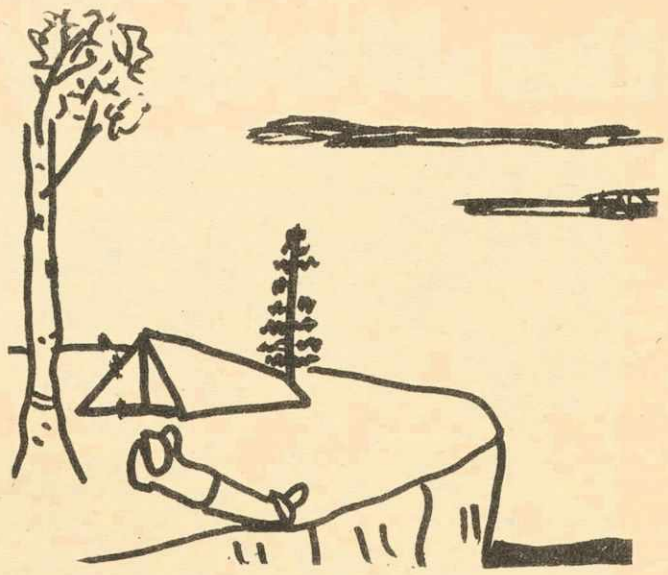

Outdoors

by Alexia Barnes and Kevin Moore

As seen in the last article in this column, natural science should and can be taught at all education levels. We discussed how various subjects such as history and physical education can be used to express many ideas and not leave the job solely up to Biology. In this issue we will deal with biology since the blunt of the problem of informing people of natural science lies on its shoulders.

Biology to most is the dissection of a frog or the Punnett square of genetics. Not that these aren't valid but they are not supplemented with a general knowledge of natural science, with its aestetical and informative qualties. Even in the ecology courses offered at universities, little is the actual feeling one obtains for the outside. The only course to be found in the Atlantic Region that deals solely with this is Biology 2030 at Memorial University of Newfoundland entitled Newfoundland Natural History. "A consideration of the plants and animals, their relationships with each other and with the physical environment." It is only a one term course and not a credit for biology majors, the latter having to take standard ecology courses. This course does however, offer a fundemental knowledge of natural science to any one who takes it as a supplement to their regular training. A variety of tempering the lab-orienated courses.

But as it stands now, even in the few schools were there is a semblence of natural science it follows an old pattern. With young children, they learn the beauty and patterns of the outside in forms of leaf prints etc. and as the age increases then the beauty is not stressed but understanding is. There should be a mixture of these two with the younger children learning basic information while the older children do not lose their appreciation of design and beauty but simply enlarge upon it and sophisticate the methods. In our example of leaf prints, while young children are concerned with pretty designs, it should be stressed that it is as important to know basic common leaves while as the older student goes on to more indepth knowledge, he shouldn't leave behind the idea of design but should graduate from spray can, spatter, ink pad, and crayon prints to more detailed blueprint paper, photographic paper, or leaf vein skeleton print. Eventually, an appreciation for, and a skill at nature photography or sketching, will hopefully develop.

It is understood that even with its failings, natural science that is taught in schools is very scarce. Hopefully as emphasis on the environment mounts in news, politics, and economics then the schools will keep pace with the trend.

In closing, some general remarks on the basic ways to bring natural science into the class or the class to natural science.

GAMES: There are thousands of games that can be played related to the environment. Any game can be redirected to this topic such as scavenger hunts or oreinteering. There are many books on the market relating to this field.

FIELD TRIPS: It is hard to squeese money out for field trips but they are an important aspect of teaching. Field trips not only to parks or museums but to special habitats with someone who is qualified or interested in the area. Plus PTA's can arrange for after hours, trips with parents' transportation.

COLLECTIONS: Although many frown on collection of living organisms and it can't be fully justified in the school system, there is much information available to those who seriously take an interest. We, as self-imposed Dieties, do label what is "right" to collect and what isn't. Leaves and rocks are old staples but elephant type collections are out. Not because of the space involved but because "higher" animals are closer to man and feel the kinship. Even the Canadian Council on Animal Care has okayed experimentation on invertebrates at the high school level while discouraging the experimentation on vertebrates. For the stupidy of this, compare tunicates with cephalopods.

LIVE ANIMALS: Again it can not be truely justified but we can say that if we can't bring the children to the mountain then bring the mountain to the children. The care of live animals is rewarding in itself, and many marriage councillors recommend that young couples keep animals so that they can get used to the feeling and arguments before there are children. Live animals are fascinating and in their fascination there is knowledge. Enter the Nova Scotia Museum and see the children crowded around a cage with three deer mice while the well-constructed, expensive, and accurate exhibit area is secondary. Just make sure that it lives and properly. Birds die. Most mammals die. Most fish die. Most herptiles die. So stay with those animals that can be easily collected in the fall and will survive the winter in good shape and can be released in the spring. Tadpoles, aquatic insects, mollusc, caterpillar cocoons, worms to name a few are excellent examples for school use. If you enter the "zoo" industry with these types of animals in your mind then you'll have far greater success then will the snake/monkey/cougar collector.

LIVE PLANTS: Yes. Every window sill and table. Many plants are easily kept and cared for. One day of collecting in fall and a rotating student maintainance crew will provide the class with greenery all year round as well as many informative displays. Again forget your lady's slipper and your blue flag and stick to lichens, mosses, ferns, grasses, weeds and small trees. Some common plants can be kept with a bit of work like the sundew and pitcher plant as long as you are willing to raise fruitfly larvae and mealworms. It is great to watch your window full of moss sprout its sporophytes to watch them burst and if things are perfect, grow.

There is much more, from animal tracks to bird feeders. Every school in Nova Scotia can find life on its schoolgrounds and in the surrounding area, even the asphalted schoolgrounds of central Halifax. Some general references that are very good as well as easy reading are:

How to Explore the Secret Worlds of Nature; How to build a Home Nature Museum; How to Build a Miniture Zoo all by Vinson Brown.
101 Best Nature Games and Projects by Lillian and Godfrey Frankel
A Field Guide to Nature Activities by William Hillcourt.
The Golden Book of Nature Crafts by Saunders.
A Guide to Nature Projects by Ted Petit.

CRYPTOQUOTE

One letter simply stands for another. Single letters, apostrophes, the length and formation of the words are all hints. For example: LBRT XOLEZT is: NICK DANGER.

PLZ OFTR TA Y AWPFEI; PLZ JIYZX TA Y AXZIYO. TA TX FPX AXZYFEI XJYX OPAX PB LA QJPPAI ALQCTFE ZYXJIZ XJAF ZLFFTFE? — CYJUTU ETMZYF.