

AN EXPERIMENT IN METHODS FOR DETERMINING THE
RELATIVE EFFECTIVENESS OF VARIOUS
TYPES OF RADIO PRESENTATION

by

NORMAN COATES WEBSTER

B. O. Geneva College, 1927
A. B., Geneva College, 1928

A THESIS

submitted in partial fulfillment of the

requirements for the degree of

MASTER OF SCIENCE

Department of Public Speaking

KANSAS STATE COLLEGE
OF AGRICULTURE AND APPLIED SCIENCE

1940

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INTRODUCTION

In the general field of public speaking, there has been considerable research upon the effectiveness of various types of speech presentation. This research has approached the speaking field from many angles: platform technique, speech content, and general and individual techniques for securing attention, persuasion and conviction.

With the growth of radio, and more particularly with the growth of the use of radio in business, questions are constantly arising upon what is going on at the other end of the radio setup - the receiving set. Because of this new problem, the past few years have brought much activity in survey work in determining what the people listen to, how they listen, to what programs, at what hours, and with what reactions. To date, however, there has been little research into the relative effectiveness of the different types of radio programs. With the ever increasing emphasis on radio and the growing rivalry between radio stations and commercial advertising, the need for such a study would seem apparent.

The commercial users of radio are constantly experimenting with new methods of presenting material with the object of turning listeners from one type of program to another. But this creation in new program styles is concerned only in securing listeners, and the surveys along that line have shown only how successful these new types of radio presentation are in making people listen. Since this is the case, there is now a need of discovering how effectively these various types of radio programs impart the information they offer. Is the information so presented that the listener assimilates what he hears? The present study has been directed toward that problem.

The general field of radio research is comparatively new. In checking this to ascertain whether the present problem had been studied previously, a search was made through all records available on general speech research and radio activities but nothing was found upon the subject. In a further effort, a letter was sent to the six men most likely to have contacts with such research, or to know of any projects completed or under way in the field. The letter stated in detail the work contemplated on this project and concluded with the following: "Do you know of, or have you heard of any research similar to this? In pre-

paring my thesis and discussing what I have found, it is necessary that I review what has been done previously on the subject." The six men to whom the letter was sent were: Professors W. M. Parrish¹, William Trufant Foster², A. Craig Baird³, Franklin H. Knower⁴, John Dolman, Jr.⁵, and Ray Keeslar Immel⁶. The common reply from these several authorities was to the effect that they knew of no research in any way comparable to it⁷. Two of the men consulted, Dolman and Knower, made reference to Ewbank⁸. The reports from these six professors likewise failed to indicate that anything had been done on the proposed problem in radio research.

Of special interest, however, was the work of Ewbank⁸ whose efforts were in the field of radio speaking only, and not a study of general radio programs. Ewbank's study

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- ¹ W. M. Parrish, University of Illinois, Urbana, Illinois.
 - ² William Trufant Foster, Pollock Foundation of Economic Research, Newton, Mass.
 - ³ A. Craig Baird, State University of Iowa, Iowa City, Iowa.
 - ⁴ Franklin H. Knower, State University of Iowa, Iowa City, Iowa.
 - ⁵ John Dolman, Jr., University of Pennsylvania, Philadelphia, Penn.
 - ⁶ Ray Keeslar Immel, University of Southern California, Los Angeles, California.
 - ⁷ Complete copies of all letters are presented in Appendix.
 - ⁸ H. L. Ewbank, "Studies in the Techniques of Radio Speaking", Quarterly Journal of Speech, 18:560-570, 1932.

covered three problems, the second and third of which will be reviewed first.

In Ewbank's second problem he attempted to discover "how much, if anything, does a radio teacher lose in effectiveness because he cannot be seen by the audience"? In order to do this he constructed two speeches using different sets of supposed facts, but similar in all other respects. The speaker would appear before the audience and give one of these addresses, after which a test would be given. He would then give the other speech over the radio equipment in the Speech Laboratory and the audience would then take the second test.

Ewbank's third problem was to discover the best rate for speaking over the radio.

The first of Ewbank's three problems was "to study the relative effectiveness of the formal lecture, the informal talk, and the dialogue in giving instruction over the radio." He prepared three speeches, as nearly alike as possible in all essential points except in the matter of style. Each speech was reduced to forty sentences, containing the same number of items. The speeches were carefully rehearsed so that they could be given by the same speaker and with equal skill over the radio equipment in

the Speech Laboratory. Immediately after listening to each speech, the auditors were given ten minutes in which to take tests. This project by Eubank resembles slightly the present project in that it employed informal speech and dialogue. However, the similarity ends there since four types of presentation were used in this study.

From this scarcity of similar research activity, it is evident that there is a need for methods of determining the relative effectiveness of various types of radio presentation.

MATERIALS AND METHODS

For the purpose of the study, it was necessary to determine the types of radio presentation to be used. The following four methods of presenting radio material were selected: the straight talk, the illustrated talk, the dramatization, and the interview, or question-answer or dialogue method. In four of the writer's classes in speech, assignments were made which required the students to bring to class a list of all the types of radio programs they had ever heard in which information was presented. When classified, all these informative programs fell easily

under the four groupings mentioned. The designation, straight talk, describes the first method commonly used in radio commercials, political talks, and other promotional programs. The second, the illustrated talk, is the straight talk embellished with sound effects, flash dramatizations, and other artificial methods of drawing interest. The third method, dramatization, is what the name indicates, a method of presenting material through dramatic action and picturization. The fourth method, which shall be referred to as dialogue, involves only the two voices following the question-answer method of the interview⁹.

After choosing the methods, it was necessary to select suitable subject matter for purposes of tests. Three historic characters were chosen: all three about equally known or unknown to the average listener. The characters were selected with the help of six of the writer's public speaking classes. To every student in these classes was given a list of names of fifteen historic figures. From this list the students checked the names of the men about

⁹ To identify the four forms, they will hereafter be referred to as "straight talk", "illustrated talk", "dramatization", and "dialogue". In tables, they will be referred to as "str. tlk.", "il. tlk.", "dram.", and "dial.", respectively.

whom they knew nothing. From the list of fifteen, the names of Leeuwenhoek, Jenghis Khan, and Nietzsche received the greatest number of checks. Consequently, since they were the least well known, those three characters were chosen to serve as the subject matter for the project.

The next step called for the writing of scripts illustrating the four methods of presentation. Twelve of these were necessary, four for each of the three men covered in the study. From the lives of each of the three men, ten points of interest were chosen to serve as a base around which the scripts were to be constructed. In other words, the writers of the scripts had to keep rigidly within three limitations as follows: (1) the script should be five minutes in length, (2) should be a faithful example of the method used, and (3) should include all of the ten items of interest selected for the particular historical character used as the subject of the script.

To secure more variety and better quality in the scripts, student scrip writers were employed from the radio classes of Kansas State College. From these classes, five students recommended as being better than average student writers were employed on this project. To each of these student script writers was assigned one of the three names:

Leeuwenhook, Jenghis Khan, and Nietzsche, concerning whom he was to write four scripts employing each of the methods: straight talk, illustrated talk, dramatization, and dialogue. When the completed scripts were submitted, they were carefully examined and the one script from each of the twelve designations that most nearly fitted the requirements was selected. Student prepared scripts were used for illustrated talks, dramatizations, and dialogues on all three pieces of subject matter. The straight talks prepared by the student writers were not used, however, because the author decided that the project would be better equipped in this type of program presentation if he prepared the talks himself. When completed, nine of the twelve scripts were written by five different student script writers and three by the author.

After all the scripts were written, there still remained the task of transferring what was in the scripts to phonographic records. Of course for this process several people were needed to supply voices for the parts, and again help was enlisted from the radio classes at Kansas State College. One class in particular was helpful - a class in program production. Several times a week these students had written and presented programs over Radio

Station KSAC and because of the experience gained in this activity, were able to help materially in the record making. In order to secure uniformity in presentation among the programs to be transcribed, a few of the best voices were used consistently for the cutting of all records with the exception of the straight talks. Since these programs required only one voice, the writer supplied that himself.

All programs to be recorded were directed by the author. This recording procedure proved to be the most difficult single part of the entire project because of the many mistakes in reading and pronunciation that were encountered. Nineteen records were wasted before twelve reasonably satisfactory ones were secured.

With the scripts written and transcribed, the next step in the mechanical preparation for carrying out the survey was the preparation of tests. After the playing of each record, the project called for a written objective test covering the material presented in the transcription to be given to those before whom the record had been played. The form used was a ten-question multiple choice test covering the ten points of interest previously selected and concerning which the scripts had been written.

Since the four methods of presentation on each piece of subject matter covered precisely the same material, one test only was prepared for each subject group. Because of the need for equality among the three tests, it was necessary to experiment before the actual survey work started. The records used in the experiment were played before classes at Kansas State College and a total of two hundred test papers was received. From the result on these tests the necessary corrections were made. The questions listed below have been taken from the three tests used.

TEST ON ANTHONY LEEUWENHOEK¹⁰

1. Anthony Leeuwenhoek lived approximately:

() 850 years ago	() 950 years ago
() 150 years ago	() 900 years ago
() 450 years ago	() 350 years ago
() 250 years ago	() 750 years ago
() 650 years ago	() 550 years ago

TEST ON JENGHIS KHAN¹¹

1. Jenghis Khan was born and lived part of his life on the banks of:

() River Danube	() River Abon
() River Onon	() River Thames
() River Amazon	() River Obon
() River Orinoco	() River Rhone
() River Ural	() River Oron

¹⁰ Complete test in Appendix.

¹¹ Ibid.

TEST ON FREDERICH NIETZSCHE¹²

1. At the prime of his life Frederick Nietzsche resigned himself to:

- () married life
- () a life of pain
- () paralysis
- () the life of an invalid
- () life in the Navy
- () a bachelor's existence
- () death
- () life in a Monastery
- () life in death
- () life in the Army

The next problem was selecting the subjects who were to be tested; college Speech and English classes were chosen. Also it was decided, for the sake of simplicity and efficiency, that only one record should be played before each listening group. Valuable experience with this phase of the process was the basis of recommendations given later in this paper.

At this point another important consideration presented itself. That was what the person giving the tests was to say to the classes tested, before playing the records. No indication could be given at the start that any form of quiz was to be used. If the students realized that a test were to be given, their attitude would change and they would no longer be a casual group listening to a radio program. Since students have been trained from en-

¹² Complete test in Appendix.

trance into school to listen to things they are not interested in, the sight or thought of a test presumably would make them listen more carefully and would create an unnatural rather than a typical radio reception situation. Theoretically, the atmosphere in the room at the time of the playing of the records was to be that of a group of students casually listening to the radio. In order to create this atmosphere and to provide an identical situation for each audience, the same introduction was used, word for word, preceding each record playing, namely: "Ladies and gentlemen, I am about to play a record. This will take but a very few minutes. It is not Benny Goodman. It is not Artie Shaw. It is just a record I, myself, cut on our recording machine at Kansas State College. If you care to listen, do so. If not, go ahead and do any work you wish to do, or balance the budget, or go to sleep. I mean that literally." Following this, the writer always left the room or chatted with the instructor, while the record was being played.

Records were played before 120 groups including a total of 3127 students in twelve different colleges and universities. The distribution was as follows: 964 papers were received from Speech and English classes at

Kansas State College; 110 papers from Fort Hays Teachers College, Hays; 180 papers from Wichita University, Wichita; 210 from Emporia State Teachers College, Emporia; 95 from Washburn College, Topeka; 328 from University of Kansas, Lawrence; 115 from Baker University, Baldwin; and 142 from Ottawa University, Ottawa, all of Kansas; 148 from the University of Nebraska, Lincoln; 205 from Hastings College, Hastings, both of Nebraska; 380 from the University of Arkansas, Fayetteville, Arkansas; and 250 from the University of Texas, Austin, Texas.

TABULAR DATA AND DISCUSSION

The first step in analyzing the results was to determine whether any one of the twelve methods of presentation was unduly favored over any other method in number of total listeners. In Table 1 are recorded the total number of listeners for each method. Illustrated talk under Jenghis Khan was high with 299 and illustrated talk under Leeuwenhoek was low with 211. Those two extremes constituted a difference of eighty eight test papers but the ten intervening calculations were so nearly even that it is evident that the discrepancy in numbers did not affect the results.

Table 1. Number of students tested for each subject and method.

	LEBUWENHOEK				JENGHIS KHAN				NIETZSCHE			
Method	Str. tlk.	Il. tlk.	Dram.	Dial.	Str. tlk.	Il. tlk.	Dram.	Dial.	Str. tlk.	Il. tlk.	Dram.	Dial.
Students tested	245	211	251	258	298	299	263	255	247	296	272	232

Table 2. Distribution of correct replies: LEEUE NOKK and the percentage of those tested having 10, 9, 8, etc. answered correctly.

Number of correct replies	Method of presentation			
	Str. tlk.	Il. tlk.	Dram.	Dial.
	per cent			
10	4.1	2.8	9.2	5.0
9	13.5	5.3	19.0	13.6
8	18.6	16.2	24.8	11.6
7	14.3	15.1	19.6	22.5
6	21.6	20.4	13.9	19.7
5	8.5	11.8	7.2	9.8
4	3.2	13.3	3.9	7.3
3	6.6	6.6	0.4	5.2
2	3.6	5.7	1.7	3.6
1	0.8	2.3	0.0	0.8
0	0.0	0.5	0.4	0.0
Median	7	6	8	7
Mean	6.45	5.79	7.33	6.46

Table 2 indicates the distribution of correct replies on Leeuwenhoek by giving the percentage of those tested having 10, 9, 8, etc. answered correctly. Of the four methods of presenting material, the dramatization method showed the highest percentage of papers having ten correct, with a percentage of 9.2. This method also had the highest percentage of the nine correct and the eight correct groups. For the straight talk, the median falls in the seven correct group; for the illustrated talk, it falls in the six correct group; for dramatization, it falls in the eight correct group; and for the dialogue method, it falls in the seven correct group. Under the Leeuwenhoek group, the mean (average number correct) for the straight talk is 6.45; illustrated talk, 5.79; for the dramatization, 7.33; and for dialogue, 6.46. The discussion concerning Table 6 carries further the discussion of these means and evaluates their differences.

Table 3. Distribution of correct replies: JENOM'S KHAN and the percentage of those tested having 10, 9, 8, etc. answered correctly.

Number of correct replies	Method of presentation			
	Str. tlk.	Il. tlk.	Gram.	Dial.
	per cent			
10	0.0	0.3	0.0	0.0
9	0.7	7.0	0.4	2.7
8	5.7	12.4	3.5	8.1
7	21.5	21.4	10.7	10.5
6	21.5	15.4	21.3	14.6
5	17.1	16.4	22.4	17.3
4	13.0	9.0	11.7	11.7
3	8.7	11.1	14.6	17.4
2	6.4	4.0	11.1	9.8
1	4.3	3.0	3.8	6.7
0	0.3	0.0	0.3	1.2
Median	6	6	5	5
Mean	5.28	5.69	4.76	4.63

Table 3 indicates, as did Table 2, the distribution of correct replies for Jenghis Khan. The median for straight talk falls in the six correct group. For illustrated talk, it is the same. The medians for dramatization and dialogue both fall in the five correct group. In this case, the median indicates that the two most effective groups are straight talk and illustrated talk. The means follow the same trend, showing for straight talk a mean of 5.28 and for illustrated talk a mean of 5.09, both of which are superior to dramatization, with a mean of 4.76 and dialogue, with a mean of 4.63. The discussion concerning Table 6 carries further the discussion of these means and evaluates the differences.

Table 4. Distribution of correct replies: NITZSCHE and the percentage of those tested having 10, 9, 8, etc. answered correctly.

Number of correct replies	Method of presentation			
	Str. tlk.	Il. tlk.	Dram.	Dial.
	per cent			
10	0.0	1.4	2.5	5.6
9	3.2	7.7	5.8	12.9
8	23.5	15.6	16.6	13.8
7	21.9	18.9	22.2	19.4
6	17.4	21.6	19.8	15.6
5	10.1	14.2	19.8	11.6
4	12.2	8.8	8.8	7.8
3	6.0	7.4	3.0	7.3
2	2.5	3.0	1.1	3.9
1	2.8	1.4	0.0	1.3
0	0.4	0.0	0.7	0.8
Median	6	6	6	7
Mean	6.40	6.03	6.28	6.27

Table 4 indicates the distribution of correct replies for Nietzsche. The medians for straight talk, illustrated talk, and dramatization all fall in the six correct group with dialogue slightly more effective by virtue of falling in the seven correct group. However, what little superiority might have been indicated in the medians is destroyed by the comparison of the means. The means for straight talk, illustrated talk, dramatization, and dialogue are 6.40, 6.03, 6.28, and 6.27 respectively. The data in Table 6 further discuss the means and evaluate their differences.

Table 5 presents an analysis of the data that were needed to figure the critical ratios listed in Table 6.

Table 5. Mean of each method of presentation for each piece of subject matter: the standard error of the means; the standard deviations of the distribution.

Method	Leeuwenhoek			Jenghis Khan			Nietzsche			Leeuwenhoek Jenghis Khan Nietzsche		
	M	σ_m	σ_{dis}	M	σ_m	σ_{dis}	M	σ_m	σ_{dis}	M	σ_m	σ_{dis}
Str. tlk.:	6.45	0.134	2.09	5.28	0.094	1.66	6.40	0.107	1.69	5.82	0.073	2.04
Il. tlk. :	5.79	0.164	2.38	5.69	0.119	2.06	6.03	0.112	1.94	6.09	0.068	1.93
Dram. :	7.33	0.116	1.83	4.76	0.137	1.63	6.28	0.106	1.75	6.08	0.074	2.09
Dial. :	6.46	0.128	2.05	4.63	0.135	2.16	6.27	0.151	2.30	5.79	0.085	2.31

M = Mean.

σ_m = Standard error of the mean.

σ_{dis} = Standard deviation of the distribution.

Table 6. The critical differences between the six methods of presentation of material.

Methods of presentation	Subject			
	Leeuwenhoek	Jenghis Khan	Nietzsche	Leeuwenhoek
Str. tlk. - Il. tlk.	3.12*	<u>2.72</u> **	2.39	<u>2.71</u>
Str. tlk. - Dram.	<u>4.98</u>	3.15	0.79	<u>2.50</u>
Str. tlk. - Dial.	<u>0.05</u>	3.99	0.70	0.26
Il. tlk. - Dram.	<u>7.67</u>	5.12	<u>1.62</u>	0.09
Il. tlk. - Dial.	<u>3.22</u>	5.89	<u>1.28</u>	2.76
Dram. - Dial.	5.04	0.67	0.06	2.61

* If the number is not underlined, the mean of the first method of presentation is greater than the mean of the second.

** If the number is underlined, the mean of the second is greater than the mean of the first.

A ratio of 3.00 or over is usually considered necessary to indicate any real difference.

The development of Table 6 was a method of determining how statistically significant were the differences between the means. Following the accepted standard that a critical ratio of 3.00 or more was considered necessary to indicate any real difference, if a ratio of 3.00 or more appeared on the table it would be safe to assume that one method was definitely superior to another in that case. Table 6 showed that all differences between methods under Leeuwenhoek were over the ratio of 3.00 with the exception of the difference between straight talk and dialogue. That being the case, it was worth mentioning that dramatization, in each case where a difference from one of the other methods was indicated, had a ratio well over the necessary 3.00. For example, dramatization was superior to straight talk with a ratio of 4.98, dramatization was superior to illustrated talk with a ratio of 7.67, and dramatization was superior to dialogue with a ratio of 5.04.

With Jenghis Khan the situation was similar. Of the six ratios, four were well above the required 3.00 and one of the remaining two was within 0.28 of it. As in Leeuwenhoek, only one ratio was definitely below 3.00.

Here, as before, Nietzsche showed different results. But the critical ratios of all six methods were below 3.00

which constituted no real difference. So again it was evident that there had been faulty presentation of Nietzsche, within the methods adopted for the research.

At this point it was clear that the findings did not definitely establish one most effective method of presenting material over the radio. For the sake of interest, the figures for all three methods of presentation were grouped and computed as shown in Tables 5 and 6. While it was known that the grouping of three different pieces of subject matter could not bring a dependable result, the findings were worthy of mention. The ratios for the combined subject matter groups were just below the required 3.00 but indicated, as shown on Table 6, the following:

Illustrated talk was greater than straight talk to the extent of a critical ratio of 2.71; was greater than dialogue to the extent of a ratio of 2.76; but was greater than dramatization only to the extent of a critical ratio of 0.09. The same is true in the case of dramatization. Dramatization was greater than straight talk to the extent of a critical ratio of 2.50; was greater than dialogue to the extent of 2.61; while being, as stated, lesser than illustrated talk to the extent of a critical ratio of 0.09. These figures, while not mathematically significant, seemed

to suggest a superiority in effectiveness of illustrated talk and dramatization over straight talk and dialogue.

DISCUSSION

Thus far the collected data have been discussed only as to whether they did or did not indicate the superiority of one method of presenting radio programs over another. That, however, was only part of the purpose of this research which was an experiment in methods of determining the relative effectiveness of various types of radio presentation. The research did not establish one type of program presentation as definitely superior to other types. Why it did not should be considered.

Three points in connection with the working of the survey might be mentioned as possible reasons why one type of presentation was not proven definitely superior. First, the scripts themselves; in spite of care exercised by the writer, it is possible that some of the scripts were better than others as far as workmanship was concerned. The second point would be the recording of the scripts. Possibly a better job of interpretation was done for some records than for others. A case in point would be the fact that the

writer's voice was used in transcribing all three of the straight talks. These records might have been inferior or superior. The third point that might be considered was that the records were played before groups ranging in size from eleven to eighty-four. In groups varying to this extent there might have been too much variety in respect to audience situations.

On the other hand, there is the possibility that nothing was wrong in the execution of the project and that the relative effectiveness of various types of radio programs cannot be determined. Be that as it may, a part of this research was devoted to studying methods for determining relative effectiveness of radio programs. For further experimentation in this same field, the writer makes the following suggestions.

In conducting research on "Relative Effectiveness of Programs", the first thing to be considered must be the subject matter. Should there be more than one subject considered and, if so, how many? The easiest method would be to use one. When the results were obtained, however, the observation, at best, could only be that a certain kind of radio presentation was most effective for that piece of subject matter and with the scripts prepared on that subject, as presented. To avoid that, two or three subjects

should be selected with special emphasis on the fact that they must be as nearly as possible equal from the human interest angle.

The writing of scripts, the next step in developing this research, should be looked upon as the most important step in the project. If more than one piece of subject matter were used, and several methods of presenting material employed, approximately a dozen scripts would be necessary. And on the proper writing of these scripts would depend much of the success of the project. Great care should be taken so to prepare the papers that they would be equal in length, human interest appeal, technique, wording, humor, and general writing effectiveness. The writer would suggest that several script writers should be employed, all of them to write on each grouping of subject matter. All scripts should then be submitted to a committee of experienced radio men whose duty it would be to carefully evaluate all scripts to the end that the ones selected should be as nearly perfectly balanced as possible.

The making of phonographic records from the scripts also should be done with a great deal of care. Local cutting outfits, such as the one operated at Kansas State College, are satisfactory as far as quality of cutting is concerned. The trouble lies in the lack of proper studio

facilities and well trained radio voices.

After all records have been cut and the project ready to start, the tests should be made and mimeographed; one test for each piece of subject matter. Here, as in the case of the script writing, the need will arise to make all tests equal. This could be done more readily in the case of the tests than in the case of the scripts. It is the writer's opinion that records should be played and tests given to from five hundred to a thousand people before the research proper is started. With the advanced information received from these tests, comparisons could be made to discover which individual questions were too easy or too difficult; which tests, as a group, were too easy or too difficult. With this preliminary information, tests could be equalized.

Three other factors should be mentioned. The method used by the writer to assign records to the audiences was to play one record only to each audience and to play all the records in order before different groups before repeating. After studying this method in operation, the writer is of the opinion that two records should be played to each audience without knowledge of an impending test until both records had been played. These records should

not only represent two different methods of delivering programs but two different subjects as well. To offset the disadvantage to the first record played, when the two types were played again, the order of playing should be reversed.

The type of audience used should be chosen with stability in mind. If the college student audience were chosen, care should be exercised in the type of classes selected, both as to number and degree of formality. If one class should consist of ten students and another eighty, the effectiveness of the testing would be impaired. It has been found the small group will listen attentively while the attention of an especially large group usually fluctuates and scatters. If one of the groups constituted a class in history and another a class in play production, the lack of formality in the second might create a radically different listening attitude.

Finally there would be the type of introduction received by the player of the records as well as his own introductory remarks. Care should be taken to see that the record player receives only the barest of introductions - one sentence - if possible. As to the record player's own remarks, they should be memorized and given word for word the same on all occasions.

SUMMARY

1. Twelve phonographic records involving three pieces of subject matter and four methods of presenting radio material for each piece of subject matter were played before college students to evaluate methods for determining the relative effectiveness of various types of radio presentation. The names of the men used for the three pieces of subject matter were: Anthony Leeuwenhoek, Jenghis Khan, and Frederick Nietzsche. The types of radio programs selected were: straight talk, illustrated talk, dramatization, and dialogue.

2. The records were played over a period of one year before 3,127 students in twelve colleges in four states.

3. One record only was played before each college group; the groups ranged from ten to eighty students. Following the playing of each record, a ten-question multiple choice test was given to the listeners. The basis for judging the relative effectiveness of the various types of radio presentation was by comparing the results obtained from the tests using the following methods of comparison: percentage of number right, median, mean, and critical ratio.

4. Statistical analysis of the results showed that for the first piece of subject matter, Leeuwenhoek, significant differences occurred in five of the six comparisons; the favored method here was dramatization.

For the second piece of subject matter, Jenghis Khan, significant differences occurred in four of the six comparisons, the favored method having been illustrative talk.

For the third piece of subject matter, Nietzsche, no significant differences occurred in the comparisons.

The results of this method of inquiry, which appears to be new, indicate that the method of presentation of radio material is important and that under certain circumstances one method of radio presentation may be significantly superior to another.

ACKNOWLEDGMENTS

Indebtedness is acknowledged to Dr. Harrison B. Summers, Professor of Public Speaking, for directing this study; and Dr. Roy Langford, Psychology, and Mr. M. C. Moggie, Education, for aid in the statistical treatment of data. For assistance in securing data, indebtedness is acknowledged to Professor James R. Start of the Department of Speech, Fort Hays Teachers College, Hays; Professor Forrest L. Whan of the Department of Speech, Wichita University, Wichita; Professor George Pflaum of the Department of Speech, Emporia State Teachers College, Emporia; Professor G. S. Fulbright of the Department of Speech, Washburn College, Topeka; Professor E. C. Buehler of the Department of Speech, University of Kansas, Lawrence; Professor Floyd K. Riley of the Department of Speech, Baker University, Baldwin; Professor Evan A. Reiff of the Department of English, Ottawa University, Ottawa, all of Kansas; Professor H. A. White of the Department of Speech, University of Nebraska, Lincoln; Professor Leroy T. Laase of the Department of Speech, Hastings College, Hastings, both of Nebraska; Professor Virgil L. Baker of the Department of

Speech, University of Arkansas, Fayetteville, Arkansas;
and to Professor Tom Rousse of the Department of Speech,
University of Texas, Austin, Texas.

REFERENCES

PERIODICAL ARTICLES

- Ewbank, H. L. "Studies in the Techniques of Radio Speaking", Quarterly Journal of Speech, 18:560-570, 1932.

APPENDIX

COPY

154 Lincoln Hall
Urbana, Illinois
April 26, 1940

Mr. Norman C. Webster
Department of Public Speaking
Kansas State College
Manhattan, Kansas

Dear Mr. Webster:

I do not know of any research
project comparable to the one you
describe.

Very truly yours,

W. M. Parrish
Division of Speech

WMP:PM

37

COPY

William Trufant Foster
Newton, Massachusetts
April 23, 1940

Mr. Norman C. Webster
Department of Public Speaking
Kansas State College
Manhattan, Kansas

Dear Mr. Webster:

Your research is certainly timely and, it seems to me, well conceived. I know of no project now under way which is exactly like yours. I am sure that if there is anything of the sort which you ought to take into account my colleague on the Public Affairs Committee, Professor Lyman Bryson of Columbia University, New York, will know about it. Very likely you have consulted him already. If not, perhaps you will decide to forward him the enclosed letter, and tell him that you do so at my suggestion.

Will you, if convenient, give my warm greetings to the President of the College, as well as to my friends in your Department of Public Speaking. My proposed visit to Manhattan has been postponed too long.

Yours truly,

William Trufant Foster

COPY

State University of Iowa
Department of Speech
Iowa City, Iowa
April 23, 1940

Mr. Norman C. Webster
Department of Public Speaking
Kansas State College
Manhattan, Kansas

Dear Mr. Webster:

Your problems interest me very much. I do not know of studies exactly like the one you have done, but we have had similar studies which attempted to compare the effects upon audiences of the same subject or a similar subject treated from different angles.

I am turning over your letter to Dr. Franklin Knower, who will comment to you somewhat upon the studies that represent attempts to measure audience attitudes.

Sincerely yours

A. Craig Baird
Professor of Speech

ACB:z

COPY

State University of Iowa
Department of Speech
Iowa City, Iowa
April 25, 1940

Mr. Norman C. Webster
Department of Public Speaking
Kansas State College
Manhattan, Kansas

My dear Mr. Webster:

Professor Baird has handed me your letter relative to the project in radio speaking in which you are working. May I say that I know of only one report of a project which roughly approximates yours, although there are probably marked differences.

I presume you are familiar with H. L. Ewbank's "Studies in the Techniques of Radio Speaking", Quarterly Journal of Speech, 1932, Vol. 18, pp. 560-70.

Wishing you the best of luck on your research, I am

Sincerely yours,

Franklin H. Knower

PHK:HI

COPY

The Summer School
University of Pennsylvania
Philadelphia, Pennsylvania
April 23, 1940

Mr. Norman C. Webster,
Department of Public Speaking,
Kansas State College,
Manhattan, Kansas.

My dear Mr. Webster:

I do not know of any such piece of research as you describe. A most likely place would be the University of Wisconsin, and if you have not already done so, I suggest that you write to Professor Ewbank, who is probably in closer touch with radio research projects in the university field than anyone else in the country.

I am wondering whether your method of presenting the recordings to college classes, which represent a slightly artificial and critical audience situation, is a true measure of radio effectiveness as it exists with hit-or-miss audiences. If you could get some of the smaller radio stations to broadcast your records with a request for reactions from the accidental radio audience, you might get a truer picture.

Very sincerely yours,

John Dolman, Jr.
Professor of English.

JDJr:M

COPY

University of Southern California
University Park
Los Angeles, California
April 24, 1940

Mr. Norman C. Webster,
Department of Public Speaking,
Kansas State College,
Manhattan, Kansas

My dear Mr. Webster:

In reply to your letter of April 19,
I have to say that I do not know of any
place of research in radio comparable to the
one in which you are engaged.

Very sincerely yours,

Ray Keeslar Immel, Director,
School of Speech.

RKI:A

TEST ON ANTHONY LEEUWENHOEK

Method.....
 School.....
 Class.....
 Date.....

1. Anthony Leeuwenhoek lived approximately:--

- | | |
|--|--|
| <input type="checkbox"/> 850 years ago | <input type="checkbox"/> 950 years ago |
| <input type="checkbox"/> 150 years ago | <input type="checkbox"/> 900 years ago |
| <input type="checkbox"/> 450 years ago | <input type="checkbox"/> 350 years ago |
| <input type="checkbox"/> 250 years ago | <input type="checkbox"/> 750 years ago |
| <input type="checkbox"/> 650 years ago | <input type="checkbox"/> 550 years ago |

2. During Leeuwenhoek's time the smallest thing alive was believed to be:--

- | | |
|---|---|
| <input type="checkbox"/> the cabbage louse | <input type="checkbox"/> the cheese mite |
| <input type="checkbox"/> the dwarf flea | <input type="checkbox"/> the cheese sprite |
| <input type="checkbox"/> the cabbage blight | <input type="checkbox"/> the roquefort blight |
| <input type="checkbox"/> the cheese tick | <input type="checkbox"/> the cheese tick |
| <input type="checkbox"/> the widow's mite | <input type="checkbox"/> the cheese fly |

3. The group of men that wrote to Leeuwenhoek was located where?

.

4. Leeuwenhoek first discovered microbes in:--

- | | |
|---|--|
| <input type="checkbox"/> well water | <input type="checkbox"/> distilled water |
| <input type="checkbox"/> beer | <input type="checkbox"/> cistern water |
| <input type="checkbox"/> stagnant water | <input type="checkbox"/> perspiration |
| <input type="checkbox"/> rain storm | <input type="checkbox"/> sparkling water |
| <input type="checkbox"/> rain water | <input type="checkbox"/> barley water |

5. Anthony Leeuwenhoek was led to his discoveries because he liked to:--

- | | |
|--|--|
| <input type="checkbox"/> make glass | <input type="checkbox"/> polish lenses |
| <input type="checkbox"/> grind knives | <input type="checkbox"/> grind jewels |
| <input type="checkbox"/> grind fences | <input type="checkbox"/> collect glass |
| <input type="checkbox"/> make spectacles | <input type="checkbox"/> grind lenses |
| <input type="checkbox"/> rim glasses | <input type="checkbox"/> cut diamonds |

6. A group of men honored Leeuwenhoek by giving him:--

- | | |
|------------------------------|-----------------------------|
| () a diploma of fellow-ship | () a diploma of attendance |
| () honorary degrees | () an autographed scroll |
| () a life pension | () a diploma of membership |
| () a diploma of graduation | () a medal of membership |
| () a vow of fellowship | () a bronze tablet |

7. Before he died Leeuwenhoek was able to prove that:--

- () microbes did not cause tuberculosis
- () microbes did have sex
- () microbes lived in other places as well as water
- () microbes did cause tuberculosis
- () microbes could not stand severe heat
- () microbes lived only in water
- () microbes came down from the sky
- () microbes did not have sex
- () microbes could stand severe heat
- () microbes did not come down from the sky

8. One of Anthony Leeuwenhoek's joys was:--

- () fishing in the mornings
- () making beer
- () drinking beer in the evenings
- () swimming in the canals
- () making wine
- () drinking whiskey after dinner
- () Playing cards in the evenings
- () cooking his own meals
- () drinking wine in the evenings
- () repairing spectacles

9. Leeuwenhoek was able to talk and write in:--

- | | |
|---------------|----------------|
| () Latin | () Polish |
| () Russian | () Dutch |
| () Hungarian | () French |
| () English | () German |
| () Spanish | () Portuguese |

10. The town of Delft, in which Leeuwenhoek lived, while making his experiments, was really located in:--

() England
() Belgium
() Hungary
() Holland
() Sweden

() Russia
() Germany
() Denmark
() Prussia
() France

TEST ON JENGHIS KHAN

Method.....
 School.....
 Class.....
 Date.....

1. Jenghis Khan was born and lived part of his life on the banks of:--

<input type="checkbox"/> River Danube	<input type="checkbox"/> River Abon
<input type="checkbox"/> River Onon	<input type="checkbox"/> River Thames
<input type="checkbox"/> River Amazon	<input type="checkbox"/> River Obon
<input type="checkbox"/> River Crinoco	<input type="checkbox"/> River Rhone
<input type="checkbox"/> River Ural	<input type="checkbox"/> River Oron

2. In the latter part of his life Jenghis Khan was turned from the campaign he was on because of:--

<input type="checkbox"/> a peasant girl	<input type="checkbox"/> an injury to a friend
<input type="checkbox"/> an old friend's request	<input type="checkbox"/> his wife was ill
<input type="checkbox"/> a fall from his horse	<input type="checkbox"/> he realized he was too old
<input type="checkbox"/> a personal illness	<input type="checkbox"/> a superstition of a friend
<input type="checkbox"/> a personal superstition	<input type="checkbox"/> a superstition of his wife

3. Jenghis Khan today is referred to as the:--

<input type="checkbox"/> Bloody Emperor	<input type="checkbox"/> Mongol Emperor
<input type="checkbox"/> Mongol Conqueror	<input type="checkbox"/> The Holy Terror
<input type="checkbox"/> Khan the Wise	<input type="checkbox"/> Teuton Emperor
<input type="checkbox"/> Savior of the World	<input type="checkbox"/> The Great God Khan
<input type="checkbox"/> Oriental Emperor	<input type="checkbox"/> Mongrel Emperor

4. Khan used the title Jenghis Khan because:--

☐ his wife loved to call him that
☐ his enemies organized and gave it to him
☐ he paid a great deal of money for the privilege
☐ his wife did not like the title
☐ he believed the title was given by God
☐ it was the title given to his father
☐ he was the richest man of his time
☐ his people organized and gave it to him
☐ he inherited it
☐ his people were plotting against him

5. As a peace token from one of the leaders he had defeated, Jenghis Khan received:--

- () a shawl of exquisite beauty
- () a chest of beaten brass
- () the defeated leader's wife for his harem
- () a beautiful female slave
- () the leader's daughter to be the wife of Khan's son
- () the beard of this leader
- () the leader's daughter for his wife
- () ten beautiful girls
- () a Chinese concubine
- () one of the leader's sons to be the husband of Khan's daughter

6. Although Jenghis Khan wished to avoid it, a great and bloody battle was fought because:--

- () a mob shaved Khan's beard
- () one of Khan's wives was stolen
- () Khan got drunk at a celebration
- () Khan's envoys were insulted
- () ten of Khan's men were killed at a brawl
- () a man trod upon Khan's toes
- () Khan's envoys became lost
- () Khan's enemies failed to pay ransom
- () Khan insulted an envoy
- () Khan's father was killed

7. The sign in the heavens to which Jenghis Khan gave heed was:--

- () four planets grouped together
- () a new star in the heavens
- () four stars in a line
- () a total eclipse of the moon
- () eight planets grouped together
- () three stars in a line
- () a partial eclipse of the moon
- () two new stars in the heavens
- () a partial eclipse of the sun
- () five planets grouped together

8. Jenghis Khan's death occurred:--

- () while a treaty was being signed
- () on his eightieth birthday
- () while fishing in the river Aron
- () just before the start of a battle
- () on his fiftieth birthday
- () while on his way home
- () at the hand of his youngest son
- () while he was on his way to battle
- () at the hand of his oldest son
- () in the midst of battle

9. Messengers sent by Jenghis Khan were treated in this fashion:--

- | | |
|------------------------------|-------------------------------|
| () their tongues were slit | () their beards were singed |
| () their hands were cut off | () their ears were cut off |
| () they were roasted alive | () they were blinded |
| () one hand was cut off | () their hair was pulled out |
| | () their feet were cut off |

10. Jenghis Khan's first conquest took place in:--

- | | |
|---------------|-----------------|
| () Persia | () Australia |
| () Manchuria | () Russia |
| () Africa | () Asia |
| () Turkey | () Afghanistan |
| () Iran | () Europe |

TEST ON FREDERICH NIETZSCHE

Method.....
 School.....
 Class.....
 Date.....

1. At the prime of his life Frederick Nietzsche resigned himself to:--

() married life
 () a life of pain
 () paralysis
 () the life of an invalid
 () life in the Navy
 () a bachelor's existence
 () death
 () life in a Monastery
 () life in death
 () life in the Army

2. When Frederick Nietzsche went insane he was in a little town in:--

() Holland	() Belgium
() Ireland	() Russia
() Germany	() Spain
() Italy	() Norway
() France	() Poland

3. Nietzsche's birth occurred upon the same day as did that of:--

() Louis XIII	() Frederick Hilliard IV
() Alfred William III	() Alexander Graham Bell
() Frederick William V	() Frederick William IV
() Louis XVI	() Louis XIV
() Frederick William III	() Richard the Lion Hearted

4. Nietzsche left military service because of an injury to his:--

<input type="checkbox"/> lung	<input type="checkbox"/> breast
<input type="checkbox"/> leg	<input type="checkbox"/> kidneys
<input type="checkbox"/> back	<input type="checkbox"/> legs
<input type="checkbox"/> head	<input type="checkbox"/> stomach
<input type="checkbox"/> heart	<input type="checkbox"/> brain

5. When Nietzsche became insane he was taken to an asylum, but soon after was taken from there by:--

☐ his father
☐ his mother
☐ his uncle
☐ his brother
☐ his half-sister
☐ his stepmother
☐ his grandfather
☐ his grandmother
☐ his sister
☐ his godmother

6. Nietzsche declared that he wished to die:--

<input type="checkbox"/> a poor man	<input type="checkbox"/> an honest Christian
<input type="checkbox"/> an honest rich man	<input type="checkbox"/> an honest poor man
<input type="checkbox"/> a beggar man	<input type="checkbox"/> an honest citizen
<input type="checkbox"/> an honest lawyer	<input type="checkbox"/> an honest pagan
<input type="checkbox"/> a rich man	<input type="checkbox"/> an old man

7. Toward the end of his military service Nietzsche fell from a:--

<input type="checkbox"/> train	<input type="checkbox"/> low roof
<input type="checkbox"/> fence	<input type="checkbox"/> buggy
<input type="checkbox"/> bicycle	<input type="checkbox"/> cannon
<input type="checkbox"/> horse	<input type="checkbox"/> high roof
<input type="checkbox"/> pedestal	<input type="checkbox"/> tree

8. Nietzsche's insanity was brought about by:--

- () an attack of smallpox when a youth
- () a stroke of genius
- () an attack of meningitis
- () a fall from a horse
- () the death of his mother
- () a lengthy imprisonment
- () a fall from a roof
- () a jilting from his lady love
- () the death of his father
- () a stroke of apoplexy

9. Nietzsche's sister took care of him after:--

- () his 91st birthday
- () his money was gone
- () his stepmother left him
- () his mother died
- () his 93rd birthday
- () his attack of meningitis
- () his father died
- () his attack of smallpox
- () his 95th birthday
- () he broke out of prison

10. When insanity struck Frederick Nietzsche
he immediately sent:--

- () some flowers to his sister
- () telegrams to the king
- () flowers to his mother
- () telegrams to his father
- () letters to the king
- () letters to his friends
- () flowers to his stepmother
- () letters to his doctor
- () telegrams to the Pope
- () letters to the Pope

ANTHONY LEEUWENHOEK

Straight Talk

Over two hundred and fifty years ago, an obscure Dutchman named Leeuwenhoek discovered a strange new world - the world of the microbes - a world peopled by a thousand different kinds of tiny beings, some ferocious and deadly, others friendly and useful.

He was an uneducated man, this Anthony Leeuwenhoek, who earned his living by being a janitor; got his recreation by drinking beer in the evenings; and had his greatest pleasure in a strange hobby - the grinding of lenses. From these lenses he made microscopes. It was a strange hobby. He could count the teeth of a fly; look at its stomach; find its eyes. Through his microscopes he saw the formation of woods, the structure of hairs, the fibers of cloth, the crystals of sugar. And one day he discovered the capillary blood vessels in the fin of a fish. This discovery proved Harvey's theory of Blood Circulation by showing that the small blood vessels, called capillaries, connect the arteries with the veins.

For twenty years, Leeuwenhoek gazed through his microscopes at practically everything he could lay his

hands on until one day - foolish man that he was - he decided to look at a drop of pure rain water. Then he muttered and the whole world has heard and respected those words, so out of place two hundred and fifty years ago. He said, "Behold, there are little beasties in this rain water. They swim! They play around! They are a thousand times smaller than anything we can see with our eyes alone." Up until that time, the world had believed that the cheese mite was the smallest of God's creatures. Now we know, thanks to Leeuwenhoek, that much of our health and much of our sickness, can be blamed upon microbes a thousand times smaller than the cheese mite. Leeuwenhoek never really discovered that his microbes were the cause of sickness and ill health, although he did show and prove later on that his microbes could live upon the flesh of higher forms of life.

Having found his microbes in rain water, a poorer scientist than Leeuwenhoek might have jumped at the conclusion that the little creatures were rained out of the skies. Not so Leeuwenhoek. Repeatedly he experimented until he proved conclusively that microbes entered the water after it fell.

In England at the time of Leeuwenhoek, there existed

a small group of men who were searchers after scientific truth - The Royal Society. These men heard of the strange findings of the little Dutch janitor; of his fine microscopes through which he gazed at his mysterious miniature world. And since they wanted to know what there was to know, they wrote to him asking him to send them letters telling the way he made his microscopes and explaining his methods of observation. Leeuwenhoek answered the request of The Royal Society with all the confidence of an ignorant man who fails to realize the profound wisdom of those he addresses. It was a long letter, it rambled over every subject under the sun, and it was written in Dutch. The honorable gentlemen of the Society were first amused and then amazed, and ended up by asking for all the information Leeuwenhoek might wish to give. And over a period of the next fifty years he did just that in hundreds of letters. In 1678, The Royal Society made him a Fellow, sending him a gorgeous diploma of membership in a silver case with the coat of arms of the Society on the cover. "I will serve you faithfully during the rest of my life", he wrote them. And he was as good as his word, for he mailed them those conversational mixtures of gossip and science faithfully till he died.

Leeuwenhoek lived to the ripe old age of ninety, active to the end. Shortly after eighty, when his teeth came loose, as they had to even in his strong body, he didn't complain at the arrival of his old age. Instead, he jerked these same teeth out and turned his lens onto the little creatures he found within the hollow roots. He thought there might be some little detail he had missed those hundred other times. Friends came to him at eighty-five and told him to take it easy and leave his studies. He wrinkled his brow and opened wide his still bright eyes and told them that the fruits that ripen in autumn last the longest. He called eighty-five the autumn of his life.

Anthony Leeuwenhoek was a showman as so many great men have been. But he was more than that: pioneer, searcher, inventor. He was so completely honest, so appallingly accurate even in his ignorance, that all of us could take lessons from his splendid common sense.

ANTHONY LEEUWENHOEK

Illustrated Talk

(SOUND OF RAIN FALLING IN BACKGROUND)

NARRATOR: (TO BE READ SLOWLY) Rain...Each drop of rain the future home for a tiny kingdom. Water...The cradle of a mysterious world of creatures so small that hundreds could be stuck on one needle point. Rain...the sound of it takes us back two hundred and fifty years...

(RAIN LOUDER - FADE OUT)

Here is a Dutchman in his garden, stooping down to a clay jar, kept there for measuring rain. His round eyes squint hard as he draws out a few drops of rain water. Walking carefully, so as not to spill it, he goes back into the house.

Inside his study, he begins peering at the rain water through a toy-like, gold-mounted lens of a home made microscope. As the little man, breathing hard, looks again and again at his rain drops, a young girl comes into the room. Shaking her head indulgently, she moves forward to see what her father is doing.

LEEUEWEN: Look! Look here! There are a thousand little animals in this water! They move...they dart about! I don't know what they can be but with my microscope I have discovered them!

(MUSIC STARTS IN BACKGROUND)

NARRATOR: "Look! Look here", the Dutchman is crying, "See what I have discovered! A thousand little animals move in this water! They play...They dart about! With my microscope I have discovered them!" (PAUSE, THEN SLOWLY) In this way, Anthony Leeuwenhoek found for the first time in history a fantastic world of living creatures too tiny to be seen by the naked eye.

(MUSIC OUT)

These tiny microbes had been breeding, fighting, and dying in their microscopic world since life first began. But they remained hidden from man's sight through all ages until Leeuwenhoek's lens found them out that day.

"To think we have believed", this Dutchman said, "that the cheese mite is the smallest living thing...Why, one of my little beasties here, is to the cheese mite as a bee is to a horse!" He began to wonder...Where did these creatures

come from? God didn't rain them down from Heaven! He made sure of that by putting fresh rain water under his microscope. He searched with his lens. Not one of the tiny beasts in it...that was proof that they couldn't come from the sky. He set the dish of water aside. The next day he inspected it again...and the next day...and the next. On the fourth day he found a few of the little beasts swimming around, and from then on he watched them breed and multiply until there were thousands.

After a certain length of time, Leeuwenhoek wrote a letter to a group of learned men in London, the Royal Society of England, telling them about his discoveries. It wasn't the first time they had heard amazing things from this simple Dutch janitor and his home-made microscopes. But this thing he claimed was different...The members were astonished and incredulous...

MAN ONE: It's impossible! If there had been such creatures as he claims, we should have discovered them long ago.

MAN TWO: Those are precisely my sentiments...Beasts so small that as many could be put in one drop of

water as there are people in Holland?...Bah!

M. THREE: But he has always told us the truth before...
Why should he lie now?

MAN FOUR: That fellow Leeuwenhoek is a mighty accurate man.
I suggest that we send him a letter asking him
to write us more in detail, telling us how he
makes his microscopes and how he looks through
them to get the results he claims.

NARRATOR: Leeuwenhoek was willing to supply affidavits from
prominent Delft citizens swearing to the actual
presence of the tiny animals in water. He even
wrote a long letter giving them his calculations,
but he childishly and suspiciously refused to
tell them how he made his microscopes.
The Society proved, however, with specially built
microscopes of their own that Leeuwenhoek was not
lying. A little later they dispatched a letter to
him along with a silver case with their coat of
arms on it and inside a gorgeous diploma. The
letter read:

VOICE: "In view of your outstanding service to the
cause of science, we are making you a Fellow in
The Royal Society of England. May you continue
to work for the enlightenment of mankind."

NARRATOR: That night, as Anthony Leeuwenhoek sipped his nightly flagon of ale in his favorite tavern, for he was fond of drinking in the evening, his answer to The Royal Society formed itself in his mind. It was: "I will serve you faithfully during the rest of my life." Thus did Anthony Leeuwenhoek, first of the microbe hunters, make his bid to fame and his contribution to the welfare of mankind!

ANTHONY LEEUWENHOEK

Dramatization

ANNOUN: Two hundred and fifty years ago, men fearless enough to call themselves scientists, were put to death for daring to defy what everyone knew to be true. At that time, microscopes had not been invented. But in the little town of Delft, Holland, a man named Leeuwenhoek heard that if you very carefully ground little lenses out of clear glass, you could see things much bigger than they appeared to the naked eye. He decided to make one of these lenses and even though his neighbors laughed at him, Leeuwenhoek found a way to make a tiny lens, less than one-eighth of an inch across, and so perfect that under it, little things became enormous. At last, the lens was finished, and Leeuwenhoek began studying everything he could lay his hands on. (FADE OUT) His daughter used to watch, spellbound.....

MARIA: What's that you are looking at now, Papa?

LEEUVEN: This, my child, is the eye from an ox. Just a moment...and I will have it...there. Look!

Look, Maria...how pretty, how well it is put together.

MARIA: (ECSTATISTICALLY) Ohhhhh

LEEUEWEN: Layer on layer it is put together...(FADE OUT)
the eye of an ox.

ANNOUN: He looked for hours at the hair of a sheep.....

LEEUEWEN: (FADE IN) That fine little hair from the sheep...
that hair that we think is so smooth and fine...
Look, Maria...under my glass it is a great rough
log!

ANNOUN: He carefully split the head of a fly, and stuck
its brain on the fine needle of his microscope.

LEEUEWEN: So tiny we think it is...but under my glass...
look how big! And so perfect. All the little
sections...Maria, the brain of a fly is a...a...
masterpiece!

ANNOUN: He took the sting out of a flea and examined it...

LEEUEWEN: Impossible! This tiny flea sting...who would have
thought it so perfect, Maria?

ANNOUN: He looked at everything...the muscle fibers of a
whale, the scales of his own skin...the legs of a
louse. For twenty years he searched the world under
his microscope. For twenty years and at last The
Royal Society of Scientists in London heard of the

marvelous Dutchman. And one day...(FADE OUT)
Leeuwenhoek received a letter.

LEEUVEN: Herr Heinkle!

HEINKLE: Yes...what is it, Leeuwenhoek?

LEEUVEN: You read English, don't you Herr Heinkle?

HEINKLE: Yes...

LEEUVEN: Well, you know...I can't speak or read any
language but Dutch...and today I received a letter
from England...and I wondered...

HEINKLE: Hummmmm Let me see it. Well. Leeuwenhoek.... it
is from The Royal Society in London!

LEEUVEN: What does it say...quick?

HEINKLE: It says....."we have heard of your marvelous
discoveries with the microscope.....we would
deeply appreciate your writing a detailed account
of what you have seen, and sending it to The
Royal Society...(FADE OUT) We are greatly inter-
ested in...

ANNOUN: And so, as a first reward for this effort,
Leeuwenhoek had an audience. But he did not stop
in his strange new work. He kept on, examining
more things until one day.....

MARIA: Papa.....why are you putting that water under
your glass?

LEEUWEN: I want to see if there is anything in it, my child.

MARIA: But, Papa, it is only pure rain water. There can be nothing in it!

LEEUWEN: But look! Maria, there is! There is something in this pure rain water. Tiny little beasts... they run around, and turn somersaults, and chase one another...there are little live beasts in this pure water, Maria! A thousand times smaller than anything we have seen before!

MARIA: But, Papa...the cheese mite is the smallest thing there is!

LEEUWEN: Maybe people thought so before...but these little beasts...and a cheese mite...why it is like comparing a bee with a horse!

ANNOUN: And so for the first time, the eye of man saw a microbe.....tiniest of living creatures. But still Leeuwenhoek was not satisfied. Did the little beasts as he called them come down from heaven in the rain water? Or did they get in the water after it came in contact with the earth? That is what Leeuwenhoek decided to find out. He caught some of the rain water as it fell from the sky...before it had touched anything...

and quickly placed it under his glass. He looked...and saw...

LEEUWEN: I have proved it! This water has not a single little creature in it! They do not come down from the sky!

ANNOUN: So another great truth was discovered. And Leeuwenhoek kept on making other discoveries, still greater ones. Finally, one evening (FADE OUT) as he sat drinking beer and talking with his friends.....

LEEUWEN: Ah...nothing is so good as beer! A good drink of beer in the evening...nothing is better.

MAN ONE: Yes, but Leeuwenhoek...the physicians tell you, too much of it will not do you any good. They say it will make you sick!

LEEUWEN: Ah...the physicians! I hate them...I detest them! What do they know about the body? I know more how it is built than they do. Physicians, Bah!

MARIA: (FADE IN, EXCITED!) Papa, Papa...look what just came for you!...the boy just brought it!

LEEUWEN: Heh? Let me see...Oh, a package.....from London! Quick...open it, Maria.....open the package.

(RATTLING OF PAPER)

LEEUWEN: Ohhhhh! Look, my friends!

MARIA: Papa!

LEEUWEN: It is a beautiful diploma of membership to
The Royal Society of London...they have made me,
Leeuwenhoek, a member of The Royal Society of
London!

MARIA: Oh, Papa...how wonderful!

MAN ONE: We are proud of you, Leeuwenhoek!

MAN TWO: The Royal Society of London!

LEEUWEN: Yes...I will serve them faithfully for the
rest of my life!

ANTHONY LEEUWENHOEK

Dialogue

(INTERVIEW)

(THEME MUSIC UP AND OUT)

NARRATOR: Here at Kansas State College among our many thousands of students, it is only natural that we should discover a wide range of specialties and hobbies. One of the most unusual and interesting of those to be found is that of John Adrian, student in the Division of General Science. John has found a fascination in the study of the life of a little Dutch janitor who lived and died in Holland 250 years ago. His name was Anthony Leouwenhoek. John does not have to be coaxed to talk about his favorite subject and, when asked why he chose this particular man, the conversation usually follows.....in.....this.manner.....

JOHN: I admire Leouwenhoek. He was the first of the microbe hunters. It was these men, you know, who first dared to take a peek into the fantastic, microscopic world.

- BILL: Microbes...you're talking about those little animals that live in water? What's so bold about hunting them?
- JOHN: Well, perhaps these creatures can't be seen by the naked eye. But some of them can destroy humans by the thousands. Those microbe hunters took dangerous chances with their lives...and sometimes lost.
- BILL: This Leeuwenhoek...You say he was the first of them?
- JOHN: Yes. It was this man who discovered them.
- BILL: He must have been quite a scholar.
- JOHN: Oh, no! Leeuwenhoek was a janitor in the city of Delft, Holland. He spoke one language, Dutch. He had just a few simple pleasures...One of them, quite logically, was his habit of drinking beer in the evenings.
- BILL: Oh, he liked his flagon of ale, did he?
- JOHN: Well, it was the custom, you know, to spend a sociable evening drinking with an old crony.
- BILL: So far I can't quite connect Leeuwenhoek, the simple Dutchman, with microbes.
- JOHN: I'm coming to that. You see, somewhere he found

that by grinding small lenses out of glass you could see things several times larger than their normal size. This seemed to catch his fancy and he began to learn how to grind those magic lenses himself.

BILL: Oh! I begin to catch on.

JOHN: Just try to imagine this ignorant man...because he was ignorant...slaving away until he had made a lens better than any other in the world. Through it he could see things so many times larger than the others could.

BILL: And, I suppose the first thing he thought about looking at was water.

JOHN: No. It took him twenty years to get around to that. And in those twenty years, he turned his marvelous little lenses on just about everything else.

BILL: He must have had a healthy curiosity.

JOHN: I think it was more than that. I like to think it was a superhuman something within him.

BILL: Did he find these microbes first in some pond, or...

JOHN: He found them in common rain water...Water out of a clay jar he kept in his garden to measure rainfall.

BILL: It must have been a queer feeling, looking into what seemed to be pure water...then suddenly see-

ing little animals swimming around.

JOHN: At first Leeuwenhoek thought they might rain down from the sky. But he was full of common sense. He studied fresh rain water, and he couldn't find a single microbe in it. So he came to the conclusion that they were bred right in the water after they reached the earth.

BILL: And the rest of the world hadn't even suspected these animals existed?

JOHN: No sir. They still thought the cheese mite was the smallest living thing.

BILL: The cheese mite! Why that filthy little animal's hundreds of times bigger than a microbe.

JOHN: Yes, but remember the rest of the world's lenses weren't as nearly perfect as Leeuwenhoek's.

BILL: I expect Leeuwenhoek's story was hard to believe.

JOHN: It was. When The Royal Scientific Society of London, the big-wigs of their time, heard about the discovery, they wrote and pleaded with Leeuwenhoek to tell them how he observed the animals and how he made his microscopes.

BILL: And...did he?

JOHN: He did practically everything else, but that hard-headed Dutchman wouldn't give away his secret of

making lenses. And do you know, they never pried it out of him? Even after they gave him a diploma, making him a member of The Royal Society, he clung to his microscopes.

BILL: He must have been a queer sort of fellow.

JOHN: He was a rare genius. Queer, yes...and ignorant and childish. But he was methodical; he had common sense and he was accurate. And because of these things he found a thing he never set out to find..he stumbled onto a secret of nature that she had kept for centuries. You asked me why I admired him. In a superstitious, blind world he kept his eyes open and gave the world its first good taste of Science, of "finding the truth by careful observation and clear thinking".....That's why I admire Anthony Leeuwenhoek.

JENGHIS KHAN

Straight Talk

He was born when his father was off to war and that happening was significant of the things that were to come for General Khan - history's Mongol Emperor. It was in the twelfth century, 300 years before Columbus, that this Chinese baby boy was born. The exploits of Alexander the Great, Napoleon, Julius Caesar were nothing compared with this yellow skinned warrior's victorious march over Asia. Temuchin, that's the name his warrior father gave to Jenghis Khan after his return from his battles, but that was not the name destined to bring stark fear to the hearts of the enemies of the Mongol Empire. For after his very first conquest when he was yet a boy and his father but a short time dead, his followers persuaded him to take the title of Jenghis Khan, under which he fought until his death. Following the death of his father, Jenghis Khan rounded up a few rebellion chieftains and began to fulfill his duty by going after the territories that had been previously taken from the empire. This he quickly did, bringing into the fold city after city that had previously flown

the flag of the Sun dynasty, until finally his conquests extended as far south as the great Chinese wall. Here he intended to stop but his generals urged him on and as the sweet taste of victory was still in his mouth, he gave the command to enter the land beyond the wall. His armies swept over the Chinese soil like a prairie fire before the wind and soon more than thirty cities south of the wall were flying the colors of Khan. With the victorious shouts of his followers in his ears, Jenghis Khan thought of his homeland far to the north. Drawing aside one of the chieftains of the conquered land he said, "It is not my wish to rule all of the land that I have taken from you. Give me your promise that you will never bother my people and you may have all of your territories back again." Of course the assurance was speedily given. So gratified was the defeated emperor at this unlooked for generosity that he gave to Khan one of his daughters in marriage. With his new wife and many other tokens of victory Khan and his army turned their backs on the conquered land and went home, contented with their conquests and satisfied to live quietly in the land of their birth.

But the life of Jenghis Khan was not to be a life of peace. Soon the lands to the south began to rebuild their armies and the Mongol Emperor was once more obliged to take up his sword to protect his empire. As before, he swept through the lands to the south, laying waste the country and sacking every city. By now, however, anger or time had changed the man and he did not stop as he had had done on previous campaigns. Instead, he crossed the Yellow river and continued his march to the south and west until all of China had felt the push of Khan's conquering zeal. And now again, Khan tired of his conquests, all of China was his - he wanted no more. So it was with peace offerings that he sent an envoy to the one remaining emperor of the East - Mohammed of Turkey. "With you I want peace", the Khan's envoy related to the Mohammed. "I love you like a brother. Let us trade freely with one another and benefit by our friendship." Through some misunderstanding, unknown to us today, the three envoys were siezed - one was beheaded and the other two were horribly insulted - their beards were cut away and they were freed. Such an insult could not of course be overlooked and the armies of Jenghis Khan swept once again out of the north, this time against

the powerful Turkish forces. Into India and on West they went. Mohammed was met and his forces conquered. The march continued on into Asia Minor, laying waste the lands of Turkey and Russia, until it seemed that there could be no stopping of this advance. That it did stop at all was due not to any enemy forces but to Khan's own superstitious nature. He was a reader of the stars. One night he saw a sign, a grouping of planets, which he interpreted to mean misfortune to him unless he returned to his far distant homeland. So he stopped his conquest and turned his face once again to the land of the Mongols. On the way home, his battles over, a continent conquered, Jerghis Khan took sick and died shortly after. His body was carried across the wastes of western China back to the land of his birth. And there he was buried in the only land in Asia he had not conquered, and it had been his at the start.

JENGHIS KHAN
Illustrated Talk

(MUSIC UP FOUR BARS - OUT)

SPEAKER: On the banks of the historic, old river of Onon many years ago, there was born a man whom the world will always remember. France may well boast of her Napoleon; and our own United States has reason to be proud of her George Washington, but these conquering heroes must take to the shadows when the name of this man is mentioned - the name of Jenghis Khan - the Mongol Emperor. Like Napoleon and Washington, Khan had quite a struggle to attain such great heights. He was christened with the name of Temuchin by his father, in the year 1162. Forty-three years later the man, Temuchin, called the notables of his kingdom together.

(CROWD - NOISE IN BACKGROUND)

It must have been quite a scene that day in 1206. All the leaders of the various tribes around Temuchin's land were gathered on the same spot that had been the camping grounds of Temuchin's

mother the night her baby was born - the baby that was destined to some day rule a great part of the eastern world.....On this eventful day, "Temuchin", the man who was just turning forty-five proclaimed himself high ruler of the empire. This proclamation was met with unexpected rejoicing. Every (GO ON)

(CHEERS THEN OUT)

man was behind his new leader. In Mongolia, the ruler is always the Khan of the land and the people always gave their ruler a last name. There was no bickering that day, though, on what name the new ruler (FADE) should have...

VOICE I: (BACK SHOUTING) Let us call our new ruler Jenghis.....Jenghis Khan.....It is a name that befits such a ruler of our great Empire..... what do you say to that?

(CROWD NOISE UP - BIZ SHOUTS BACKGROUND-OUT

YES - JENGHIS KHAN - LONG LIVE JENGHIS KHAN)

SPEAKER: After this strange election, Jenghis Khan started on a series of expeditions that have been unequalled. He was successful in everything he attempted. In one battle he eliminated his greatest enemy - Polo, the Naim Khan. After this swift and decisive victory, Jenghis (GO ON)

(START MARCHING SOLDIERS IN LOW -
GRADUALLY UP)

started his foot soldiers on a long march across to the empire of the Kin Tatars, over in northern China. His brave, sturdy soldiers marched day in and day out, always trundling along, not complaining as long as they were led by their invincible leader. On and on they marched.

(MARCHING SOLDIERS FIVE SECONDS
GIVE CUE AND FADE SLOWLY)

Finally the soldiers were met by the fierce advance foot soldiers of the Kin Tatars, and the battle that resulted probably has never been matched. Hand to hand the soldiers of both armies fought, fiercely and savagely, each side unwilling to retreat one step. Finally the powerful army of Jenghis Khan again triumphed.....From the Kin Tatars territory, the army circled around, meeting in battle any empire that seemed hostile. After the soldiers had captured all of the country north of the Yellow river, Khan withdrew his armies on the condition that the people would pay indemnities to him and his men. So willing were his captives

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to satisfy Jenghis Khan that one emperor gave one of his daughters as a peace offering..... Finally one of the emperors mustered enough courage to defy the powerful Khan. This man was Mohammed - a ruler of one of the larger territories. As an answer to an envoy that Jenghis sent, Mohammed beheaded the leader of the diplomats, and shaved the whiskers off the rest of the group. If it hadn't have been for this misunderstanding between Mohammed and Jenghis Khan, there would probably have been peaceful arrangements made - a connection between two very influential leaders. But this insult made war inevitable, and in the spring of 1219 Jenghis set out from his homeland on a campaign that was destined to be as startling in its immediate results as its final effects were far-reaching. The Khan forces marched into the land of the rebellious Mohammed. Probably a bloodier expedition has never been seen

(GO ON)

(TRAGIC MUSIC FADE INTO BACKGROUND)

The invading force was divided into two armies. They advanced by way of Signak, then split to

plunder and sack as they went. One hundred and sixty thousand men were dead, and more left to die after the mighty army of Khan had moved across the land. (GO ON)

(MUSIC OUT)

Needless to say, Jenghis Khan won this battle by a large margin. Such a large margin, in fact, that he decided to extend his rule to another land - to China. In China, the same success attended the Mongol armies as in western Asia. Everywhere Khan seemed to turn, he met with but little resistance. He went on and on...plundering and taking every empire. It's hard to say just how far Jenghis Khan would have gone if it hadn't been for a silly superstition of his. His activity in western China was cut short when, one night after a great battle, he saw five planets all grouped together in the sky. He interpreted this as a bad sign, and started back to his native land.

(GRADUAL FADE IN ON SAD MUSIC TO END)

On his way home, he was seized with some strange illness. He was too ill to be moved too far, or too fast, and in a very short time Jenghis Khan

the great leader of the Mongolian tribe -
Jenghis Khan, the conqueror of the early
far East - Jenghis Khan, the undefeated
emperor of many lands died..... And with his
death ended the career of one of the greatest
of all conquerors - the mighty Jenghis Khan!!!

JENGHIS KHAN

Dramatization

ANNOUN: Jenghis Khan.....the world remembers the holder of that name as one of the greatest conquerors who ever lived. Born way back in the twelfth century, he was the son of a Mongolian tribal chieftain. And Jenghis Khan was not his real name, either; his father had named him Temuchin. But after his father's death, Temuchin fought many wars, won many battles...and finally became ruler of a great many tribes. So many, in fact, he felt himself powerful enough to be called ruler of an empire. So he called together the leading men of his kingdom (FADE OUT) in a great assembly...

(FADE IN CROWD NOISES TO BACKGROUND)

VOICE: Silence! The great Temuchin will speak!

(FADE OUT CROWD)

KHAN: My noble and loyal followers! I have called you together.....here on the banks of the River Onon.....to decide a serious matter.

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Shall we bind together in a great empire?

(CROWD UP AND FADE)

KHAN: Shall I, your conqueror and leader.....be
proclaimed ruler of this empire?

(CROWD UP AND FADE)

VOICE: Great Temuchin...master...

KHAN: Speak, sir!

VOICE: I voice the opinion of all, I believe, when
I say that these great kingdoms of yours should
be united under the name of Jenghis.....and
that you, great Temuchin, should take as your
new name and title...and should be called
forevermore.....Jenghis Khan.....ruler of the
Jenghis empire!

(FADE IN CROWD NOISES...FEW INDIVIDUALS
SHOUTING 'RIGHT' AND 'JENGHIS KHAN',
ETC.)

VOICE: Am I right? Do you all agree with me that
the great Temuchin shall henceforth be known
as Jenghis Khan?

(CROWD UP)

KHAN: My men!

(CROWD FADE)

KHAN: Since it seems to be the unanimous opinion of

all present, I do hereby proclaim that from this time on, your kingdoms will be known as part of the great Jenghis empire.....and I shall no longer be known as the great Temuchinbut all shall call me.....Jenghis Khan!

(CROWD UP AND OUT)

ANNOUN: And so Jenghis Khan was proclaimed ruler of a great empire. But he did not stop in his conquests...content with what he had. He pushed onward...into the land of China. And his march did not stop until he had reached the cliffs of the Shantung promontory. And when he reached this point, Jenghis Khan sent an envoy to the conquered emperor of that territory, saying.....

KHAN: All your possessions in Shantung, and the whole country north of the Yellow River are now mine. By the decree of heaven you are now as weak as I am strong. But I am willing to retire from my conquests...on the one condition that you give my men sufficient gifts to appease their fierce hostility.

ANNOUN: These terms of safety the fallen emperor eagerly accepted...and as a peace offering to Jenghis

Khan...the emperor sent...his own daughter.

(FADE IN ORIENTAL MUSIC)

KHAN: Well, my girl....what brings you here?

GIRL: Great Jenghis Khan.....I am the daughter of the Kin emperor whom you have defeated in battle. He has sent me to you as a gift.

KHAN: A peace offering, heh?

GIRL: He has sent me, Honorable Khan, to do your bidding. And with me I bring another princess of the Imperial house (FADE OUT) 500 youths, and maidens...and 3,000 horses.

ANNOUN: And so Jenghis Khan was victorious in China. He turned next to western Asia, and his next wars were with Mohammed, the Shah. There would have been no wars, however, if it had not been for one incident. After peaceful trade agreements had been made between the two rulers, Jenghis Khan sent envoys to the Shah. (FADE OUT) But when they returned...

MAN ONE: Master...Master!

KHAN: You have returned from Mohammed the Shah...? Speak quickly...

MAN TWO: Oh, great Khan...

KHAN: Why, your beards! they have been cut! And where

is the other envoy...I sent three.

MAN ONE: Master...hear our tale. Mohammed the Shad ordered our beards cut.....and the other envoy... Master, he was beheaded by the Shah's order!

KHAN: So! He insults the great Jenghis Khan! You have done well, my men. And have no fear... your insults will be avenged. This means war! And I promise you...every city of theirs that falls to us will be shown no mercy.

ANNOUN: The great Jenghis Khan was true to his word. He completely defeated the Shah...and with few exceptions, all the cities they captured were sacked, burned, and the people slaughtered by the thousands. Finally, satisfied, he returned to his Mongolian kingdom. And there, he once more took the field in western China. But while he was on this campaign it happened that five of the heavenly planets appeared in conjunction...and seemed as one great star. The great Khan summoned (FADE OUT) his most loyal follower...

KHAN: Ogotai.....you see that huge star out there in the heavens?

OGOTAI: Yes, great Khan.

KHAN: I fear that is a sign that evil awaits me.

OJOTAI: Master...that is foolish! You have met with the same success in China as you did in western Asia...

KHAN: Nevertheless, I fear my day has come. My end is near. We must return home.

ANNOUN: And strangely enough, Jenghis Khan's end was near. They had advanced homeward only a short way when the great Khan...emperor of a great kingdom...was seized with a sudden illness, and died a few days later. Whether, as the superstitious Khan had believed, it was written in the stars or not.....Jenghis Khan was dead

(MUSIC UP AND OUT)

JENGHIS KHAN

Dialogue

PROF: (PROFESSORIAL TONE) Yes, Jenghis Khan was without doubt one of the greatest leaders the world has ever known. Are there any questions?.....If not, I believe that concludes our lesson for today.....class dismissed!

(SHUFFLING - TALKING - LAUGHING -
FADE OUT)

BOB: (HALF CALL) Professor !

PROF: (BACK) Yes?....(UP) Oh, yes, what is it, Bob?

BOB: Is that true about Jenghis Khan?

PROF: Yes indeed. It's all true...The man was a remarkable leader!

BOB: Yeah, I guess you gotta take off your hat to a guy like that, even if he was so cruel.

PROF: Yes...I suppose you would have to call him cruel...And yet, I don't know.....these days were different.

BOB: That guy must have thought he had some mys-

terious power or something.

PROF: Oh, I don't know...what makes you think so?

BOB: Well, he changed his name, and kinda appointed himself ruler of the people, didn't he?

PROF: Well, yes and no. He did appoint himself ruler, but he did it in a very carefully planned way.

BOB: Well I thought...

PROF: But he really was voted into office. He called the notables of his kingdom together, on the banks of the Onon River, and they unanimously asked him to adopt the name of Jenghis Khan, and rule over them.

BOB: How did they happen to pick such a crazy name?

PROF: Oh, I don't know, Bob...I think "Khan" is the Oriental name for a gentleman...or someone in respect. It's a good deal the same as the British use the title, "Sir"...the Jenghis part of it was just a common given name in those days, I suppose.

BOB: You know, old Jenghis Khan reminds me of Hitler in some ways.

PROF: How do you mean?

BOB: Oh...Hitler takes all the little countries over there, then uses about anything in them he wants...munitions and things like that.

- PROF: Well, one difference is that Mr. Khan was more on the out and out with everything.
- BOB: He didn't make any pretensions about anything, did he?
- PROF: No, he didn't. Take for example, after he had captured all the country north of the Yellow River.....he occupied the land until he made the old Kin emperor pay some heavy fines.
- BOB: How much did he have to pay?
- PROF: Well, it wasn't in the form of money, Bob... For one thing, the old Kin emperor gave Khan one of his daughters.
- BOB: Old Khan was kinda tough on the guys that crossed him, wasn't he?
- PROF: Yes, and old Emperor Kin wasn't the last to feel the sharp bite of Khan's revenge, either.
- BOB: Oh, You mean Mohammed over in Asia?
- PROF: Yes...the one I was telling you about in class today.
- BOB: Well, it was Mohammed's fault though - more or less.
- PROF: Well...yes...I guess it was! If it hadn't have been for one incident, Mohammed and Khan would have gotten along all right.

BOB: What happened?

PROF: Khan sent an envoy over to see Mohammed, and Mohammed beheaded the leader of the party, and shaved the rest.

BOB: My gosh! He must have been good with a razor.

PROF: Maybe barbering was his hobby.

BOTH: (LAUGH)

PROF: You know, I never could understand why he didn't take all of China before he went into Asia.

BOB: Maybe he had a reason.

PROF: He must have had. At least, he didn't capture China until after he took over Asia.

BOB: Had about the same success he had had in China too, didn't he?

PROF: At least that good... Funny thing about that man Khan. Everything he looked at seemed to kneel before him.

BOB: I don't see how he did it.

PROF: Powerful organization of his troops! It must have been that.

BOB: Maybe, yet, from what I've heard and read, the organization of his troops wasn't out of the ordinary.

- PROF: Maybe not, but, Bob, if you'll notice, old Khan put his sons, and his brothers in charge of his army.
- BOB: Yeah, I guess that's right! I didn't think of it.
- PROF: Some people in those times thought the old boy was blessed with some supernatural power.
- BOB: Well, that was more or less natural to think that, wasn't it?
- PROF: Yes, I think it was natural. All through life Khan had watched for superstitious signs to guide him.
- BOB: That's nothing! Some people still do it!
- PROF: Yes, but old Jenghis Khan had fair luck at it. He foretold a good deal of his future. One night he saw five planets very close together, and he interpreted it as a bad sign.
- BOB: That while he was over in China?
- PROF: Yes, he was still going strong over there, then that night he thought he saw the bad sign, and started home.
- BOB: It all sounds kinda weird, doesn't it?
- PROF: Yes, it is rather funny...he was afraid something would happen, then, all of a sudden, he took ill

and died before he got home.

BOB: By golly, it's kinda creepy if you ask me. I don't see...

PROF: Hey, Bob! Look what time it is. We'd better get out of here before we get locked in.

BOB: I never noticed - it is getting late, isn't it?

PROF: Are these your books?

BOB: Yes...well, doggone, I never get tired of talking about Jenghis Khan (FADE) he's about the most fascinating.....

(MUSIC UP TO END)

FREDERICH NIETZSCHE

Straight Talk

Even Frederick Nietzsche's entrance into the world was unusual and out of the ordinary. He was born on October 15, 1844.....which happened to be the birthday of the reigning Prussian king, Frederick William IV. Nietzsche's father, who had tutored several members of the royal family, rejoiced at this patriotic coincidence and named his son after the king.

Nietzsche's majestic name failed to herald the controversy that his writings caused throughout the world. There was no indication that his philosophy would stir men to blows. He came from an intelligently, conservative family. His father was a minister, and a long line of clergymen lay behind each of his parents.

The early death of his father left him a victim to the holy women of the household, who petted him into an almost feminine delicacy and sensibility. Their pampering caused him to lead a very secluded life. In fact, his school mates referred to him as "the little minister".

This strait-laced manner of living finally wore itself out and he rebelled when he was eighteen years old. He became cynical and he passed suddenly into a period of sensual riot with his college mates at Bonn and Leipzig.

Tiring of this, he turned to the philosophers of his day and eagerly devoured every bit of their writings that he could find. He began to think for himself.

At the age of twenty-three, he was conscripted into military service. At the time, he would have been glad to get exemption, but the army claimed him, nevertheless. He was saved from being more than mere cannon fodder when he fell from a galloping horse, and wrenched his breast muscles so badly that he was forced to leave the service. But, in his brief interval of service, Nietzsche had grown to love army life. Through later years, he came to worship the soldier because his health would not permit him to become one.

Forced to leave the army, he became a professor of classical language at the University of Basle. Dissatisfied at first, he soon found himself drawn towards music. His love of music led to a friendship with Richard Wagner, the great composer. Under Wagner's influence, Nietzsche began to write his first book.

Suddenly, at the very prime of life, he broke down, physically and mentally, and sank into the vicinity of death. He prepared for the end defiantly. He made his sister promise that only his friends stand at his coffin and that no priest should utter what he termed "falsehoods"

at his graveside...for he wanted to die an honest pagan death. But he recovered and his heroic funeral had to be postponed.

Nietzsche emerged from his illness with a love of health and the sun, of life and laughter and dance. His next books reflected a grateful convalescence and a kinder tone and a gentler tongue than is found in his later books. For the first and only time in his life, he found himself in love. But his "lady fair" did not return his love, and he fled the scene in despair to wage a lifelong war against tenderness and sentimentality.

Made solitary by illness and nervousness, and forced into war against the sluggishness and mediocrity of men, Nietzsche was led to suppose that all the great virtues are the virtues of men who stand alone. In his seclusion, he wrote many bitter, cynical works. He denounced the Christian faith and refused longer to accept what are generally termed the Christian virtues. He made the Superman his ideal, who should trample underfoot the lowly and weak spirited and on them rise to higher things. He revolted against modern ideals of democracy and became an aristocrat. But also he assailed state supremacy and became an anarchist. His guiding principle was that moral man must live only for himself.

Eventually, Nietzsche's intensity of thought consumed him. His battle for time to expound his theories unbalanced his mind. The more he wrote, the more bitter he became. His mental state was greatly aggravated by disease and increasing blindness and he began to give way to delusions of grandeur persecution. The last blow came at Turin, Italy, in the form of a stroke of apoplexy. He stumbled blindly back to his attic room and dashed off mad, rambling letters to his friends. One of his friends, alarmed by one of the letters, hurried to his aid to find Nietzsche ploughing the piano with his elbows...singing and crying.

They took him at first to an asylum, but soon his old mother came to claim him and take him under her own forgiving care. The pious woman, who had born sensitively but patiently her son's attacks on everything she held dear, now received him into her arms.

After his mother died, Nietzsche was taken by his sister who cared for him until his end. Though his once powerful mind was broken, helpless, and resigned, he was not at all unhappy during his final years. On one occasion he heard talk of books and his pale face lit up: "Ah!" he said, brightening, "I too have written some good books"..... and the lucid moment passed.

He died in 1900. Seldom has a man paid so great a price for genius as Frederick Nietzsche who was named for a king...but died a fool's death!

FREDERICH NIETZSCHE

Illustrated Talk

(MUSIC UP AND OUT)

SPEAKER: Frederich Nietzsche, the unsung philosopher, was born October 15, 1844, the same day the reigning Prussian king, Frederick William IV, was born. The birth of Frederich Nietzsche was a signal for rejoicing to his parents for they were sure that their boy was destined to become a great man. Born a rather puny lad, Nietzsche grew up under the guiding hands of church women in his neighborhood. He was always rebellious in his attitudes and theories. When he was eighteen years old he lost his faith in the God he had been taught to love and obey and spent the remainder of his life looking for a new deity. And with this change of religion came a change of life for Frederich. He assured his friends that he was glad of the change; glad that he no longer believed in the Almighty. But nevertheless, he was a different man. He lost his zest for life and became a

cynic; an overbearing pessimist. As has been the case with so many people, this pessimism led Nietzsche to drink. He lived strenuously, taking in all the night life he could. Soon, however, this life became tiresome. He was disgusted with himself when he found that he could not efficiently read or write. As a result of this, he quit night life altogether and went back to his library. Here he read all the books he could find on philosophy. Shortly afterward, when he was just twenty-three years old, he was drafted for Military Service. At that time he would have been glad to be exempt, but the army was badly in need of men and he was taken. However, Nietzsche did not stay in the army long. He had seen less than a week of service when he met with a (FADE) strange.....

(CROWD NOISE UP - THEN BACKGROUND)

SERGEANT: Here! Here! What's the trouble?.....Open up here men.....get back.....what's the trouble here?

PRIVATE: Private Nietzsche, sir, he's been hurt. Seems to be in his chest. He fell off his horse. I don't know (FADE) how.....

SPEAKER: Nietzsche never quite recovered from that fall. His breast muscles were wrenched so badly that they weakened him all the rest of his life. In fact, a few years later, while he was still in the prime of his life, he suddenly collapsed. His entire body seemed to tire. He could carry on no longer. His masterful mind had been so overworked that he was certain death was closing its claws around him.

(CHORAL IN BACKGROUND)

Frederich Nietzsche was prepared to die. He had lived a rather moderate life and he felt he was ready to go. So he summoned his sisters to his bedside and made them promise that only his friends should stand beside his grave. He wished for no priest when he was buried. "No priest", he said, "To utter falsehoods..... I want to die an honest pagan death".

(CHORAL OUT)

But wait! Strength slowly ebbed back into the broken body of Frederich Nietzsche. Day by day his spirits and his shrunk limbs seemed to absorb more and more nourishment. Finally his recovery was complete and he arose from his bed

with a new outlook on life. Where, before he was ill, he had despised the wonders of nature, he now gloried in them. He loved the sun, the wind, and the birds that sang outside his windows. They brought to him a romantic feeling and he decided that a man of his age should certainly have a wife. So he met and wooed a beautiful lady of his village with whom he fell deeply in love. She, however, did not share his enthusiasm and Nietzsche's heart was broken. He changed so completely that some thought him a little mad. His concentration on every tiny, detailed thing he attempted became more and more intense. He studied theory after theory, trying to translate his own ideas into the language of philosophy. He worked day and night; always afraid that time was unfairly creeping upon him to hold back his writing. Not only must he fight the ideas of men but he must also wage a war against time. His life was growing short and he had so much to do. This ceaseless battle finally unbalanced his mind and he grew bitter; attacking friends and

foes alike in his philosophical writings. The last blow came at Turin, Italy, in the form of apoplexy. After it struck, he dashed off mad, rambling letters to the girl who had rejected him and to his friends, and stayed in his attic rooms, crying and singing.....He was first taken to an asylum but later his old mother came to take him home. After his mother's death, the insane Nietzsche was cared for in the home of his sister.

(MUSIC FADE INTO BACKGROUND)

Here he spent the few remaining months of his life. He was happy with his sister for, in insanity, he had at last found peace. He now had time to enjoy life; time to laugh; time to play. One of the greatest of all philosophers, Frederick Nietzsche died in 1900; poor, misunderstood, but happy. Seldom has any man paid so high a price for genius.

(MUSIC UP AND OUT)

FREDERICH NIETZSCHE

Dramatization

(MUSIC UP AND OUT)

MAN I: (FADE IN) And I want to tell you, I was really scared! I was afraid I'd have to go up to the front line yesterday...Hey!...what's that?... looks like someone is hurt.

MAN II: It does all right...(pause) he's been thrown off his horse. Go see what you can do for him, and I'll go (FADE) get...

(PAUSE - THEN FADE CROWD UP SLOWLY)

SERGEANT: All right men...it's just a man hurt. Go on back to your bunks...It's just a little accident.

(FADE CROWD OUT SLOWLY)

SERGEANT: Found anything yet, doctor?

DOCTOR: Hmm...seems to be his breast muscles...I believe they are wrenched...what's his name?

SERGEANT: It's Private Frederick Nietzsche...here's his card.

DOCTOR: (READS) Frederick Nietzsche, birth, Rocken, Prussia, October 15, 1844.

SERGEANT: Well! That is a coincidence. It's the same day his Majesty Frederick William IV was born.

DOCTOR: So it is...born the same day as our King, and named for him too, I suppose.

SERGEANT: I suppose so...look! He's regaining consciousness.

FRED: O--h...Ooooooh!...My chest.....Oh! Where am I?

DOCTOR: It isn't a question of where you are now, my boy. It's where you want us to send you. You are out of the army for good, I'm afraid. Where (FADE) shall we send...

ANNOUN: Frederick Nietzsche was honorably discharged from the army. In his brief life with the soldiers, he had taken a liking to their way of living, and often wrote of them in his philosophies. He took to isolating himself with his pen and his books, and writing of how he would love to be a soldier. Gradually his writing leaned toward philosophy, and he spent long hours writing (FADE) of...

FRED: Pitiful race of a day, children of accidents and sorrow, why do you force me to say what were better left unheard? The best of all is unobtainable--not to be born, to be nothing. The second best is to die early.

SISTER: Why do you write of such things, dear brother?
Do you not love life anymore?

FRED: Life?...Love life, did you ask?...Ha! How
could I love life? The life that has robbed
me of my body!

SISTER: But you don't need a strong body! You have
a strong mind!

FRED: Yes...Yes, I have a strong mind, but what good
is a mind without a body! (PAUSE) Sister, I
should have told you sooner, but I couldn't
bear to see you worry.

SISTER: Tell me what? What is it, Frederick?...Are
you ill?

FRED: Ill?...Ill, did you ask? More than that!
Sister, I feel that the end is near for me...
I can hardly lift my hand to grasp my pen.
Soon I will be able only to speak the thoughts
I should write...Promise me something, Sister,
will you?

SISTER: Anything, Frederick...what is it?

FRED: Only this...when I die, let only my friends
stand about my coffin. See that no priest or
anyone else utters falsehoods at my graveside,
when I can no longer protect myself; and let

me descend into my tomb as an honest pagan!

SISTER: Surely I will promise you that, Frederick, but it is all so strange now! You are not ready to die. You are only weak and tired... You need a rest. Let me...

FRED: No. I'm afraid it is of no use. Just let me die as I will.

SISTER: Don't speak of such things! All you need is (FADE) a rest...

ANNOUN: Nietzsche's sister was right. He was not ready to die. He kept on with his philosophies after he recovered. Day in and day out he wrote, seemingly with a wild urge to get through with what he had to say, yet new ideas kept replacing old ones in his brain...Finally...

FRED: Time!! Time!! Time is what I need...Give me more time to carry out my plans! Time! Did you hear--I need more time!

RICH: What is it, my friend, are you tired - sleepy, perhaps?

FRED: Who speaks?

RICH: It is only I...your friend, Richard.

FRED: Well, don't come sneaking up on me, Wagner!

RICH: Very well. I will leave, but I don't...

FRED: Get out, I say!

RICH: Very well...(DOOR CLOSSES) The poor fellow is losing his mind. The battle he thinks he must wage against time is unbalancing his mind. I wish there were something (FADE) I could...

ANNOUN: Day after day the situation grew worse. Frederick Nietzsche was losing his mind...The last blow came at Turin, Italy, in the form of apoplexy. He stumbled to his attic room and dashed off mad letters to his friends...They took Nietzsche to an insane asylum, but his stay there was very short. Just after he was admitted to the asylum, (FADE) an old woman...

MAN III: Yes, what is it, Madam?

MOTHER: Frederick Nietzsche...do you have him here?

MAN III: Why yes...Just brought him in day before yesterday.

MOTHER: I'd like to take him home with me. He's my son! I will take care of him.

MAN III: Very well, madam. (BACK) Charles! Get the (FADE) man from...

ANNOUN: Nietzsche lived with his mother until her death. Then he

(MUSIC UP LOW - UP FULL AT END)

was taken to live with his sister. Nature had had mercy on him when she made him insane, for it was the first time he'd ever known peace and happiness. He died ten years later - this great philosopher. Seldom before, or since his time, has a man paid so high a price for genius.

FREDERICH NIETZSCHE

Dialogue

(KNOCK ON DOOR)

BILL: (SPEAKING FROM OUTSIDE) Hey, Jack, open up.....

JACK: Go away... I'm trying to study...

BILL: (SPEAKING FROM OUTSIDE) Aw, let me in, Jack...

It's very important...

(DOOR OPENS AND SHUTS)

BILL: Thanks, Jack, ole boy...

JACK: Oh, it's you..... Say, listen, Mister Nuisance,
how many times have I told you not to bother
me when I'm trying to study?BILL; Yeh, I know... But, look, this is a matter of
life and death to me.....

JACK: Okay, okay..... But let me have the news gently.....

BILL: Well, you see, it's like this... I'm supposed
to have a report for Prof. Dittimore's philosophy
class tomorrow morning...

JACK: And you haven't got it?

BILL: Yeh, that's right. How'd you guess it?

JACK: Never mind that... Go on..... where do I come in?

BILL: Well, you've had four classes in philosophy and

I thought.....

JACK: (SLIGHT PAUSE) Uh, huh.....go on.....

BILL: Well, I thought maybe you'd sorta help me out...
You know, kinda give me the low-down...so I
wouldn't have to go through a bunch of musty
old textbooks.....

JACK: Suppose I help you out.....give you the infor-
mation that you want.... Will you promise to
leave me alone for a while?

BILL: Sure.....

JACK: Okay, it's a deal... Now, what's your report
supposed to be about? Anything special.....

BILL: Yeh, it's got to be about some guy... Nittay...
Neeschee...or something like that.... I've got
it written down on a piece of paper... Hero...
here it is.....

JACK: Let's see... Why, it's Frederick Nietzsche.....

BILL: You know about him then.....

JACK: Who doesn't? Why, this fellow was one of the
world's greatest philosophers.....

BILL: Never heard of him.....

JACK: I suppose not....Well, look, I'll tell you a
little bit about him.....enough for your report....
then leave me in peace.....

BILL: Okay.... Let's see...you'd better begin by telling me where he was born.....

JACK: Nietzsche was born in a little Prussian town..... Funny thing, but he happened to be born on the birthday of King Frederick William IV..... He was the Prussian monarch at that time.....Well, Nietzsche's father was filled with patriotism at this coincidence....so he named the boy after the King.....

BILL: Named after a king.....Say, I bet Prof. Dittmore will eat this studd up..... Go on.....

JACK: Nietzsche was really a mama's boy.....You see, his father died when he was just a tiny tike, so the women brought him up.....He was petted and pampered until he got awfully sensitive about things.....

BILL: Well, what'd he do when he was a young man... Growing up.....

JACK: I don't know whether he ever was a young man.... I mean the way we think about young men today... He was very shy and was such a secluded, holy sort of kid that his schoolmates called him "the little minister".... He just sorta moved along....picking up theories of life and ideas...

BILL: Did anything unusual happen to him?

JACK: Hummm, let me think..... Oh, yes...when he was twenty-three, he was conscripted into the army. He tried to get exempted, but they took him anyway. Fate stepped in at this point...

BILL: What d'ya mean?

JACK: Well, Nietzsche fell off a galloping horse and wrenched his breast muscles so badly that he had to quit the army...The ironic thing about this was the fact that Nietzsche had grown to like the army and hated to leave it.....Later he came to worship the soldier because his own health wouldn't permit him to be one.....

BILL: What did he do after he got kicked out of the army?

JACK: He became a language professor.....and he began to write.... He wrote of music, drama...but mostly about music and its effect on the lives of men.....

BILL: Why did he pick on music?

JACK: Because he liked it and because he had struck up a briendship with that great composer Richard wagner.....

BILL: So he just wrote about musio, huh?

JACK: Not exactly....He began to expand his field into the study of philosophy....Just then tragedy struck him....he had a complete physical and nervous breakdown and thought he was going to die.....

BILL: Well, did he die or didn't he?

JACK: He thought he was going to....He told his sister to let only his friends come to the funeral. He told her to see that no priest was present because he wanted to be buried as an honest pagan... But, he was fooled...he didn't die...

BILL: After he got well, what'd he do? Write some more?

JACK: He wrote....and how he wrote... He denounced the Christian faith and made the Superman his ideal. He reared up and revolted against modern ideas of democracy and became a sorta aristocrat. You see, his mind worked overtime forming his theories...He startled people when he boosted the idea that man should live only for himself.....

BILL: The guy sounds kinda cracked to me...

JACK: You're not so far wrong, fellow. You see, Nietzsche worked so hard that his mind did become unbalanced... As his health failed, his

writing began to grow very bitter...He ranted and raved against everything.....Day by day, he grew more frantic and full of delusions...

BILL: What happened then?

JACK: Well, the final blow came in the form of a stroke of apoplexy when he was in Italy. Nietzsche stumbled blindly to his room and dashed off mad, rambling letters to his friends. One of his friends was so alarmed by the letter that he rushed to his aid...He found Nietzsche ploughing the piano with his elbows...singing and crying...

BILL: So he went completely crazy.....

JACK: Yes, they stuck him in an asylum at first, but soon his old mother came to claim him and take him under her own care... Just picture that..... her son had blasted at everything that his mother held dear.....yet she received him with open arms....When his mother died, his sister cared for him until he died.....

BILL: You know, the trouble with that fellow was that he lost too much fun in life.....That's what'll happen to you if you study too much.....

JACK: No danger of that...Well, have you got enough material for a report?

BILL: Yeh... and many thanks.... I'll tell Prof.
Dittemore all about Nittsy...Neeshe.... Aw,
how do you pronounce it?

JACK: Nietzsche, you dope. Frederick Nietzsche!