# Inspiration Via The Disc

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I'm a high school biology teacher. I think it is part of my function to inspire students as well as to acquaint them with the antics of amebas, corpuscles, and lazy genes. To my way of thinking, one way to inspire youngsters is to help them discover what the "greats" have done in biology and related fields.

Some time ago I referred a class studying bacteria and other microorganisms to biographies containing the stories of people like Hooke, Schleiden, Schwann, and Leeuwenhoek. Among the books recommended was one telling the story of Leeuwenhoek's pioneer work with the microscope. Several students became interested in the story and the man to the extent that I felt persuaded to give their interest a little extra shove. I said, "Why don't you rewrite the story, converting it into a play?" Then, one of those spur-of-the moment ideas dropped in and I added, "If you do it well, we'll have it recorded."

Never again will I harbor any doubts about the effectiveness of a promise to preserve contemporary talent for posterity; they fell to with a will! In short order they came up with a five-page script complete with parts for a cast of five, stage directions, a narrator —even sound effects. There followed a series of experiences that were gratifying to me and almost certainly must have made the work of Anton van Leeuwenhoek much more meaningful to the youngsters involved in the project. There was casting to do, then script-trimming, and revision. There was the tinkling of glassware and the noises of lens-grinding to be worked in for sound effects, and finally the wave of the hand saying, "You're recording!"

We cut the little play onto a 12 in. disc using our school's disc recorder cutting at $33\frac{1}{3}$ RPM. Of course each participant, wishing to make sure that his particular segment of "posterity" would not be neglected, wanted a copy of his own. This called for duplicating in the only inexpensive way available to us—playing the original into the mike of the recorder to cut six additional discs.

About then, the Science Department got its annual request for a program to be broadcast from the local radio station—part of "Your Schools in Review," a weekly broadcast mirroring local school affairs. Our "Life of Leeuwenhoek" won a quick decision. After all, it was all prepared! But now a weighty choice: shall we send the recording down to the radio studio, or shall we send the "live" cast? Again a quick decision, with the lure of the studio winning handily over the portability of the disc. Every youngster in the group (although affecting a blase "I-do-this-every-day" front) thrilled with the experience that started with a class assignment. Spurred by the experiment with the disc recording, the play reached its climax with the pointed index finger that said, "You're on the air!"

# Enzymatic Aid for Euglena

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How I happened to start working with euglena and the account of six years of experimentation would occupy too much space. It is enough to describe a simple method whereby, with the aid of enzymes, one can grow a good culture in a few days for class examination and still keep that same culture for a long time on a minimum amount of attention. I have kept my present stock for over six years. Some of my cultures survived for more than a year on one feeding without suffering noticeably. It seems wiser, however, to start new cultures whenever rapid growth is desired. Evidence indicates that the action on starch is invaluable to euglena as well as to many other small organisms in their metabolic processes. A little artificial digestion is a great accommodation. Or perhaps the protein in the enzyme is sufficient.

The simplest and one of the best methods of feeding that I found, was to add one-fourth teaspoon of commercial diastase malt to 400

cc. or nearly a pint of water. That is all there is to it. Just add the euglena and wait a few days. Of course the more organisms you add the sooner you will have a dense population. This method produces a most beautiful green color throughout the liquid. An even denser growth may be produced by adding the equivalent of five or six flakes of cooked oats, seasoned to taste, from your breakfast cooking. If you care to prolong the available food supply, add about six grains of uncooked rice when the culture is a week or two old.

It is not necessary to cook or to salt the oats, or to add the diastase. Good cultures can be produced on starchy foods alone or on diastase alone. The diastase has definite advantages and is much better than other enzymes used.

The following hints may benefit those who are unfamiliar with handling such cultures.

1. When tap water is used, it should be allowed to stand in an open glass vessel for several days before using in order to permit harmful gases to escape.
2. Add several pipettes of euglena immediately after adding the food; otherwise undesirable bacterial and mold growths will take over. With this sort of control it is possible to demonstrate that the euglena can hold down such growths.
3. Stock cultures are easily kept in pint fruit jars. Lids hold down excessive evaporation but several nail holes should be made in the lids. Separate cultures for student use are more convenient in culture dishes.
4. Best results probably will be obtained from cultures receiving light from north windows, or from cultures placed several feet from other windows.
5. To find cell division, draw the specimens from the very bottom of a new and rapidly growing culture. Even then you will not always find cell division.
6. It is not difficult to keep a pure culture of euglena, however several other species of organisms, including rotifers, may thrive in the same culture. Rotifers do well on "euglena pastures."

## YOUR ATTENTION, PLEASE!

The Audio-Visual Aids Committee is anxious to be of the greatest possible service to the members of NABT. We shall continue to review new A-V materials as they become available, to conduct previews of these materials at national meetings, to note new A-V equipment, and prepare A-V lists for various biology topics at different educational levels, in a continuing evaluative procedure. We would like to serve as a liaison agency between producers of A-V aids and teachers, and plan to report on televising in the field of biology.

To make this program effective, the Committee needs to know how each of you could benefit most from our activities. It asks your advice concerning needs for A-V materials or equipment not now available, and your opinions about new materials and developments. Will you take a few minutes to write a card or letter giving your reactions? Mention also if you would like to assist the Committee in fulfilling its program. Address correspondence to: The Audio-Visual Committee, Emery L. Will, Chairman, State Univ. Teachers College, Oneonta, N. Y.

## FROM THE RETIRING EDITOR

When in the fall of 1941 I agreed to undertake the job of Editor-in-chief of *The American Biology Teacher,* I had no idea that it would turn out to be an 11-year job, or I might have been scared away. I have enjoyed every bit of it, even though the start was not encouraging. The previous editor was unable to attend the Dallas meeting, where the official transfer of files took place, so all doubts and questions had to be resolved by mail after the meeting.

The first big job was that of bringing out a National Defense Issue; M. C. Lichtenwalter, now better known as "The Old Fossil" who writes *Biology Laboratories,* volunteered to do what he could in the production of this special issue, so I appointed him Guest Editor. He assembled papers for the April, 1942 issue, while I practiced on the February and March issues.

Although I was a charter member of NABT it was a complete mystery to me how I was chosen as Editor. I was not an Associate Editor at the time; in fact I was not on the staff at all. An article I wrote for the February, 1940 issue had created quite a stir (I have just reread it and cannot see why), and led to my serving on some committees. Anyway, the first thing I knew I was the Editor-in-chief.

It has been a wonderful experience. It has brought me hundreds of personal acquaintances among biology teachers all over the United States. I know on a first-name basis