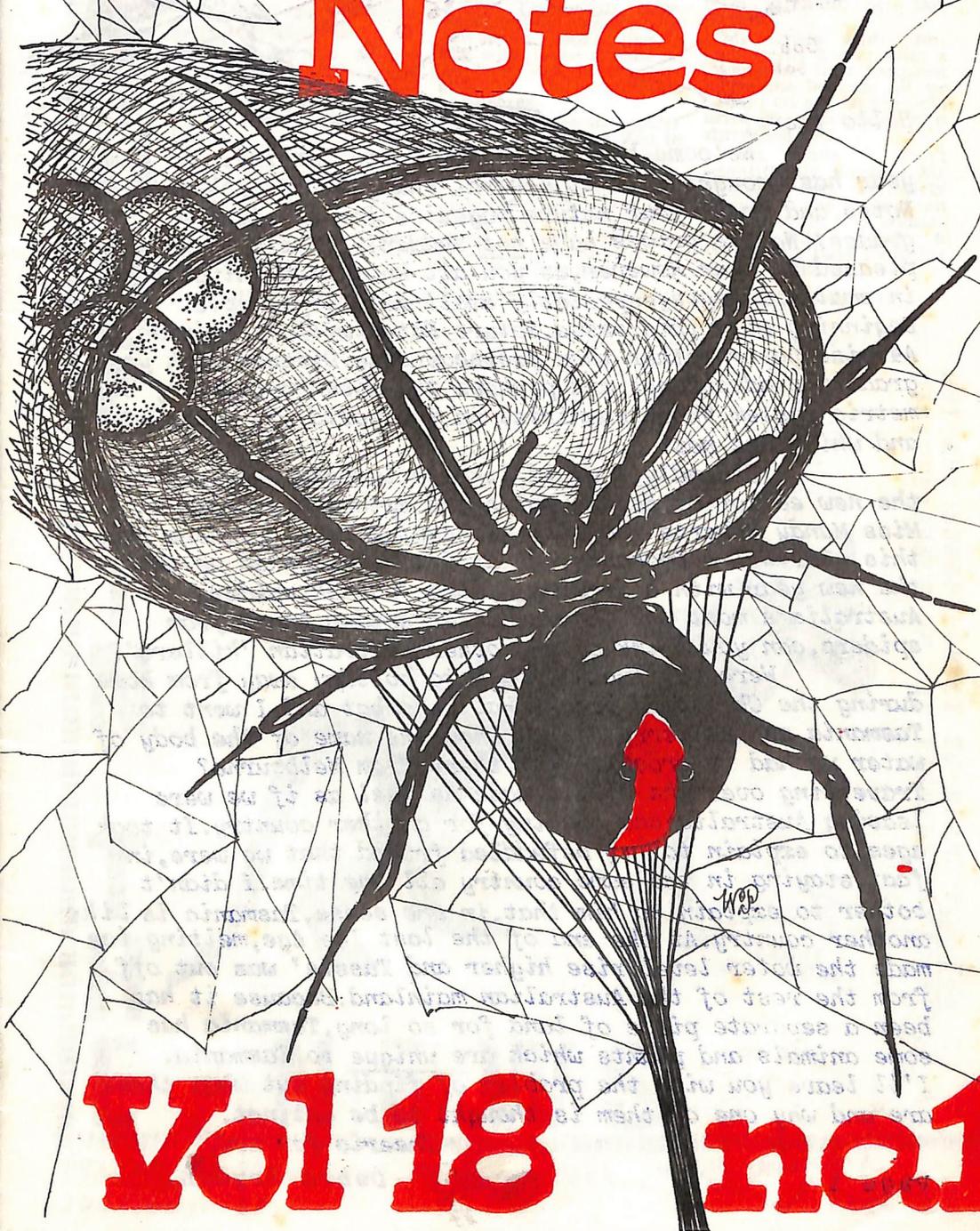


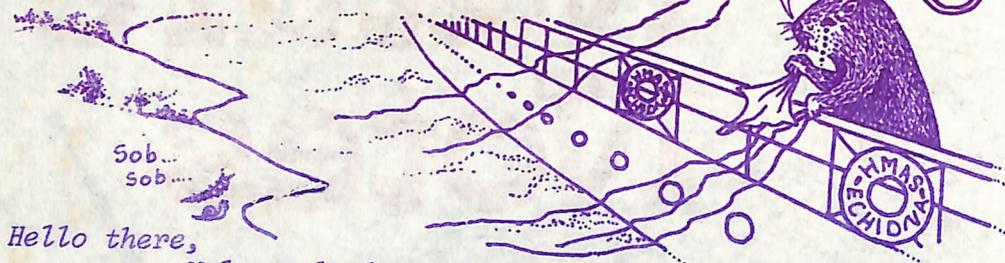
Nature Notes



Vol 18 no.1

EDITORIAL

Don't forget to write.



Hello there,

Welcome back to Nature Notes for 1981. The new year has brought with it several changes for both Nature Notes and Probe (our nature magazine for the junior grades). No, the prices have not suddenly gone up, you'll be pleased to hear. However, as you all know, good things come in small packages, especially small metric packages. Beginning with this issue, Nature Notes will be printed on A4 size paper rather than foolscap size. Discuss with your grade the advantages and perhaps the disadvantages of the metric system. Which countries in the world are 'metric' and which are not?

Secondly, I would like to introduce myself as the new editor of Nature Notes and extend a welcome to Miss Mandy Roberts who will be keeping Probe readers busy this year. Wilma Prohasky, our artist, has shocked us into the new year with a drawing of the redback spider, Australia's most well known killer spider. Apart from spiders, can you think of any other Australian 'killers'?

Were you lucky enough to holiday away from home during the Christmas break? Wally Wombat and I went to Tasmania on the ferry. Do you know the name of the body of water we had to cross to get there from Melbourne? Travelling over the strait made us feel as if we were leaving Australia and heading for another country. It took ages to explain to my befuddled friend that we were, in fact, staying in the same country all the time. I didn't bother to explain to him that, in one sense, Tasmania is like another country. At the end of the last Ice Age, melting ice made the water level rise higher and Tassie' was cut off from the rest of the Australian mainland. Because it has been a separate piece of land for so long, Tasmania has some animals and plants which are unique to Tasmania. I'll leave you with the problem of finding out what these are and why one of them is thought to be extinct.

Cheerio for now,
Debra Brydon

NATURE IN THE NEWS

A PLASTER cast taken of an animal footprint may be proof that the Tasmanian tiger still lives.

Wildlife park owner Peter Wright said he stumbled on the animal tracks "by fluke" when his car got bogged in rugged button-grass plains in northern Tasmania.

He made a cast of the track which has been examined by a zoology expert. Mr Wright, 32, said yesterday: "I believe it proves the existence of the tiger."

tiger

The Tasmanian tiger, scientifically known as Thylacine, looks like a dog with three stripes on its back and is the largest of the marsupial carnivores.

The last one in captivity Died in Hobart Zoo in 1934 and it has been feared extinct since.

Mr Wright and his wife Judy, 26, made their discovery last Thursday week about 3 km off the Cradle Mountain Rd., 75 km from Devonport.

The cast was submitted for examination to the Zoology curator at Launceston's Queen Victoria Museum, Mr Bob Green.

Mr Green said: "No-body really knows what a Tasmanian tiger footprint looks like because all we can go on are 50-year-old dried-up specimen with shrivelled feet."

"But while I can't scientifically say that Mr Wright's cast definitely belongs to the Tasmanian tiger, I think it is consistent with what a Tasmanian tiger footprint would be like."

Will the mystery of whether or not the Tasmanian Tiger still exists ever be solved? There are several reasons why the mystery is so hard to solve. The main reason is that some parts of Tasmania are so rugged that hardly anyone goes there. Even if they do, it is unlikely that they will spend long enough there to see a tiger.



WHY ARE SHEEP PARTLY TO BLAME FOR THE DISAPPEARANCE OF THE TASMANIAN TIGER?

NEWS

THANKS TO: "The Sun", February 10th., 1981, page 19.

Watch out for the deadly

RED BACK

Find out where red backs live.

Red back bites can be deadly if a doctor's help is not sought. Maybe your class can make a list of sensible things to do as well as things not to do BEFORE THE DOCTOR ARRIVES.

In late summer and early autumn red back spiderlings hatch out of their egg case and leave on silken threads to

begin a new web.

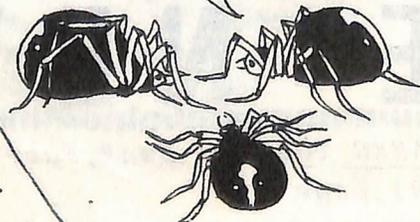
Tristan da Cunha, an island between Africa and Sth. America now has red backs, brought there in satellite tracking equipment from Miami, U.S.A. The cheeky red backs were Aussies, of course, all the way from Narrabri.

Male redbacks live only about 120 days but females last for 1 to 2 years!

This is a sticky situation.

The home of a redback has a funnel-shaped retreat in which the eggs are kept and a snare of sticky trap threads. The spider hides in the retreat during the day, at night moving out into the snare.

It's just not fair is it, Tom!

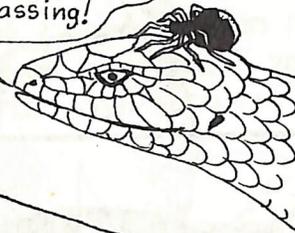


Small snakes, lizards and mice have been found sucked dry in a red back web.

How do doctors cure a spider bite? What is an anti-venene? Do you know any other deadly spiders?

The redbacks silken threads don't just fall out. They must be pulled out by hind legs or by the weight of the spider's falling body.

This is down right embarrassing!

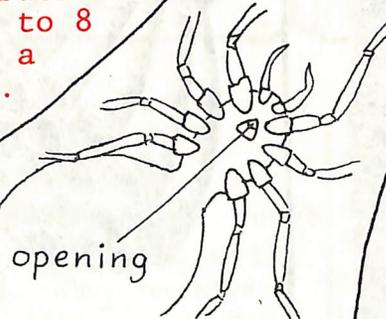


Wheee!



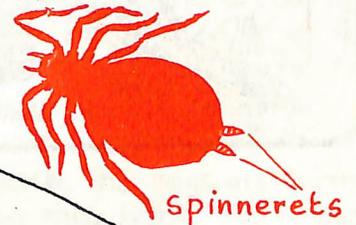
Like most spiders, the red back can moult up to 8 times in a lifetime.

Mouth opening



Redbacks have mouthparts specially designed to suck out the insides of their prey.

Spinnerets are found on the under side of the spider. These produce 4 or 5 different kinds of silk.



Maybe these will improve my chances.



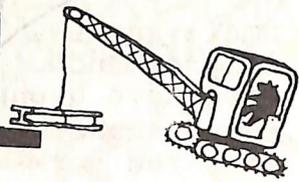
Women get all the attention these days!



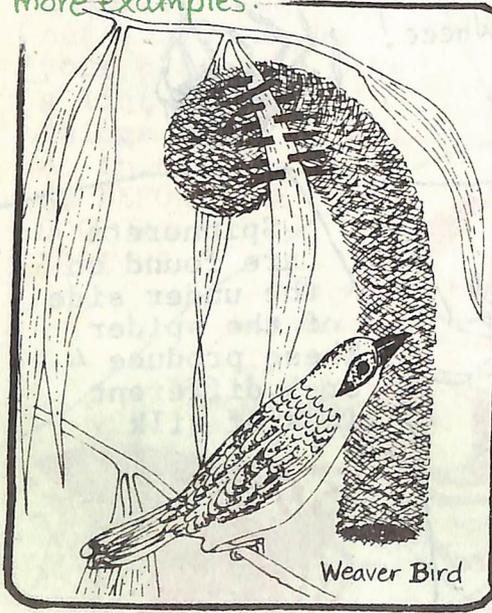
Because of very poor eye sight, red backs often bite first and ask questions later. Many a hopeful father red back has been bitten by a near sighted female.

Scientists believe that the creamy brown male red back is not poisonous. Watch out for the jet black (much larger) female. The red marking on her back sometimes has 2 red dots in front of it or sometimes may not be seen at all.

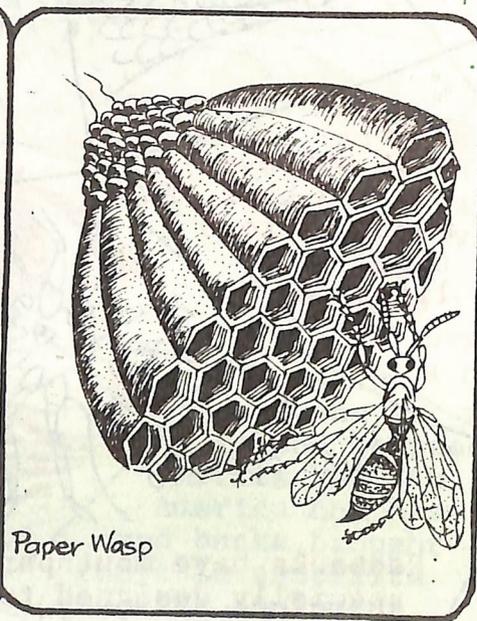
ANIMAL



It's amazing how many of the 'inventions' made by humans have actually been 'borrowed' from other members of the animal kingdom. All sorts of things from dams to gliders have been learnt from our animal friends. Here are a few more examples:



Weaver Bird



Paper Wasp

The Weaver Bird (not an Australian native) makes a beautifully finished nest from the finest materials they can find. Often they pull down the nest and start again if everything is not perfect! The material they use is actually interwoven to give added strength and allow such strangely shaped nests.

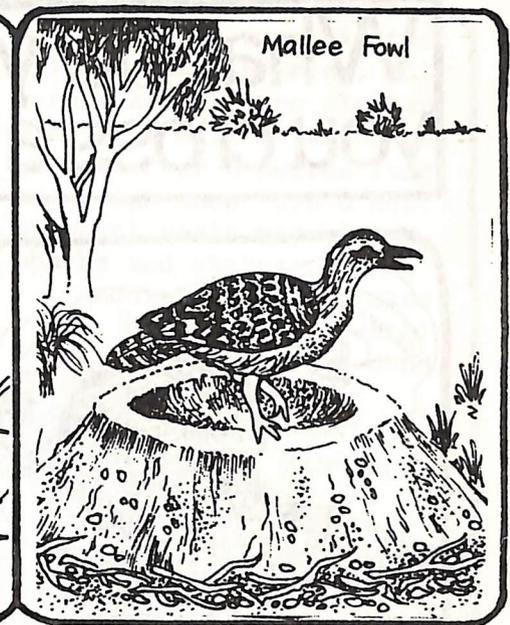
Basket Weaving!

The Paper Wasp builds an elaborate nest from a white, paper-like substance. In each cell is placed a preserved caterpillar, or something similar, and a single egg is laid on top. When the baby wasp hatches its first meal is ready and fresh! The wasp's 'flats' are fully furnished with a deep-freeze full of meat!!

Origami & High Rise Flats!



Potter Wasp



Mallee Fowl

Pottery!

The Potter or Mason Wasps are 'loners' or solitary wasps - unlike the social Paper Wasps on the page before. They too have individual cells inside their mud house but they don't live and find food as a colony. Their wings fold lengthwise when at rest, whereas you may have noticed that other solitary wasps have wings that stick out like a bee's.

- Bi-focals (The 4-eyed fish of Sth. America)
- Hydroplanes (almost! The Basilisk runs on water!)

Incubating Oven!

(See Nature Notes No.8, Vol.12.) Rotting litter in the Mallee Fowl's mound provides heat and by shifting the dirt on or off the heap the bird can control the temperature. It seems to measure the temperature with its beak. The eggs are buried & when they hatch, the chicks must dig their way to the surface.

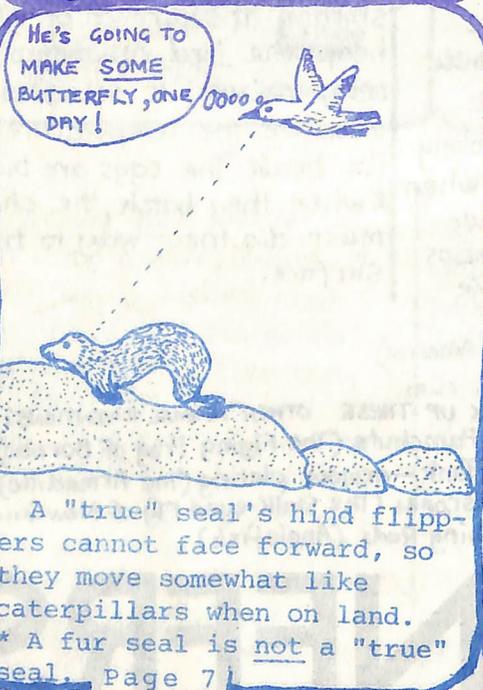
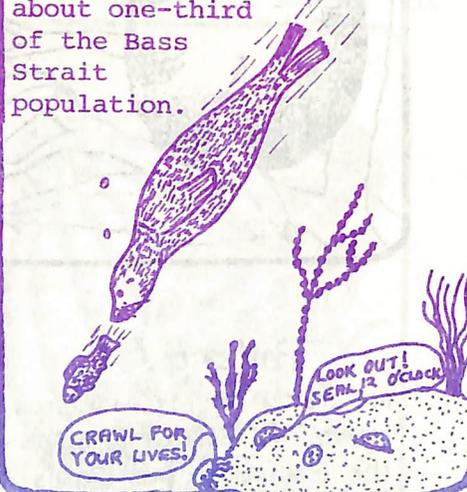
- LOOK UP THESE OTHER 'ANIMAL INVENTIONS':
- The Parachute (The Flying Frog of Borneo)
 - The Tank - armour plating (The Armadillo)
 - Periscopes (The Stalk-eyed Fly of New Guinea)
 - Fishing Rods (Anglefish)

ENGINEERS

What do you get when you cross a bear + a dog?



Fur seals (found on Seal Rock, Phillip Island) mainly eat fish, crabs and snails. This colony makes up about one-third of the Bass Strait population.

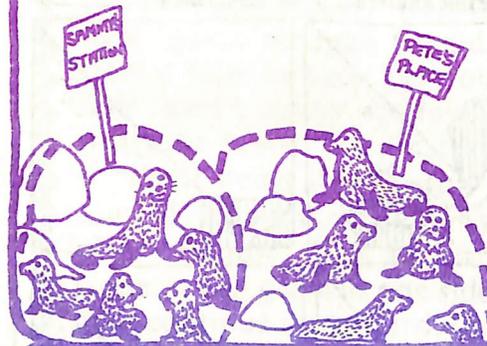


Fur seals are warm blooded. They have two coats- a long rough one, and a short soft one. They also have a layer of blubber (fat). Can you think why? They are friendly towards man, (particularly divers whom they may often play with.)

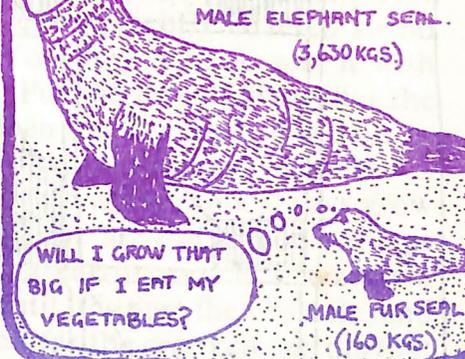


A "true" seal's hind flippers cannot face forward, so they move somewhat like caterpillars when on land.
* A fur seal is not a "true" seal.

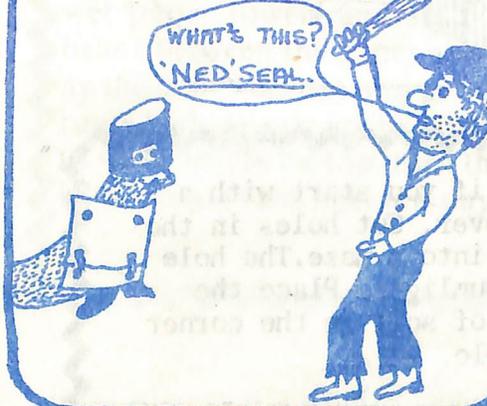
However, during the breeding season the older males claim territories and herd females inside these. They drive off the younger males.



A seal's main enemy is the killer whale. However, it rarely attacks the elephant seal- the male of which may grow to over 6 metres long and weigh about 3,630 kgs! Elephant seals may attack sharks and skates. During moulting (which takes place on the beach) they often eat sand and stones!

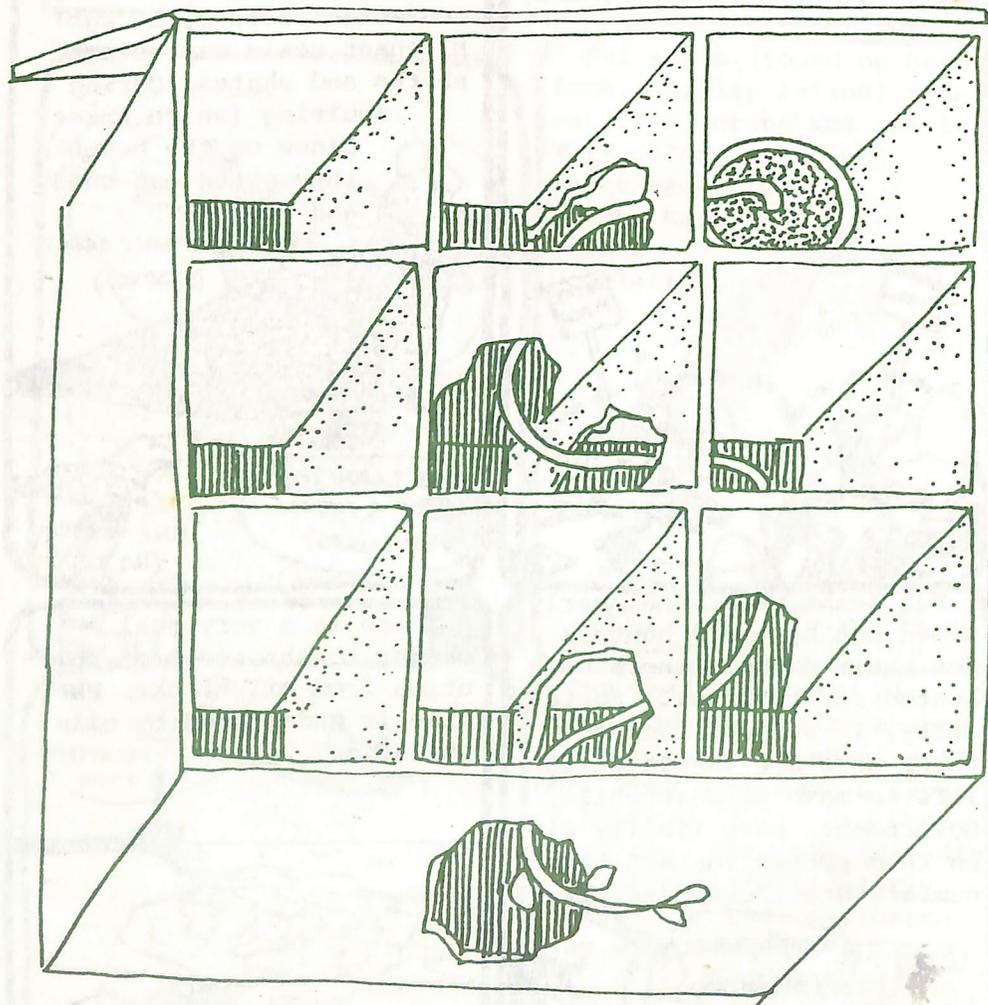


Fur seals were once nearly wiped out by early hunters for their skins. Others were hunted for their oil. Fortunately, it stopped because there were not enough seals left to make it worthwhile. Governments have finally given them protection and their numbers are increasing.



There is a very real danger to the seals of pollution from oil slicks. What else is endangered by oil pollution?





Smart beans

FROM "The Science Book"
by S. Stein, pages 98-99

Can a bean learn to get through a maze when light is its reward? Try it for yourself. Get a divided carton, with its top still attached, from the grocery or liquor store. Cut a two-inch hole in one side of the carton.

Plant three or four dried beans in a small pot and place it in a corner of the maze as far from the hole as you can. Over the next few weeks, keep the carton tightly covered so no light comes through the lid. You may have to seal it with freezer tape to keep light out. Put the box itself so that the hole faces a sunny window. Open the box every few days to water the beans. The illustration shows what will happen.

Plant stems always grow toward light; roots always grow toward the source of gravity. These are not the only things plants "know" how to do. If a carrot root hits against a stone, it will grow to one side until it is past the obstacle, and then continue downward. (Look for the crooked carrots that result; they are hard to find these days because farmers sift stones from the soil for carrot beds — but they miss a stone once in a while.) Some plant buds have heat sensors that test the air temperature, telling the plant when it is safe to open into leaf. A sensitive mimosa plant, sold as young plants and as seeds in plant stores, can feel even the slightest touch. If you brush your finger against a leaf, it folds up and pulls away from you.

To see if beans know which way is up, try this: crumple wet paper towels and stuff them in a jar. Place the dried beans between the paper and the glass. Keep the paper moist as the beans sprout and grow over the next week. When the roots and sprouts are over an inch long and the sprouts begin to show leaves on top, turn the jar upside down. Watch what happens over the next few days.

A lot of work will be saved if you start with a divided carton that has a cover. Cut holes in the dividers to make the carton into a maze. The hole in the outside should face sunlight. Place the bean, planted in a small pot of soil in the corner furthest from the outside hole.

P.S. Mimosa plants (or sensitive plants) are easily obtained from the Victorian State Schools Nursery and they really do 'flop' whenever they are touched!

DON'T BE CHEESED OFF BY BLUE FOOD

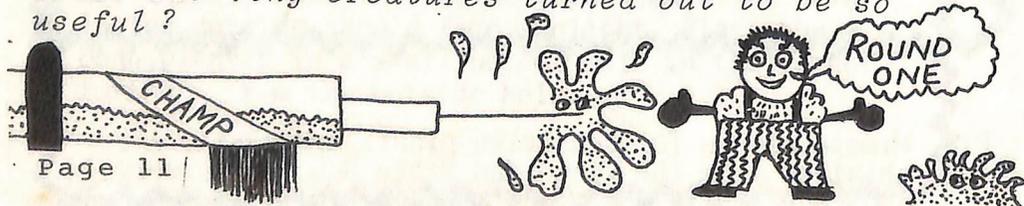
Anyone who eats Roquefort, Gorgonzola or any blue cheese eats a mould. Most of the moulds that give these cheeses their special flavour and decorative streaks are blue. Try a piece of blue cheese. How would you describe its taste? Those of you who sometimes forget to eat all your sandwiches at lunchtime and then two weeks later wonder what the mushy blue mess in your school bag is, will know all about mould. One of the commonest blue moulds is bread mould. This mould is very important to human beings. Blue bread mould is one of a family of moulds called *PENICILLIUM*. Most of you will have had a *PENICILLIN* injection at some stage in your lives. Find out how penicillin helps a sick person. Who discovered its healing powers and how did he do it?

HOW DOES PENICILLIN WORK?

Penicillin moulds make a poisonous juice which kills BACTERIA. Bacteria are tiny creatures so small that you cannot see them unless you have a microscope. Yet even though they are so small, bacteria can make people very sick and sometimes even kill them. Many stomach upsets have been caused by these tiny pests.

Bacteria and moulds are enemies. Both of them feed on the same sort of food. Sometimes there is not enough food for both the bacteria and the mould. When it makes a poisonous juice, the mould is trying to kill the bacteria and so get all the food for itself.

Isn't it lucky for us humans that a fight between these two tiny creatures turned out to be so useful?



INVITE A MOULD FOR DINNER

Mould spores float around everywhere in the air, inside and out. Have a look at mushroom spores and you will see that they are just like tiny specks of dust.

Mould spores are so tiny that you will never see them UNLESS you invite them to dinner. Once a mould starts eating, it is easy to feel, see and smell that it has arrived.

THE MENU

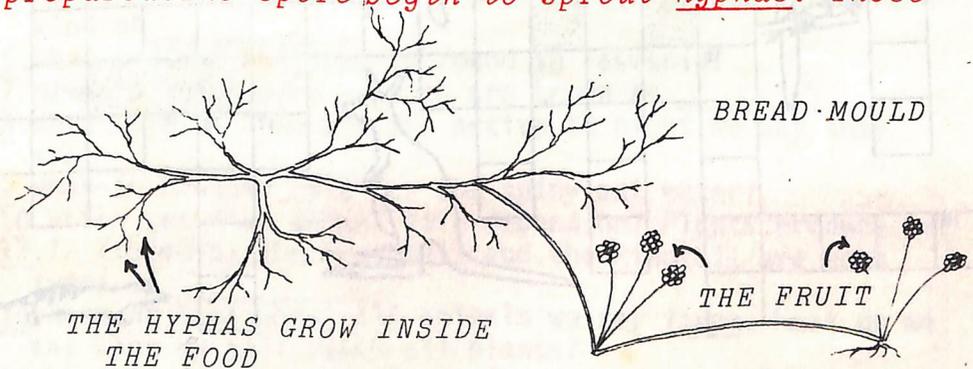
To set up a meal for moulds, collect a mixture of different types of food. You could start off with a slice of orange, a piece of bread, a bit of jelly, a blob of cream cheese, a spoonful of cooked potato or a piece of boiled egg. Blow each bag up and seal it tightly with a rubber band.

THE DINING ROOM

Keep the plastic bags in a dark place, like a cupboard. Forget all about the clean tablecloth, knives and forks—moulds prefer their dining rooms to look as 'rotten' as possible.

WHAT HAPPENS

A few different sorts of mould spores, already in the plastic bags, will discover the meal you have prepared. The spore begin to sprout hyphas. These



hyphas get pushed into the food. When they ripen, the hyphas send their fruit upwards, so that you can see it as a fuzz on the top of the food. Look at the fruit through a good magnifying glass—and remember they may be blue, white, black pink or even orange!

Are you game to drink live fungus?

Fungus Foam (or ginger beer as it is commonly known) is really a most delicious drink. It's main ingredient is yeast, a type of fungus that can put up with really hard conditions. Yeast can be bought in the supermarket as a dry powder or in a damp crumbly cake. Looking at the dried yeast cells, it's hard to imagine that you

are looking at living creatures, isn't it? Yet when these yeast cells are given a proper environment they leap into action. Here is a simple recipe for making bottles of your own Fungus Foam.

YOU WILL NEED: 2 cups of sugar, the juice from 2 lemons (strained), $7\frac{1}{2}$ litres of warm water, $\frac{1}{4}$ of a teaspoon of dried yeast dissolved in 1 cup of warm water, 1 tablespoon of cream of tartar, 4 to 6 tablespoons of powdered ginger and clean bottles with corks.

WHAT TO DO: In a large bowl, mix together the sugar, the lemon juice and the water. Stir until the sugar is dissolved. Let the mixture stand until it is lukewarm (when you dip a clean finger in, it feels neither hot or cold at all). Then add the cream of tartar and ginger to the yeast mixture, stir, then pour it all into the sugar mixture. Stir everything together well. Using a ladle and funnel, pour the mixture into the bottles. Cork them and store them on their sides for 5 days before drinking and store them well away from living areas just in case the yeast gets too excited and the bottle explodes.

