

that they owed a service to others, and some included self with others, so that at least a third of them recognized an obligation to mankind. This year the proportion is larger.

From these groups may yet come a St. Francis, a Savonarola, or an Albert Schweitzer.

IX. *Which unit of work studied during the high school biology course is "most interesting and seemingly will be most helpful" to students?*

It might be expected that the choice would be an easy unit with many films, field trips, spring specimens in the laboratory as in Conservation of Natural Resources, or one with laboratory experiments as The Human Nervous System.

But the majority do not choose these units. Their choice is Genetics. That three weeks unit always gets the largest vote. For second place frog dissection and general human physiology tie in interest. In fact, frog dissection is used as an introduction to the human body by comparing like organs and functions and noting differences in location, size and function.

To quote Chesterton, "There is nothing like so interesting to ourselves as ourselves."

Data about groups of people are interesting and often helpful. But if an article of this nature leads us farther from the individual student it is worse than useless. There is no average person. There are trends. And we biologists are curious.

A Busman's Holiday

Editor, *The American Biology Teacher*
State Teachers College
Emporia, Kansas

Dear Mr. Breukelman:

Perhaps your readers might enjoy hearing of the "busman's holiday" of a parasitologist. If you can use this letter (and the accompanying photos), please do so. I feel that it contains information "what caused the death of the porpoise?" of some value, and I should like to share my speculations with others.

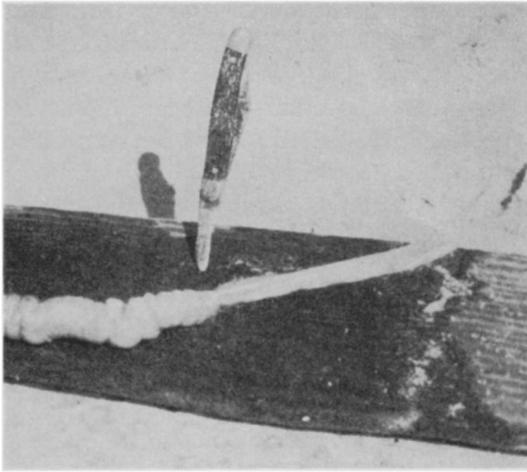
On June 13, 1952, early walkers along the beach at Pawley's Island, South Carolina, noticed a dying or dead porpoise stranded in the breakers. I saw it at 8:00 o'clock.

It was a nine-foot specimen, with no external signs of injury, although its skin was marked by the ineffectual bites of sharks. These marks were extensive, but not one of the bites had penetrated more than the pigmented outer layer of the skin.

Several friends who knew of my professional interest (in intestinal worms) began to speculate on what parasites the porpoise might have. With some reluctance I decided to examine it for intestinal parasites. Using a pocket knife (I was theoretically on vacation, without equipment), I made an eight-inch incision in the right belly, and, reaching

into the cavity, began to pull out the intestine. Incidentally, the porpoise was still quite warm inside, although not living. After surprising amounts of intestine lay rolling in the surf around my feet, I cut the attachments at stomach and colon, as well as the large vessels and mesenteries, and carried the slippery arm-





ful up on the beach. There I straightened it out by trimming the mesenteries still more, finally laying it in a line that reached about 100 feet, a discouraging sight, indeed, to one accustomed to searching the intestines of small birds!

I proceeded to slit the intestine, several inches at a time, keeping near me for specimens a glass jar into which I had collected a moderate amount of the rather clear fluid content of the ileum. After scraping the mucosa carefully, and examining the opened regions in the bright sunlight, I worked slowly from one end of the intestine to the other. Parasites seemed rather scarce: only in the last six to ten feet, in the duodenal region, did I find any. These were several kinds of trematode and one nematode, about seventy worms in all. After transferring them to the specimen jar, where they stayed alive, I took them back to my cottage and there preserved them in weak formalin (the only collecting equipment I had with me). I have not yet attempted to identify the parasites.

I did make one observation of considerable interest concerning the intestine of the porpoise. In a region approximately ten feet from the ileo-coecal junction there occurred an intussusception (see photograph). This condition, in which the intestine is partially telescoped, is not uncommon in man. It must be promptly relieved by surgery, or necrosis of the telescoped portion may occur, causing blockage and perforation of the intestine, peritonitis, and death. Obviously, surgical

relief had not been available to the porpoise of Pawley's Island. Although its intussusception had not yet broken, the inner portion was badly eroded and weakened, appearing only as a thin, transparent membrane. The lumen seemed to be blocked by the contraction of the outer portion around it. I think it likely that digestion had been interfered with, and the porpoise may indeed have died of this condition. Perhaps its death was not directly due, however, to the intussusception. One may speculate that the weakened animal, unable to swim faster than the harrassing sharks which left their jaw marks so plainly upon it, finally fled to the shallows near the beach, where it was caught by the surf and stranded, there to die of exhaustion.

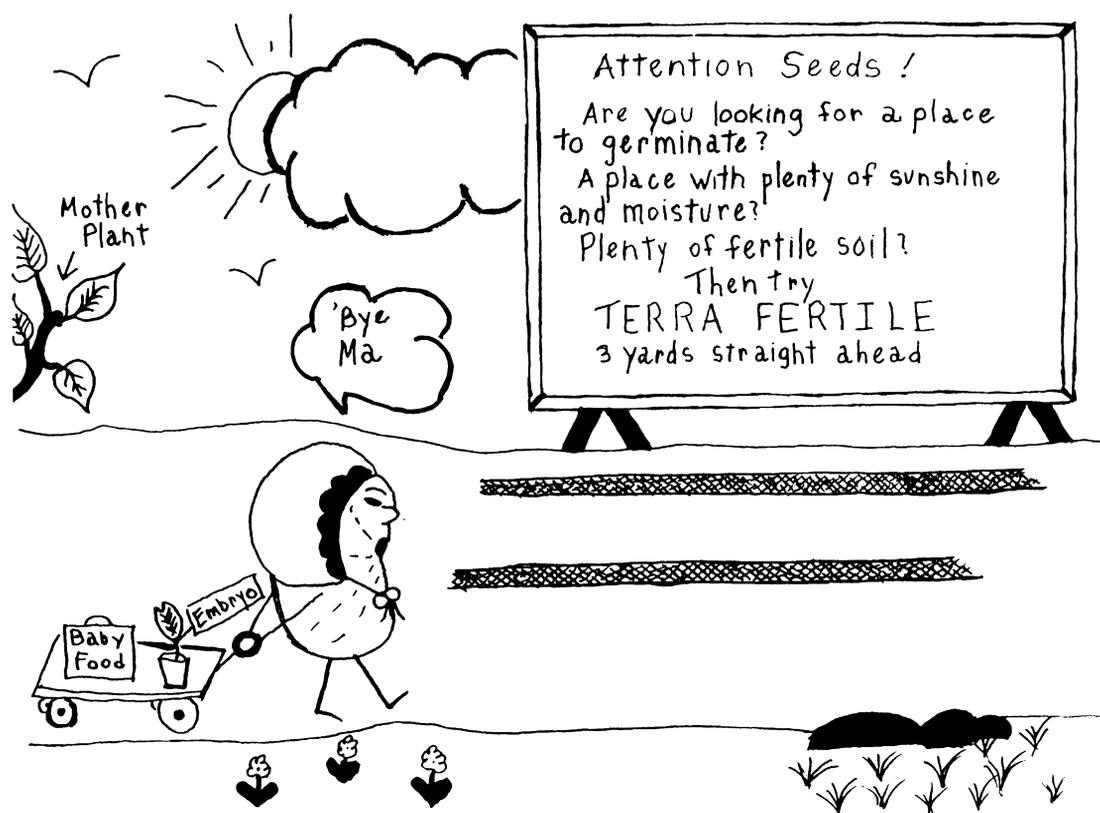
Perhaps I should record the remarks of some of the people who watched me as I inched along in the hot sun, face close to my work. Some were sympathetic, "Doesn't it smell awful!"; others somewhat in awe, "Do you get paid for doing that?"; and others healthily skeptical, "What's the point of lookin' for worms?" I still consider that my answer to the last, although somewhat intemperate, was apropos: "People have worms, too. Maybe you!"

Sincerely yours,

ARTHUR W. JONES,
The University of Tennessee,
Knoxville, Tennessee

Editor's Note: This issue of *The American Biology Teacher* is set with wider columns than we have used in the past; this is done to get more material on a page without reducing the size of the type. If you like this change let your editor know.

COVER PICTURES. Thus far very few have been submitted, and most of those submitted have not been suitable for reproduction. Pictures must not be smaller than 7×10 inches, and should be on glossy paper. They should have plenty of contrast, for some contrast is lost in the process of engraving. When you send pictures, it will help if you include such data as type of film, kind of camera, exposure time, other exposure data, location or other circumstances.



Meyers High School
Wilkes-Barre, Pa.

Dear Dr. Breukelman:

Students in high school sciences so seldom catch hold of an idea or principle to the extent of making it their own, that one is delighted when something like the enclosed paper is handed in.

I had been trying to "put across" the business of dispersal in a way they could understand, but wasn't sure it was clear. Then—this came in, and I felt better!

If you can use it, all right. If not, allright too. It just "tickled" me so, I had to share it.

Sincerely yours,
RUTH A. MERREL,
Biology Teacher

P.S. The picture was drawn by Seymour Manello, tenth grade, E. L. Meyers High School, Wilkes-Barre, Pa.

ADVERTISERS COOPERATE

Members of NABT will be interested to learn that two of our advertisers have cooperated in our 1952 membership campaign.

We are indebted to Ward's Natural Science Establishment, Inc., Rochester 9, N. Y., for mailing 4,000 of our folders with their spring *Bulletin*. Ward's have also just completed the printing and folding of 25,000 membership folders, in two colors, for mailing in our autumn membership drive.

General Biological Supply House, Chicago 37, Ill., has helped promote NABT by publishing items of our news in two recent issues of their *Turtax News*. The August issue was mailed to 45,000 teachers of biology in more than forty countries.

An expression of appreciation should be made by NABT members to both Ward's Natural Science Establishment and to General Biological Supply House for their interest and help. Write to them and ask to be put on their mailing list.

MURIEL BEUSCHLEIN