C. ....	99	0	1
Soldiers—not asked.			
Women—Before .....	97	0	3
After .....	100	0	0

*Effects of Such Infection*

	Correct, serious	Incorrect, serious	Vague	No information
Men—Before .....	71	0	11	18
After				
E. and C. ....	75	0	15	10
S. and C. ....	91	0	7	2
Soldiers—not asked.				
Women—Before .....	74	0	16	10
After .....	100	0	0	0

There is a definite improvement in all the groups with respect to knowledge of serious effects of venereal disease. For gonorrhoea the increase in the number of people who are well informed is from 25 to 50 per cent. For syphilis it is from 44 to 60 per cent. For the effects of infection of the children by their parents, the increase in information is less, but the subjects were better informed from the first. As a result of the picture 99 per cent of the audience know the transmissibility of disease and about 80 per cent the serious effects.

*Duration of Treatment for Gonorrhoea and Syphilis*

	Months	1-3 years	4-12 years	In-definite	Cure impossible	No information
Men—Before .....	25	13	4	15	4	39
After						
E. and C. ....	8	30	0	38	8	16
S. and C. ....	22	23	3	15	4	33
Soldiers .....	17	15	6	21	21	20
Women—Before .....	5	13	9	5	5	63
After .....	4	8	0	52	12	24

The picture gives no exact information on this point but seems, in general, to induce a belief in the necessity for prolonged treatment.

The presentation of data upon the effects of venereal disease by photographs of cases is on the whole effective. It increases the

proportion of the audience who can enumerate definite effects of the diseases, to more than 50 per cent. Even where it fails to convey precise information it is effective in strengthening the belief in the seriousness of venereal disease.

#### 4 and 5. *Infectious Nature of Disease.*

	<i>The Cause of Transmission of Gonorrhoea</i>				
	Infection	Sexual intercourse	"Filth"	Bizarre causes	No in-formation
Men—Before .....	19	27	25	7	22
After					
E. and C. ....	50	23	16	0	11
S. and C. ....	32	24	21	4	19
Soldiers .....	19	26	44	7	4
Women—Before .....	9	23	18	0	50
After .....	64	22	8	0	6

One question upon the transmission of syphilis by contact was included:—

*Can these diseases be contracted in any other way than by sexual connection? How?*

The replies were distributed as follows. All the groups are combined since there is no significant difference in the character of their answers.

Yes	No	No information
97	2	1

Eighty-three per cent mentioned infection through toilet articles, kissing, and other means illustrated by the film. This shows clearly that knowledge of infection through contact is increased by the picture but this knowledge is not very thorough as indicated by the following test.

In interviews with men we had found that relatively few had an adequate knowledge of infection and that many believed in the spontaneous generation of disease. The large proportion who gave sexual intercourse or filth as the cause of disease led us to insert other questions to determine whether they had any knowledge of the nature of infection and had merely given the mode of transmission, or whether they really were ignorant of it.

*Can you get gonorrhoea or syphilis from a dirty woman who has never had the disease herself or been exposed to it?*

84 per cent answered yes.

7.5 per cent answered no, and 30 per cent of these gave "germs" as the cause of disease.

8.5 per cent stated that they did not know.

*Can you get gonorrhoea or syphilis from a woman in her monthly period if she does not have the disease herself?*

67 per cent answered yes.

15 per cent answered no.

18 per cent stated that they did not know.

*Can you get gonorrhoea or syphilis from strain?*

53 per cent answered yes.

32 per cent answered no.

15 per cent stated that they did not know.

The large number of affirmative answers to these questions suggested that the men had possibly not understood the questions. The data from personal interviews show, however, that this is not the case. In these interviews an effort was made to avoid any misunderstanding by following the subjects' statements with questions leading to a full expression of opinion. The results of the interviews are in accord with the above data. Three fourths of the men examined had no knowledge of infection by germs and believed that the diseases were the direct product of lack of cleanliness. Even many of those who gave germs as the cause of disease asserted that the germ started with filth, from sexual intercourse with animals, or from the mixture of the semen of a number of men. An average of 20.5 per cent show some knowledge of infection and 18 per cent deny the possibility of infection in the absence of preëxisting disease. The data show, therefore, that in the population studied, not more than 20 per cent of the men are prepared to understand an account of the transmissibility of disease which will presuppose some knowledge of the action of microorganisms or the distinction of disease entities.

This widespread ignorance will, undoubtedly, militate against any consistent use of prophylaxis. We discussed the use of prophylaxis in personal interviews and found that the majority of men who made consistent use of it had a fair knowledge of its germicidal effects, whereas those who believe that "it gets into your blood and cures you," that it "keeps you clean," etc., state that they rarely use it even though they believed that it would help to prevent disease. A large percentage of the men believe in the spontaneous generation of disease and it seems improbable that much progress in popularizing repressive measures can be made until there is a more general recognition of the principle that only disease can give rise to disease. The picture did little to clear up these misconceptions and the results of the tests emphasize the need for a more simple and thorough exposition of the subject.

6. *Effectiveness of Prophylaxis.* In its original form "Fit to Win" laid stress upon medical prophylaxis. The revised edition, however, does not stress it. Several questions were devised to bring out the knowledge and the strength of the impression made by prophylactic treatment in the development of the picture.

As we brought out in the data on the lesson of the picture concerning continence, nearly 15 times as many people learned from the picture that continence is the only sure method of avoiding infection as learned that prophylaxis insures safety. The preliminary question on prophylaxis indicated that 49 per cent of the men and women studied, already had some knowledge of prophylaxis and that 55 per cent had faith in preventive measures.

After the picture was shown the following questions were asked, with the results indicated:

*What should you do in case you have been with a woman who might have venereal disease?*

	See a physician or take prophylaxis	Other answers	No in- formation
E. and C. ....	100	0	0
S. and C. ....	73	9	18
Soldiers ....	95	1	4

Almost all those who were ignorant of prophylaxis learned something about it from the film. They did not acquire a dangerous faith in it, however, as is brought out by the following question:

*Does medical prophylaxis prevent catching the disease if it is properly taken?*

	Always effective	Almost always	Not always effective	No in- formation
E. and C. ....	19	0	48	33
S. and C. ....	34	0	47	19
Soldiers ....	32	3	51	14
Women ....	31	0	49	20

*How soon after exposure must it be used?*

	Immediately	Less than 4 hours	Up to 24 hours	No in- formation
E. and C. ....	78	3	2	17
S. and C. ....	71	3	6	20
Soldiers ....	24	65	8	3
Women ....	95	0	2	3

*Do other preventives (condom, etc.) prevent getting the disease?*

	Prevent	Do not prevent	No in- formation
E. and C. ....	11	61	28
S. and C. ....	19	50	31
Soldiers ....	29	63	8
Women ....	0	58	42

The film thus seems to increase the knowledge of prophylaxis, to give good idea of the need of immediate use, but to reduce rather than increase faith in its absolute effectiveness.

In our interviews with various men we found that a rather large number had faith in their ability to select an uninfected prostitute. Since no incentive based upon venereal disease will be effective with these men so long as they hold to such a belief, it seemed essential to find out how widely the belief is prevalent.

*Is there any way by which you can tell that a woman does not have gonorrhoea or syphilis? If so, what is it?*

The replies of all the men were distributed as follows:

Yes	No	No information
29	51	20

Twenty-five per cent of the men gave specific methods for recognizing freedom from disease. These were distributed in the following percentages:

Medical examination .....	19
Clear complexion, freedom from sores .....	28
Clear eyes .....	17
Astringents applied to vagina .....	19
Other methods .....	17

About one fourth of the men believe that they can avoid venereal disease by careful selection of prostitutes and almost all of these have some special and wholly unreliable method. The picture does not bear directly upon this point, although the difficulty in the way of any such methods may easily be deduced from it.

**7. The Duration of Treatment.** Two questions tending to throw light on the success of the picture in emphasizing the need for prolonged treatment were used:—

*How quickly can gonorrhoea or syphilis be cured?*

The data obtained from this question have been presented on page 24. In general the picture tended to induce a slight increase in the estimated time, but conveyed no accurate information on the subject.

*How can you tell when gonorrhoea and syphilis are cured?*

This question was inserted primarily to determine whether the men knew of the necessity for continued observation after the clearing up of the first symptoms. The replies were distributed as follows:

	By medical tests	By disappearance of symptoms	Impossible to tell	No information
Men—Before .....	48	4	8	40
After				
E. and C. ....	53	14	0	33
S. and C. ....	68	0	9	23
Soldiers .....	49	9	22	20
Women—After .....	27	0	14	59

The majority regard the disappearance of symptoms as inadequate proof and would probably be persuaded to continue under observation. Less than one per cent distinguish between gonorrhoea and syphilis in their answers.

8. *Recreation as a Method of Sublimation.* No questions bearing directly upon this point were asked but general questions concerning memories of the picture throw some light upon the readiness with which it was grasped by the audiences.

*List the parts of the picture which you remember best.*

Less than one per cent of the men and none of the women mentioned recreation or any of the scenes dealing with the government's efforts to check venereal disease by social activities. Although 95 seconds were devoted to this subject in the picture, the point is not made effectively. The film fails in its attempt to convey the lesson of sublimation.

9. *The Effects of Venereal Disease upon Efficiency.* About 9 per cent of the men mention the "effect of the hike" in which fatigue of the infected men is contrasted with the vigor of the uninfected. No one mentioned the data on the loss to the government occasioned by cases of venereal disease. This is presented solely by legends which seem quite ineffective.

10. *Sources of Information Concerning Treatment.*

*How would you find out the name of a good doctor to treat the diseases?*

	Reliable source	Unreliable source	No information
Men—Before .....	55	13	32
After			
E. and C. ....	80	20	0
S. and C. ....	89	1	10
Soldiers .....	78	16	6
Women .....	73	7	20

Approximately half of those who gave a reliable source of infor-

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mation listed the Public Health Service referred to in the picture. The remainder mentioned family physicians or hospital dispensaries. The unreliable sources listed were, "from a friend who has had it," "from the telephone directory," "a doctor who advertises," etc.

As a general test of the information conveyed by the picture, two blanket questions were used:—

*What facts have you learned from the picture that you did not know before?*

Only about five per cent of the men gave more than one fact. The more frequent replies from the men are listed below with the percentages listing each of them.

Nothing (knew it before, saw the picture, etc.).....	34.1
To keep away from prostitutes.....	16.4
Vague answers ("A lot," "Everything," etc.).....	12.8
Syphilis is communicated by kissing.....	8.3
Mention of specific effects of venereal diseases.....	7.2
Infection through use of toilet articles.....	3.6
V. D. more easily contracted than had been believed.....	2.7
V. D. more serious than had been believed.....	1.9
That there are different kinds of disease.....	1.2
That syphilis cannot be cured.....	1.1
That syphilis can be cured.....	1.0
That gonorrhoea produces blindness in children.....	1.0
To be careful.....	1.0
To use prophylaxis.....	1.0
The prevalence of venereal diseases.....	1.0

*Less than one per cent.*

- That venereal disease may go undetected for years.
- That a man may be discharged uncured from the army.
- How to detect venereal disease.
- That germs cause venereal disease.
- That venereal disease can disqualify a man so quickly.
- That prophylaxis is not always effective.
- The value of self-control.
- That venereal disease may be fatal.
- That intercourse is not necessary.
- That information may be obtained from the State Board of Health.

The replies from the women differed little from those of the men, except that 35 per cent of them mentioned the "manner in which prostitutes tempt men," and 30 per cent the possibility of cure.

*List the parts of the picture that you remember best.*

The more frequent answers and the percentages giving each answer follow:

## INFORMATIONAL EFFECTS

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	Men	Women
Scenes showing prostitutes .....	32.5	47.5
Pictures of lesions .....	30.0	47.5
Fight scenes .....	25.1	26.7
Comedy .....	18.7	25.0
Bootlegging whiskey .....	16.2	25.0
Infection from contact .....	13.2	4.0
Strength of will in resisting prostitutes.....	13.5	6.2
Hospital scenes, with the implication of sympathy for infected men .....	12.7	22.7
Patriotic scenes .....	12.0	10.9
"The moral of the picture" .....	11.2	8.2
Disappointment of infected characters.....	10.0	53.7
Officer lecturing .....	9.7	2.3
Blind children .....	7.2	8.2
Prophylaxis .....	7.0	4.0
Effects on efficiency .....	7.0	6.9
Discharge for disability .....	5.0	
Sweethearts of men .....	4.0	
Germs as cause of disease .....	3.0	

*Less than one per cent, in the order listed.*

Recreation rooms.  
 Reformation of McCarthy.  
 Certificate that prostitute is free from disease.  
 Cure of disease.

The answers to these two questions bring out the relative impressiveness of the various points made by the picture. The questions were placed first in the questionnaire and were, therefore, answered, for the most part, without suggestion from the other questions. The percentage of men who stated that they learned nothing from the picture is probably exaggerated, for many of those who replied "nothing" showed by answers to other questions that they had learned specific facts from the picture.

The scenes showing prostitutes evidently make the strongest impression, and the danger of venereal disease from them is the lesson most thoroughly inculcated. The photographs of lesions rank second in effectiveness and the conception of the serious nature of venereal disease ranks third of those conveyed. The possibility of infection through contact ranks fourth, with scenes showing infection from kissing most frequently mentioned. The remaining informational points of the picture are mentioned by relatively few of the men, although the replies to the other questions show that a fair percentage of them gained additional information.

### *Tests of Later Retention*

As a measure of retention of the material taught by the film we sent out copies of the questionnaire used after the performance to



a large number of former members of the audiences studied, at intervals of from three to nine months after they had seen the picture. Less than 50 of these questionnaires were returned to us and they scarcely form an adequate basis for judgment of the retention of the material. Owing to their small number it does not seem worth while to record here a detailed analysis of the replies. In general, they reveal as much knowledge of the facts presented as do questionnaires returned immediately after the performance. It is probable that only the more interested people answered these later tests and that they give too high an average for the total groups. Among those who answered retention seems to be nearly perfect.

*Summary of Informational Effects*

The majority of the answers to the questionnaires indicates that the subjects gained general impressions rather than accurate knowledge of details. That there is great danger of venereal infection from prostitutes, that venereal disease may be communicated by contact with diseased persons or their property, that venereal diseases are serious, that continence is not harmful, that prophylaxis is not always effective, that a physician's certificate does not assure the individual's freedom from disease, were the chief lessons learned. The distinction between gonorrhoea and syphilis, the bacterial origin of venereal diseases, the specific effects of infection, etc., were less effectively taught.

However, even specific points were acquired by a relatively large number. Reviewing the answers reported in this section we find that an average of 70 per cent of the people who saw the picture had, after the performance, a fairly detailed and accurate knowledge of the points made (listed correct serious effects of prenatal syphilis, for example). Only 42 per cent had equivalent information before seeing the picture, so it seems that 28 per cent of the members of the audience acquired specific information concerning each point made by the picture. That is, 48 per cent of those uninformed before seeing the picture acquired information from the picture on each point made.

These figures do not take into account inaccurate information which will serve the purpose of the picture as well as accurate. The belief that syphilis gives rise to "leprosy" may be as effective a deterrent as that it results in paresis. The reply that the effects of gonorrhoea are "terrible" may indicate that the subject was more effectively impressed by the picture than would an accurate description of lesions. If we include answers showing some general idea of the facts without evidence of accurate information the data show

that 89 per cent of the audience have a general impression of the communicability, seriousness of venereal diseases, etc., without accurate knowledge of specific facts.

Finally, if the numbers who claim to be ignorant are averaged, 26.2 per cent are found to claim ignorance before the performance, 10.1 per cent afterwards; a decrease of 60 per cent in those claiming complete ignorance.

There is no standard to which we can refer these data, since there exist no published accounts of the informational value of lectures or other methods of presentation. From our own experience with class and lecture work, however, we believe that the results speak very well for the effectiveness of the film in bringing home the lesson which it was designed to teach.

The analysis given in this section was designed primarily to determine quantitatively the informational effects of the picture. No mention has been made of the emotional bearing of the material presented or of its probable affects upon behavior. A picture which strives for so many different effects as this one seems to do, cannot be expected to bring out all with equal clearness. There is no doubt that it succeeds in impressing the information which its authors consider most important. But whether or not their choice of material was justifiable is a problem which can be decided only by studies of the effects of the picture upon the sexual behavior or by the evaluation of the instruction in the light of the experience of those whose profession has brought them in intimate contact with individuals having diverse sexual traditions and training. The immediate emotional reactions of the subjects contribute material for evaluation of the data presented, and our data on this topic are summarized in the following section.

### III. EMOTIONAL EFFECTS OF THE PICTURE

The information conveyed by the picture is of value probably only in so far as it is accompanied by the arousal of some emotional attitude on the part of the subjects. The mere possession of information concerning the infectious character of venereal disease, methods of prophylaxis, or the healthfulness of continence will be of little value unless there is also some incentive for acting upon the information through fear of infection, pride in efficiency, or any one of a large number of possible incentives. The picture as constructed makes an appeal, as pointed out on page 10, chiefly to the following motivating agents:

1. Fear of infection.
2. Pride in physical fitness.
3. Patriotism and desire to keep fit to fight.
4. Interest in a possible sweetheart and the desire to keep clean for her sake.
5. Sympathy for innocently infected persons and the desire to protect them, apparently an appeal to the parental instinct.

These incentives are all apparently calculated to influence the audience toward avoidance of venereal disease and to this extent should fulfill the aim of the picture. However, it is possible that the arousal of certain of these emotions may result in social maladjustments which will more than counterbalance their effects in eliminating venereal diseases. Fear of disease might become a serious phobia, while the attitude toward illicit sex relations aroused by the picture might be transferred to all sex relations and lead not only to continence but to abstinence from marriage. Fear of disease aroused in the women seeing the picture, disgust for the men infected or identification with prostitutes might lead to serious disturbances of behavior. Some scenes in the picture may actually be sexually exciting, with the result that the picture would completely defeat its own purpose; or the emphasizing of sex matters in the picture may lead to a general increase in interest in sex and to the breaking down of the barriers established by the social code.

It was necessary, therefore, to investigate the picture both from the standpoint of the incentive which it offers for the avoidance of venereal disease and from that the possibility of arousing emotions which will lead to social maladjustments.

The investigation of the emotional effects of "Fit to Win" has been carried out along five chief lines. First, a number of questions were introduced in the questionnaires employed before and after the showing of the pictures, which we believed would throw some light upon the immediate emotional effects of the picture. Second, detailed notes were made upon the behavior of the audiences during the performances in order to determine whether the facts presented were taken seriously; whether there was an excessive interest in the possible pornographic parts of the picture; whether the audiences indulged in inuendo or appeared in any way to look upon the picture as salacious; whether any marked disgust was aroused by the illustration of the cases; and whether there were any indications of offense at the direct presentation of facts, or at the crude language of the legends. Third, in interviews with members of the audiences after the showing of the picture, we inquired into their general impression and emotional attitude toward the picture and their opinion as to the effect upon other members of the audiences with whom they were acquainted. Fourth, data were collected from citizens in towns where pictures were shown, relative to the popular impression which the picture created. These people were asked to be alert particularly for criticisms of the picture or the method by which it was shown, as, to minors, mixed audiences, etc. Fifth, inquiries of social workers, physicians, and others were directed toward gaining evidence of any cases of exceptional emotional disturbances due to the picture.

*Immediate Emotional Reaction of the Audiences to the Picture*

The behavior of the audience during the performances has been heretofore the sole method by which the effects of the picture were judged. The difficulties and objections to such a method are obvious. There is no assurance that permanent effects of the picture or even the impressions left a few hours after the performances correspond in any way to the emotional expression during the scenes. Moreover, the interpretation of the behavior of the audience is largely a matter of the attitude of the observer himself toward the picture. This has appeared in many phases of our work, when our own interpretations of the immediate reaction of the audience and that of others with whom we consulted failed of verification in discussion with members of the audiences after the performances.

During various performances of the picture we made detailed notes of behavior of the audience, recording comments that were overheard, scenes during which there was laughter or disturbance, the general attention to the different parts of the picture and the

facial expressions of the audiences in so far as we could observe them in the dim light of the motion-picture theater. Wherever possible, at the close of the performances, we asked for comments from the audience, or discussed the picture and the reactions of the audience with members as they were leaving. In these notes we sought, as far as possible, to avoid interpretations and to record exactly the behavior of the people observed.

The data obtained are valuable chiefly for comparison with other data gained by following up the effects of the picture. Below are given summaries of the notes made during the performances.

*The Medical Group* was frankly bored throughout the picture. Several requested that the performance be stopped as it was a mere waste of the time of the audience; attention was poor; there was a great deal of fidgeting, slumping down in chairs, and other indications of fatigue. With this well-informed group the questionnaires prepared were useless, so voluntary expression of opinion was requested. These took the form of severe condemnation of the picture upon the following grounds:

1. The danger of infection is exaggerated in the picture since three out of four exposures are represented as resulting in infection.

2. The severity of the effects is exaggerated. Cases, such as shown, are rare except in rural districts.

3. The possibility of cure is not sufficiently emphasized. The remaining comments all dealt with the literary aspects of the pictures. "The hero is a sentimental fool who could not possibly gain leadership among men"; "His preaching is overdone and tedious"; "The 'rube' is exaggerated and silly"; "The behavior of the father who is shown depressed by and ashamed of the infection of his son is unnatural and sets up false ideals. The man should take a common-sense attitude toward the matter." Other comments dealt with the technique of different scenes of the picture, with criticisms of the actors, the pointlessness or tediousness of particular scenes.

The obvious conclusion from the reaction of this audience was that the picture carried, for the majority of them, no emotional appeal whatever, and their interest in it was that of remote critics and critics of the literary rather than of the educational value of the picture.

*The Executive and Clerical Group* gave rather varied reactions. The picture was presented as a substitute for a regular lecture in a course. During the performance the women in the class commented upon the unfairness of this and seemed greatly embarrassed. The men received the picture with tolerant boredom. Some of them



were amused by the attitude of the women. In conversation with individual members of the audience after the performance, we found that the majority of the women were rather resentful that the picture had been shown under the circumstances. The men tolerated it as an amusing episode, but they felt that the evening had been wasted. By the next class meeting, however, the attitude of the women seemed to be entirely changed, and all but two or three of those who had protested before volunteered that they were now glad to have seen the picture and to have been forced to think about the subject presented.

*The Literary Club Group:* This audience was composed entirely of women, none of whom were under twenty-five years of age. They showed little detectable emotion during the performance but maintained close attention and almost complete silence. After the performance there was a rather lively discussion in which the presence of the experimenter was largely ignored, so that we feel that the discussion was not modified by a desire to please the show-man. There were no objections or serious criticisms beyond the suggestion that the legends might be toned down a bit. A number of members of the audience stated that they were glad to have seen the picture and to have been aroused to many facts of which they were ignorant before, and they thought the picture should be shown more widely in that community.

We have been in close touch with members of this group since the performance and have had no word of unfavorable comment concerning the picture. A few members of the audience are reported to have been somewhat wrought up for a few days following the performance, to have been self-reproachful for their former ignorance and failure to instruct their children, but this disturbance apparently wore off without bad after-effects. We received from the group an invitation to repeat the performance for the benefit of other members of the club who were not there for the first and, through individual members of the group, three invitations to show the picture to general audiences in other towns. No one in this group appears to have been seriously shocked by the picture or to have felt any ill effects from it. On the contrary, all seemed favorably impressed both during and after the performance.

*Mixed Audience:* This group undoubtedly gives the severest test of all those studied. The film was advertised as an educational film with practically no description of its contents, and as open to all comers. A small hall with a seating capacity of approximately 150 was secured for the exhibition of the film. The audience began to

assemble half an hour before the time advertised. The first to come were groups of young men and boys who collected in the rear of the hall and showed a rather aggressive spirit from the start. The audience finally assembled numbered about 250, of whom nearly half were forced to stand throughout the performance. At least half the audience were boys and girls between the ages of 12 and 18. Many of these came in couples and sat together during the performance. The more mature members of the audience were present in sufficient number to have exerted an influence upon the younger, but they were seated, for the most part, apart from them.

Throughout the performance the attention of the audience was held by the picture but at certain scenes and legends there was a suggestion of a riot; catcalls and "horse laughter" were started by the boys in the back of the room and kept up until some dramatic part of the picture attracted their attention. Frank embarrassment and discomfort were shown by many of the women. At the close of the performance there was no attempt at general discussion, and many members of the audience left with eyes to the front and fixed expressions that suggested that they had been strongly offended.

After the performance we talked with a number of the older people who had been present and found they agreed that the exhibition of the picture to such an audience had been a rather dangerous experiment, and they were relieved that the disturbance during the performance had not been worse than it was. We talked also later with a number of young men who had been present, boys ranging from fifteen to nineteen. They seemed interested chiefly in the fact that girls, with whom they were acquainted, had been present at the performance, had shown signs of embarrassment, etc., and that the boys and girls had exchanged questionnaires after the performance. A few of them expressed some interest in questions of venereal disease, but this attitude seemed to be exceptional.

In every way the immediate effects of this exhibition of the picture to a mixed audience seemed disastrous. A spirit of levity, of interest in the suggestive parts of the picture, prevailed and few of the young men interviewed seemed in any way impressed with the lesson which the picture sought to convey. The conditions immediately following the performance were in sharp contrast to those which we found on our second visit to the town three months later. This is described on page 68.

*The Military Group:* The reaction of this audience is not typical and will be sketched but briefly. The men were under the military discipline and were ordered to keep silent during the picture. This



order was obeyed save for laughter during the bawdy-house scenes and at some of the legends. Observers stationed in the audiences reported that the men were unmistakably interested throughout the performance. No discussion was obtained.

*The Car Men Group:* This audience was composed entirely of men, of whom the vast majority were young and undoubtedly of the lowest educational average studied. The men were attentive during the performance but reacted rather strongly to the suggestive parts of the picture. The interruption of the experiment, described above, prevented our getting discussion or reactions to the picture following the performance. The interest of the audience was held throughout. Not a man left until the film was ended. Observation of the men, when leaving, showed them serious and interested in the lesson of the picture. A number of groups collected outside after the performance and were overheard discussing such topics as the origin of gonorrhoea from strain, the prevalence of infection among prostitutes, etc. At the end of the performance five men came to the experimenters for advice concerning treatment of active infections from which they were suffering.

*The Seaman Group:* We were warned beforehand by men familiar with the character of this group that we would find it impossible to hold the attention of the audience or to induce them to fill out the questionnaires. This proved far from the truth, however, as the men were interested throughout the performance. There was relatively little laughter even at the comic scenes, and comments heard during the performance all indicated that the men were primarily interested in the serious aspect of the picture. After the performance a large number of men gathered around the experimenters to discuss questions raised by the film. Among these, nine men suffering from active infections, applied for advice concerning the best medical treatment they could obtain.

*The S. and C. Groups of White Men:* These audiences were of men only, collected in response to press advertisements. They showed keen interest in the pictures throughout and no tendency toward rowdiness or excessive reaction to the suggestive parts of the picture.

*The S. and C. Groups of Negro Men:* These audiences were small and to some extent were probably restrained by the fact that the pictures were shown in the church and in the presence of the pastor. Interest appeared to be keen during the performance and there was little evidence of excessive interest in the suggestive parts of the picture.



*The Immediate Emotional Effect of the Picture as Shown  
by Replies to the Questionnaires*

Questions were included in the questionnaire which seemed likely to give some insight into the emotional reactions of the audience. Data from these questions were collected from the following groups: Executive and Clerical, Literary Club Group, Mixed Audience, Seamen, Car Men and Soldiers. The replies returned by various groups of men differ to a much smaller degree than the replies to the informational questions, so for brevity the men are all grouped together in the following tables. An analysis of the replies returned by the men and women are given below.

The emotional reactions to the picture may be divided into two sections: first, the attitude toward sex matters aroused by the picture and second, the attitude taken by the audience toward the picture itself. Sixteen questions bearing upon emotional reactions were included in the list for men and seventeen in the questionnaires for women.

1. *Fear of Disease.* The first of these dealt with the question of fear aroused by the picture: *Has the picture made you afraid of getting gonorrhoea or syphilis?* The distribution of replies was the following:

	Yes	No	Uncertain	No, but careful
Men				
E. and C. ....	55	39	0	6
S. and C. ....	75	23	1	1
Soldiers .....	79	18	0	3
Women .....	56	35	0	9

Somewhat more than half of the individuals state that the picture aroused a fear of venereal disease. However, a similar question was included in the preliminary questionnaire, and 64 per cent of the replies to it indicate a preëxisting fear of infection. We have no way of judging the relative intensity of fear before and after the showing of the picture, but these facts indicate that relatively few of those who were not afraid before were frightened by the picture.

2. *Attitude Toward Future Behavior.* In the questionnaire for men six questions bearing upon the possible alteration in sexual behavior were included. Three of these asked the opinion of the subjects concerning the probable influence of the picture upon the sexual behavior of others, since it seemed probable to us that replies to these questions would give a truer picture of the individual's own emotional reaction than a direct question concerning his own be-

havior. A fourth question was asked directly concerning the probable effect of the picture upon the individual's own sexual behavior. Two additional questions sought to bring out the immediate effects of the picture upon the man's emotional attitude toward women.

*Do you think that the picture will make very many men more careful about using prophylaxis?*

	Yes	No	Yes, qualified	"It will me."	No in- formation
Men .....	86	6	4	1	3

*Do you think that the picture will keep very many men from going with whores?*

	Yes	No	Yes, qualified	"It will me."	No in- formation
Men .....	67	17	10	2	4

*Do you think that the picture will make very many men look for "private snap" instead of going to whores?"*

	Yes	Yes, qualified	No	No in- formation
Men .....	72	5	16	7

The largest per cent of the men consider that the picture may increase the use of prophylaxis and the positive replies to all three of these questions far outnumber the others. The qualified affirmative answers for the most part suggest that the changes will be temporary or that relatively few men will be influenced.

In general the men seem convinced that the picture will make for a reduction of venereal disease. The third question was intended to reveal whether or not a fear of venereal disease might lead any considerable number of men to avoid prostitutes and to attempt seductions. Many of the replies to this question, however, indicate that the men believe that the risk of venereal disease from an occasional prostitute is fully as great as from a professional.

*Do you think that the picture will change your own behavior toward fast women? Why?*

Sixty-four per cent of the men thought that the picture would change their behavior. Of these, 64 per cent gave fear of disease as the incentive; 8 per cent, marriage or expectation of marriage. Thirty-six per cent of all the men stated that the picture would not affect their behavior. Of these, 68 per cent claimed to be continent; 7 per cent said that habits of incontinence were too long established to break; 3 per cent said they would use prophylaxis. Twenty-six per cent of all the men gave no reason for their answers. Of the remainder, only 10 per cent expressed themselves as not determined to avoid prostitutes.

Thus 24 per cent of all the men studied claim to be continent. Sixty-four per cent believed that seeing the picture would modify their sexual behavior either through fear for themselves of contracting venereal disease, or of venereal disease in relation to marriage. Twelve per cent who answered that the picture would not modify their behavior failed to give a reason, and continence may account for a large number of these negative answers. Only 10 per cent, or if we include this questionable 12 per cent, 22 per cent of the men believed that the picture would fail to change their habits of incontinence.

It appears that the picture aroused in the great majority of incontinent men an immediate determination to modify their sexual behavior. This appears not only in answers to the questionnaires but in the comments and discussions overheard as the audiences were leaving. Whether or not the impression made has permanence is, however, another question, which we have sought to answer in experiments described in Section IV.

3. *Erethitic Effects of the Picture.* The questions seeking to bring out the possible sexually exciting effects of the picture were the following:

*Did seeing the picture make you want a woman?* Ninety-four per cent of the men answered no and many of the "no's" were underscored or reinforced with profanity. Four per cent answered "Yes, a good woman," which is perhaps an even more emphatic "no" to the implication of the question. Two per cent answered "yes." Of these, 30 per cent had stated that they were too old to reform, etc., and many of the remainder made such comments as "Parts of it did, but it died quickly."

The comments of the men after the performances bear out fully these results. "Believe me, I'm off of that for life," "Never again," were the most frequent remarks overheard as the audiences were leaving.

In two cases where the film proved sexually exciting, we were able to get a small amount of further data. The indication was that both individuals were of the introverted type and that the scenes in the picture were simply substituted for a time for other sex fantasies without producing any essential change in the individuals' overt reactions.

These data show that the picture is only very rarely sexually stimulating, and then only in cases of those whose sexual reactions are unusually strongly developed.

#### 4. *Sex Antagonism.*

*Did it make you want to keep away from all women?*

Sixty-one per cent of the men answered no, 39 per cent, yes. Of the former, 24 per cent qualified their answers by comments such as "from bad ones." This indicates that the question was ambiguous and that many of those who answered "yes" had in mind all prostitutes rather than all women. We have nowhere found any evidence of a prolonged sex antagonism either in men or women as a result of the picture.

Two questions bearing upon the changes in the social attitude of the audience toward venereal disease were included.

5. *How long should a man who has had venereal disease wait before he marries?*

This question was asked before the showing of the film in a slightly different form. "Do you think that a person who had a venereal disease should marry?" In replying to this, 69 per cent of the men said "no"; 22 per cent answered "when cured"; 6 per cent "yes"; 3 per cent stated that they were in doubt. The form of the second question probably modified the percentage of the replies more than the picture. Only 22 per cent of the men replied to the second question that a man once infected should never marry; 26 per cent, that he should make certain of his complete cure; 23 per cent, that he should wait from one to three years; and 22 per cent that he should wait for four years or more. The general indication of the replies to this question is that men take a rather serious attitude toward the social responsibility of the individual infected. Only two individuals among the 1,132 from whom questionnaires were obtained gave replies which indicated a lack of any feeling of responsibility. These replied that a man should marry right away. The probability of levity in these replies is ruled out by answers to other questions and they are probably referable to the familiar widespread superstition relative to cure of gonorrhoea.

*Do you think that a health certificate should be required for men and women before marriage?*

Before the performance 93 per cent of the men answered this question in the affirmative. The others were for the most part in doubt. After the performance 95 per cent replied in the affirmative. It is doubtful whether the picture had any influence here since the differences are no more than a random variation, but the very large

per cent of men who favor such certificate is interesting in relation to legislation on this subject.

6. *Attitude of the Men Toward the Picture.* Two questions were intended to reveal the attitude of the men toward the picture.

*Would you want your sister or sweetheart to see such a picture?*

Fifty-three per cent of the men answered this question in the affirmative. The reasons given were rather vague; "that every one should know the facts," "that the picture might do good," etc. Forty-seven per cent gave negative answers, for the most part without reasons. A few gave as reasons that "The picture is not fit for any one to see," "Too dirty," "They would not need it," etc. These give the sense of practically all the negative reasons. Many of the answers on both sides were quite emphatic and it appears that this question is one which has a great deal of affective value for the men, and one upon which there is little hope of immediate agreement.

*Do you think that pictures of this sort should be shown to the public? Why?*

Ninety-three per cent of the men thought that the picture should be shown. The reasons given were practically all variations on the theme, "It is educational." Five per cent thought that the picture should be shown to men only. The reason for the apparent disagreement of the replies to this question and the preceding one is not clear. The difference is probably referable to the strong traditions of purity in their own immediate families current among the men and the relative indifference toward all others.

For the women a different series of questions bearing on the emotional reaction was included. Since the belief seemed to be rather prevalent among some classes of women that venereal diseases are largely restricted to the demimonde, a question was included to determine the tendency to apply the facts of the picture to themselves.

7. *Do you feel that the facts presented in the picture may affect you directly, or do they apply only to the lower classes?*

One hundred per cent replied that the picture dealt with facts which directly concerned them. Only two suggested that they considered the facts more applicable to more ignorant people.

The questions dealing with the feeling concerning future sexual behavior were the following:

8. *Attitude of Women toward Venereal Diseases in Relation to Marriage.*

*Did the picture make you afraid to marry any man for fear he might have venereal disease?*

Thirty-nine per cent answered in the negative; 48 per cent, in the affirmative; and 13 per cent were doubtful. Many answered "Not afraid but cautious," or in other ways indicated an influence of the picture.

*How do you feel about marrying a man who has had a venereal disease but who has been cured?*

Fifty per cent stated that they would not marry a man once infected; 37 per cent stated that they would be afraid although they did not indicate that the fear would prevent marriage; 13 per cent stated that they were uncertain and would be unable to answer unless confronted by the problem. One stated that she would hesitate to have children, and only one took a strictly moralistic attitude, that her decision would depend upon how the man was infected.

*Do you think that the facts presented in the picture will make young women antagonistic toward men or unwilling to risk marriage?* Ninety-three per cent answered in the negative.

The replies to these questions indicate that the picture does not tend to set up in the majority of women any antagonism toward men or marriage but does induce a feeling that they should be cautious and protect themselves against marriage with an infected man.

9. *Attitude toward the Picture.* Four questions were calculated to bring out the attitude of the women toward the picture:

*Do you feel that you would rather not know the facts given in the picture?*

Ninety-eight per cent stated that they would rather know the facts. A few indicate that they find them very disagreeable.

*Do you think that any parts of the picture ought to be cut out? What?*

Ninety-one per cent stated that all parts of the picture should be included; 6 per cent suggested the omission of the bawdy-house scenes; 3 per cent advise the modification of the legends. We were able to verify these results in later discussions of the picture and it seems certain that vast majority of women are not only not offended by the inclusion of this material but consider that it is valuable in bringing home to them the seriousness of the temptations to which men are exposed, and the need for education to develop a different attitude in them.

*Do you think that such a picture should be shown to young women before marriage? How old should they be before seeing it?*

One hundred per cent replied in the affirmative to the first question and a number later expressed regret that they had not brought their young daughters to see the film. Ninety-six per cent suggested the minimum age at which girls might see the picture to be between 14 to 16 years; the remainder suggested higher ages, none above 18 years.

*In what ways might the picture do harm?*

Ninety-two per cent of the women answered that they could think of no way in which the picture might be harmful. Six per cent suggested that it might show the methods of vice and 2 per cent that it might cause morbid anxiety or fear.

The judgment of the women thus seems to be almost unanimously favorable. There is no indication that they are offended by the frankness of the picture or that they are excessively disturbed by the facts presented.

In addition to these questions bearing upon specific points, two general ones were asked which seemed likely to throw light on the emotional effects of the picture. A list of emotions was included in the questionnaire and the audience was asked to "check the words that describe the way the picture made you feel." The list, with the proportion of replies to each word, is given below:

	Men Per cent	Women Per cent
Frightened .....	19.3	18.9
Interested .....	79.6	94.9
Indifferent .....	4.3	0.0
Sick .....	13.2	23.7
Fatigued .....	2.7	1.5
Unhappy .....	17.4	31.9
Excited .....	7.8	1.5
Disgusted .....	26.8	26.7
Angry .....	8.3	7.2
Indignant .....	3.0	21.9
Shocked .....	11.0	26.4
Amused .....	7.8	0.0
Sceptical .....	1.6	1.5
Bored .....	1.6	6.3
Resentful .....	2.7	6.6
Surprised .....	16.1	30.9
Tired .....	4.5	4.5
Blue .....	9.1	1.2
Doubtful of the facts .....	2.2	0.0
Angry at being shown the picture .....	0.0	6.6

The list is significant chiefly with respect to minor emotions. The looseness with which such terms are popularly used deprives it of any great significance. Interested, sick, unhappy, disgusted, and surprised make up the most frequent classes. Many qualified their replies in such a way as to give them clearer meaning. The more frequent and important of these qualifications are: frightened at the danger of infection; disgusted at the sores; indignant that such things should be allowed to exist; surprised at the prevalence and seriousness of the diseases.

Only a very small per cent were bored by the picture. Even fewer expressed any doubt of the facts presented. None of the men and only 6.6 per cent of the women resented being shown the picture. The latter figure included those of the Executive and Clerical Group, the majority of whom later voluntarily retracted their expressions of the resentment.

The second general question called for a list of the scenes remembered best. The replies to this are tabulated on page 55. They give some indication of the relative emotional effectiveness of the various topics dealt with in the picture. In absolute number of replies the photographs of the lesions far outnumber any of the other educational parts of the picture and none of the other appeals makes any significant impression. To judge from these lists, the film is most effective in its emphasis of the terrible effects of the venereal disease.

*The Relative Value of Various Emotional Appeals Used  
in the Picture*

There is a great difference in the vividness with which the various incentives are portrayed and in the length of the scenes dealing with them. We have sought for some measure of relative effectiveness of the different motives employed in arousing interest and making a lasting impression. For a clear-cut experiment to determine, for example, the relative effectiveness of an appeal to fear of disease and to parental instinct, as shown by the interest in defective children, we would have to construct scenes dealing with the two topics at equal length with equal amounts of action, etc. That is, scenes should differ from one another as little as possible except with respect to the instinct to which appeal is made. Such an experiment is obviously impracticable at present and we must rely upon an analysis of the relative stimulating effects of the different scenes which have already been prepared. This, of course, has the disadvantage of complexity, since the scenes differ enormously in length,



in the amount of action which is involved, in the excellence of photography, etc.

In analyzing the strength of the different appeals made by the picture, a number of features must be taken into consideration. First, the so-called laws of association may modify the relative efficiency of the scenes. The first, last, longest, or most often repeated scenes may be remembered best. Second, the vividness of presentation is one of the most important factors. The rapidity of action and skill of the actors, the association of actors with other scenes, the directing and staging of the scenes all have an influence, but if we can form any conception of the part played by these factors we may arrive at some estimate of the third and most important agent, the relative effectiveness of an appeal to different instinctive motives.

We have attempted an analysis of this problem in the following way: Immediately after the performances the audiences were asked to write a list of scenes they remembered most clearly. No suggestions were made as to what sort of scenes were wanted or in what order they should be listed. The answers to this question were tabulated according to the scenes listed, and the percentage of individuals listing each scene was computed.

The time devoted to each scene in "Fit to Win" was measured and the scenes dealing with the same topic were summed so as to give a list of the total number of topics dealt with in the picture and the time devoted to each. These were compared with the lists of scenes given by the subjects. The percentage of the subjects who listed each scene gives a measure of the absolute effectiveness of the scenes in producing a lasting impression. These percentages for all individuals studied are given on page 55.

For the soldiers, the street soliciting and bawdy-house scenes were by far the most effective, being mentioned by 48.3 per cent of the men. The pictures of venereal-disease infection and of the after effects of untreated infections were next in effectiveness, being listed by 37.9 per cent of the men. The third in effectiveness were the scenes of bodily combat, fighting and boxing. The scenes of bootlegging whiskey were fourth in effectiveness, and others which impressed more than 10 per cent of the men were effective in the following order: lip chancre from kissing, slackers as a result of venereal disease, commanding officer lecturing, resisting prostitutes, sailing for France, the effect of venereal diseases on children, and the administering of prophylaxis.

For the car men, the effects of venereal infection scenes were the

most impressive, 38 per cent of the men listing them. Second in effectiveness were the scenes dealing with prostitutes, 18 per cent of the men listing them. Third in effectiveness were the comedy scenes dealing with the country boy, Hank. Not more than 10 per cent of these men listed any other scenes.

For the sailors studied, the effects of venereal disease were most impressive, 76 per cent of the men listed them; the soliciting and bawdy-house scenes were next in effectiveness, listed by 37 per cent of the men; the self-restraint of Bill and Hank in resisting the prostitutes ranks third; the disappointment of the boys left behind, the ease of contagion and scenes dealing with recreation rooms for soldiers rank next, listed by equal numbers of men. No other scenes were listed by more than 10 per cent of the men.

The women who saw the picture listed the scenes in the following order: Effects of venereal disease, 50 per cent; soliciting and prostitutes, 29 per cent; scenes dealing with the country boy, Hank, 21 per cent; blind children, 16 per cent. No other scenes were listed by more than 10 per cent of the women.

TABLE 1. THE RELATIVE EFFECTIVENESS OF VARIOUS SCENES IN "FIT TO WIN." The number of individuals recalling each scene is divided by the length of the scene in seconds. The scenes having the highest stimulating value for each group are marked by italics.

	Seconds	Soldiers	Car Men	Sailors	Literary Mixed Average		Rank
					Club	Audience	
Lecture .....	120	<i>0.125</i>	....	....	0.086	....	8
Germs .....	95	0.063	....	0.031	....	....	15
Effects of disease..	355	0.107	0.094	<i>0.214</i>	0.079	0.060	9
Blind children ....	63	<i>0.183</i>	....	<i>0.110</i>	<i>0.238</i>	<i>0.270</i>	1
Fight scenes .....	520	0.065	0.006	0.044	0.054	....	11
Sweetheart appeal.	195	0.041	....	0.015	....	0.062	17
Father's advice ...	120	0.039	0.050	....	....	....	18
Prophylaxis .....	145	0.076	....	0.021	....	....	16
Venereal disease							
frequency .....	60	....	....	<i>0.167</i>	....	....	14
Bootlegging whiskey	120	<i>0.208</i>	....	<i>0.025</i>	....	....	7
Street soliciting and							
bawdy house ...	560	0.006	0.068	0.054	0.079	0.052	4
Resisting soliciting.	155	0.995	....	<i>0.103</i>	0.090	....	5
Recreational activi-							
ties .....	80	0.035	....	<i>0.125</i>	....	....	12
Infection from kiss	215	0.092	....	0.058	....	....	9
Effects on efficiency	100	0.094	....	....	....	....	13
Continence not							
harmful .....	43	....	0.006	....	....	....	19
Boys infected and							
left behind .....	200	<i>0.120</i>	<i>0.062</i>	0.050	0.145	....	3
Discharged for							
disability .....	60	0.080	....	....	....	....	10
Sailing for "Over							
There" .....	80	<i>0.169</i>	....	....	0.175	....	6

Thus we see that for the men the scenes in the bawdy house, the fights, the lesions of venereal disease, and hospital scenes were most impressive. For the women the effects of venereal disease, the scenes in the bawdy house, and the appeal made by the innocent boy, Hank, were most effective.

The determination of the effectiveness of different motives by the percentages of individuals listing them, does not take into consideration the relative length of the scenes. If we weighed the percentages according to the length of the scenes the relative importance is altered to a marked degree. Table 1 gives constants obtained by dividing the length of the various scenes in seconds into the percentage of the individuals listing them for the five audiences from whom a sufficient number of replies were obtained to give significant statistical data. The length of the scenes in seconds is given at the left of the table. The scenes dealing with prostitutes, with fighting and with effects of venereal-disease infection are far longer than any others. Those dealing with blind children, bootlegging, and the disappointment of the infected boys are very much briefer, yet we find that per unit of time they are much more effective.

The Soldier Group must be considered as rather specialized in interest and this will probably account for the high effectiveness of certain scenes. Thus the most effective of all scenes for them per unit of time were those dealing with illicit selling of liquor. Personal interest in the sale of liquor to men in uniform undoubtedly accounts for their interest in these scenes, which were quite unimpressive for the other groups not under military discipline, and interest in the lecture by the Commanding Officer and in the final scene dealing with departure for France may also be looked upon as a product of their special interests since they were disregarded by members of other groups. Omitting these scenes from consideration, therefore, we find that the scenes showing children blind as a result of gonorrhoea had by far the strongest appeal, exceeding even that of personal fear of the diseases. Sympathy for the infected boys comes second in effectiveness, the effects of the venereal disease comes third; the reduction in efficiency by disability as illustrated by the effects of the hike, fourth; the strength of character of Bill and Hank in resisting soliciting of prostitutes, fifth; the street soliciting and bawdy-house scenes, and fight scenes which abound in action fall to sixth and tenth place respectively.

For the Car Men Group the relative impressiveness of different scenes varies considerably from that for the soldiers. For these men the effects of the disease were most impressive, the street solicit-

ing and bawdy house scenes were second; the disappointment of boys infected, third; and the father's advice to the country boy, Hank, fourth.

The Sailor Group shows a still different ranking but approaches the Soldier Group. The pictures of lesions were for them the most impressive. The venereal-disease statistics rank second for them; the blind children, third; and the possibility of infection from kissing, fourth. The relatively high ranking of the purely informational parts of the picture is rather to be expected from the level of intelligence of these men, who, to judge from their answers to the questionnaires, make up the most widely read and intelligent group of those studied statistically.

For the women studied the appeal of the blind children far exceeded that of any other scene. Next in order were the scenes involving the country boy, Hank, which seemed likewise to appeal to the maternal instinct. The street soliciting and bawdy-house scenes were third in impressiveness, and the effects of the venereal disease, fourth.

The relative ineffectiveness of some of the emotional appeals to which much space is devoted in the picture is of special interest. The parts dealing with the power of a good woman to keep the men straight rank fourth in the time devoted to them in the picture. Yet, in impressiveness for the men they rank never higher than fourteenth place. The lack of ill effects from continence received no attention whatever, although as much time is devoted to it as to the advice of Hank's father. The greater vividness of the latter may account for this difference.

These figures represent the relative effectiveness of the different motives as treated in "Fit to Win." With other treatment, change in dramatic interest, length of presentation, accentuation in plot, etc., the relative values would undoubtedly change and we can make only a rough estimate of what their effects would be under different conditions of presentation. The appeal of the blind children stands out, however, as the most effective of all, irrespective of treatment, since it could scarcely be given less prominence or presented less dramatically than in this film.

#### *Persistent Emotional Effects of the Picture*

In following up the effects of the picture we have been constantly on the alert for any indication of adverse emotional effects. We have received verbal reports from about 73 men and women, physicians, social workers, ministers, and others who were requested to

look for and report any case of morbid anxiety, excessive curiosity, or any antagonism toward the performance which might appear in their community. No word of anything of the sort has been received. We believe we have been in close touch with a sufficient number of people to reveal any serious emotional effects which the performance might have produced and the lack of reports justifies the conclusion that no morbid reactions occurred.

*Summary of Emotional Effects of "Fit to Win"*

The chief emotions aroused immediately by the film are horror at the pictured effects of venereal diseases and fear of infection. Neither of these is very strong, however, and there is no indication that they ever reach pathological intensity. They seem quite effective in inspiring a resolution to avoid exposure and a desire for a general improvement in hygienic conditions. The fear of infection is the chief motivating agent to which the film appeals. The other possible incentives to continence which are touched upon in the film are given too brief space or too little dramatic value to impress any great number of men. An analysis of their retention in relation to the time devoted to them in the film indicated that the appeal of sympathy for the innocently infected is greater than of fear of disease; and that admiration for the strength of character which can resist temptation may be an almost equally strong motive, but that the absolute space devoted to these incentives is too limited to make them effective.

The picture does not produce any sexual excitement in the majority of the men. The replies to questionnaires, comments of the audience, and data gained from interviews with men after the performance all indicate that there is, instead, a temporary inhibition of sex impulses.

No general sex antagonism seems to be aroused either in men or women. The majority of both take the attitude that they would have no greater hesitancy in marrying than before they saw the picture, although they would take greater precautions to guard against venereal disease.

We have found no evidence that, when used with audiences of one sex only, the film produces any objectionable shock either men or women, nor have persistent inquiries following at various periods up to three months after the showing of the films given any indication that any morbid emotional reactions are aroused.

Where the picture is shown to a mixed audience its disturbing effects are much greater. In particular such performances seem

liable to lead to a relaxing of sex inhibitions in the younger members of the audience and to flippant and suggestive discussion of the picture. Where the sexes do not mingle immediately after the performance there is no indication that anything of this sort occurs.

The attitude of both men and women toward the picture is almost without exception one of approval. Very few of either sex showed any resentment at the content of the film. Without exception the women expressed the opinion that the film might be shown to young girls without harm, and very few suggested any revision of it for this purpose. In contrast to this, the majority of the men objected to the showing of the film to women.

In general the persistent emotional effects of the picture are slight. Members of the audience are aroused temporarily but, as is true of all emotional measures that are not followed up continuously, interest quickly dies out and as our studies in the next section indicate, the effects of the film upon subsequent behavior are too slight to be detected.

#### IV. THE INFLUENCE OF THE PICTURE UPON SEXUAL BEHAVIOR AND PUBLIC OPINION

The methods thus far discussed bring out chiefly the immediate effects of the picture and tell little concerning its ultimate value or defects. To gain evidence upon these points it has been necessary to follow up the exhibitions with field studies extending over several weeks or months, and involving the coöperation of the numerous volunteer agencies. The points on which we have sought to get data in following up the effects of the picture were the following: 1. Changes in the sexual continence of selected groups. (Adequate data upon this point are extremely difficult to obtain and we could hope for only a rough estimate of changes in a few limited groups.) 2. The effects of the picture upon venereal-disease incidence and prophylactic rate in selected communities as an index of continence and the prevalence of venereal disease; 3. The arousal of popular interest in sexual topics, both from the standpoint of the development of greater freedom of discussion and of the stimulation of erotic curiosity; 4. The probability of the development of excessive fears, self reproach, sex antagonism, and other morbid emotional reactions; 5. Popular attitudes toward the picture and the methods of presenting instruction; the possible conflict of the picture with esthetic, moral, or religious conventions.

##### *Data from Direct Inquiries*

We obtained interviews with 35 men who had seen "Fit to Win" from six to eighteen months previously and after gaining their coöperation and arousing their interest in the problem, we asked whether or not the picture had had any influence upon their behavior, either by increasing continence or by stimulating the use of medical prophylaxis. Sixteen men of this group claimed to have been continent before they saw the picture and to have been reinforced in their determination by fear of disease aroused by the picture. In view of the attitude taken by the others it seems probable that their ascribing of continued continence to the picture is a rationalization of some other motive which was effective before, for none of the others admitted that they had been influenced. All of these others stated that the picture had had only a very temporary influence upon them, if any at all. Two reported that they

had been frightened for a time but that they soon forgot about it. The attitude of the remainder is typified by the statement of a first sergeant, a particularly well-informed man. "I saw the picture about eight months ago and thought it was a mighty good thing. But another fellow and I had a date for that night and we went out with a couple of girls and had a big night, anyway. I don't think he took prophylaxis and I know I didn't bother with it."

The general attitude of these men, and indeed, of the majority of careless young men with whom we have talked, is that the picture is well worth seeing, that they are very glad to get the information that it conveys, that it will undoubtedly influence the young man who has had no sexual experience, but—"well, I know the ropes." We inquired of these and of some 30 additional men who had had experience with the film in the army as to whether they could cite a case among their friends where the film had served as a deterrent from sexual indulgence, but we could learn of no such case. These data give no indication that the film is effective in modifying sexual behavior. The men had been interested by the pictures and without exception praised it highly. Many of them, the sergeant mentioned above, for example, were able to describe it almost scene by scene, so its failure is in no wise due to a lack of understanding. The men had been members of the national army and not regulars, so that they were representative of the civilian rather than of the military population. Their small number makes the conclusion drawn from their statements less certain than we might wish, but other lines of evidence corroborate their statements and the results may be taken as one link in the chain of evidence against the existence of any significant behavior effect of the picture.

#### *The Effects of the Picture upon Prophylactic and Venereal-Disease Incidence Rates*

The need of a large group of men, concerning whom venereal-disease records could be obtained, led us to request the assistance of the authorities at a military camp. With the coöperation of the medical officers there, the following experiment was planned. The picture was to be shown to one half of the men of the camp, divided by organization, so that the prophylactic and venereal-disease records would be readily obtainable. We thus hoped to divide the camp into two equal groups, only one of which saw the picture, and to compare the prophylactic and venereal-disease records of the two groups for the three months preceding and three months following the showing of the pictures. Thus, the group which did not



see the picture would serve as experimental control and make possible the determination of the normal prophylactic and venereal-disease rates of the camp during the period of the experiment. Unfortunately the division of the men actually made by the camp authorities was such that we were unable to follow the records of two separate divisions. However, the records of the camp as a whole are available and gave data of considerable value for the analysis of the effects of the picture.

The army group constitutes practically the only available one from which records of sexual behavior are obtainable. The use of it has certain objections which may make the results of the experiments not strictly applicable to civilian groups. The men have been to some extent instructed in prophylaxis and in the dangers of venereal disease and hence those most readily influenced may already have had their behavior modified to such an extent by this instruction that they are less likely than civilians to show further changes. The character of army life, moreover, is such as to counteract somewhat the effects of the picture, since alternating periods of restraint and liberty and the general atmosphere of barrack life tend to introduce a number of abnormal features.

The group studied, however, was taken from a training school and was made up chiefly of recently enlisted men. It seems probable, therefore, that it differs from the civilian population much less markedly than would a group taken from a regular army post. The answers to the questionnaires by these men and the general similarity of their reactions to those of the civilian groups studied, lead us to believe that the result obtained from this specialized group is not greatly different from what we should expect of civilian groups, if data were obtainable, and that we may with justice apply conclusions drawn from them to the civilian population.

The picture was shown on February 13th to about 1,200 men. They were required to fill out the questionnaire which has been described above. Seven hundred and sixty-four more or less complete questionnaires were returned. Their replies have been described in preceding sections. As the analysis there given shows, the majority of the men were interested in the picture, took it seriously, and believed that it would effect some modification of their behavior (Questions 4, 6, 23 and 27). Further (as the replies show) the questions exercise little if any selection of men upon the basis of their sex standards. Men who were admittedly regular patrons of prostitutes answered the questions conscientiously and seemed fully as much impressed as those who claimed total abstinence.

Three months after the showing of the picture, the venereal records of the men were tabulated and compared for the three months preceding and following the exhibition. The total prophylactic and venereal records for the camp are given week by week in Table 2.

TABLE 2. TOTAL NUMBER OF PROPHYLACTIC TREATMENTS AND NEW VENEREAL DISEASE CASES PER WEEK IN THE MILITARY CAMP WHERE THE PICTURE WAS SHOWN.

*The columns at the left precede, those at the right follow, the showing of the picture.*

Week Beginning	Venereal Disease Incidence	Prophy-lactics	Week Beginning	Venereal Disease Incidence	Prophy-lactics
November 7.....	2	79	February 13.....	2	45
November 14.....	2	76	February 20.....	7	21
November 21.....	6	39	February 27.....	1	28
November 28.....	4	29	March 5.....	5	61
December 5.....	1	27	March 12.....	7	46
December 12.....	3	80	March 19.....	0	45
December 19.....	3	27	March 26.....	2	26
December 26.....	2	17	April 2.....	0	50
January 2.....	0	39	April 9.....	2	77
January 9.....	0	61	April 16.....	3	36
January 16.....	5	37	April 24.....	3	32
January 23.....	2	24	April 30.....	4	27
January 30.....	3	17	May 7.....	1	103
February 6.....	3	59	May 14.....	3	54
	36	611		40	651

The table shows that for the three months preceding the showing of the picture the total number of venereal infections in the camp was 36, of prophylactic treatments 611. For the three months following the showing, the infections numbered 40, and prophylactic treatment 651. For briefer periods the proportions are almost exactly the same. During the four weeks preceding the showing there were 13 cases of venereal disease and 137 prophylactic treatments. In the four weeks after the showing there were 15 new cases of venereal disease, and 155 prophylactic treatments. These differences were very slight in comparison with the normal variations shown by the camp. The new cases of venereal disease increased 15 per cent and the prophylactic treatment 13 per cent after the picture. Such a difference is well within the monthly range of variation and is not significant.

A few facts which might obscure a real effect of the picture must be considered. If the picture both reduced the number of exposures and increased the use of prophylaxis, the prophylactic rate might remain constant or rise in spite of the beneficial effects of the pic-

ture, but if this were true the venereal incidence rate should show a corresponding reduction. The table shows that this is not the case. There is no decrease in the venereal-disease incidence rate which would indicate a reduction in the number of exposures. Second, if in addition, the picture led more men to apply for treatment of previously concealed infection, the venereal-disease incidence rate might remain constant even though there was a reduction in the number of exposures. With the civilian group this source of error might be serious, but the men studied were subject to thorough bimonthly medical inspection, and a chance that undiscovered cases might exist for any length of time is rather slight.

The irregularity in the venereal-incidence rate in the two months following the showing of the picture may be merely a chance variation, but is more probably due, according to the statements of medical officers, to the arrival of new detachments in the camp. The rise in both the venereal incidence rate and of the prophylactic rate during the time of the experiment is a normal seasonal variation and has no significance for the experiment. The statistical data thus show no appreciable effect of the picture.

As the questionnaires show, the men who saw the picture took it quite seriously at the time. Sixty-five per cent of those who saw it (89 per cent of those who did not claim to be already continent) were convinced that the picture would modify their sex behavior as a result of their increased knowledge or fear of venereal disease. Yet in spite of this expressed belief, the week following the performance did not show a prophylactic rate significantly below the average of corresponding weeks in other months. The attitude aroused immediately by the picture seems to give little index of its final effect upon behavior. The weekly and monthly variations in rates for this camp of about 3,000 men are quite large and we cannot say with absolute certainty that a very slight beneficial effect of the picture might not have failed to be detected by our methods. But so far as this experiment could determine, the actual behavior effect of the picture upon these men was too slight to be detected.

#### *The Effects of the Picture upon Civilian Populations*

For field tests of the picture with civilian populations, two towns, C. and S., of approximately 7,000 population each, were selected. In a preliminary visit we called upon all the physicians, druggists, district nurses, ministers, and Y. M. C. A. officers in each town and arranged for their coöperation. The physicians were asked to keep records of all new cases of venereal disease and prophylaxis which

were received during the six weeks preceding and following the exhibition of the pictures. The druggists were asked to keep records of the sales of prophylactics and patent venereal remedies and of all the applications for treatment during the period. Nurses, ministers, and others were asked to make inquiry among the people of the town following the showing of the pictures and to report upon the popular attitude toward the pictures and especially upon any adverse criticism which they might hear.

Six weeks later we advertised through the press performances of "Fit to Win" for men only, and "The End of the Road" for women only, in each of these towns. The pictures were shown to the whites in the local armories and to negroes in negro churches. The audiences were unlimited in age but contained few under 15 years, and the pictures were shown to each sex separately. The total number of people in the two towns who saw the pictures is given below:

WHITES		NEGROES	
C. Men .....	350	C. Men .....	100
Women .....	525	Women .....	250
S. Men .....	380	S. Men .....	180
Women .....	395	Women .....	200

Total number who saw the picture in C., 1,225, and in S., 1,155. Thus approximately one sixth of the total adult population in these towns saw the pictures. The audiences were observed during the performances and notes made concerning their apparent interest and emotional reactions to various parts of the picture, etc. (These have been described on page 45.)

Eight weeks after the showing of the pictures we obtained reports from the various agencies which had agreed to cooperate in determining the effects of the pictures. The physician in the local venereal-disease dispensary which has just been established by the State Board of Health at C. reported that four men had applied for treatment at the dispensary and had mentioned the picture as the occasion for their coming. Two of these were old cases who wanted information concerning the liability of recurrence of gonorrhoea. The other two were new cases of gonorrhoea. Three other inquiries of a general nature concerning venereal disease were received at the dispensary as a result of the picture. The negro physician reported no cases but stated that about 25 men and 10 women had asked him non-professionally for information concerning venereal disease. Several of the other physicians reported having heard the picture discussed favorably but had received no inquiries concerning venereal diseases, prophylaxis, or other sex matters which seemed referable to the pictures.

The district nurse in C. reported that she had discussed the picture with a number of women in the town and had heard no unfavorable comment, that all with whom she talked praised the purpose and character of the picture, and many expressed the wish that it might be shown again. From the reports obtained from ministers and others who had agreed to trace the possible effects of the pictures, not a single adverse criticism was expressed, although the investigators laid particular stress upon their desire to hear such criticism.

Practically no information of value was obtained from the druggists in either C. or S. It is probable that these men completely failed to cooperate since the State Board of Health has been carrying on a rather vigorous campaign to have all cases of venereal disease reported and it is certain that some of the druggists considered the investigator to be an agent of the State Board of Health and were unwilling to report actual sales of venereal-disease remedies.

In S. 12 physicians were seen. Only one of these could report any inquiry concerning sex matters, resulting from the showing of the pictures. He was the colored physician of the town and reported that during the six weeks following the showing of the pictures he had had six cases, four men and two women, suffering from skin lesions who wished to know whether the lesions were syphilitic in character and who stated that they had come as a result of seeing the picture. None of the cases were of venereal disease. Two women also asked him concerning methods of prophylaxis. The two white physicians in the town who have the largest practice with venereal disease, report that not only have they had no inquiries traceable to the film but venereal-disease cases during the entire period of the experiment were unusually rare. The district nurse and other social workers who were cooperating reported conversations with a number of young men and women in the town. As in C., the comments heard were without exceptions favorable to the pictures. No criticism of any character could be obtained. Some of the people who saw the pictures were so favorably impressed that the investigators were urged to return and show the pictures a month after the experimental performance. From ministers similar reports were obtained, although the majority of them seemed to have made little effort to follow up the picture.

One minister, who is interested in social problems, reported having discussed the picture with boys of his Sunday School class, ranging from 13 to 18 years, the older ones of whom had seen the picture. He was very favorably impressed by the effects of the picture upon

the boys. He stated that they seemed to have taken it seriously, to have received valuable information from it, and to have suffered no ill effects that he could determine.

We inquired in particular for any cases of emotional disturbance following the picture but could get no word of anything of the sort. One observer reported that she had overheard a girl remark, after the performance, that she would never look at another man, but within thirty seconds this girl was describing the ring which she expected her sweetheart to buy for her.

The populations of these towns are reputed to be ultra-conservative, yet, although we reached some hundreds of people either directly or through cooperating agents, we did not learn of any one who objected upon moral or religious grounds to the picture nor of anyone who had been offended by its frank treatment of sex matters.

Except among the people who were cooperating in the study, any interest aroused by the pictures seemed to have died out at the end of six weeks. The majority of our personal inquiries at this time met with vague replies as, "I do remember hearing several people speak of the picture just after it was here, but I don't recall the conversation now, except that they thought it was a good thing." Outside of those who had attended the performance and discussed it immediately afterwards, few whom we approached could recall having heard any discussion of it.

To summarize the effects of the picture in these two towns we may say that the only direct effect seems to have been to bring a few cases of venereal disease for treatment which might otherwise have been allowed to remain untreated, and to stimulate others suffering from skin lesions to investigate the nature of their lesions. The interest aroused by the pictures seems to have been rather widespread during the first week or so after the performance but to have completely died out by the end of the six weeks, except in those who were actively engaged in the experiment. We made particular inquiry for cases of excessive emotional reaction following the showing of the pictures. No case of this sort was reported by any of the observers, nor could we get word of any other ill effects of the pictures.

The third experiment, and most severe of all tests undertaken, was carried out at M., a village of about 2,000 in middle Pennsylvania. The population of this town is made up chiefly of farmers, with a number of retired lumbermen and workers in small furniture factories. It is said to be unusually conservative and resistant to any form of social-hygiene instruction.

A performance of "Fit to Win" was advertised in the town without any statements as to the character of the picture, beyond the fact that it dealt with social hygiene, and without any limitation as to the age and sex of those who might attend. About 250 people attended the performance. Of these, fully one fourth were boys and girls between the ages of 13 and 18. Many young men and girls came together, and the audience was packed into a small hall so that there was scarcely standing room.

The audience was requested to fill out questionnaires before and after seeing the picture but in other respects an attempt was made to keep conditions as nearly like a commercial performance as possible. In the audience there were several large groups of young men and boys crowded together and even before the beginning of the performance these showed some tendency to horse play. All six reels of "Fit to Win" were run. During some of the scenes and especially at the legends there was much noise and disturbance, but the interest of the audience was maintained throughout the picture and, in spite of the conditions prevailing, no member of the audience left during the performance. At the end of the performance there was a general exodus before the questionnaires were filled out. The reactions of this audience have been described in detail on page 44. As they left we felt that there was much resentment among them at the picture. Very little discussion could be obtained except from those who were coöperating in the experiment. On the whole the test seemed to show quite conclusively the impossibility of using the picture indiscriminately with mixed audiences.

Two months after the performance we revisited the town and sought to trace the after-effects of the picture. Ministers, physicians, and social workers in the town were interviewed. In spite of the unfavorable conditions prevailing during the presentation of the picture, we were unable to learn of any criticism of the performance. The ministers in general expressed themselves as in sympathy with the movement, and, while stating that it probably would have been better to have shown the picture to men and women separately they, nevertheless, believe that no harm has been done by showing it to a mixed audience. We took special pains to ask for adverse criticism but learned of only a single case; a girl of 15 was reported as having told her mother that she was glad she saw the picture but did not see why the girls had to see it with the boys. The liberal attitude of the mother in this case was shown by her reply: "Now the girls know that the boys know and the boys know that the girls know." We could get no word of criticism directly or at second

hand from anyone whom we approached. The physicians reported no effects whatever from the picture.

*Incidental Observations upon Other Groups*

The Executive and Clerical Group was the only one which showed any antagonism toward the picture after the performance. This group was assembled for regular class work and then forced to see the picture whether they would or no. It contained several women who certainly would not have attended the performance had they known its nature beforehand. Six of those women gave evidence of offense at the picture. Later two of these stated that they had been much offended at the time but that after thinking it over they were glad that they had been made to face the problems. They reported also, that they had talked with others of the groups and found that they, too, felt the same way about it.

Two women in the Literary Club Group were reported to have worried somewhat for a few days after seeing the picture because they had not realized before the temptations to which men are subjected and had failed to give their sons adequate instruction, but beyond the immediate emotional disturbance there were no bad effects in these cases.

After the performances to the Car Men and Sailors the experimenters were approached by men seeking advice as to treatment of venereal infections from which they were suffering. Two such cases appeared from the Car Men and seven from the Sailors. Of the latter, three had been previously untreated. In addition, more than 50 men remained after the two performances to make inquiries concerning particular problems of sex physiology in which they were interested. The possibility of recurrence of venereal disease, the effects of masturbation, and some phases of the sexual psychology of women were the chief points discussed.

*Data Gained from Medical Men upon the Possible Effects of  
Material Presented in the Films*

The full determination of the social value of any type of sexual instruction presents a problem far beyond solution within the limited time and resources at our disposal. It would necessitate complete studies of the sexual life of numerous men and women extending throughout a long series of years and would demand a completeness of confidence from the subjects such as is rarely obtainable except in case of those in need of medical aid. In the absence of facilities for such investigations the best available sources of information are



those physicians whose practice brings them into intimate touch with the sexual ills of large numbers of patients. Their experience will reveal at least whether any special type of sexual education or experience invariably or very frequently gives rise to social maladjustments.

An extensive questionnaire was prepared and sent to all members of the American Psychopathological Association, the American Association of Genito-Urinary Surgeons, and the American Gynecological Society. Replies were received from 67 men. They have been summarized in a separate publication.<sup>1</sup> The answers cover a wide range of problems involved in education in sex hygiene. Only those bearing upon questions raised in connection with the motion pictures will be reviewed here. Opinions were obtained upon the following points which apply directly to our data:

1. *The age at which instruction should be given.* Few consider that anything like complete instruction should be given before puberty, the prevailing view being that natural curiosity concerning various phases should be satisfied as it arises. At puberty the majority consider that instruction should still aim chiefly to satisfy natural curiosity concerning the child's own experiences, but there is a frequent suggestion that there is little that the child of this age does not have knowledge and curiosity about, so that the majority of replies rather favor complete instruction. Practically all favor, with some reservations, instruction at this age, even concerning the main facts of prostitution.

The majority consider that the dangers which arise from misinformation acquired at puberty are serious enough to justify any risk that complete instruction at this time will arouse a dangerous curiosity or excessive interest in sex matters.

2. *The amount of information concerning the physiology of sex and venereal disease which should be included in a venereal-disease campaign.* The majority favor making the instruction as complete as possible concerning the anatomy and physiology of the individual's own reproductive organs. Opinion is divided as to the effects of instruction concerning the organs of the opposite sex, but the consensus of opinion seems to be that it should not be so detailed. The majority also consider that in its general lines, at least, the instruction given to men and women should be the same. The suggestion is, therefore, that the educational campaigns are erring on the side of including too little rather than too much in the material presented. The great majority state that complete information

<sup>1</sup> *Op. cit.*

concerning the physiology of sex does not and will not lead to incontinence. Opinions as to the advisability of presenting data concerning the prevalence and symptoms of venereal disease are divided. The majority consider them beneficial, but a few of the psychiatrists state positively that they have had frequent cases in which morbid fears arise from such knowledge. Their experience would speak strongly against the emphasis or at least exaggeration of the effects of the disease.

In venereal-disease campaigns the assumption is made that fear of disease will act as a deterrent to exposure, and that the majority of exposures are the result of ignorance. The majority of the physicians consider that only a small proportion of the infected were adequately informed beforehand. Nevertheless, they find that the knowledge and experience gained from infection do not generally lead to any greater care to avoid infection. This suggests that the fear motive may not be a very effective one in combating venereal disease and that the chances of arousing morbid fears may more than offset the possible deterrent effects of fear aroused by presentation of extreme cases. We find that the attitude of the man once infected is rarely that, since he has been once infected, further infection does not make much difference. He rather expresses himself as very much afraid. Medical opinion and our own data, however, indicate that it is only during the infection that fear has any deterrent effect in the majority of cases.

The great majority favor complete instruction concerning medical prophylaxis and slightly more than half approve instruction concerning self-administration, with due emphasis upon the fact that it is not an absolutely certain preventive.

With but few exceptions, these men consider that the possibility of cure of venereal diseases by prompt and continued treatment should be emphasized and agree that there is little danger of producing over-confidence by such instruction.

*3. Social responsibility of the infected men.* All but three of the men consider that marriage of recovered cases of gonorrhoea or syphilis is permissible but the majority insist that the women should be warned of the danger and should demand adequate proof of cure, involving a delay of perhaps three years from the time of infection.

With the possible exception of the appeal to fear of infection the material included in "Fit to Win" does not conflict with the opinions of medical specialists as to what should be included in popular sex instruction. Indeed the inclusion of considerable more detail concerning all phases would be approved by them. This is particularly

true of the possibility of cure, which is inadequately emphasized in the film, and the question of marriage of recovered cases. We have found that the large percentage of men and the majority of women condemn the marriage of those once infected and, were knowledge of the prevalence of infection among men to become general, this attitude would constitute a serious social problem. From the dilemma here involved, medical opinion would escape by encouraging a tolerant attitude.

*Summary of the Behavior Effects of the Picture*

The evidence obtained from these observations and experiments indicates that the picture has extremely little effect upon the sexual behavior of the men who see it. A few who are suffering from venereal infection or who are uncertain concerning the cure of past infections, report for examination soon after the picture is shown. These numbered 19 from audiences of men numbering about 1,860, or a little more than one per cent. Such evidence as has been obtainable indicates that there is no effect whatever upon continence or upon the use of prophylaxis.

The interest aroused is only temporary and we could get no evidence that anyone of the 4,800 people to whom we showed the picture, suffered from any harmful after effects of the information conveyed or the emotions aroused. In the mixed audience there was indication that harmful results might develop but later inquiries failed to reveal them.

As for the popular attitude toward the picture, it has been everywhere favorable. From each town where it was shown, requests have come for further performances and our inquiries have failed to elicit adverse criticism.

Our field studies included performances which reached more than 15 per cent of the adult population in each of three towns, and verbal reports from 73 men and women in the three towns who agreed to make inquiries among their acquaintances and to report any facts which seemed at all unfavorable to the pictures. Among these were many, the ministers for example, who were in a position to hear unfavorable criticism. The percentage of the audiences reached in this way is great enough to assure that any serious emotional disturbances or objections would have been reported. The fact that none was forthcoming seems, therefore, significant.

## V. A CONSIDERATION OF CRITICISMS OF THE PICTURE

Since their first appearance, motion pictures dealing with sex hygiene have met with rather strong opposition. A history of their vicissitudes is not part of our work, but the criticisms which have been advanced against them really furnish the occasion for this investigation. The criticisms which we have collected fall into two classes: those based upon esthetic and religious attitudes, and those suggesting that the effects of the pictures are anti-social in character. Examples of the former are, "It ('Fit to Win') denounces immorality solely because of physical ill resulting therefrom, and does not set up spiritual, intellectual, or moral standards of virtue," "that the proper channels to be used in combating this evil (venereal disease) are the parents of the children, our chaplains in the army, and priests and ministers in civilian life"; in general, that the film does not make an appeal upon high moral grounds but only upon considerations of expediency. With such criticisms the present investigation can have nothing to do. They are not based primarily upon the supposed effects of the pictures but upon purely sectarian concepts of morality.

The second group of criticisms has, however, a direct bearing upon the problem of the effects of the picture. They claim that the method of sex education by motion pictures is ineffective or that it will lead to specific anti-social alterations in behavior. The majority of the points made in these criticisms are open to experimental investigation and the data presented in the preceding sections bear upon them directly.

The more important of these criticisms with our data tending to confirm or negate them are given below.

1. The teaching concerning prophylaxis in the film counteracts completely the lesson of continence taught by the picture and the only lesson carried away by the majority of the audience is that "if you are careful, you do not need to be good."

The film does imply that prophylaxis, if properly used, is an effective preventive, but it also stresses the fact that it is not always effective and that continence is the only sure way of avoiding venereal disease. The relative impressiveness of the treatment of the two topics is shown by the following figures.

An average of 88.3 per cent of all who saw the picture stated

that continence is the only certain way of avoiding venereal disease. Only 5.7 per cent mentioned prophylaxis in this connection (page 33). When asked directly, 29 per cent stated that they believe medical prophylaxis to be always effective, whereas 55.0 per cent held this belief before they saw the picture. In listing the facts learned from the picture, eight times as many men mentioned avoidance of prostitutes as mentioned prophylaxis.

These data show that, far from teaching that prophylaxis may be substituted for continence in the avoidance of venereal disease, the film reduces faith in prophylaxis and carries the lesson of continence to the great majority of the audience.

2. The suggestion conveyed by the soliciting and bawdy-house scenes is of such character as to lead to sexual excitement. This makes the picture favor rather than militate against sex indulgence.

We have found no evidence whatever that this is true. For the men the immediate effects are not erethitic. The answers to the question, "Did the picture make you want a woman?" were emphatically negative and the tone of all the other answers to the questionnaire bears this out in full. The comments of the audiences and such data as we have obtained from conversations with the men after performances speak conclusively against the arousal of any sexual excitement in the picture.

3. The manner in which the picture presents prostitution and other material tends to break down the sense of reserve, modesty, or shame; this may lead to open discussion of sex matters. Although the discussion may at first be serious it readily slips "through the flippant to the indecent, and the step from indecent in word to indecent in act, is short."

Certain evidence bearing upon this point is difficult to obtain, for obviously it is only within intimate groups that such effects could be produced and from these the experimenters are excluded. We found reason to believe, however, that the criticism is justified when the picture is shown to mixed audiences. After the experiment with the mixed audience we talked with a number of young men, loafers about the hotel lobby, and the like. They reported that the boys and girls who had seen the picture had talked together and that flippancy and innuendo prevailed in their talk. However, later investigations in the town failed to reveal that there had been any bad after-effects of this, or that the parents had felt that any serious problem had arisen.

Where the picture was shown to men and women alone, there was never any suggestion of such an effect. We have received reports

from men and women social workers who are in close touch with the younger people in the towns of C. and S. who saw the picture and none of them found any indication that the picture led to any discussion of sex problems between the sexes.

It appears, therefore, that the criticism is valid regarding the presentation of the picture to mixed audiences, especially where the members of the audience are widely acquainted with each other, but that it is not valid when the sexes are not subjected to the simultaneous emotional arousal that attends witnessing the performance together.

4. The picture, by the use of obscene legends, shocks and offends the audience.

Where the picture was presented to men or women alone we have not met with a single case of resentment at the crudity of the legends or the candor of the scenes. To the question as to whether any parts of the picture should be eliminated for showing to women audiences, 91 per cent of the women replied in the negative. The remainder suggested changing some of the legends and omitting the bawdy-house scenes. We brought the point up for discussion after the questionnaires were completed and reached the same result by this method. Those who suggested the alterations did so without any warmth and apparently upon the ground that someone might be shocked rather than upon any strong emotional reaction of their own.

A few of the women of the Executive and Clerical Group gave evidence of offense, but they were forced to see the picture without warning and in the presence of men of the same social group. Within a few days after the performance, not only had their resentment passed off, but the majority of them voluntarily stated that they were glad to have had the experience and to have been forced to face the problems squarely.

The picture, thus, does not seem to be offensive to the great majority of either men or women, nor to impress them in any way as obscene.

5. The picture shows, as a characteristic of the young men described in it, a carelessness and lack of moral responsibility in sex matters which casts an unmerited reflection upon the decency of the average American home and of the army.

We have found no evidence that the picture was so interpreted by any member of the audiences to which we have shown it. The interest in the main thesis of the picture is so keen that few members of the audience take thought of the fact that the men presented are

soldiers, nor does there seem to be any general feeling that the characters presented are typical. The attitude taken is rather that the film presents bad conditions which are by no means universal, although found only too frequently.

6. The relaxation and attitude of recreation created by the motion picture theater is, "if not sexually stimulating, at least far from inhibitive, and thus the theater is an extremely unfavorable place for the teaching of sex hygiene."

This criticism is met in part by the data which is given under 3 above. As was pointed out there, the use of the picture with a mixed audience does result in a certain relaxation of sex inhibitions which presumably has ill effects, but with audiences restricted to men or women there is no evidence that anything of the sort occurs.

7. The picture depends almost entirely upon the dissemination of information concerning venereal disease and scarcely at all upon an emotional attitude for the attainment of its aim. This is bad pedagogy, since moral education must be directed toward the modification of instincts rather than to the mere spreading of information.

As has been brought out in the chapter on the emotional effects of the picture, this criticism does not seem to be justified. Although the picture is thoroughly effective in giving accurate information concerning causes and results of venereal disease, it is much more effective in establishing a series of fairly definite emotional attitudes toward the disease. Fear of them, and indignation at the carelessness of those who transmit them, stand out much more plainly in the reaction of the audiences than do any purely informational features.

8. The picture appeals primarily to the instinct of fear (fear of disease), and does not make an appeal to the most important instincts through the use of which moral education might be promoted. It makes no appeal to "that deep-seated reverence of every man for a pure woman," to the parental instinct with the desire for protection of the weak and pity for the suffering. The data given on page 55 show that this criticism is justified. The scenes showing lesions resulting from venereal disease are second in frequency of mention. Those making appeal to other emotions come far down in the list. The most effective of them falls into seventh place, the appeal of the "sweethearts at home" reaches seventeenth place, and those involving parental feelings excite equally slight attention.

## VI. PRACTICAL APPLICATIONS OF THE DATA OBTAINED

Many of the problems which arise from a study of the film are general ones of educational policy in sex-hygiene instruction, for the investigation of which the films do not contain adequate material. It is necessary, therefore, to find out what emotional or instinctive tendencies offer the best foundation for constructive education, the best methods of presenting and emphasizing informational material, and what parts of such material it is best to emphasize. It has been possible to gain data on some specific points, however, which should be of value in planning the construction of future films, as well as in judging the existing ones.

### *Methods of Presentation*

Should pictures of the type of "Fit to Win" be shown to mixed audiences? We have been unable to discover any really serious effects resulting from such performances, but in the absence of exhaustive data certain facts suggest their inadvisability. We found that after such a performance, the chief interest of the younger members of the audience was that friends of the opposite sex had been present, and that there was a strong tendency toward flippant discussion and innuendo between the boys and girls. The knowledge that the others had been present seemed to be the determining factor here and we doubt that segregation of the sexes in different parts of the theater will remedy the difficulty.

With audiences of mature men and women this danger seemingly does not occur but the chance of embarrassment or more severe emotional shock in the women is much increased by the presence of men. Although we have not found evidence of any persistent bad effects from performances under these conditions, it seems best to avoid them, if only because of the bad impression which they are likely to convey.

With audiences restricted to one sex we have found no evidence of any ill effects. Many children ranging from twelve years up were included in the audiences studied, and we could get no evidence that they suffered the arousal of any undue curiosity or interest. On the contrary, such data as we gained concerning them was altogether favorable, and many parents expressed regret that they had not brought their children to see the picture. Our data sug-



gest that there is no need for limiting the age of the audience.

We have shown the picture to audiences of men and women only and to mixed groups both with and without a verbal introduction and have not been able to detect any differences in the resultant behavior. This seems to depend solely upon the composition of the audience, and where that was controlled by limitation of sex there was never any indication that the picture needed any introduction to give the audience a serious attitude toward it.

With respect to the relative merits of commercial showings as compared with those under the auspices of local or national educational organizations, we have been unable to gain direct evidence. The performances at the towns of C. and S. were somewhat comparable to commercial showings in that they were not given dignity by the approval of any local organization or influential citizens, and they did not seem the less effective on this account. There was some indication that they were attended by some who would have been repelled by any local organization and in this respect commercial presentations would seem to have an advantage over other types of performances. On the other hand, the temptation to use pornographic advertising in commercial work must not be overlooked. There is no direct evidence from the films that such advertising can change the attitude of the audience toward the picture, but a familiar illustration of such an effect is provided by the difference in the attitude of men toward burlesque and musical comedy, irrespective of the content of the show.

#### *The Educational Material Included*

In general we have not been able to find evidence for any pronounced effects of the film on sexual behavior and so are not justified in outlining any general policy as to what should or should not be included. If the desire is to convey accurate information concerning venereal disease, our data indicate that a greater simplification of material is necessary and greater detail concerning fundamental facts must be presented. This is especially true of the facts concerning the causes of venereal disease, since the majority of the public have no adequate knowledge of bacteriology. We have gained some evidence that a thorough understanding of the nature of infection is effective in producing a greater care in the use of prophylactic measures. Further, there seems to be a rather prevalent belief that bodily cleanliness is synonymous with freedom from disease and this, combined with the belief of many men that they can select an uninfected prostitute, will be difficult to meet in any way

except by giving accurate detailed information. For these reasons it seems advisable to bring out clearly the exact nature of infection, and to meet specifically the popular beliefs concerning the origin of disease.

Another point which our data indicate should receive more emphasis is the possibility of cure. Medical opinion favors this, and in addition, we have found that "Fit to Win" arouses in many men a fear that they have not been completely cured. The majority of those who have sought medical advice after the performances were men who had been infected much earlier and in whom there was no indication of present disease. While this is an advantage for those men who are induced to seek medical advice, unless we are assured that the film will induce the majority of such men to do so, the danger of arousing disturbing fears is a serious one.

As for the non-medical material included in the picture, the chief problem is that of the advisability of the inclusion of scenes showing soliciting. The data obtained indicate that these are not sexually exciting when joined with the rest of the picture, that they rarely excite curiosity, and that they do not prevent the lesson of continence from being brought home. On the other hand, there is evidence that they have the advantage over other possible dramatic situations in one respect. Among the men, admiration for the strength of character of the man who resisted was frequently expressed, falling into fifth place in the order of absolute effectiveness; among the women the scenes brought home the need of sex instruction in boys in order to prepare them to resist severe temptations.

As judged by the immediate effects of the picture upon the audiences, the most objectionable parts were the two legends "Ain't yous afraid you'll have a wet dream tonight?" and "I wouldn't touch a whore with a ten-foot pole." These raise the general question of the vocabulary to be employed in such pictures. It is true that many men fail to understand scientific names for sexual processes and that there is the danger that material expressed in technical terms will pass over their heads. On the other hand, the meaning of such terms as are used in "Fit to Win" is readily grasped from the context by the men and the use of popular expressions in their answers to questionnaires was exceptional. For example, fully one-third of the men who were interviewed in our preliminary work failed to understand the term "sexual intercourse," yet this (the term used in "Fit to Win") was the term almost invariably employed in the answers to the questionnaires. We have not found that with audiences of one sex, the use of vulgarisms produces any

marked offense, but in view of the criticisms which have been made against it and the fact that the meaning of technical terms seems to be readily grasped from the context, it is advisable to avoid as far as possible the use of popular names.

### *The Value of Different Appeals*

One of the first points with which we were impressed in our study of the picture was its failure to make any appeal whatever to well-informed men and women. Lacking the interest of new facts for them, its literary defects overshadow all else. It was attacked by them as crude, inconsistent, tedious, maudlin, and it failed to hold their attention. This at first appeared to be a serious defect in the film, but as we observed its effects with larger and more ignorant audiences, such criticisms seemed inconsequential. For the vast majority of people, even among cultured classes, interest in the facts presented and in the story is intense and its inconsistencies are not noted. Sentiments which were ridiculed by the medical and similar groups were applauded vociferously by the car men, soldiers, and others, and comments in the questionnaires, as "I'm like Bill," show frequent identification with the hero. In the criticisms of the sex-hygiene pictures there is not infrequently the suggestion that the critic has failed to consider this class distinction and that no small part of his criticism is a rationalization of his own revulsion against the "drivelling inanity" of the story.<sup>1</sup>

Observations of the reactions of various audiences indicate that such criticisms may be largely discounted, yet they raise the question as to whether any picture can be adapted to all types of audiences or whether special pictures must be constructed for special groups. We have been able to observe the effects of "Fit to Win" and "The End of the Road" with white and negro audiences and find that they make even a stronger appeal to the latter than the former. Not only were the negroes more interested and enthusiastic than the whites in their immediate responses to the picture, but later inquiries showed that a much larger per cent had been influenced to seek medical advice. In general the literary criticism does not seem to be valid for the great majority of people and seems to involve chiefly the question of policy toward the small but influential sophisticated group.

"Fit to Win" bases its appeal almost entirely upon fear of venereal disease. This is shown by the relatively small percentage

<sup>1</sup>"The Cinema," by Bertram Clayton, *Quarterly Review*, Vol. 234, No. 3, July, 1920.

of the men listing any other motive for their intended change in sexual behavior and by the relative frequency with which various scenes were mentioned spontaneously. There is no evidence upon which we can judge the relative effectiveness of fear and other motives. Our data on emotional reactions indicate that sympathy for the innocently infected, especially children, has greater relative effectiveness, at least for retention of associated scenes, than any other emotional reaction aroused by the picture. Other possible appeals are not developed sufficiently in this or any other hygiene films that we have seen, to permit of any judgment of their merits. The data on the ultimate effects of the picture upon behavior indicate that the fear motive is inadequate except when actual infection exists. The stressing of other motives at the expense of fear would, therefore, at least not entail any great loss in the effectiveness of the pictures and might make a decided gain.

#### *Narrative versus Expository Methods*

During our work we have been impressed by the small amount which the story contributes to the effectiveness of the film. Most of the information conveyed by the picture is irrelevant to the story and the parts which impressed the audiences most were unconnected with the plot. Interest was fully as great in the purely expository parts as in any but the most dramatic scenes and these—the fight and bawdy-house scenes—hold attention more through their action than through their relation to the thread of the story. From the standpoint of imparting information, much space is wasted by the drama. For example, nearly 300 seconds are devoted to the incident of syphilitic infection from a kiss, showing contact, subsequent fears, diagnosis, etc. A single legend and less than 30 seconds are devoted to a lip chancre contracted from a razor, yet more men gave “using an infected person’s toilet articles” as the cause of infection than mentioned kissing. (51 as compared with 31 per cent.) The emotional appeal of the drama also does not exceed the expository parts of the picture. Some of the most carefully constructed scenes and the very best acting in the picture are devoted to the infection of the innocent country boy and his disappointment at being left behind as a slacker. Relatively little space is devoted to showing blindness in children infected with gonorrhoea, yet the latter produces a much more intense and uniform reaction from the audience, is recalled by more people, and arouses greater sympathy.

For the more sophisticated groups the defects of the drama arouse

an antagonism toward the entire picture. The story was discussed with the Executive and Clerical and the Literary Club Groups. The majority stated that they had been very little interested in the story, that they considered it trivial, but had scarcely noticed it in their interest in the facts presented. The antagonistic attitude of the Medical Group has been described.

Such data suggest that the story form is not particularly advantageous, and that unless the story has real literary merit it detracts rather than adds to the effectiveness of the expository material.

## VII. GENERAL SUMMARY

The observations and experiments reported in this paper have been restricted chiefly to a study of the effects of the motion-picture film, "Fit to Win," in the revision for civilian use. This has been advisable because of the time required for the working out of methods of investigation and the variety of problems which are raised by the single film. "Fit to Win" is typical of most of the commercial films, however, and data derived from it should be of value in judging the worth of other existing pictures and in planning future ones. The investigation has included tests of the range of information on sexual topics of audiences before and after presentation of the picture, observations upon the immediate reactions of various audiences, a study of the emotional reactions aroused toward sex problems and toward the method of presenting them, and attempts to determine the actual influence of the picture upon the later sexual behavior, through reports of field workers and individual studies of men who had seen the picture previously.

The picture has been shown experimentally to about 4,800 people; 1,200 questionnaires have been received from them and tabulated; these have been controlled by personal interviews with nearly 100 men; verbal reports have been received from 73 voluntary field workers who had been asked to seek for evidence of certain specific effects of the picture and whose observations extended over periods up to six months after the performances; the experimental groups have included classes varying widely in social and educational level. On some of the problems raised by the picture, such as the curiosity concerning sex, aroused in young people, and the relative effectiveness of appeals to instinctive motives, we have been unable to obtain adequate data, but on those topics concerning which information is obtainable, we believe that the number of individuals studied is sufficient to insure that the data are representative of the communities studied.

We will review the data upon the effectiveness of "Fit to Win" in venereal-disease education and will then summarize the bearing of the data upon more general problems.

### *Evaluation of "Fit to Win"*

In conveying information the picture is quite efficient. For about

ten of the more important topics dealt with, our questionnaire showed that at least 50 per cent of those who were ignorant or misinformed before, acquired from the picture some definite information on each topic and that this raised the average level of information to 70 per cent of the total audience with fairly accurate knowledge of each topic. Naturally, the amount of information acquired varied with space devoted to the topic and the clearness and emphasis with which it was presented. Practically all learned the ready communicability of venereal disease by contact, relatively few the distinction between gonorrhea and syphilis in this respect. And so it was with other topics. Only where the information given was simple and without the assumption of preëxisting knowledge did any large percentage of the audience grasp it.

There has been some question as to the information conveyed by certain parts of the picture, especially in regard to the relative emphasis of continence and prophylaxis as preventives of infection. Our data show conclusively that almost without exception the men gathered from the picture that continence is the only sure method of avoiding infection and that prophylaxis is not always effective. Belief in the effectiveness of prophylactic measures was weakened rather than strengthened. It has been claimed that the film disparages the army and represents the average young American as having low moral standards. We have found no basis for either of these assertions. The audience does not identify the characters with the soldier as apart from any other class, and in the groups that we have studied the impression has been that the characters represent common but by no means universal types.

The film teaches the seriousness of venereal disease, the possibility of transmission by contact, the harmlessness of continence and of seminal emissions, a relative ineffectiveness of medical prophylaxis, the necessity for prompt and expert medical treatment, and reliable sources of information concerning such treatment.

In the factual material presented, the film falls short in several important respects. It emphasizes, even exaggerates, the serious results of venereal disease without giving accurate information concerning the cause or the possibility of cure. Data collected concerning the influence of false beliefs as to the cause of disease upon continence, and the use of medical prophylaxis indicate that ignorance of the nature of infection is, in part, responsible for carelessness in exposure and in precautions against infection. The film fails to correct these false beliefs. The failure to bring out clearly the possibility of cure is contrary to the best medical opinion, and may

bring about conditions which are likely to give rise to morbid anxiety. While we have not found evidence that such conditions result from the picture, their possibility would be decreased by a more even stressing of these three points. This might reduce the fear of infection, but there is no evidence that this fear alone has enough deterrent value to counteract the harmful effects of ignorance of other matters.

The film fails to bring out the difference between gonorrhoea and syphilis and a large proportion of the audience confuse the symptoms of these diseases. While this is not important so long as the purpose is to emphasize the seriousness of the venereal diseases, it may lead to serious misunderstandings where the distinctions may be desirable, as in the right of the gonorrhoeal or syphilitic man to marry.

The pictures show three infections in four exposures. Many men (10 per cent at least) have some knowledge of the actual chances of infection and some of these with whom we talked feel they have caught the authors of the film in a lie, which shows that their purpose is to foist on the public a moral code under the guise of hygiene. Such reactions are not frequent, but in education any suggestion of deceit is likely to be disastrous.

The studies of the emotional effects of the picture have dealt with the attitudes aroused toward sex matters and toward the picture. There is clear evidence that only in rare cases is any sexual excitement produced, and there is no danger whatever that the picture will lead to immediate incontinence. On the contrary, according to the reports of men, it has some inhibitory influence, although this is not strong enough to withstand any strong temptation. No sex antagonism is produced either in men or women. There is no evidence that any dangerous interest in sex is aroused, even in children, but our data on this point are limited to one group of boys and are scarcely adequate. With audiences limited to one sex there has been no indication of emotional shock or serious offense at even the crudest parts of the picture.

With men the film arouses some fear of venereal infection and a resultant determination to be careful, chiefly by avoiding prostitutes. There is little indication of any other constructive emotional influence. Among mature women, sympathy for the innocently infected, with a desire to guarantee better sex education for young men and women, is more frequently aroused. In neither sex does the fear of disease seem strong enough to induce morbid reactions.

The attitude toward the film aroused in both men and women is



one of approval. Ninety-five per cent of the men and 100 per cent of the women studied believe that the picture would be beneficial and that it should be shown to the general public. More than half of the men believe that it should not be shown to women (sisters or sweethearts) but all of the women believe that it should be shown to women and even to young girls.

The picture is not adapted for showings to mixed audiences under any conditions where the men and women may meet immediately after the performances. In one such experiment we found that inhibitions were broken down among the younger people and that comments bordering on the indecent were passed between the boys and girls. This seemed to have been the result of a temporary relaxation, produced by the picture plus the knowledge that each had seen the picture and been somewhat embarrassed before the other. Where the picture was shown to one sex only we could find no evidence of flippant attitude in any part of the audience.

Only two important after effects upon behavior have been demonstrated. A few individuals are stimulated to active interest in sex-hygiene campaigns. They seek to get repeated showings of the film or to obtain pamphlets and other propaganda material. They seem to be, for the most part, individuals who are already interested in the problem and who see in the performance an opening wedge for further work. A small number of men, in the belief that they may be infected, seek medical advice. The number of these that we were able to trace amounts to about one per cent of the total male audience.

No lasting effects were found. The retention tests show that the main facts were remembered very well for periods up to five months but there is no indication that behavior is modified significantly. The picture does not reduce the exposure rate of men who see it or make them more careful in the use of prophylaxis, except possibly for a few days. Nor did ill effects seem to persist to any greater extent. Interest dies out rapidly and the picture seems to be forgotten as quickly as the average motion picture devised solely for amusement.

The effectiveness of the picture thus seems to be limited to conveying information concerning venereal diseases. While the dramatic portions of it do no active harm, it is doubtful if they contribute in any way to its educative value or add to the interest which the facts presented have for the audience. Indirectly, they cut down the space that can be devoted to informational topics and limit the informative value of the picture. The need for more elementary

and comprehensive instruction than is included in "Fit to Win" leads us to believe that the development of more complete and scientifically accurate expository films along the lines already begun in the lecture films of the American Social Hygiene Association, will prove more effective and profitable than will an attempt to continue the use of the dramatic method of presentation.

*Suggestions Concerning the Use of Motion Pictures  
in Sex Hygiene Education*

The difficulty of handling venereal-disease data in dramatic form argues strongly against the use of this method. Scenes like the bawdy house in "Fit to Win" and the attempted rape in "The End of the Road" have little educative value and unless they are handled with extreme skill and shown under careful regulation there is danger that they will have some erethitic effect.

There is no evidence that the informative value of the picture is increased by such dramatic efforts. Material which is presented in the prologue of "Fit to Win," or which is otherwise irrelevant to the story, is retained as well as that which is reinforced by a dramatic background, and seems fully as capable of holding the attention of the audience, provided it is new to them. Such material can be presented to them more fully in purely expository form and will so escape many of the difficulties which attend the construction of the film story. Our data indicate that the more significant emotional reactions were produced by parts of the picture irrelevant to the story and that such emotions as are aroused by the dramatic parts are evanescent and without important effects upon behavior.

The need for more detailed and accurate information, where any is given, is another reason for the avoidance of the dramatic method. The advantages of simple and detailed information are not counter-balanced by any persuasive effects of the stories.

With regard to the educational material to be included, the evidence indicates that the serious presentation of any scientific data concerning venereal disease will not prove harmful or offensive. There should be no inclination to conceal part of the truth in the hope that emphasis of some material will lead to beneficial emotional attitudes, for too large a portion of the public recognizes the trick to make the practice safe, and with increasing popular knowledge of venereal diseases this recognition of deception will increase. For the present the treatment of material should be made as elementary as possible, since the majority of the audience have no adequate preparation to understand even such primary facts as the action

of disinfectants. The popularizing of the material should not entail any relaxation of the scientific attitude, however. The more nearly the data can be kept on a strictly impersonal plane, the less possibility there will be of such reactions as we obtained from the mixed audience described above. The use of popular instead of scientific names is inadvisable, since the meaning of the latter is almost always acquired from the context, while the former are taken as obscenely humorous. There is need for investigation of popular misconceptions concerning venereal disease and for the preparation of data which will correct these.

Finally, one of the chief problems of educational policy involved in the use of the motion pictures in venereal-disease education is: Shall the film aim simply to give information or to control sexual conduct through an emotional appeal? The appeal to fear, as made in "Fit to Win" has practically no behavior value. It is possible that an appeal to other emotions might be more effective in modifying conduct. As used in the existing films the emotional appeals are not effective in modifying sexual behavior, but they are effective in imparting information concerning venereal disease and in arousing people to a realization of the need for educational and social reform. If the imparting of information is considered the chief phase of the sex-hygiene program, then expository motion pictures will be an important factor in disseminating such information.

The one place where we can hope to effect permanent control of sexual conduct through education is in adolescence. Films of the type of "Fit to Win" are not adapted for use at this age and it is doubtful if any motion picture will ever be as satisfactory here as other educational methods, since there is need for adaptation of the material to the individual requirements of the youth. The films seem particularly effective, however, in arousing in adults an appreciation of the need for education and control of sex in adolescence. The most promising sphere of usefulness for motion pictures would seem, therefore, to be the building up of public opinion which will favor the utilization of other educational methods, which can be better adapted to the individual needs of children and adolescents.



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