

EXPLORATORY EXPERIENCES WITH
TEACHING CONSERVATION BY MEANS OF
RADIO-TRANSCRIPTION

Thesis for the Degree of M. A.
MICHIGAN STATE COLLEGE
Elizabeth Symons Burroughs
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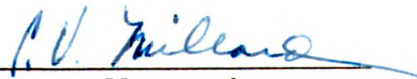
A Service Study for the Development of a Technique
for Teaching Conservation by Radio-Transcription

presented by

Elizabeth Burroughs

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of the requirements for

N.A. degree in Education


Major professor

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**EXPLORATORY EXPERIENCES WITH TEACHING CONSERVATION
BY MEANS OF RADIO-TRANSCRIPTION**

A Thesis

**Presented to
the Faculty of the School of Education
Michigan State College**

**In Partial Fulfillment
of the Requirements for the Degree
Master of Arts in Education**

**by
Elizabeth Symons Burroughs**

June 1953

THESIS

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CHAPTER I

THE PROBLEM AND DEFINITIONS OF TERMS USED

Conservation education is a relatively new member of the curriculum family. It is far too new, considering the old and desperate problems on which research-men in this field are working, and the help they must have both from business, intellectual, and governmental leaders in the country, and from the citizens whose mandates may give to--or withhold from--them the support necessary to their efforts.

I. THE PROBLEM

Statement of the problem. One problem in conservation education is to reach young people before they develop many prejudices and predispositions and teach them the implications of "conservation," its inter-relatedness to many areas of living more familiar to them, by some means appealing enough to both pupils and teachers so that the teaching of conservation may be included in today's full curriculums with very little displacement.

Importance of the study. Conservation is at least on a par with public health (as a random example of a comparable applied science) in its importance to living,¹

¹Wm. Vogt, Road to Survival (New York: William

but the immediacy of conservation's appeal is so much less that the support it must have to serve our people has been niggardly by comparison. Conservation has acquired status as a result of man's shortsightedness and ignorance. The devastating effects of not understanding "certain relationships--of man with his environment--that have powerfully shaped many of the dilemmas and quandaries in which we find ourselves today"² can be gauged when one considers Biblical descriptions of lands which now support only handful of people, lands which, less than a thousand years ago, abounded in milk and honey, and whose cedars were famous. "Fifty years ago Americans spoke of our country as a land blessed with inexhaustible resources, which seemed so abundant that they would never run out."³ Yet this country, to choose one recent and well-publicized illustration, received a lesson on the tragic effects of thoughtless land-use in the Dust Bowl. Sharp as that lesson was and recent as it was, already men are moving to repeat the mistakes which gave rise to it, and this in spite of the money and effort still

¹(continued) Sloane Associates, Inc., 1948) p. 48.
 "Through medical care and improved sanitation they (doctors) are responsible for more millions living more years in increasing misery."

²Ibid., Bernard M. Baruch in Introduction p. ix.

³C. E. Ross, What is Happening to our National Resources? (Ann Arbor, Michigan: Paper for Dr. Stanley Cain's course, Conservation Trends, University of Michigan, 1953) p. 1.

being expended, by us as a nation, to repair the damage done in that part of the country.

In a democracy, however, what men are allowed to do depends on the permission of the many. An uninformed many may, and does, permit the thoughtless or selfish few to so exploit and maltreat certain of our natural resources that we may spend years on reclamation projects on the land, and may never hope to reclaim the values of irreplaceable resources. That an uninformed electorate can let go by default its means of survival, the carrying capacity of its land, is a source of constant foreboding and strain to men who have the country's well-being at heart, even the well-being of many countries since all are so interdependent. Such men feel that Conservation, or such a bureau as the Hoover Commission's suggested Department of Natural Resources, should have as much if not more support than is given as a matter of course to many departments because their needs are immediate and obvious. Conservationists realize they must somehow help young people to understand in some degree the functioning of nature and prepare them to adequately support the work of men who are searching for further knowledge of ways of balancing man's interests with nature's necessities. By the time men are involved in earning their livings, by the time their patterns of recreation are set, it is very late; adults are less rewarding as subjects for conservation education than the youth of the nation.

Therefore men in the Michigan Department of Conservation's Division of Education have come to feel that school-children provide the most hopeful field for their long-term efforts. In listening to discussions for means for implementing such efforts, the idea for this technique for teaching conservation was born. It was suggested that a radio-transcribed series of children's stories, not mentioning conservation as such but with applications of it to be made from the plots of the stories would be a means by which teachers could integrate conservation into their schedules, however full their curriculums might be. Such radio-transcriptions could be given to teachers at the Higgins Lake Conservation Training School, where the Division of Education holds conservation institutes and conferences. These teachers are ones already awake to the importance of introducing children to conservation and are studying to round out their own understanding of it, and could be expected to be willing to consider the programs as against the materials already available. Thus the programs were undertaken, some manuscripts of which are appended to this study.

II. DEFINITIONS OF TERMS USED

Radio-transcription. For the purposes of this study, a radio-transcription may be said to be like a phonograph record, with these differences: it can carry fifteen minutes

of program on one side, is usually sixteen inches in diameter, and rotates thirty-three and a third times per minute instead of seventy-eight, as does the phonograph record. The transcription has much less surface noise and so reproduces more accurately a program as it originally sounded. "Pressings" or "cuttings" can be made from this master-disc or matrix.⁴

Tape-recording. A tape-recording is a program recorded on magnetic sound recording tape, usually a radio-program.⁵ The program may be recorded at seven and a half inches per second on the tape, to give a quarter-hour program on six hundred feet of tape, or it may be recorded at three and three-quarter inches per second, to put a half-hour of program on the six hundred feet.⁶ Tapes can be "erased" and used again. A tape-recording of a radio-transcription can be made very easily.

III. ORGANIZATION OF THE REMAINDER OF THE THESIS

The following pages are concerned with:

1. A review of the literature.

⁴Alice Wood Manchester and Hazel L. Gibbony, "Recordings and Their Place in the Social Studies," Eighteenth Yearbook for the National Council of Social Studies, Wm. H. Hartley, ed. Audio-Visual Materials and Methods in the Social Studies, Ch. XXI (Washington, D.C.: National Education Association, 1947) p. 187.

⁵Richard C. Brower, "Tape Recording for Teaching," (Reprint from Educational Screen, February, 1950) p. 1.

⁶Tape Recordings for Classroom Use, a catalog. (Ann Arbor, Michigan: Audio-Visual Education Center, University of Michigan, November, 1952) p. 1.

2. The lack of desirable recorded programs, expressed in discussions among conservation educators, and details of what they would like.

3. Aspects of the recordings produced from original manuscripts which seemed to supply the special wants of such educators.

4. The results of a questionnaire administered to teachers of various subjects, at various grade-levels, who audited samples of the recordings, together with suggestions for their use outside the classroom.

5. Findings on the acceptability of the series of programs, as used in a classroom situation in the sixth grade of the Everett School, Lansing, Michigan.

CHAPTER II

REVIEW OF THE LITERATURE

There has been a good deal of material written concerning the vitalizing and enriching of various subjects of study made possible by audio-visual aids. In great part what is said concerning audio-visual material is true of aids solely for the ear, and thus many articles and books dealing with the audio-visual field apply also to the more limited area. Occasionally such writings bring out clearly the greater importance to expressing ideas of audio aids rather than aids solely visual, comforting if one must choose the audio. Wendt, speaking of the relationship between words and meanings, likens a video program to ". . . a silent motion picture without any titles," pointing out that "if the film had any complexity of plot, it would be extremely hard to follow."⁷ It is the complexity of conservation that led primarily to the choice of the audio medium.

Wendt's exposition of the way a child's background of experience grows, thereby adding meaning to words, brings out clearly that living media, such as theatre, radio and TV, and movies are the next-best thing to personal experience for implementing words. He lists five advantages of the use of audio-visual materials in the development of meaning.

⁷Paul Wendt, "Social Learning Through Audio-Visual Materials," Eighteenth Yearbook for the National Council of Social Studies, Ch. I, p. 3.

"1. They contribute to the development of breadth of meaning.

2. They contribute to the development of depth of meaning.

3. They provide emotional content to meaning.

4. They are inherently interesting.

5. They cause greater retention of learning."⁸

As noted before, this is true, too, of the solely audio aids.

Manchester and Gibbony have dealt extremely well with the field of radio and phonograph recordings and their place in the social studies. Tape-recording at the time of their writing had not become as widely known nor as available for use as it now is, but what they have to say covers this field as well. They note that "too often courses in history and civics and geography have been taught without imagination or relation to life, and as a consequence the content of these courses has been quickly forgotten."⁹ They develop the position that while recordings are designed to aid, not become a crutch to teachers, recorded programs may be of great service in illustrating commonly taught subject matter. "They may be used to portray the establishment of social institutions and the growth of democratic principles, or to present the lives of some of the famous personalities

⁸Ibid., pp. 5-6.

⁹Manchester and Gibbony, op. cit., p. 186.

involved in these events. When history is artistically and effectively dramatized, students gain a realization of the full significance of social problems and of the courage and character of those persons who have sought to solve them."¹⁰ Methods of use are suggested, as well as factors to consider in adding to the effectiveness of their use. These factors support, particularly in two important respects, the suggestions for the utilization of tape-recordings made by Leestma and Lemler.¹¹ These respects concern 1.) preparing the pupils for the listening experience, both psychologically and intellectually, i.e., pupils should be helped to listen for some special ideas or aspects of the program, and 2.) follow-up activities stimulated by the program.

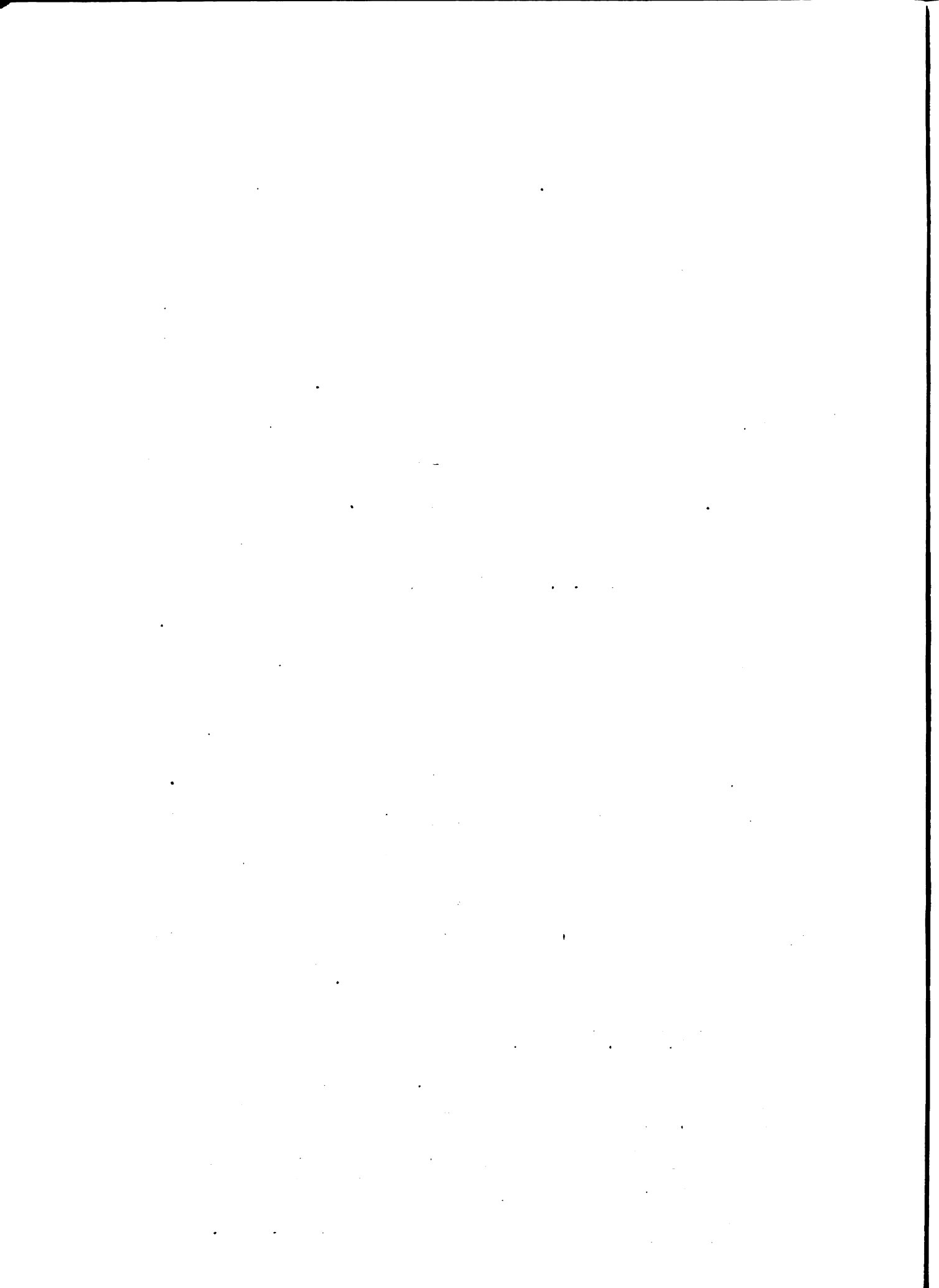
The Manchester-Gibbony article then gives a splendid list of selected recordings of value to study of various subjects, and the sources from which they are available. Another excellent list of such recordings has been compiled by the Michigan State College Audio-Visual Center.¹² The catalog of tape-recordings for classroom use put out by the University of Michigan's Audio-Visual Education Center is a useful source of this type of recording.¹³

¹⁰Ibid., pp. 187-88.

¹¹Robert Leestma and Ford L. Lemler, "Tape Recordings for Michigan Schools," Michigan Education Journal, XXX (February, 1953), p. 344.

¹²Source List of Recorders, Playbacks, Records and Transcriptions (East Lansing, Michigan: Michigan State College Audio-Visual Center, 1953)

¹³Tape Recordings for Classroom Use, op. cit.



CHAPTER III

LACK OF RECORDINGS FOR TEACHING CONSERVATION

At present, insofar as this investigator has been able to discover, no programs of the kind appended are available for teaching conservation. There are dramatized stories which would implement teaching conservation, in that they present figures or situations in related fields. For instance, in Michigan the resources of the Upper Peninsula are basic material for several programs of the kind presented; dramatizations made by the University of Michigan Broadcasting Service (WUOM) for their "A Name to Remember" series would develop greater interest in how these resources have been made available to man. The study of history, land-use, geology, conservation, botany, etc. and the development of desirable character-traits would all be supported by such recordings as "Etienne Brule," "Nicolet," and "Douglas Houghton" and others in this series. The American Library Association's Folk Tale Records on Paul Bunyan and Pecos Bill might well add interest to a course in conservation. A resourceful teacher could make use of phonograph records of American bird-songs and frog-calls, but these would better serve courses in natural science. There are Gloria Chandler's dramatizations of books, the content of which, with some effort might possibly be related to conservation. One can add to this kind of a list, of recordings in support of conservation education, at some length.

It will be noted, however, that none of these programs were originated specifically for the purpose of teaching conservation. Certain radio-programs which go out over commercial stations are supposedly planned to teach conservation but they are based on the most primary aspects of the subject, are of comic-strip quality, commercially conceived, and, so far as has been discovered, are not available for classroom use.

From auditing the discussions of conservation educators at the Michigan Conservation Department's Higgins Lake Training School, it became evident that these men and women desired a teaching-aid as new and up-to-date as possible, to keep up with the new and up-to-date aids in other fields competing for teacher- and student-use, an aid not too expensive to develop as an experiment, to be used in as many ways as possible (i.e. not solely in the classroom), to teach conservation to schoolchildren at the earliest practicable level, and tailored especially to the conservation problems of the State of Michigan.

CHAPTER IV

ASPECTS OF MATERIAL DEVELOPED TO FULFIL DESIRES OF CONSERVATIONISTS

Reasons for choice of audio field. In an endeavor to meet the desires of conservation educators for a special teaching technique, the experimenter chose the audio field as represented by radio-transcriptions. As mentioned before, the complex relationships of conservation require words before images, for clarification and explanation. (See page 7.) An audio-visual technique would have been more desirable, but the matter of expense entered here; it is much more costly, in money as well as man-hours, and much more complicated, to produce a sound film, or even a silent film with captions, than it is to produce a radio show of this kind. Radio-transcriptions lend themselves to reproduction as tape-recordings, a new and coming educational aid, the machine for playing which can be used in a number of ways and is relatively inexpensive for schools to acquire. Many Michigan schools are already either building their own permanent tape-libraries or are making use of that advantage of tape, the erasability of one program so as to replace it with another. Radio-transcriptions are also practicable for uses outside the classroom.

Reasons for choice of content and manner of presentation. Having settled the mechanical means of presentation,

the content of the programs was considered. Purely factual material is better presented in book form. The "documentary" dramatization is a form more readily comprehended by adults. A dramatized story seemed to be the answer: about one or more children, since children prefer problems on their own level, with a reasonably simple plot, the conflict of which would in some measure develop from the conflict of man with nature, and from a conflict that can occur under Michigan conditions. Conservation per se would not be mentioned but would be left to the teacher to develop as a concept, an attitude of mind, a way of life, not as a word to denote a subject in the curriculum.

The creation of a dramatic story, however modest, is no small matter. One which has a preconceived educational purpose is especially prone to lack of impact. The essential element of any dramatic situation is conflict. A quotation from Heffner, Seldon, and Sellman helps to implement this statement:

"It must be recognized that not every conflict is dramatic. The conflict of two scholarly physicists over the nature of electrons may be entirely devoid of drama. The following story may serve to illustrate the requisites of dramatic conflict and further clarify the nature of dramatic story. You and a man whom you know casually are walking down the street when you see a small crowd of spectators. You wonder what they are so excitedly watching. As you approach, you see that they are watching a dog-fight between a great Dane and a large collie. You probably wonder why someone does not break up the fight. Then you and your acquaintance go about your business. Now change the relationships involved and see what happens. You and a man with whom you have had disagreements and difficulties are

walking down the street and perceive the crowd mentioned above. You both push into the crowd and discover the dog-fight. Suddenly you recognize the great Dane as your dog. You love him as a member of your family. He is the dog that you raised from a pup and he has protected and stood loyally by you in every situation. On the other hand, the collie belongs to the man you were walking with. He, too, loves his dog. It pulled him out of the lake last summer just before he went down for the third time. Now, whose dog-fight is it?"¹⁴

In the appended manuscripts it will be seen that, while the essential conflict was generally between man and nature, some information was given about nature, but especially, telling information about the 'man', so as to arouse emotion, in the way illustrated by the above quotation. In this connection, Manchester and Gibbony made a point, applicable to conservation, while discussing historical dramatizations. They said:

"Often the illusion of reality created by these recordings is sufficiently strong to induce in students the feeling that they are personally acquainted with famous historical personalities and that they have really been present during momentous events of the past."¹⁵

In like manner, the appended programs were designed to induce in students not only a sense of having been present during a character's difficulties, but also to induce some identification of himself with the affected character. In this way a student would acquire Wendt's "depth of meaning,"

¹⁴Hubert C. Heffner, Samuel Seldon, and Hunton D. Selman, Modern Theatre Practice, (New York: Appleton-Century-Crofts, Inc., 1946) pp. 45-46.

¹⁵Manchester and Gibbony, op. cit., p. 188.

"breadth of meaning," and "emotional content of meaning"¹⁶ for such words as land-use, game management, glacier, research, honesty, democratic way of life, etc. etc.

Vicarious experience has helped supply what the student has lacked in actual experience for giving reality to meanings of words. The radio-transcriptions of the dramatic stories were--keeping to Wendt's five points--inherently interesting, and they may be expected to accomplish the fifth of the points: to cause greater retention of learning.

Reason for choice of the sixth-grade level. The experimenter aimed at producing programs for sixth graders, the sixth grade seeming to be the level at which "nature study" might well cease to be an end, and become the means for understanding some of nature's relationships with man.

¹⁶Wendt, op. cit., p. 5.

CHAPTER V

RESULTS OF TRYING MATERIAL ON TEACHERS

A series of conservation education radio-transcriptions were produced, in accordance with desires expressed by conservationists, on a very limited budget. Thereafter it was desirable to obtain the opinions of numbers of teachers concerning their usefulness. The teachers would preferably be ones who had some conservation background, and were already integrating the teaching of the subject into their work.

A questionnaire appeared to be the most feasible way to acquire opinions, but it was necessary to have had the questionnaires be at least somewhat acquainted with the recordings. To accomplish this it was possible to persuade the program chairman of a group of teachers, meeting for two days in February, 1953, at the Higgins Lake Training School, to put two of the fifteen-minute transcriptions on their program, and to follow this by taking the questionnaire.

Thirty-two teachers undertook the questionnaire (one not currently teaching). They were teachers working in schools that were fifty-seven percent metropolitan, thirty-seven percent town, and six percent rural, which seemed a fair sampling, percentage-wise, in relation to population concentrations. They came from seven counties. One was a kindergarten teacher, one, first-grade; from there they ranged up through the grades to one veteran college professor

of Conservation and Agriculture. The preponderance was of fourth to ninth grade teachers. All had unusually broad training in the biological, physical and social sciences, although their subject-teaching range also covered such subjects as Commercial Education, Music, Children's Literature, Homemaking, Mathematics and English.

Such a group of teachers might be expected not only to hold educated opinions concerning the content of the recordings for the purpose of teaching conservation, but also to have ideas about their value for teaching other matters related to the subjects more often considered part of the regular curriculum. Each could gauge against her own grade-material the possibility of the recordings being useful to her, even though they were aimed arbitrarily at sixth-grade use. And the group's ideas concerning the usefulness of the recordings to teachers about to embark on conservation teaching would be based on their own experiences.

The two recordings audited were "The Ice Witch," based on land-use and geology, and checked for accuracy of fact by Maria Jane Wooton of the Michigan Geological Survey and Paul M. Barrett of Michigan State College, and "The Fourth Magician," on water-control, checked by Russell Hill of the College.

Asked which story seemed more successful conservationally and which, less, only three teachers marked 'less', the rest feeling that both were successful. Because of an

awkward arrangement of the questionnaire, several teachers missed the question as to whether the recordings seemed a useful way for teachers new to the subject to begin introducing it. Seventy-one percent felt it was: eighty-six percent is closer to a fair result for this, however, since it and the next question seemed related to some teachers, and eighty-six percent felt recordings would be more stimulating than textbooks. Nine percent felt they would be less so; one man suggested recordings and textbooks. (Many such suggestions were added here and there as well as in answer to a definite question on supplementary material.)

"Would you want a sheet of questions-and-answers to accompany each recording?" brought a thirty-eight percent affirmative. "Or only questions for leading discussion?" brought a fifty percent affirmative. Additional material was suggested here: strip-film, pictures, etc. Being experienced conservation teachers, in general, twelve percent did not care for either of the above, for themselves, but felt the question-with-answers sheet advisable for beginning teachers.

Asked if they would like a bibliography to accompany the programs, seventy-one percent wanted one for their own use, forty percent wanted one for the pupils. Only one teacher did not want one at all.

To "Does the story-aspect seem as if it would generate thinking (i.e. concepts of conservation) as against fact

collecting?" seventy-four percent answered yes, three percent answered no, two teachers wrote in "Depends on teacher" and two were doubtful.

Three teachers missed a second side on which was the question, "Do you think the story-aspect would make fact-collecting, as in nature study, geography, geology, government, etc., more interesting and meaningful?" Nevertheless seventy-eight percent thought it would. None thought it would not, but six percent were doubtful.

Fifty percent preferred the programs with the balance they have between story-and-factual-material, three percent wished for less fact, three percent wished for more fact, for use above the third-grade level. Six percent felt that "witches" and "magicians" were undesirable touches and six percent wanted shorter stories altogether.

Upon consideration, the teachers thought that the two stories they had heard would support and make more meaningful the study of such subjects as Economics, Investment, Science and Social Studies, Agriculture, Geology, Consumers Problems, etc.

Forty percent of the teachers wanted such programs aimed at younger children, thirty-one percent wanted some for older children, six percent wanted some made for adults.

Sixty percent wished they might be made into movies, forty percent hoped rather they might be used for TV stories.

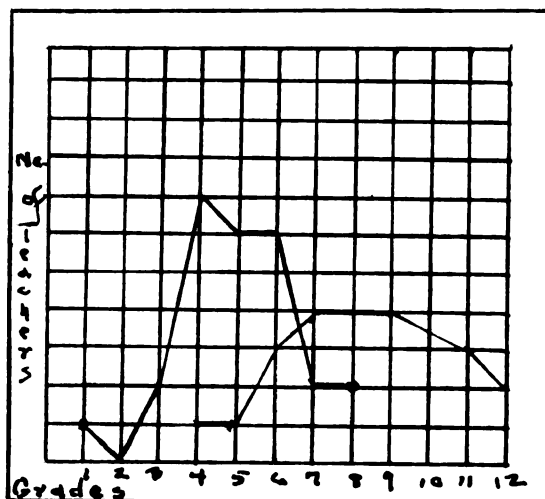


FIGURE 1

DISTRIBUTION OF OPINION CONCERNING GRADE AT WHICH
TO BEGIN USE OF MATERIAL AND GRADE AT WHICH TO END USE,
SHOWING OVERLAP

Black: indicates grade at which teachers feel material could begin to be used.

Green: indicates grade at which teachers felt material would begin to seem "young" for pupils.

The conclusions drawn from the questionnaire were that the technique was a desirable and useful one, this having been evidenced as much by discussion following the taking of the questionnaire as by tabulation of the findings; that it would be assisted by question-sheets for leading discussion; that a bibliography for teachers, and a simple one for pupils would be of help in using the recordings. Keeping in mind that these were experienced conservation-teachers, their recommendation of the series to be used starting at about fourth-grade level and tapering off at the tenth seemed a little ill-advised for beginning teachers. Sixth-to-eleventh or twelfth grade spread for the latter struck them as more practicable. A graph shows that the overlap falls at the fourth to eighth grades. In the discussion, it was urged that in any one school only two years be permitted to use this technique so as to preserve its freshness and impact for pupils.

Suggestions for use outside the classroom. Other findings from this questionnaire were of value to conservationists interested in ways to use the transcriptions outside the classroom. Many teachers felt that various groups in their communities were informed concerning, and supporters of, conservation but with little idea of any way in which they might make their support felt. It was suggested and agreed upon widely that such groups singly or in cooperation,

would be interested in sponsoring the use of the series over local radio-stations, publicizing the series, perhaps working out prize-winning competitions based on letters concerning the series. They listed such groups as:

1. Garden Clubs in general (12) plus those of Battle Creek, Grosse Pointe (4), Port Huron, Dearborn (2), Highland Park.
2. National Farm and Garden Club generally, plus branches in Birmingham, Grosse Pointe (2).
3. Sportsmen's Clubs in general (5) plus those named: Blue Water, Calhoun County, Battle Creek.
4. Schools (Calhoun County's Clear Lake School camp and 80-acre school farm were mentioned by the elementary-school consultant.)
5. Parent Teachers' Association (2).
6. Daughters of the American Revolution (2).
7. Young Men's Christian Association.
8. American Association of University Women.
9. Junior Chamber of Commerce.
10. Sunday Schools.
11. Library Organization.
12. Boys' Forestry Club.
13. Michigan Botanical Club and Southeast Michigan Botanical Association.
14. Audubon Society in general (7) and Detroit Audubon Society.
15. Southeastern Michigan Wildflower Association.
16. Detroit Biology Club (2).
17. Michigan United Conservation Clubs (2).

18. Ingham Conservation League.
19. Conservation Clubs (2).
20. Soil Conservation District (2) (U. S. Soils Conservation Service).
21. Farm Bureau (2).
22. 4-H.
23. Cranbrook Institute of Science.
24. Newspapers (2) ("some editors").

Many teachers also listed groups interested in better radio programming for children, who might cooperate with the above groups for that reason. They mentioned many of the above, adding: International Junior League Association, Catholic League for Decency, churches, library boards.

Mr. Stanley Cain, of the conservation staff of the University of Michigan, who also audited samples of the series, suggested that it would be excellent material for programs at school-camps, a special feature of school-life in Michigan and one being taken up enthusiastically if slowly by other states. Already the need for programs for these camps is straining the capacity for extra service of the Conservation Department's resource people, as well as those of school-personnel. Private summer camps for children should also find these valuable as aids in support of the usual nature-study.

Several people suggested the recordings as valuable for teaching hospitalized children, and it was suggested that a distinguished conservationist, Elizabeth Cole of Monroe

county, teaching semi-delinquent children successfully by approaching them almost solely through conservation would find them of much assistance in the latter part of the year's work.

CHAPTER VI

RESULTS OF TRYING MATERIAL ON PUPILS

Having been thus well-received by experienced conservation teachers, the use of the technique in a classroom situation was indicated. It was desirable to find out whether such programs were acceptable to children at the sixth-grade level, and how the programs could be used most advantageously in schoolwork.

Permission was sought from the Director of Elementary Instruction of the Lansing, Michigan schools, Miss Lewton, to take the recordings into a sixth-grade class. After examining the material, permission was granted by the director and she arranged with the principal of the Everett School that he allow Mrs. Hazel Trebilcock to give the time specified to listening to, and discussion of, the series of seven recordings.

Miss Lewton arbitrarily set a half-hour as the amount of time to be used for each program, with an eighth half-hour for a final discussion of the series, and desired that the work be concluded within four weeks. Since each story took fifteen minutes of the half-hour, only the same amount of time was available for discussion; it was felt that that amount of time was all that could well be asked from a teacher with a schedule already set and full.

The teacher chosen, Mrs. Trebilcock, was very generous, however, and extremely intelligent. Completely unacquainted with conservation, she agreed not to read up in the field but to assist her pupils in exploration suggested by the recordings on an equal footing. She pointed out that, normally, any teacher about to undertake a new teaching device, such as recordings or magnetic-tapes, would of course audit the material to be used before presenting it to her pupils, and have ideas and background material in hand ahead of time. She contributed extra time, as an English assignment, to gathering opinions from her students, as the series drew to a close, on their likes and dislikes, suggested improvements, and suggested changes, in accordance with this investigator's requests. She included observations of her own gained from oral discussion outside the specified half-hour periods, and added a few "teacher-suggestions" of her own.

A copy of Mrs. Trebilcock's findings is appended in toto. This seemed necessary for several reasons. As will be seen, the report is, speaking educationally, what is loosely termed "progressive" in approach. It was tactfully made clear that these pupils had not been subjected to "old-fashioned tests" and that anything of that type would be unacceptable in her classroom. This ruled out such a questionnaire as would have given more manageable results for such a thesis as this. And indeed, the children's unpressured

opinions, in their own words, are of distinct value to the thinking of anyone undertaking further programs of this kind.

The conclusion of greatest importance drawn from Mrs. Trebilcock's observations through oral discussion was based on, "Most of the pupils would recommend them for other sixth grades."¹⁷ (The pupils were greatly pleased to feel, as Mrs. Trebilcock had carefully explained to them, that they were "helping" this experimenter and the cause of both conservation and education by giving their true opinions, regardless of politeness or kindness.) It would seem from this that the technique is definitely acceptable to children. Other observations concern ways in which the value of the series can be enhanced. The children felt the records would be more welcome once a fortnight, or even once a month, could be made more interesting by the use of an occasional film (which Mrs. Trebilcock did on her own initiative), and they felt, themselves, that they would like a little more preparation for the listening experience. Mrs. Trebilcock suggested, again, that programs twice a week were too frequent and that a little more motivation before each record was desirable. She recommended that the pupils be prepared to pick out one or two key thoughts from each story. And she felt that, having audited the programs ahead, a teacher would be well-advised to explain the vocabulary a little

¹⁷See Appendix E, page 5. this thesis.

more than was done (the experimenter wrote one or two words, only, on the board before each recording was played, to be considered afterwards). Mrs. Trebilcock's final summation is quoted here:

"All in all, I think this has been most interesting and profitable for all of us. I know that the youngsters have gained a great deal in their more intimate knowledge of Michigan, their home state. I also think it was valuable for them to realize that helping others (this experimenter is meant, probably) very often benefits them, and that there are many ways of helping others."¹⁸

¹⁸Ibid., p. 5.

CHAPTER VII

SUMMARY AND CONCLUSIONS

In summarizing this study, it may be said that the need by conservation educators for a new, interesting, competitive, relatively inexpensive technique for use in teaching conservation to children both in and out of the classroom has been met by a series of radio-transcriptions of dramatic stories, produced from manuscripts of the kind appended. These recordings were aimed at children of sixth-grade level, and were originated for the specific purpose of teaching conservation in connection with conservation problems obtaining in the State of Michigan, in accord with the findings of educational and dramatic authorities whose opinions seemed germane to working out such dramatizations.

Samplings of the recordings were then presented at the Higgins Lake Training School, at Roscommon, Michigan, to a selected group of Michigan teachers, whose opinions concerning the utilization of this technique might be expected to be valuable to this purpose. The series of programs was used in a classroom situation in the sixth grade of the Everett School of Lansing, Michigan, taught by Mrs. Hazel Trebilcock, in order to see whether it would be acceptable to children.

The conclusions are that this technique meets the needs expressed, can be improved by the addition of such

aids as a bibliography for teachers, and a simple one for children, can be implemented by occasional movies and other visual aids, and is best used not oftener than fortnightly, preferably monthly.

BIBLIOGRAPHY

- Barnouw, Erik, Handbook of Radio Writing. Boston: Little, Brown & Company, 1947. 336 pp.
- Brower, Richard C., "Tape Recording for Teaching," Educational Screen, February, 1950.
- Hayakawa, S. I., Language in Action. New York: Harcourt, Brace & Company, 1941. 345 pp.
- Heffner, Hubert C., Saumel Seldon, and Hunton D. Selman, Modern Theatre Practice. New York: Appleton-Century-Crofts, Inc., 1946. Chapters III, V, VI. pp. 30-87, 118-26, 128-90.
- Helfert, Byron A., "Some Uses of the Magnetic Tape Recorder." Unpublished source list, mimeographed for Fourth Annual Spring Meeting of the Wisconsin Department of Audio-Visual Instruction. Milwaukee, Wisconsin.
- Leestma, Robert, and Ford L. Lemler, "Tape Recordings for Michigan Schools," Michigan Education Journal, XXX (February, 1953), 343-44.
- Manchester, Alice Wood, and Hazel L. Gibbony, "Recordings and their Place in the Social Studies," Eighteenth Yearbook for the National Council of Social Studies. William H. Hartley, editor, Audio-Visual Materials and Methods in the Social Studies. Washington, D.C.: National Education Association, 1947. pp. 186-96.
- Ross, C. E., "What Is Happening to our Natural Resources?" Unpublished paper read before a meeting of Dr. Stanley Cain's course, Conservation Trends, University of Michigan, Ann Arbor, Michigan. April, 1953. 3 pp.
- Source List of Recorders, Playbacks, Records and Transcriptions. Unpublished source list Michigan State College Audio-Visual Center, East Lansing, Michigan. 1953. 5 pp.
- Tape Recordings for Classroom Use, a catalog. University of Michigan Audio-Visual Education Center, Ann Arbor, Michigan. November, 1952. 53 pp.
- Thorndike, E. L., and Irving Lorge, The Teacher's Word Book of 30,000 Words. New York: Teacher's College, Columbia University. 1932. (revised Edition.) 274 pp.
- Vogt, William, Road to Survival. New York: William Sloane Associates Inc., 1948. 335 pp.

- Wendt, Paul, "Social Learning Through Audio-Visual Materials," Eighteenth Yearbook for the National Council of Social Studies. William H. Hartley, editor, Audio-Visual Materials and Methods in the Social Studies. Washington, D. C.: National Education Association, 1947. pp. 1-9.
- Wilson, Howard E., "Development of International Attitudes and Understandings in the Secondary School," Historical Outlook, XX (February, 1929), Boston: Harvard University Graduate School of Education. pp. 71-75.
- Wylie, Max, Radio and Television Writing. New York: Rinehart, 1950. 635 pp.

APPENDIX A

THE ICE WITCH

ANNOUNCER: Most stories about witches begin 'Once upon a time,' and you know it all happened long ago and far away. But this story of Carl and Vaclav (Voss-lahv) happened last month, and could happen now, and next month.. and the next... and the next. Unless you discover the way that this witch worked.... and then her spell is broken.

Well... here are Carl and Vaclav after school....

MUSIC: "Dance of the Reed Flutes" briefly, up and out...

CARL: (Fresh, but not tough) Hi Vaclav! Whaddya know for sure?

VACLAV: (soberly) Gee, Carl... I feel like in church. My father's coming home!

CARL: Your father! But isn't he... I thought... my mother told me....

VACLAV: Yah, yah, I know. But he's all right now. He's well. He's gonna be home in about a month.

CARL: (awkwardly) That's swell, huh? He's really gonna be all right then?

VACLAV: Didn't I just say? And you know what... we're going to buy a farm and live in the country! As soon as Pop's home from the hospital, we can really make plans.

CARL: You'll be going away... aw, that's not so good. For

me, I mean. But a farm... oh boy! My grandfather has a farm; I spend my summers there.

VACLAV: Gosh yes... I forgot you kinda want to be a farmer. You used to tell me what it was like on the farm last year and the summer before... remember?

CARL: (curiously) Is your father buying the farm? In a hospital an' all, how could he look it over?

VACLAV: That's just it... he doesn't know! It's going to be a surprise for him. Mom and me, we've saved enough to buy this place up in Northland county... we got a map from an agent up there, and a picture, and there's a little house on the place, not very fancy... more like a shack but then, gee, we haven't got lots of money to spend, and anyway, it'll be a place of our own!

CARL: (slowly) Northland county... that's what you said?

VACLAV: Sure... kind of a pretty name, huh? Northland... that's where we'll live... (proudly, rather dreamily)

CARL: Hey look, Vaclav, has your mom actually bought this place?

VACLAV: Not yet, but we have the money...

CARL: Well listen. Uh.. well, is there an awful hurry about it? I kind of remember... I mean, I think....

VACLAV: What's the matter with you?

CARL: Nothing, exactly. Only Northland county.... it seems to me my grandfather used to tell me about that part of the country... he grows some trees up there. It... it

isn't very good land for farms, if it's the place he used to talk about...

VACLAV: (scoffing) Northland county? (upset) You oughta see the pictures! Gee whiz, it's beautiful! You make me tired... haven't even seen the pictures and you go picking on it!

CARL: No, honest Vaclav, I'm not picking. But land is funny stuff. Didn't you ever hear about when the ice was here? Millions of years ago?

VACLAV: Ice! What's ice got to do with it?

CARL: Well... look, I don't tell it very good. But my grandfather, the one that's got the farm y'know... he's visiting us right now. And he knows all about the ice; he had a terrible time when he was a boy on their farm up in... I think he said Northland... so when he grew up, he studied up about the things the ice did to the land.

VACLAV: Looky, you're nuts! Ice doesn't "do" anything to land. You sound like it was spooked by the ice.

CARL: (doggedly) Well, it was, sort of...

VACLAV: (rudely) Ahhhhh...

CARL: (getting mad) Now listen, chum! Your pop's been away in the Army and then in the hospital all this time, an' we been pals all this time... I know how hard you and your mom have worked to get that money... I wouldn't kid you.

VACLAV: (backing down) ...Ye-ah, I know...

CARL: You listen to me, now. Land is tricky. Grandpa used to pretend to tell us fairy-stories when we were kids, but they really happened, and what the Ice Witch did to land in this country, she really did ...or anyway, ice really did! Whyn't you come over after supper tonight and talk to Grandpa? You go buying a bum farm with all that money you saved, and you'll be good and sick!

VACLAV: (slowly) I think it'd just about kill Mom.

CARL: (anxiously) You really haven't bought anything yet?

VACLAV: No, but gee, we've seen the pictures and....

FADE OUT

MUSIC: Up and out

CARL: Hi Grandpa! Whaddya know for sure?

GRANDPA: I know for sure it has been a nice day, but now it is going to be a sharp night. Frost tonight!

CARL: Grandpa, this is Vaclav Vytlacil (Vit-lah-cheel) ..the kid I told you about, remember? who's going to buy a farm.

GRANDPA: (old-fashionedly) You are welcome here, Vaclav. So! A farm, eh? That is good. You like the land?

CARL: Look Grandpa, Mom let me light a little fire in the stove...

GRANDPA: You think I don't know? .. I can feel it from here...

CARL: And here's your chair (sound of chair shoved) by it...
I told Vaclav maybe you'd tell us about the Ice Witch,

or anyway what the ice did to the farm you lived on when you were a boy....

GRANDPA: (creaking down into chair with an 'oof') Vaclav is the guest. It is his choice. You love the land, my son?

VACLAV: (shyly) Yes, sir.

GRANDPA: Me, I do, too. Good land is like a loving wife; you work for her, she works for you. Together you make something that was not, before, in a world in need of new things.

CARL: Yeah, but Grandpa, tell Vaclav about the Witch; he didn't believe me about the ice.

GRANDPA: You boys are too big for witches now. Besides, witches are pretending, and this is real. As wonderful and as strange (beginning the tale-teller's tone, from which he drops, as in "you know what is a glacier," in the next line. Watch out for places in which he breaks into blank verse...) as a witch was that great glacier... you know what is a glacier, my son?

VACLAV: Like an ice-berg, isn't it?

GRANDPA: (agreeing) Only more so. It is as if last spring it never got warm enough to thaw the ice on Toboggan Hill at Ottawas Park. (Tone) Not all summer. This winter there is more snow, much more snow than you have ever seen. By next spring the ice has stretched out to fill up all the flat of the Park. Year by year it is colder, the ice never melts, but grows out longer in front, until

it covers the city, it becomes a mountain, moving forward that way, in front, shoving things in front of it...

VACLAV: (all goose-flesh at this) Yes, but that couldn't happen...?

GRANDPA: (abruptly realistic) Yes, but it did happen.

VACLAV: (completely under his spell) Here?

GRANDPA: It didn't come down quite this far, except in places... like fingers (dropping out of character again). This was millions of years ago, you understand.

VACLAV: I guess I heard about it, sort of...

GRANDPA: Yes, Well ... (taking up thread) after more hundreds and hundreds of years, the glaciers retreated... the world began to get warmer around here again. The 'fingers' melted back. And as they melted, they left a lot of stuff, the way we find old mittens, pencils, and other things when the snow melts. But it was as if they had pushed the tops off the buildings of the city and shoved them 'way down to the next town and left them there. Only, of course, there were no cities then ... what the glaciers shoved was granite rocks and lava and stones and pebbles and that sort of thing.

VACLAV: (fascinated) What happened then?

GRANDPA: The Ice Witch had retreated you see. So then Mother Nature stepped in, like a good witch, and slowly, slowly changed the rocks to earth. Some of the earth was rock that, crumbling, makes good earth... that will

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feed plants and make them grow up strong. But some earth, and sometimes earth right next to the good kind, is made up of rocks shoved by the glacier-finger, and it is land that will not grow crops. A man can work and sweat and break his heart, and it will not grow crops. He can strain, and his horses can pull, and his sons can work beside him, and it will not grow crops. The Ice Witch left it sterile... she put a curse on it, she laid her finger there...

VACLAV: (just breathing) Gee...

GRANDPA: But Mother Nature, like in the fairy-story, though she couldn't quite remove the curse of the Ice Witch, took some of the edge off that curse. Even on land that will not grow farm crops, Mother Nature has a crop that will grow!

VACLAV: What?

CARL: (triumphantly) I know... trees!

GRANDPA: Yes, trees.

VACLAV: (bewildered) But... trees aren't a crop!

CARL: Oh yes they are. Wait'll we harvest mine, eh Grandpa?

GRANDPA: That is true... trees are a crop. They take more time, is all. Mother Nature could not completely reverse the evil witch's curse, and so you do not harvest a crop from that land each fall. It takes years. But then there is a crop. Then, each year, if a man planted well, and planned well, and guarded against the Red

Witch ...fire, of course ...and studied trees ...then there is a crop ..of trees. You understand?

VACLAV: Yes ..well, what good is that? It takes too long...

GRANDPA: A man has all his life. Our crop of trees .. Carl said just now when we harvest those, Carl goes to college on that crop of trees. We will harvest carefully, so many and the right ones, each year, and Carl will learn, before he begins to work and sweat and break his heart, how it is with the land.

VACLAV: Yeah, but that's no good to us. We got to have a farm that makes a crop every year. And my father must not sweat and strain very much just yet.

GRANDPA: Ah yes... your farm. I was forgetting that. Let me tell you a farm joke we had when I was a boy. We had a farm, my family, that the Ice Witch had touched. Once, it would grow a crop. Twice, it would grow... some things. Soon it would grow nothing at all. We would plant acres and then harvest one basketful, or two. There were many families of us up there, trying to live off the Ice Witch's lands. So we would joke and say, "Father.. or Uncle Kurt.. or whoever, ate five acres of corn for supper!"

VACLAV: (puzzled) Acres? ...he ate five acres?

CARL: The ground was so poor it took five acres to raise enough corn on the cob for one man's supper.

VACLAV: But that's terrible! That's not... not a joke!

GRANDPA: (somerly) No, that is not a joke. But that is very nearly what we did (note blank verse continuously now). We nearly ate the earth before we moved. It broke my father's heart. He loved the land. He worked and saved and looked about him always.. always listening for a farm for him; for land which he could buy with what he'd saved. And then one day came men ...men with fine words and men with pictured land. It looked so good. You know what those men did?

CARL: I know, and they were skunks!

GRANDPA: They'd bought great tracts of land, land that the Ice Witch cursed, land that would not grow crops, and then they lied. They lied with pictures. They shipped great shocks of corn, by flat-car, up into the north, and set the corn-shocks out upon the land, and then made pictures to make poor men think the corn had grown where then they said it grew.

VACLAV: You can't do that! Why, men can't act that way....

GRANDPA: And yet men did. There are old papers here in Michigan that show those pictures to this very day.
(Bitterly) And from those men my father bought his farm.

VACLAV: (almost in tears) Ahhhh...

GRANDPA: And I ate turnip-greens and fodder-corn. We worked, not just my family and me, but all of us who bought that witch's land... we worked and sweated and... (softly on

a sigh) it wore us out. We could not live. Or only some could live. They live there still...

VACLAV: Who? Why, how could anyone...?

GRANDPA: I told you. Sometimes next to the poor earth would be a little rich... land left between the fingers of the witch. Sometimes a farm, set just across the road from some dead farm will grow the crops you sow. A few, a very few, still farm up there.

VACLAV: (recovering somewhat) Gee whiz! It does kind of give you the creeps, doesn't it?

CARL: See... I told you.

VACLAV: (suddenly remembering) Aw, but suppose we get a bum piece of land for our farm! (alarm rising) Grandpa, me 'n Mom are going to buy a farm, we're going to surprise my father... he's well now, he was hurt on VJ-day... and we're going to surprise him with a little farm. How do you tell what kind of land....?

CARL: Grandpa, you said once. Where was that farm of yours?

GRANDPA: Northland county, Carl. You remember, surely....

VACLAV: (On a cry, despairingly) Northland county... oooh, Northland county!

CARL: You see!

VACLAV: I gotta get out of here. Look, Carl.. Grandpa.. I gotta go home and tell my mother quick. If she was to buy that farm... if she was to buy it and it was that kind of place, well, honest, I don't know what we'd do!

GRANDPA: See here, lad. Land is of many kinds. And good for different things. Perhaps it is not wise to surprise your father too much. Maybe he doesn't even want a farm? Do you know?

VACLAV: Mom knows.... I haven't seen him to talk to, since he went into the Army. But he wants a farm all right. He thinks, a chicken farm, I guess. He 'n Mom have talked it over lots, when she'd visit him in the hospital.

GRANDPA: Hemmm-hmm... yes, well.... chicken-farming....

VACLAV: (hopefully) Chickens aren't exactly like raising crops... do you think maybe land up there'd be all right for chickens?

GRANDPA: Vaclav, I tell you.... I have a kind of an idea. I raise a few crops, you know...

VACLAV: Yeah, Carl told me about staying summers on the farm...

GRANDPA: Well, I own various pieces of land... even Carl doesn't know them all. I raise some chickens on a little place over in the Thumb district. The people working for me there now.. I don't like them. It seems to me your mother and I should have a talk. Your papa too. He could try awhile, on my farm.. then if he wanted to buy

VACLAV: (hardly daring to believe..) Yes? ...Only (honestly) we haven't got much money....

GRANDPA: A soldier of this war.... he's paid me already a lot of anything he owes me. But we ought to discuss....

CARL: (suddenly, breaking in) Grandpa! Y'know.. you said once my trees, the ones to pay for my schooling, were up in Northland county.. didn't you?

GRANDPA: Yes.

CARL: It seems kind of strange to me... that you'd go back there. I should think you'd hate it all so... the place, and the men who sold your father the farm ..all that wasted time and work, that you wouldn't ever want to see it again.

GRANDPA: Yes, you'd think so, wouldn't you? But you know, Carl, men who really love the land know this: it's not the land's fault, but that men won't learn. It's not the land's fault, too, that men are bad. I suffered from those men, but it did too.. the land. But then I studied... and I've worked, and land since then has paid me back, and even more besides. Should not someone pay back that land as well? It suffered, too. It isn't really bad, that land. It's good for what it's good for... raising trees. Shall I, to whom Life's now been generous, not be generous to that poor land? And by those trees I make another man, who's wise with land. We need such men... we need more every day....

MUSIC: "America the Beautiful" up softly at "It's good for what, etc." and up strongly at end of speech...

APPENDIX B

THE FOURTH MAGICIAN

ANNOUNCER: Magic is of many kinds, and often mysterious.

The magician who works alone appears to do wonderful tricks, but they are not really remarkable. The magician with several assistants, however, accomplishes marvels, either of good or evil.... as in today's story of ...The Fourth Magician.

Fade out and in on...

SOUND: Girl sobbing. Door slaps open and closes.

AMY: Can I get a drink of water out here... oh there. Thanks.

SOUND: Wet drinking noises.

AMY: Say does your PTA have many parties like this?

ANNA: One or two a year anyway....

AMY: With spell-downs for grown-ups 'n everything?

ANNA: Sometimes. (proudly) My mother's the PTA president ...the first woman-president Consolidated School's ever had!

AMY: That's funny ...not that your mother's president; that's swell ... I meant it's funny you haven't had lady-presidents before. Where I come from, all the PTA presidents have been ladies.

ANNA: (surprised) No men presidents?

AMY: Nope. Hardly any men come to our PTA meetings. Does your father come?

ANNA: I haven't got a father; he's dead. I don't even remember him.

AMY: That's tough. My cousins ...the people I came with ..haven't a father in their family either, but their grandfather stays with them a lot, and he's a pretty good father. But it's not the same. Is that why ...I saw you'd been ...uh ..crying..?

ANNA: No (gulp) it isn't that. It's only, (wailing) we've got to move away and I don't want to go. None of us do.

AMY: How many of you are there?

ANNA: Seven, counting Mother; I'm the youngest. We have a farm west of town. And you can see how many friends we have for Mother to be elected president of PTA and not even being from town...

AMY: Why do you move away then?

ANNA: It seems like maybe our well's getting dryer, and all the water on the place raises Cain in the spring and then dries dead-up by mid-July. The boys are plumb discouraged. You can't make a living on a farm without water.

AMY: (slowly) Um-hm.... the Fourth Magician!

ANNA: What'd you say?

AMY: What Grandpa Bauer said. "We all live by grace of the four magicians." Water's the fourth magician.

ANNA: (interested) What are the others?

AMY: Sun, air and earth. Grandpa says all four of them have

to do their magic together or nothing works. If one won't help ... or if man interferes too selfishly ... the other three, wonderful as they are, can't do anything by themselves.

ANNA: (thinking) It is sort of like that, isn't it? Sun.. air... earth.. and water. So water's the fourth magician, huh? (bitterly) Well, he's gone away and left us, all right!

AMY: You just said he raised Cain in the spring.

ANNA: Oh.. that. That's not so bad. It's when things go dry that we have a tough time. (Begins to sob again)

AMY: (sharply) But that's why you have trouble!

ANNA: What's why?

AMY: Because the water all runs away so fast so soon.

Grandpa says you have to make the Fourth Magician walk, not run.

ANNA: (puzzled) Walk...?

AMY: If you can make water "walk, not run," why then you... you get some use out of it before it's gone. Say... (embarrassed) excuse me. But you.. you..

ANNA: What's the matter?

AMY: Well, you're all over tears, and people will be coming out here in the hall in a minute...

ANNA: (sniffling) I know... oh where can I go till it's time to go home! (sobs)

AMY: Here, take my handkerchief ...give a good blow.

SOUND: Anna sniffs and blows, hard.

AMY: Now you've got to stop crying. Look, I'll go tell my cousin we're going home and to tell your mother ...what's your name?

ANNA: Anna Weston.

AMY: I'm Amy Blake. Cousin Mart can tell your mother where you've gone ...it's just the next block ...and then you can wash your face and get fixed up. I'll be right back..
(calling over shoulder) just wait a minute...

FADE OUT AND IN to

SOUND: Water into basin.

AMY: There! Stick your whole face in if you want.

SOUND: Splashing and half-hysterical giggling.

AMY: When you're through let's go down and talk to Grandpa Bauer. He's made popcorn, by the smell. Smell?

SOUND: two sniffing.

ANNA: (half laughing, half crying still) I've cried so hard, I guess I can't smell anything.

AMY: Say, Anna...?

ANNA: What?

AMY: What's going to happen to your farm, and your house?

ANNA: Ruben and John (they're the oldest boys) are going on living there for awhile. Ruben's got a girl in town and won't leave. The rest of us are going to my Aunt's, in Redford. Oh ..I wish I could stay, too!

AMY: Don't you start crying again!

ANNA: I guess I'm all cried out for today...

AMY: Well, looky... about the four magicians; Grandpa Bauer was telling us how men can study to help them. Or they can pay no attention, and offend them. And then it's like the wicked fairy in "The Sleeping Princess" ...they cast a spell that lasts a hundred years. Only they can do worse!

ANNA: Worse?

AMY: Sure.... they can make a curse last a thousand years. Maybe forever!

ANNA: (pleasantly horrified) Like how?

AMY: Like the Sahara desert.

ANNA: I've read about it; no water at all.

AMY: If the Fourth Magician got mad enough, the whole United States could be a desert!

ANNA: Oh it could not! How?

AMY: It could too. Look, I'll show you something. I'll put one drop of water up here on the corner of the bathroom mirror ...see?

ANNA: (giggling) It just runs right down, quick!

AMY: But if I put some of ...where is it?

SOUND: Medicine cabinet door opens, clink of bottles

ANNA: Gee ...that's somebody's toothpaste!

AMY: (laughing) I'll make a worm out of it on the mirror, zigzag from the top corner down to the other corner.

ANNA: (scandalized) That's awful...

AMY: Yes, but now look. I put a drop of water up here again ...and what happens?

ANNA: The water runs sort of roller-coaster down the toothpaste ...hah! It never got to the bottom at all ...it sort of got used up.

AMY: That's what I was telling you.

ANNA: You better wipe that off ...here's some paper...

AMY: Thanks.

ANNA: What d'you mean, that's what you were telling me?

AMY: Make water walk, not run.

ANNA: Like with the toothpaste!

AMY: Sure. You can do that with land, too.... by making the sides of hills bumpy ...I forget what they call it... so that water ...melting snow or rain goes over the ground slowly and sinks in, instead of running down fast and flowing away in a brook. You got hills on your farm?

ANNA: Only little-bitty ones ...not real hills.

AMY: Just the same... Looky, c'mon downstairs (you look all right now) and talk to Grandpa. He'll tell you...

ANNA: (gulping) What good'll that do ...now?

FADE OUT AND IN to

SOUND: Knocking on door.

AMY: Grandpa?

GRANDPA: Amy? Come in...

SOUND: Door opens as voice continues.

GRANDPA: ... and have some popcorn. And your friend also.

AMY: This is Anna Weston ...this is Grandpa Bauer, Anna.

ANNA: How do you do, Mr. Bauer.

GRANDPA: I do well, thank you. I do better when I am Grandpa Bauer, young Anna. To everybody, I am Grandpa. To you also?

ANNA: I can't remember any of my grandparents...

GRANDPA: Then that makes it good for me. I am your new grandpa, hein? Popcorn?

ANNA: Thank you very much.

GRANDPA: Now Anna, I am an old man, not too wise, not too foolish. Being wise I see you have a trouble. Being foolish, I think maybe I can help. Sometimes I listen, only. Sometimes I think of answers. Sometimes there is a thing that we can do.

ANNA: (wailing again) Oh ...nobody can help me now!

GRANDPA: Zut! That is what the young are always saying. But let me tell you something. Somebody is better than nobody, I promise you. And two are better than one. With good in their hearts, two are very strong.

AMY: Stronger than a magician, Grandpa? Anna says the Fourth Magician has put a curse on their farm.

GRANDPA: Now that is bad. Water, hm? Water is strange and wicked and wonderful, all together. What has it done then?

ANNA: It's making us move ...we can't make a living on our farm. The creeks run like crazy in the spring and by mid-summer, half our crops die of drought. The big boys say they won't move, but the rest of us have got to go ...before the money's all gone, Mom says.

GRANDPA: Those big boys, I like the sound of them. You too, young Anna. Tell me this, where is this farm? West of town, surely?

ANNA: How did you know?

GRANDPA: It's hilly there, a little. And water runs downhill. Unless you catch it by the tail.

ANNA: Amy said you know ways to make it "walk, not run?"

GRANDPA: Yes. Well, see how I hold my hand, the fingers down ...if I had plowed my furrows, straight downhill, with ridges like my fingers ...in the spring the melting snow would run then, straight downhill. I would have cut four pathways for the snow, myself, to let the water run away.

ANNA: Yes..?

GRANDPA: But now suppose I hold my hand around the bowl... the little popcorn bowl turned upside down. With water starting here up at the top, it trickles plop! over my top finger. It runs, both ways, along my next finger before it overflows onto the third. And so on, down. I have plowed round the curve that is the hill. I have made furrows that will slow things down.

ANNA: I see what you mean.

AMY: What's the word for that, Grandpa ...I couldn't remember.

GRANDPA: Some call it contour-plowing. Then ...look here.

Suppose I've plowed those furrows round the hill and then I skip a bit, and plow some more. Where I have skipped, I plant it all to grass. And there the water really has to walk, to get through all that grass. Then furrows, then more grass, and so down hill.

ANNA: (slowly) I don't think Ruben ever heard anything like that. What else?

GRANDPA: Ah, there are men who know lots of such tricks.

They watch and plan and study how things go. Men can help Nature, not just take from her.....(dreamily)

Those big spring floods in rivers everywhere ...if men went up the rivers to the streams, and then went up the streams to all the brooks, and 'way back up the brooks to where they start, and all along the way they slowed things down (intoning) under the ground the reservoirs would fill, water would feed the crops, brooks would go slow...

AMY: (breaking in) You can put stops in brooks, too ...to make them walk...

GRANDPA: (a bit testily) Yes, those are check-dams, Amy; remember it. (turning to Anna) You work with Nature, Anna. And in time, when more men understand how things work best ...we will not have such floods. But (sighing)

it goes very slow.

ANNA: ("eyes shining") But it can be done?

GRANDPA: Indeed, it can be done. I promise you. Only
...today I have felt very old.

ANNA: But Ruben's young, and John is young, Grandpa.

GRANDPA: Ah yes ...those two. Anna, I think we go and talk
to them. I tell you this, for hope. The men who have
learned earth and water magic, they have names. They
are Soil Conservation District men. There is a County
Agent hereabouts. The very government of the United
States has men to help ...bureaus ...societies ...com-
missions ..many, many... to help.

AMY: And Anna, they'll even make a map of your farm and
show Ruben where to plow and where to have woods grow
...because some bit of land won't grow crops, you
know... and where to put check-dams in the brooks!

ANNA: They will! Oh Grandpa, maybe ...maybe I can stay!

GRANDPA: Or if you cannot stay, maybe you can come back?

ANNA: YES ...YES. I'd go now if I knew I could come back.

That'd be all right. Of course ...it will take time.

GRANDPA: 'Of course it will take time.' But cling to this,
my child. It can be done.

AMY: There! Like you said...

GRANDPA: "There?"

AMY: "One is better than nobody. And two are better than
one." For working out troubles, and problems, and

things.

GRANDPA: (chuckling a little) Yes... and more people are better than two....if we are to slow down all those rivers and streams and brooks, no?

ANNA: My goodness, we'd need the whole United States for that, wouldn't we.

AMY: (slowly) Yes. We would. But why don't we do it? It could be done. Grandpa says so...

GRANDPA: Ach, if it were only I! To make big floods little... little! To keep all that so-valuable top-soil on the farms, and not floating away into the brooks, choking up those streams, to keep rivers clean for fishing, for swimming... for fun. But especially to make it so that people can stay in their homes... those floods, those floods. If I could say it, and have it be so! How beautiful. But, no, my dear... everybody has to say it. It would make life better for us all... but everybody has to say "Let us do it." This is how it is in the United States, you know....

FINIS

APPENDIX C

THE STORY OF TIMOTHY SLAPTAIL

ANNOUNCER: Grown-ups are always saying things such as "Know the truth and the truth shall make you free," which is as may be. The point is that truth can be unwelcome, and besides is very hard to come by... even small pieces of it. As Angus discovers in today's "Story of Timothy Slaptail"....

FADE IN to

SOUND: cat mewling

ANGUS: Nice Timmie... good cat! Bring it here.

SOUND: mew again

ANGUS: Oh... All right! Don't bring it here. Gee, Tim...
it's a deermouse!

SOUND: purrrrr...

ANGUS: Well, you're a good cat anyway, only I like deermice...

MOTHER: (off-mike, calling) Angus, what're you saying?

(on-mike) Were you talking to me?

ANGUS: Look Mom! ...the gray kitten's brought another mouse.

I was just telling him he's good!

MOTHER: (absently) But I wish he wouldn't always put his mice by the door.

ANGUS: Shucks, he comes to be praised, don't you, Timmie?

Listen to him!

SOUND: Purrrrrr

MOTHER: H'm... sounds like a tea-kettle. 'You call him
Timmie?

ANGUS: Yessir-boy! Timothy Tittlemouse Slaptail... he
slaps his tail back and forth like crazy if he gets
caught indoors and is watching a bird through the
window.

MOTHER: I remember; that's right, he does. (turn calling..)
Hi, dear!

SOUND: car stopping, off-mike

FATHER: Hellooooo!

MOTHER: (still calling) Did you stop at the box for the
mail?..(lower to Angus) Angus, take Timmie's mouse and
bury it, there's a good boy... Bruce, you did get the
mail?

ANGUS: C'mon, Timmie...

SOUND: Steps..

FATHER: Yes, I got the mail. Martha....

MOTHER: What... why, what's the matter?

FATHER: Martha... I... I've got some bad news.

MOTHER: (slowly) Bad.. news? (stronger) All right, what
is it?

FATHER: It'sAngus.

MOTHER: Angus! (low) Angus. ...What's he done?

FATHER: He hasn't done anything..

MOTHER: Oh Bruce, you take so long... quick! What is it?

FATHER: That chest x-ray at school... he's got to go to

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bed.. for awhile.

MOTHER: Angus? Why he's... he's... he just coughs a little.

FATHER: I know.

MOTHER: His cheeks are so rosy... he's the picture of health.

FATHER: (helplessly) I know....

MOTHER: Bruce! I... you... you mean it. (begins weeping)

FATHER: My dear, don't. He'll be back in a minute... you'll frighten him.

MOTHER: (woefully) Oh Bruce..! You said 'for awhile.' How long? How long is "a while?"

FATHER: Not too long. Dr. Mills said.. maybe six months...

MOTHER: (bitterly) Six months... maybe. For a boy who loves the outdoors! Was Dr. Mills sure?

FATHER: Martha, our job is to help time pass... to help him to be cheerful and patient about it... take it easy. I.. I bought a calendar....

MOTHER: (amazed) A calendar!.

FATHER: To sort of encourage him... and us... 'tear off a page each day.... time passing, sort of. You know....

MOTHER: Give it to me.

SOUND: tearing of wrapping papers.

MOTHER: A calendar, h'm? Well... we can pull off January... and February...

SOUND: Fistfuls of pages being ripped away.

MOTHER: ...and March. They've already gone... and here we

are in April...

SOUND: pages tearing slowly.. single page or two...

MOTHER: ...at April 7th...

FATHER: There's my girl. We'd better get Angus.. he's got to... to start.

MOTHER: Yes... you have to start.. in order to finish.

(calls..) Angus! An..gus! (going off-mike) Come here a minute.

FATHER: (to self) "How long is 'a while?'" Not just six months... but I couldn't tell her... I can't tell them yet...

FADE OUT

SOUND: Thumping of pillow

MOTHER: I know it's hot, dear... a lemonade, maybe?

ANGUS: No thanks. Mother, what do they do at a Duck-and-Deer Club meeting in the summertime? They can't hunt!

MOTHER: (wearily) Honey, I don't know. Dad'll tell you when he gets back. I think that's the car now.

ANGUS: Huh! Tim's the real hunter in this family. Only he doesn't kill his birds... just brings them to us.

SOUND: off-mike doorslam.

MOTHER: Here's Daddy... Bruce, Angus is dying to know what hunters talk about at summer meetings.

SOUND: Steps approaching

FATHER: Hi, pal! I see Timmie got a shrew today... left it on the steps as usual.

ANGUS: He's funny that way... he won't bring shrews in.

Say, Dad. Why do you hunters meet in the summertime...
you don't hunt then?

FATHER: Oh we have lots of things to discuss.

MOTHER: I'll finish doing the supper dishes....

ANGUS: Things like what, Dad?

FATHER: (amused) Oh... things like predators, today.

'You know what predators are?

ANGUS: Sure.. a fox is.. and a.. a weasel, and a mink.

Skunks, maybe?

FATHER: Yes, but why?

ANGUS: Well, they... uh... they eat other smaller animals...?

FATHER: And that's bad for us farmers... our chickens and
the game-birds and so on...

ANGUS: Your club is mad at 'pre-dators,' hun?

FATHER: Yep.. 'coons, weasels, foxes, crows, dogs, cats...
all of 'em. Only somebody or other had a good word to
say for each one of the villains.

ANGUS: Dogs? Dogs are good... the idea!

FATHER: One man even pointed out that crows eat dead things
that'd be mighty unpleasant, left around... he's right,
too! (chuckling) Only nobody had a kind word to say
for cats.

ANGUS: (not amused) For cats? (indignant) They kill
mice! What's the matter with cats?

FATHER: But they kill other things, too... especially when

they're not house-cats.

ANGUS: Not very many 'other things' I bet. Who says they do?

FATHER: Come to think about it... "They say so."

ANGUS: You know what you always say... "They say" is Nobody. Who says?

FATHER: Well, everybody there thought so. But I wonder if there are any figures on it? Maybe I could find some statistics..

ANGUS: Timmie isn't like that, even if he is a barn-cat. He brings everything he catches up to the house... Mom pats him and makes over him every time, so he'll go on doing it. Because I'm so interested.

FATHER: Yes, we all encourage him. I imagine he brings in every single thing he catches... except the shrews that he leaves on the steps...

ANGUS: I'm keeping a list of what he's caught.. just for fun. Wanta see?

FATHER: Why, yes.. I would. (chuckles) We might give the Deer-and-Duck boys something to think about...

ANGUS: Here I wrote "Timothy Tittlemouse Slaptail, Mighty Hunter" up there to make him feel important. He thinks he's a very smart cat.

FATHER: Angus, you might add these up... h'm.. one mouse, sparrow, mouse...mouse...mouse...robin..oh-oh!

ANGUS: (doubtfully) We could leave that out.. (small

voice) maybe?

FATHER: (sternly) Angus!

ANGUS: Well, it's only one. And he doesn't hurt birds...
being caught frightens them but mostly they can fly off
right away.... (trails out)

FATHER: Angus, if this turns out to be any kind of an idea,
we've got to have the truth, all of it.. or it's no
good. You see that, don't you?

ANGUS: (unwillingly) 'Sort of...

FATHER: We couldn't "leave out" anything, or we'd be making
an un-truth.. you see that?

ANGUS: Aw.. Well, yes.

FATHER: The whole idea of keeping figures on anything, of
getting statistics, of doing research... is to get the
whole, true picture, so as to decide whether it's good,
or bad. So as to guess whether what you're doing helps,
or hinders...

ANGUS: But I bet... I bet Timmie helps more, killing mice
and stuff, than he hurts, even if he killed the birds
he catches. I s'pose most cats do kill their birds...

FATHER: Yes, I expect so. But this list of Tim's game-
catching shows lots more mice than birds... only these
figures are for such a short time.

ANGUS: We ought to keep it for a month?

FATHER: More than that.

ANGUS: Really? Dad... you.... you think....?

FATHER: What?

ANGUS: Well... that this could maybe be kind of important for cats?

FATHER: Angus, it could be important. Answer me this... are men more important than cats?

ANGUS: I suppose so.

FATHER: You see what I mean. The important thing is to find out the truth. Do cats interfere seriously not only with man's recreation... his hunting of game-birds, for instance... but with insect-eating birds that assist man to live... to eat.

ANGUS: But killing mice "assists men to eat."

FATHER: That's true, too. (chuckling) Angus, I'm afraid you won't be a good research-man; they ought never to start out in favor of one idea more than another. They only search for truth.

ANGUS: (stoutly) I'm in favor of cats.

FATHER: I'm in favor of what's true. And generally it helps more in the long run. Only it's hard to find out ...it's always hard to get at...

SOUND: Door opens.

MOTHER: Bed-time, gentlemen! Angus, tear off the calendar and let's get to sleep.

ANGUS: (slightly ashamed voice) I... can't.

MOTHER: (briskly) Why not? Where is it? ...I'll do it.

ANGUS: I... well, I tore off three days ahead, the other day.

MOTHER: (laughing) Oh. So now you have to wait, h'n?

ANGUS: (slowly) Dad...?

FATHER: Yes, son?

ANGUS: That... tearing off three days all at once ..is like
you said about making an un-truth, isn't it?

FATHER: And so?

ANGUS: Like you said. It doesn't help, does it?

FATHER: No, I expect it doesn't. The days haven't gone any
faster, have they?

ANGUS: No. Would it pay back if I saved up three or four
days now, before I pulled 'em off?

FATHER: What do you think?

ANGUS: I guess... I think... it'd be sort of silly. That
wouldn't be true either, would it?

MOTHER: Boys, you have to stop talking. The truth is, this
day is over... come on, now.... settle down... lights
out etc.etc...

FADE

SOUND: Pages torn off, faster and faster

FATHER: What're you up to, Angus?

ANGUS: Hi, Dad! Isn't this swell?

FATHER: Being out here on the porch, you mean? Fine and
dandy!

ANGUS: The doctor says it's okay if I'm quiet and the
weather stays warm.

FATHER: It's certainly grand for late September. But what

were you doing? Your calendar...

ANGUS: (cheerfully) Ah, I'd forgotten all about it. So I was just catching up. What've you got there?

SOUND: Pieces of wood being set down, then couple hammerings as talk goes.

FATHER: (nails in mouth) Well... it's going to be cold soon. And I thought Timmie had better be able to get into the house by himself. We don't want to miss any of his... victims. You've kept such careful count.

ANGUS: But what're you going to do?

FATHER: Make a little swing-door in the big storm-door to the kitchen-porch. So Tim can walk right in and lay out his catch, the way he has all summer.

ANGUS: 'Cut a hole in that good door!

FATHER: Just a little square at the bottom. Then I'll attach this that I'm making with hinges that swing both ways; he can get in or out...

ANGUS: Hey!

FATHER: (startled) What?

ANGUS: There he comes now. Oh look, Dad! 'Tail straight up... he's acting like he'd caught a.. a lion!

FATHER: Oh bro-ther!

ANGUS: What?

FATHER: He has caught a lion... for him.

ANGUS: What is it? That big?

FATHER: I think it's a rat. Come Timmie... here, puss.

ANGUS: A rat? Good for him...

FATHER: They're pretty fierce, y' know... fighters! And a rat on the List is very good business. Rats are destructive and filthy and one of man's most wasteful enemies.

ANGUS: Oh Tim! Good cat!

FATHER: Yessir, Timmie old man, you've won a fur medal today ...you're a grown-up ...you can vote ...'cream in your coffee from now on...

ANGUS: (giggling) Ooooh Dad....

FADE

SOUND: steps

MOTHER: Here's a New Year's calendar Angus... it doesn't go by days, only months, but would it do?

ANGUS: Just a minute... I'm adding up Tim's list... and two, makes seven...

MOTHER: All right...

ANGUS: There! Now... oh, a calendar. Never mind. It's not important. Mother, guess what?

MOTHER: What?

ANGUS: For this eight months Tim's caught 707 mice, 3 rats, a young rabbit, 7 shrews, 25 English sparrows, a flicker, a robin, 2 good sparrows... I'm sorry... but, Mother... all those mice!

MOTHER: (delighted) Oh Angus!

ANGUS: Of course.. he's only one cat. But it's facts...

they can be added to other ones. And I'll go on, all this year, keeping careful count...

MOTHER: Good...

ANGUS: Timmie, some day we'll know whether cats are just for fun or..uh..

MOTHER: "Good citizens?"

ANGUS: Yeah.. like that. Gee, Timmie..you'll be quite an important cat. Only then there have to be lots more cats, Dad says... somebody's got to find out what they do...

MOTHER: It sounds like a long job, doesn't it?

ANGUS: Yeah. But, like Dad said, once you get the truth, you can go on from there. Hun, Timmie?

SOUND: purr to FADE OUT

APPENDIX D

This study, under the aegis of Gilbert Mouser of the department of Land and Water Conservation of Michigan State College, (and for the Master's degree in Education) hopes to assist conservation educators in making a decision concerning an educational technique, dramatic recordings, not used before. Opinions gathered here also may be useful to other States.

Your County

Do you now teach in a metropolitan town rural school? What grade or grades?

If you have taught previously in another type than marked above, say which Other grades?

What subject or subjects do you teach?

Have you outdoor nature-study material available constantly? at all? not at all?

Have you had training in any biological sciences? Which? physical " social " none of above

Do you feel biological and/or physical sciences necessary to the understanding of basic conservation concepts?

Of the recordings you have heard, note which you consider: most successful least success.

- a. for holding children's interest
- b. as material for teaching conservation

1. Will you name as many groups as possible in your community which are, to the best of your knowledge, supporters of conservation (such as hunting, fishing, sportsmen's club, branches of Audubon Society, garden clubs, etc.).
2. Considering how few individuals, and groups, desiring to forward the interests of conservation, have the preparation, opportunity or equipment to bring conservation concepts to the attention of children, would these dramatizations seem to you to be an "answer" for such people?
3. Please name any organizations which you know are interested in better radio-programming for children (such as P.T.A.s, Junior League, Library boards, etc.).
4. Do you think any of the groups in 1 and 3 would be interested, singly or in cooperation, in persuading your local radio station to use this series as a public-service feature?
5. Do you think your local library would be willing to slip "Time and Station" bookmarks for such a radio series into the children's books? Would your school library?
6. Will you note a possible advertiser who might defray the expenses of such bookmarks by placing an advertisement on the back of them? (Such as a local dairy, a dental association: "See your dentist twice a year.").

COMMENTS:

If you would like a copy of the tabulation of the results of these opinionnaires, write name and address below.

APPENDIX E

A BRIEF REPORT ON THE CONSERVATION RECORDINGS PLAYED IN THE SIXTH GRADE ROOM AT EVERETT SCHOOL ON SEVEN CONSECUTIVE TUESDAYS AND THURSDAYS IN LATE FEBRUARY AND EARLY MARCH OF 1953

Part I. "Things I liked about the recordings" (as written by the pupils without putting their names on their papers except to indicate whether they were boys or girls.)

A. Girls' Comments

1. I liked "The Cherry Queen" and "Timothy Slap-tail" because they were about animals.
2. I liked the way the people expressed their thoughts.
3. I liked the way the sounds ran.
4. I liked the way it helped on nature studies.
5. The best record of all was "Timothy Slaptail" because it was about animals. (2)
6. I liked "Queen Anne's Lace" because it was an interesting study about weeds.
7. "Timothy Slaptail," "The Elusive Trout," and "Queen Anne's Lace" were the most interesting. (2)
8. "Timothy Slaptail" was the best because it was about a house animal.
9. I liked "The Elusive Trout" because it was about fish.
10. I liked "Timothy Slaptail" because it was about a cat.

11. I learned that weeds could be flowers.
12. I never knew that cats caught so many animals.
13. I liked the interesting names of the records.
14. I liked the "Elusive Trout" best. (2)
15. I thought "Timothy Slaptail" was exciting.
16. I liked "The Cherry Queen" because it was about deer.
17. I learned that shrews are fierce.
18. I liked all the records except "The Ice Witch."
19. I liked the way we talked things over after each record.
20. I liked to hear Grandpa Bauer tell the stories sometimes.
21. I'm glad they had children in them.
22. I liked the record of the "Fourth Magician" because I never knew why the farmers plowed around the hills until Grandpa Bauer told me.
23. I liked the story about the cat because it caught mice, sparrows, and only one robin.

B. Boys' Comments

1. I liked "The Elusive Trout" best. (4)
2. I liked "Timothy Slaptail" because it was about an animal. (6)
3. I liked all the records.
4. I learned a lot of things I never knew before. (2)

5. I liked "Timothy Slaptail" best because I like cats and other animals.
6. "Elusive Trout" was the second best record.
7. I liked "Queen Anne's Lace."
8. I liked when the boys talked about the elusive trout.
9. I liked it when the animals made noises.
10. I liked "Timothy Slaptail" and "The Elusive Trout" because I could understand them better. (2)
11. I liked the way you asked questions.
12. I thought most of the records were good.
13. I liked to hear Grandpa Bauer in the records.
14. I liked the English they used.
15. I didn't know that cats were so useful.
16. I didn't know that flowers are weeds sometimes.
17. I didn't know that the land wasn't good after the "Ice Witch."
18. "The Elusive Trout," "Timothy Slaptail," and "The Cherry Queen" were the most exciting.
19. I liked the way you came in the mornings.
20. I liked the animal stories better than the trees and weeds.
21. I liked the way the man helped keep close track of the things the cat caught.
22. I liked "The Elusive Trout" because it had boys in it.

23. I think that boys speak better.
24. I liked "Timothy Slaptail" because it was more real.
25. I liked where Timothy caught so many animals.
26. I did not know that poppies are weeds in France.

Part II. "Things I'd Improve"

A. Girls' Suggestions

1. Don't have the records play so loudly. (2)
2. If possible I'd have the records made more clearly. (3)
3. I don't think I'd have them more than once a month because we'd get tired of them.
4. I'd like more records about animal life.
5. I'd change the records where Grandpa Bauer told the story.
6. I would improve the transition from one scene to another. (2)
7. I don't think I'd make any changes.
8. I would rather enjoy seeing some pictures on animals outdoors.
9. I think making the people sound clearer would make the record sound better.
10. I'd try to get the voices more clear because the boys and girls sounded alike.

B. Boys' Suggestions

1. I would change "The Ice Witch" because it didn't make sense.
2. I think it would be nice if they were films. (3)
3. I think I would make it more clear. (2)
4. They all sounded like ninth grade.
5. Put some things in between the breaks. (2)
6. Have more action in them.
7. I wouldn't change anything.
8. I think it would help if you made better endings.
9. I'd rather have more animal records. (3)
10. I would change the title of "The Cherry Queen" because it was more about deer than cherries.
11. I would change some of the traveling to exploring.
12. I would change some of it to a forest ranger.
13. I think I would have more boys in the stories.
14. I think that the boys sounded like the girls.
15. I would think that Grandpa Bauer could talk louder.
16. I would recommend announcements between transitions.

Part III. "Things I Didn't Like"

A. Girls' Comments

1. I did not like Grandpa Bauer in the records. (3)
2. I did not like some of the records because they were mostly about boys.

3. I didn't like the record about "The Fourth Magician" because it wasn't very interesting to me, but I would recommend it to someone who was interested in erosion.
4. I didn't like the story of "Queen Anne's Lace" because it wasn't too clear to me.
5. I did not like them so often. (2)
6. I didn't like "The Fourth Magician" as well as the others.
7. I didn't like the "Ice Witch" at all, because I like things about animals.
8. I didn't like "The Fourth Magician" because it was too sad.

B. Boys' Comments

1. I didn't like "The Fourth Magician" because it was not clear. (2)
2. I couldn't understand "The Fourth Magician." (2)
3. I didn't like the ones with Grandpa Bauer in them. (3)
4. I couldn't understand some of them very well.
5. I didn't like the records twice a week.
6. I didn't like the "Cherry Queen" because it wasn't exciting.
7. I couldn't understand "The Ice Witch." (2)
8. Some of the words were not clear.
9. I did not like "Queen Anne's Lace."

Part IV. Observations through oral discussions.

1. The records would be more welcome once a fortnight, or even once a month.
2. Most of the pupils would recommend them for other sixth grades.
3. Most of the pupils would like an occasional film along the same line.
4. The children seemed to think they would have liked a little more preparation before the records were played.
5. The children seemed to think that the conversations sounded normal rather than rehearsed.
6. Most other things that they mentioned in discussions were mentioned on their written papers.

Part V. A few teacher suggestions.

1. I think they would be more valuable if they were not so frequent.
2. I would have liked a little more motivation before each record.
3. I think I would have had the pupils listen for one or two key thoughts.
4. I think I would have explained the vocabulary a little more thoroughly before each record.

All in all, I think this has been most interesting and profitable for all of us. I know that the youngsters have

gained a great deal in their more intimate knowledge of Michigan, their home state. I also think it was valuable for them to realize that helping others very often benefits them, and that there are many ways of helping others.

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