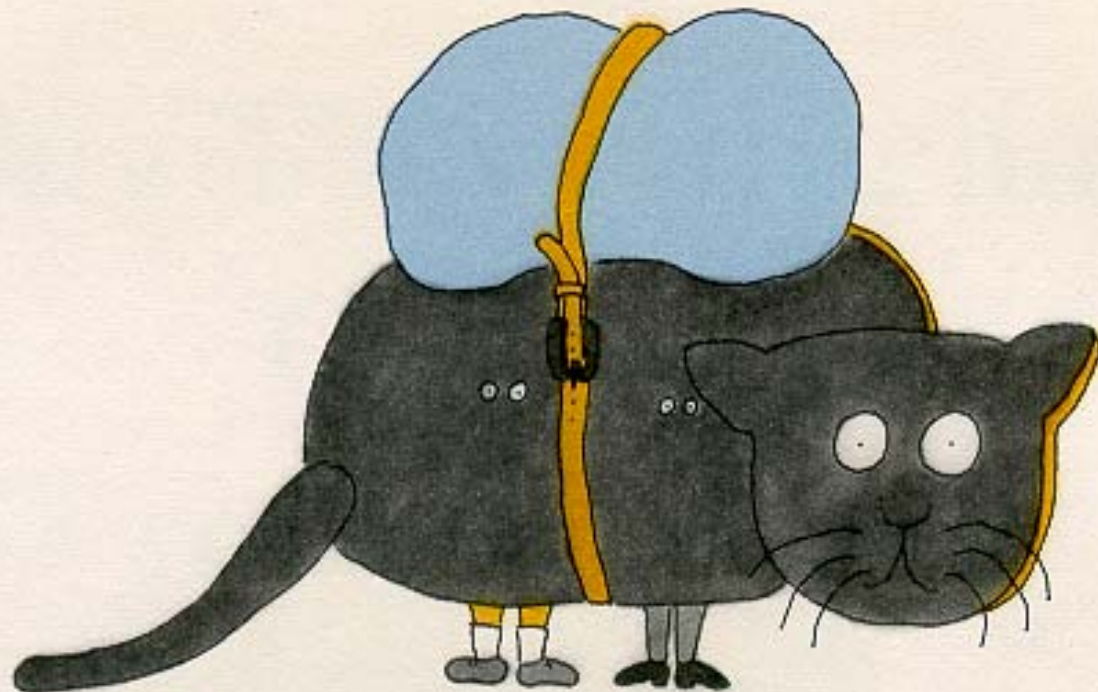




The Day They Parachuted Cats on Borneo

A Drama of Ecology



This is a true story about what happens to our environment when our solutions to one problem have unexpected consequences. The huts on the island of Borneo were sprayed with DDT to get rid of the malaria-infecting mosquitoes. DDT killed the mosquitoes but it also brought on a series of other troubles for the farmers. You will soon find out how parachuting pussycats came to the farmers' rescue.

The Day They Parachuted Cats On Borneo

A DRAMA OF ECOLOGY*

Play by Charlotte Pomerantz

Scenery by Jose Aruego

YOUNG SCOTT BOOKS

*Based on an actual event reported in The New York Times, November 13, 1969

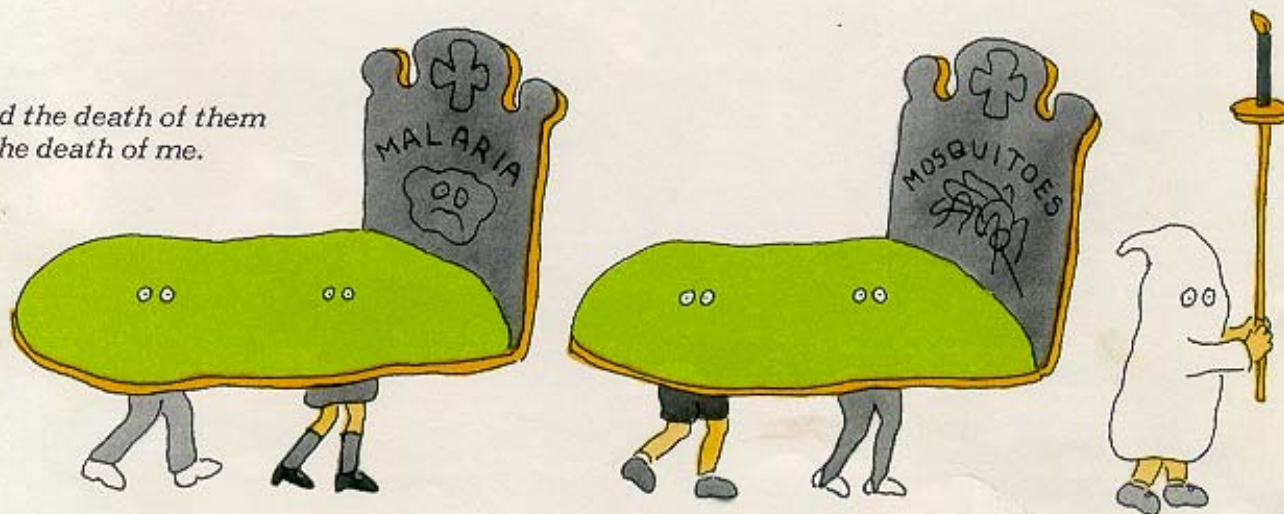
I I am the island of Borneo,
Where the farmer—poor farmer—bends low, bends low.
I have honey bears, rhinos, and tiger cats,
Great falcons, flamingoes, and foxy-faced bats.
I have gold and quicksilver, rubber and rice,
Cane sugar and spice—but not everything nice:
A land of harsh ridges and savage monsoon,
Of jungles as dark as the dark of the moon.
Land of thundering rains and earthquakes and heat,
Where the farmer's life is more bitter than sweet.
Land of mosquitoes, which carry with ease
The dreaded malaria, scourge and disease.

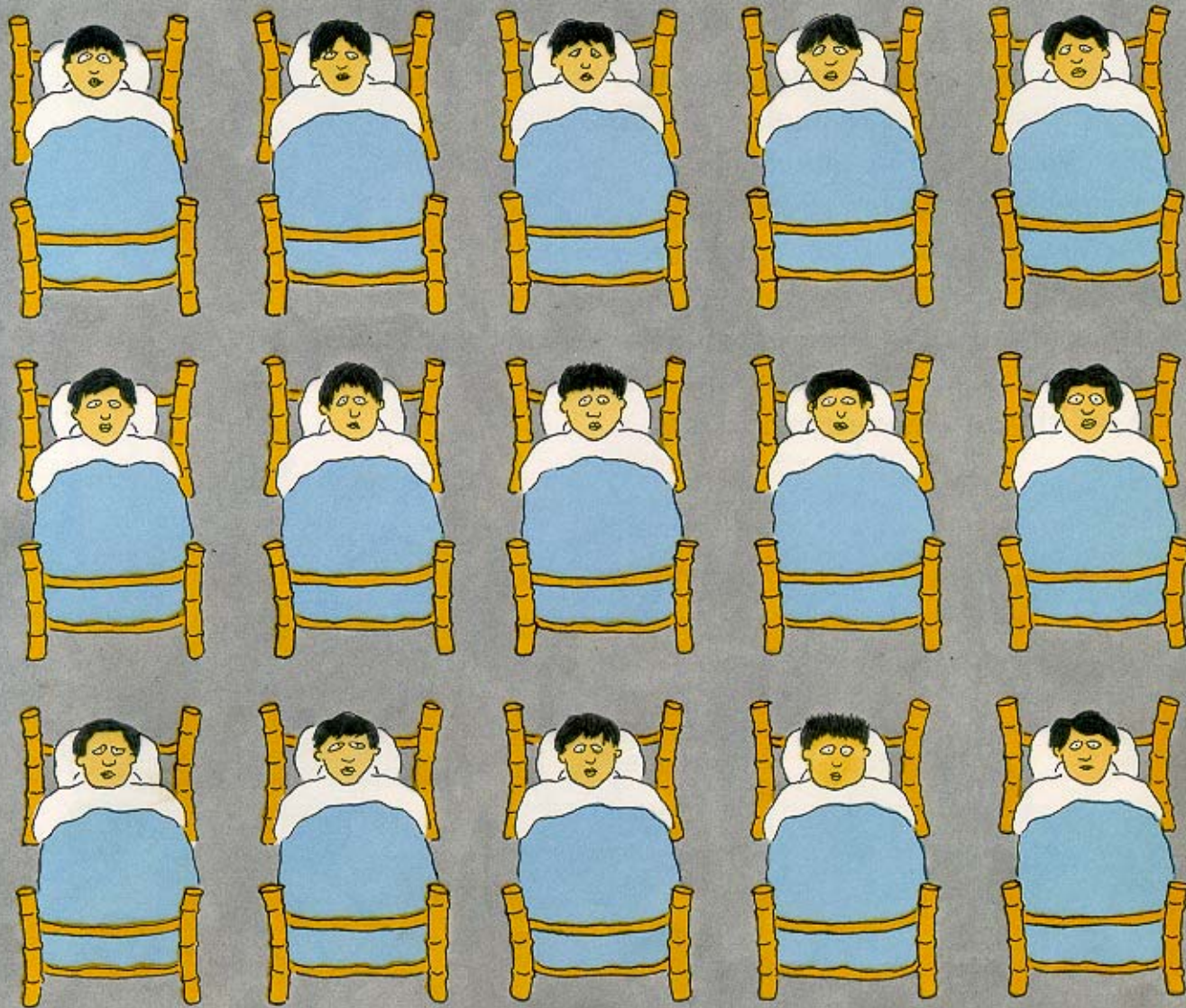




II I am malaria, dreaded disease.
I cause men to ache and to shake and to freeze.
Three hundred million a year do I seize.
One million I kill with remarkable ease.
But I'm not the big killer I used to be
In the good old days before—ugh!—DDT;
'Cause that stuff kills mosquitoes—one, two, three ...

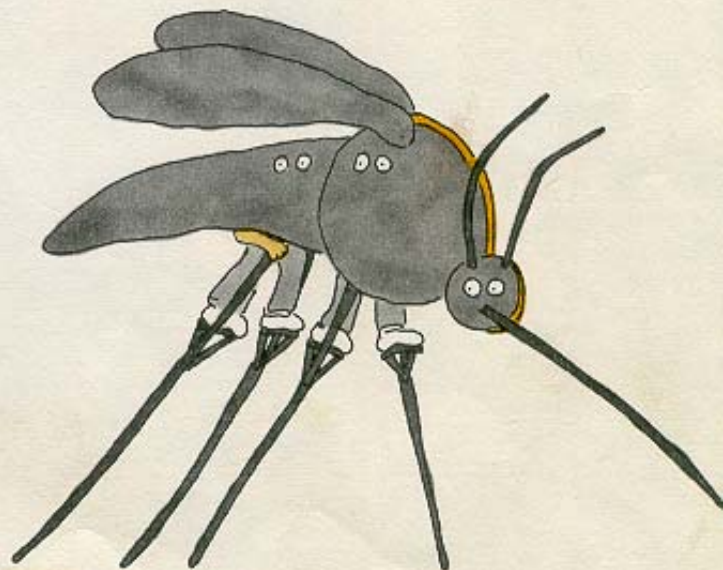
*And the death of them
is the death of me.*





III My name is dichloro-diphenyl-trichloroethane,
Which you've got to admit is a heck of a name.
But, perhaps, some of you have heard tell of me
By my well-known initials, which are DDT.
An organo-chlorine insecticide,
I come in a powder or liquified.
I'm death to mosquitoes outside or inside.
I was brought here by copter to Borneo,
Where the farmer—now hopeful—bends low, bends low.
My job is to kill that cruel killer of man:
A worthy and wise ecological plan.

*If you don't know
what ecology means,
you'll soon find out.*

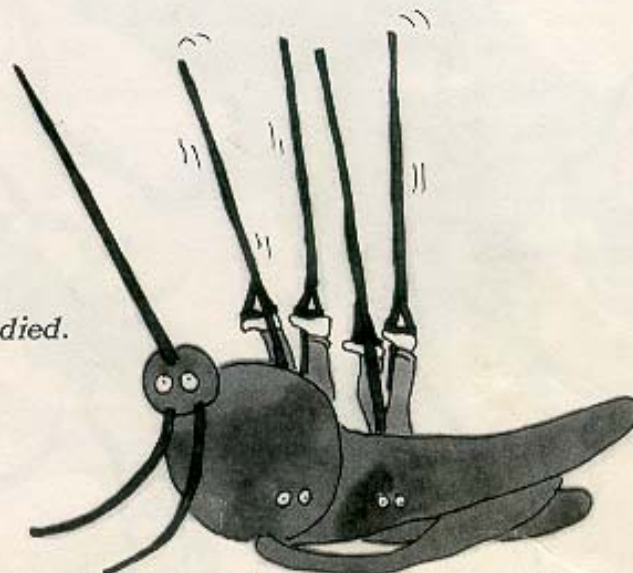




IV We are the mosquitoes who roam day and night,
Bringing death to the farmer with one small bite.
We like the farmer's hut—it buzzes with life.
There's the farmer, of course, his kids and his wife.
The caterpillars chew on the roof beams there,
While the geckoes, or lizards, roam everywhere.
There are lots of cockroaches, and always some cats
Who pounce on the lizards and scare away rats.
All of us are busy—busy looking for food.
Sometimes we eat each other, which may seem rather crude.
But imagine yourself in that hut, and I bet
You would rather eat someone than find yourself et.

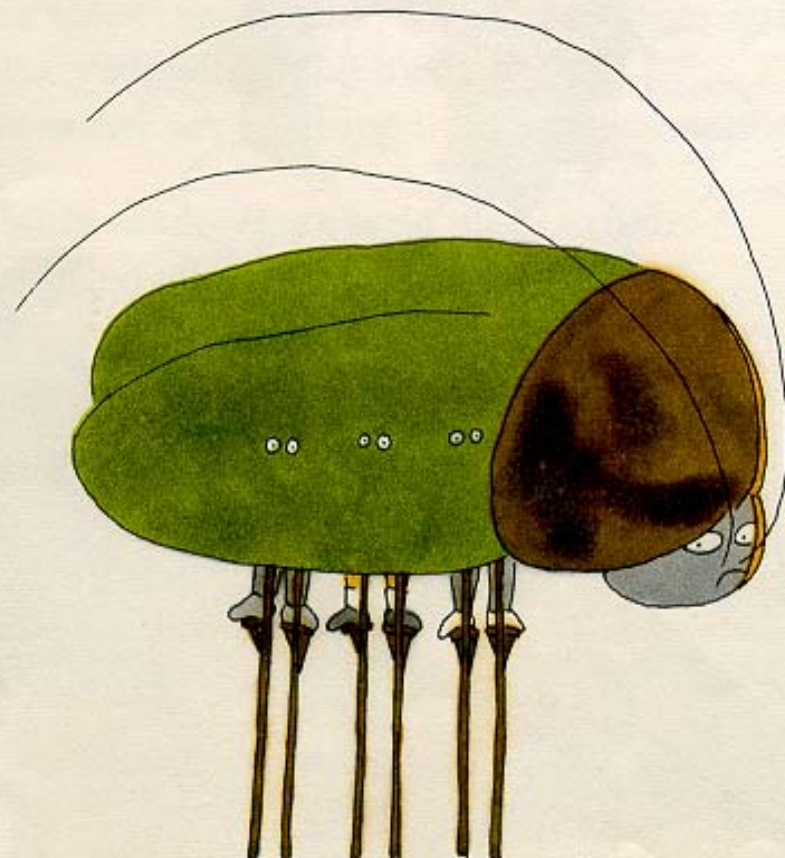
Now suddenly—zap!—there is no place to hide,
For they sprayed all the huts with insecticide.
That's the end of our tale.

Postscriptum: we died.





V We are the cockroaches, homeloving pests.
In most people's huts we are unwelcome guests.
When we all got sprayed with that DDT stuff,
The mosquitoes got killed—not us. We're too tough.
We just swallowed hard and kept right on a-crawling,
Despite the rude comments and vicious name-calling.

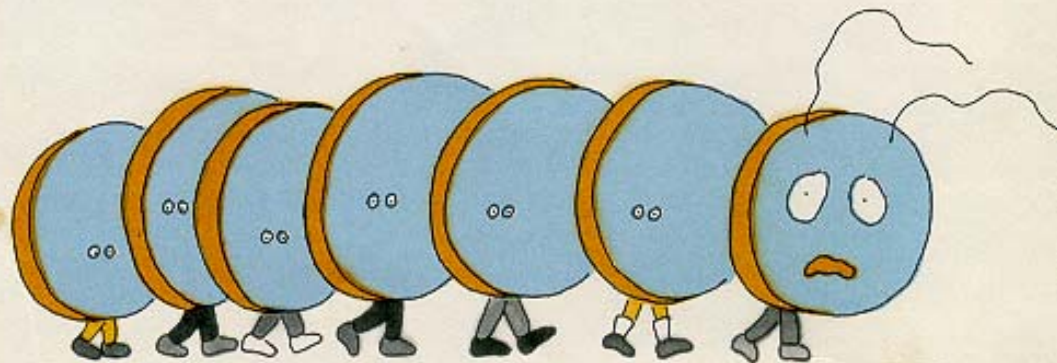


People are so anti-roach.



VI We're the hungry caterpillars of Borneo,
Where the farmer—also hungry—bends low, bends low.
We live on the roof beams, eating and hatching.
We make all our meals out of roof beams and thatching.
Nosh-nosh, nibble-nibble, munch-munch-munch,
For breakfast, supper, high tea and lunch.
Our life is as pleasant as green tea and roses,
Except when the lizards (gulp) poke in their noses.
Then nosh-nosh, nibble-nibble, munch-munch-munch,
The lizards ate half our cousins for lunch.
Those four-legged reptiles ruin our meals . . .

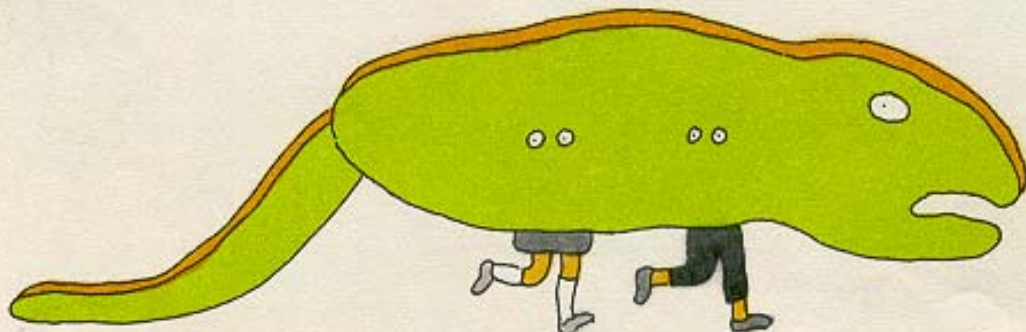
*You'd have to be eaten
to know how it feels.*





VII We are the lizards, or geckoes, by name.
To the farmer we're useful, we're charming, we're tame.
Over the floors, walls and roof beams we roam,
Of every tropical home sweet home.
For us, cockroaches are scrumptious to eat.
Almost as tasty as caterpillar meat.

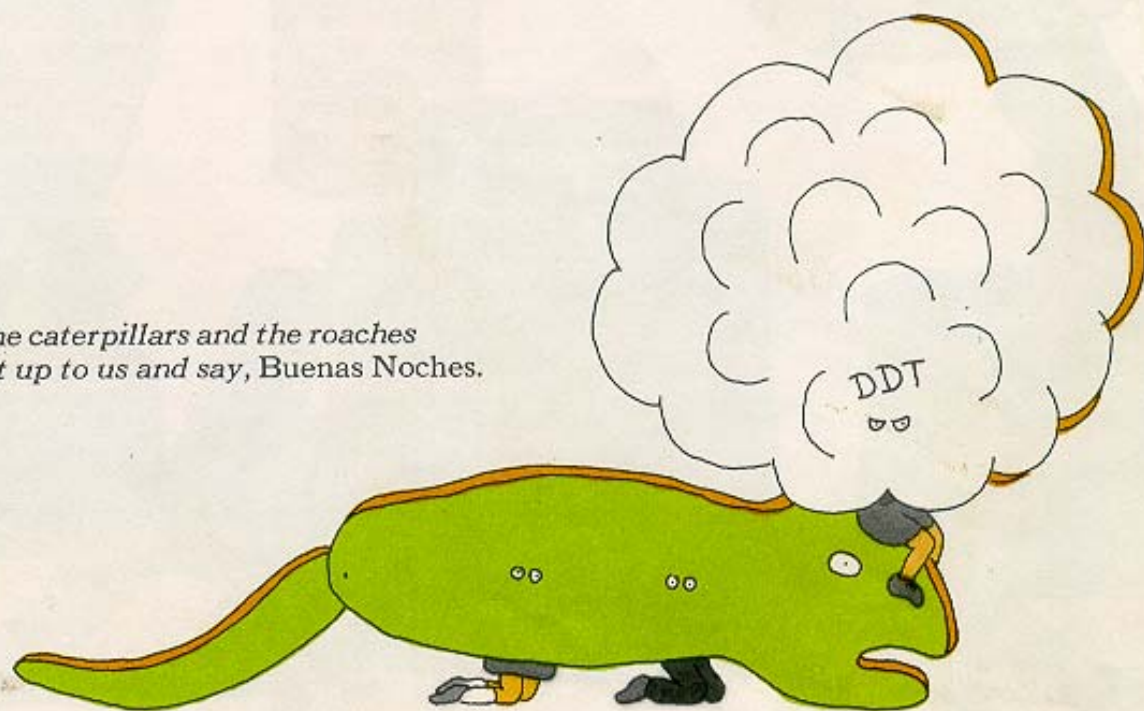
*It all seemed too good
to be true—and it was.*

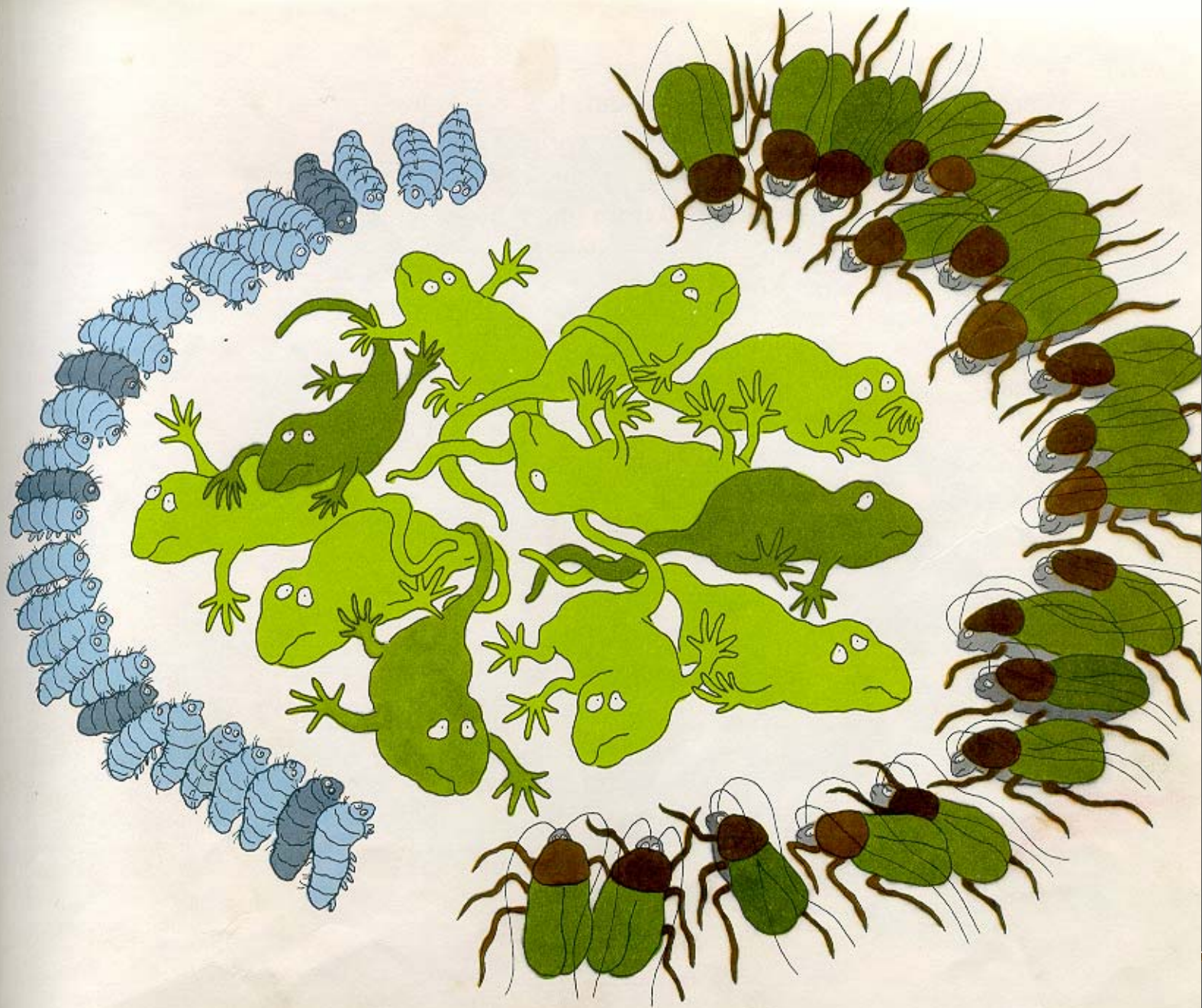




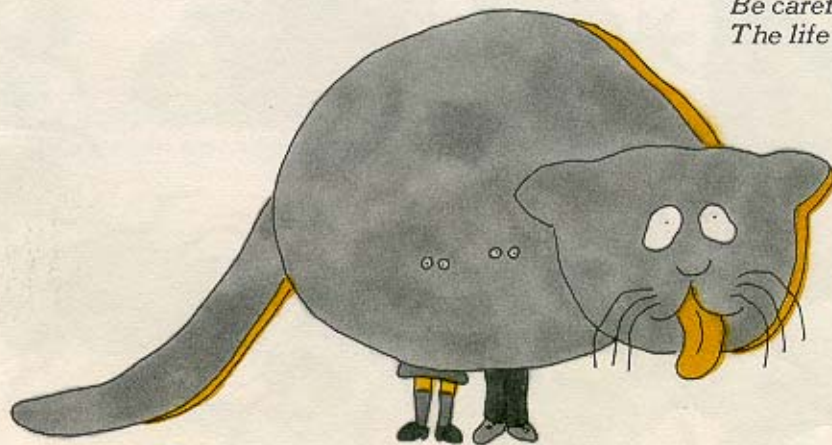
VIII Then the copters sprayed, and we lost our appetite.
Now we laze away the days, we snooze the balmy night.
For every roach we eat, though they *do* taste yummy,
Adds DDT to our little lizard tummy,
And makes our tiny nervous system sluggish and slow.
We geckoes—leaping lizards!—got no get-up-and-go.
It's true we're not dying of DDT,
But a slooow gecko ain't nooo gecko,
As the caterpillars can plainly see.
We watch them eating roof beams like there's no tomorrow,
While we lizards hold our tummies in pain and sorrow.

*At night the caterpillars and the roaches
Walk right up to us and say, Buenas Noches.*





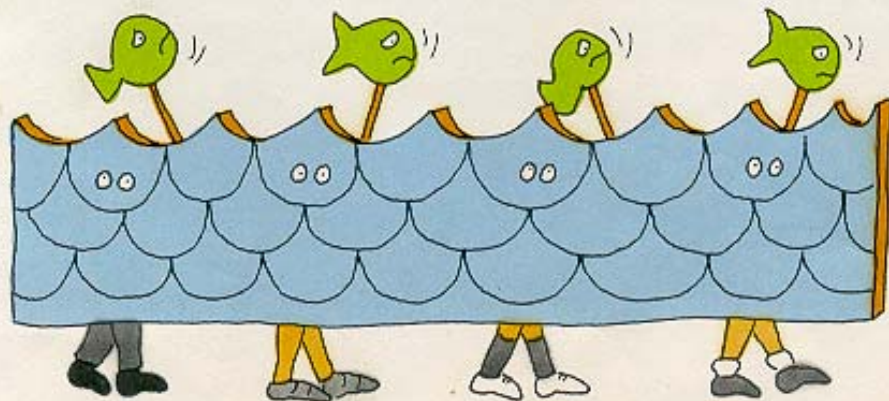
IX We're the cats on the island of Borneo
Where the farmer—who loves us—bends low, bends low.
Eating all those lizards, or geckoes, by name,
Is turning out to be (sigh) a dying shame,
'Cause those lizards are poisoned from tail to head,
And killing those lizards is killing us dead.
We poor cats got a massive overdose.
What's left to say
(Sob)
Except *adios*.



*Be careful of the lizard you eat.
The life you take may be your own.*



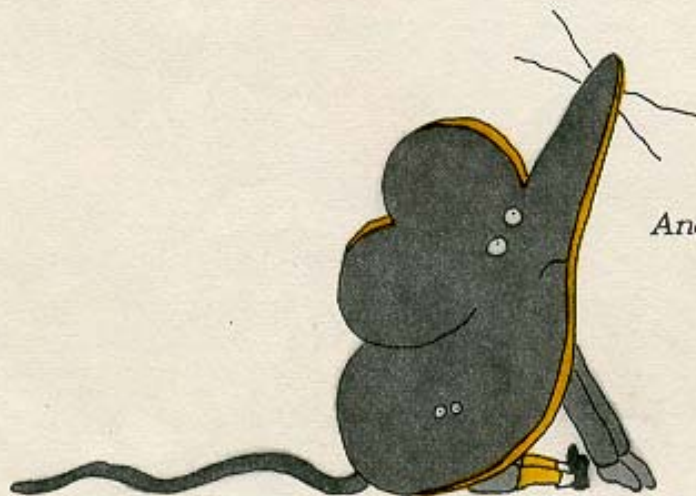
X We're the rivers, the rivers of Borneo.
We watch little man come and go, come and go.
We watched him kill mosquitoes with pesticide.
Saw the roaches poisoned, though not one cockroach died
Till ...
The hungry lizards ate them, one by one by one.
Oh what a feast they had—it seemed like good clean fun.
But every roach they ate, though they *did* taste yummy,
Added DDT to their little lizard tummy.
Then the lizards were filled with deadly pesticide.
They felt pretty punchy, though not one lizard died
Till ...
The hungry cats devoured them, one by one by one.
Oh what a feast they had—it seemed like good clean fun.
But every liz they ate, though they *did* taste yummy,
Killed the cats by poisoning their DD Toxic tummy.
Now this poor old island is steeped in poison air.
Our waters, too, are poisoned. Little man, take care!



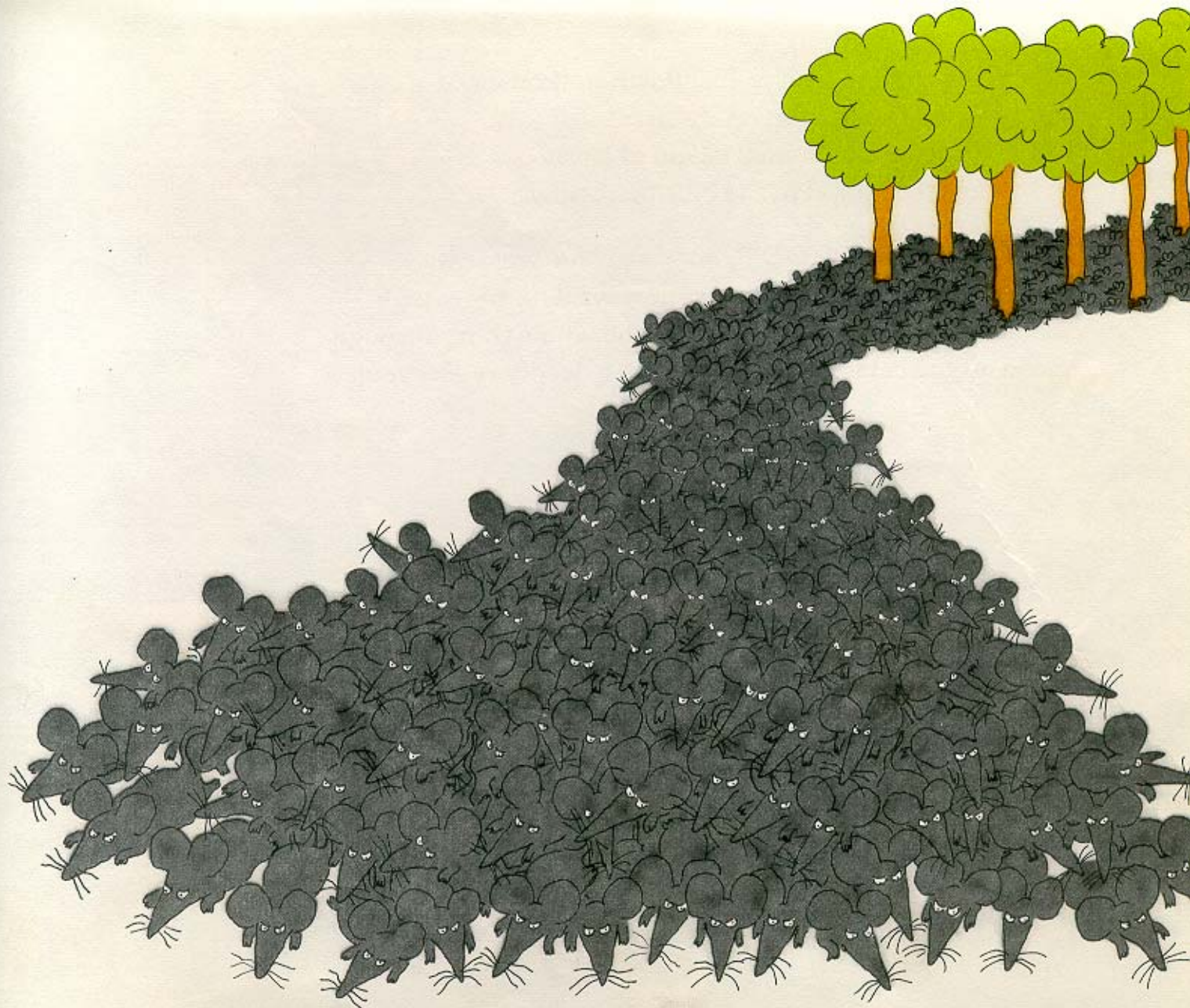
*Whoever thought that little man
could affect us mighty rivers?
But the rain has washed the DDT
into our waters, and our
tenants, the friendly fish,
are feeling pretty rocky.*



XI We're the rats on the island of Borneo,
We never had it so good—heigh—dee—ho.
When the cats who had swallowed the geckoes lay dying,
We crawled in by thousands from forests outlying.
When the farmers saw us, they raised an anguished cry:
“Rats bring plague! Fly in help, or we shall surely die.
Help us, men of science, help us kill the rats;
For the DDT you sprayed has killed off all our cats!”
“Borneo for rent,” we sang. “Inquire, please, within.
When the cats die off from DDT, we rats—move—in.”

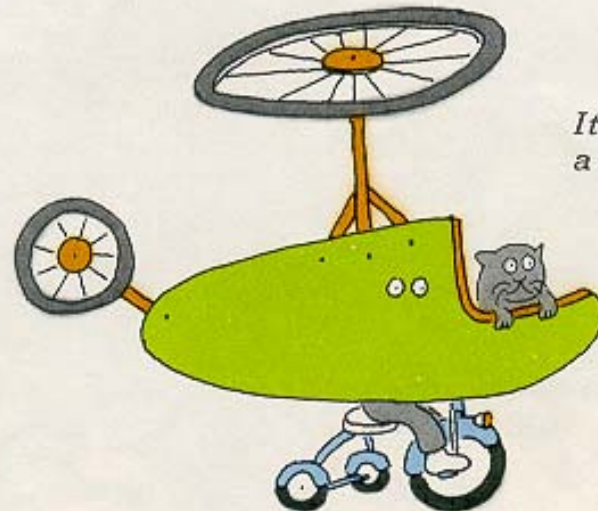


And then the helicopters came ...



XII We're the copters who've just flown in thousands of cats
And chuted them down on the armies of rats,
On the plague-threatened island of Borneo,
A bright green jewel in the blue sea below.

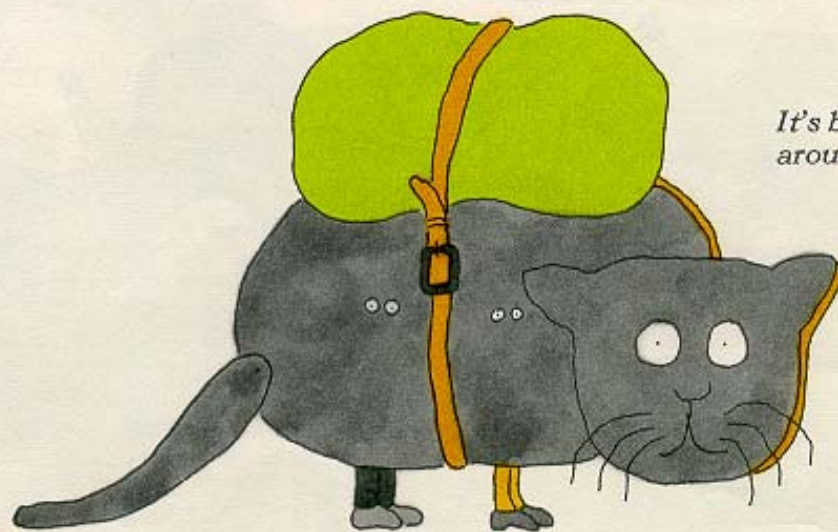
Once we came with DDT; now we come with cats.
Once we sprayed mosquitoes; now we'll fix the rats.
Looks like no one really thought the whole thing through...
Soon all the cats and rats will have a deadly rendezvous.



*It was, all told,
a rather unusual assignment.*



XIII We're the parapussycats they parachuted down
On every cat-killed, rat-filled little village and town
On the dead-cat, dread-rat island of Borneo,
Where the farmer—strictly catless—bends low, low, low.

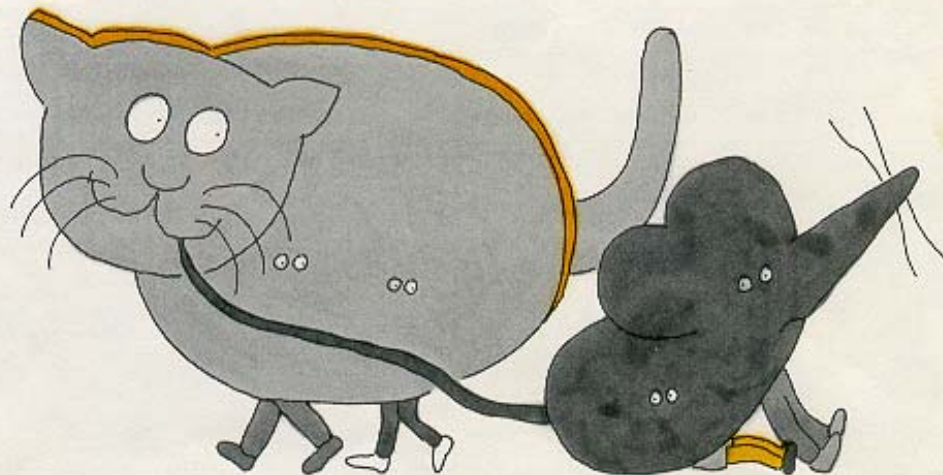


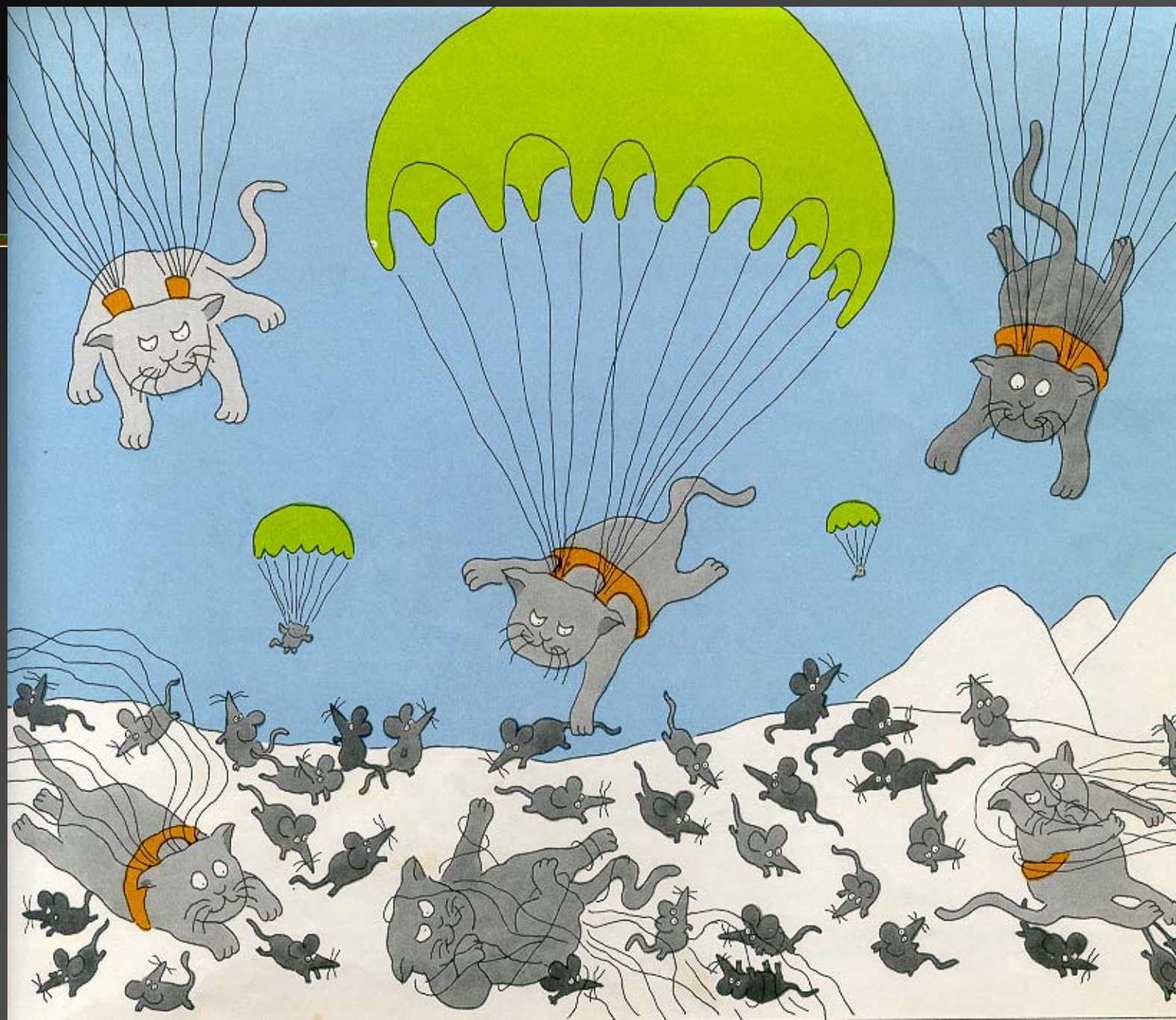
*It's better than hanging
around fish markets.*



XIV When we parapussycats were dropped to the ground,
What a feast we had—there were rats all around.
Everywhere you looked there were rats and rats and rats
Pursued by our élite corps of parapussycats.
We chased the rats for days, till most of them had fled,
And those who didn't run fast enough were—biff bam!—dead.

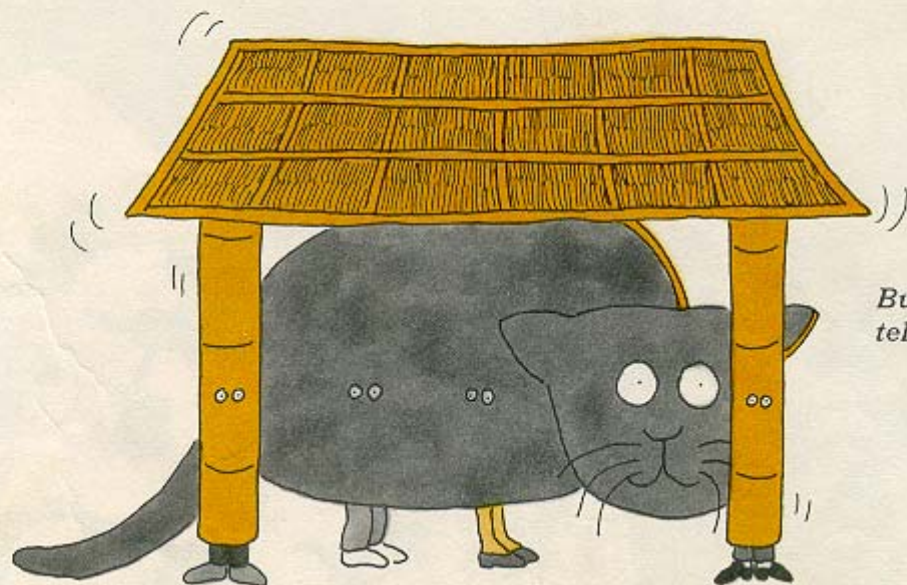
*Mission accomplished.
All parapussycats have returned to quarters.*





XV The good farmers gave us a ticker-tape parade.
They heaped us with ivory, gold and silk brocade.
They said they would grant us our most fantastic wish—
So we asked them for five hundred kettles of fish.
We were wined, we were dined, we slept in king-size beds,
Till we heard a strange creaking just over our heads . . .

KA-RASH!



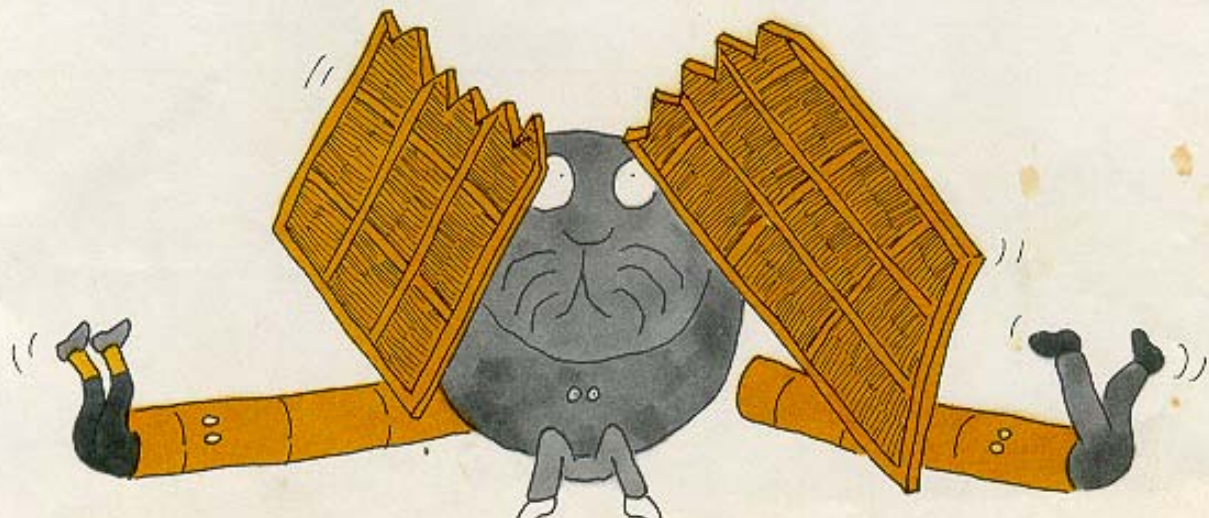
*But let the roof beams
tell their own story.*

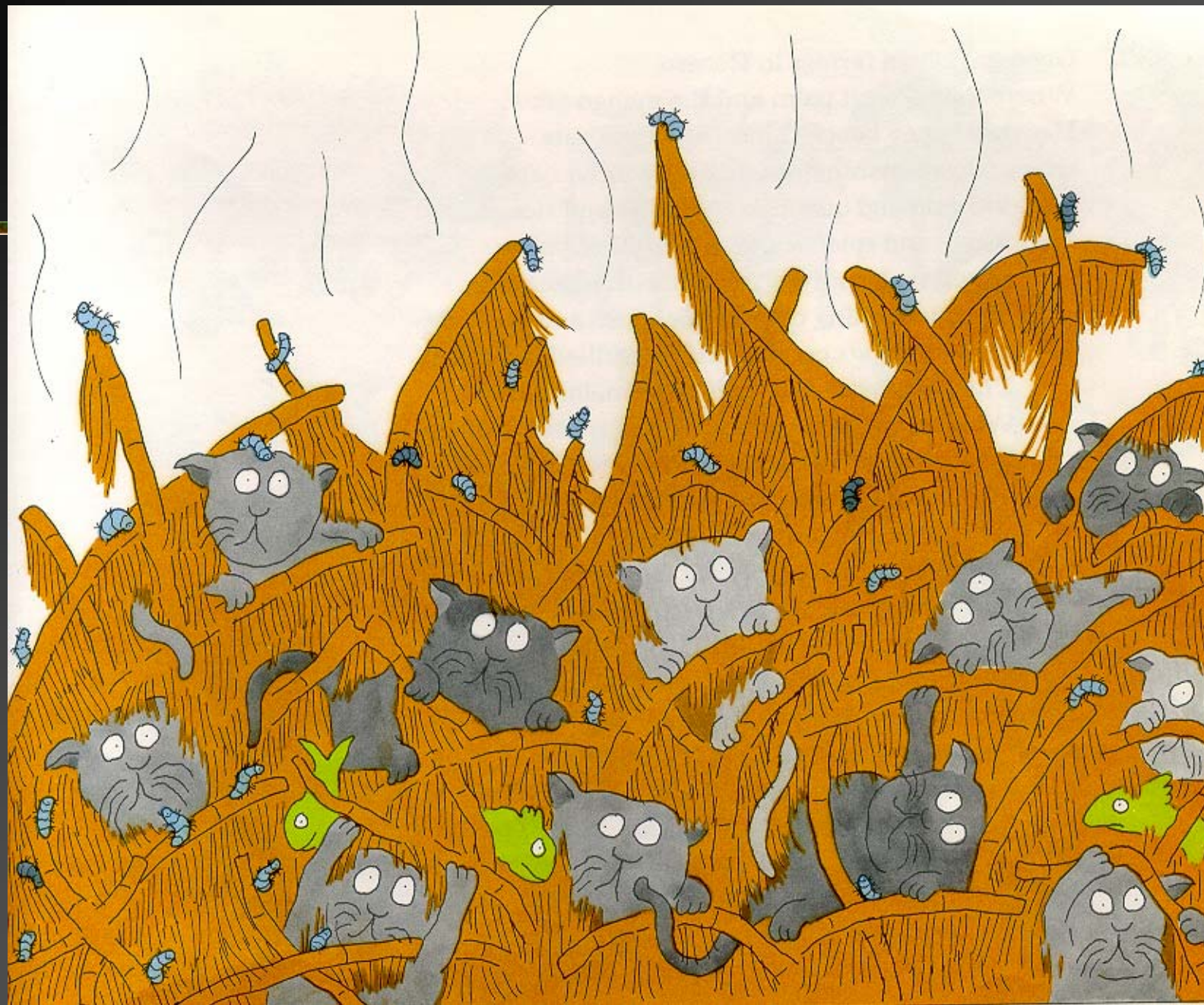


XVI We're the roof beams of thatched huts in Borneo,
Where the farmer—enduring—bends low, bends low.
If a man, now and then, did some roof patching,
Replaced chewed-up beams and half-eaten thatching,
We could keep out the wind, the rain, and the sun,
And shelter a man when his labors were done.
Despite caterpillars, we roof beams stayed strong,
And the lizards, by eating them, helped us along.
For the lizard, you see, was the number-one killer
Of the beam-eating (nosh-nosh) cater- (nosh-nosh) pillar.

Now we mourn the little lizards—may they rest in peace—
While the greedy caterpillars (burp) get more and more obese.

To be frank, we roofs are in a state of collapse.





XVII Good day, I'm a farmer in Borneo,
Where the coconut palm and the mango grow.
Here are honey bears, rhinos, and tiger cats.
Great falcons, flamingoes, and foxy-faced bats.
Here are gold and quicksilver, rubber and rice,
Cane sugar and spice—but not everything nice:
 When they sprayed my hut with insecticide,
 My rat-catching cat soon sickened and died.
 When the rats crawled in, I was filled with fear:
 The plague can kill more than malaria here.
 When my roof beams caved in, I moved next door,
 Until *their* roof beams collapsed to the floor.
But please do not think I wish to offend,
For DDT is the farmer's good friend.
Still, perhaps you'll allow a poor man to say,
He hopes men of science will soon find a way
To kill the mosquitoes till all, all are dead—
But save the roof beams which are over my head,
As well as my most useful rat-catching cat.
How grateful I'd be if you'd only do that!
 Then, men of science, I would not complain.
 But now I must look to my roof—I smell rain!





XVIII I am an ecologist. Ecology is the study of living things in relation to the world around them—everything around them—air, water, rocks, soil, plants, and animals, including man.

If a tree is cut down, I try to find out what will happen to the birds in the nests, the squirrels in the branches, the insects at the roots. I know that the roots of the tree hold the earth, that the earth holds the rainwater, and that the rainwater keeps the soil moist, so that plants can grow. I am concerned if too many trees are cut down, for then the rain will run off the surface of the soil, making the rivers rise, overflow their banks and flood the land. This is the kind of thing an ecologist thinks about.

Borneo is a huge island in Southeast Asia—the third largest in the world and bigger than all of Texas. It straddles the equator, which is why the climate is hot and steamy. Someone has said that there are two seasons in Borneo—a wet season and a less wet season.

The people are mainly Malays and Dyaks. The Malays, who live near the coast, are rice farmers and fishermen. Some work on rubber plantations or in the oil fields, for Borneo is rich in oil. Inland are high mountain ranges, where most of the Dyaks live. Until recently, they were headhunters—the wild men of Borneo—and they still hunt with blowguns and poi-



soned darts. The women grow rice, yams, and sugarcane in tiny forest clearings.

Most of Borneo is part of the Republic of Indonesia. Some of it belongs to Malaysia, and a tiny part is a British-protected state run by a sultan. It is an island of dense tropical forests, where vines grow as high as a thousand feet, where orangutans swing through the trees, and where the giant long-nosed proboscis monkey can grow as tall as a man. There is also a great variety of insects, including the anopheles mosquito. This mosquito carries malaria and is the reason I was sent to Borneo.

Mosquitoes breed in wet places, and there are many swamps and rain holes in Borneo. In the old days, we used to fight mosquitoes by draining swamps, when possible, and by spraying a thin film of oil on stagnant waters during the breeding season. Those who could afford to, put screens on doors, windows, and openings to keep the mosquitoes out. All this helped to keep malaria down, but millions of people still got sick.

Then, during World War II, a scientist discovered that a certain chemical compound, called dichlorodiphenyl-trichloroethane—DDT for short—was a marvelous insect killer. The discoverer, Dr. Paul Mueller of Switzerland, received the Nobel Prize for his discovery.



In Borneo, we sprayed the walls and insides of the huts with DDT. You know what happened: we killed the mosquitoes—and ended up with no cats. We had not realized how much DDT can accumulate in the fatty tissues of animals. Even a tiny amount of DDT in food or drinking water, with repeated meals, builds up and up until the quantity is large enough to poison a large animal, such as a cat.

As you know, with the cats dead, the rats took over and brought the threat of plague. So cats were flown in to stop the rats. Then, just when matters seemed under control—the roofs fell down. This is but a small example of the complex and subtle connections and balances which exist among all living things.

Because of the poisonous effects of DDT, it has been banned or restricted in the United States, the Soviet Union, and other industrial countries. In December, 1969, at a world conference of the Food and Agricultural Organization (a body of the United Nations), an attempt was made to ban the use of DDT all over the world. But the majority of scientists, representing the nonindustrial countries, refused to go along with the ban. They knew DDT was dangerous to health, but they needed it to control malaria and other diseases, and to protect food crops from insect destruction. The alternatives to DDT are expensive, and the



nonindustrial countries, which contain about eighty per cent of the world's population, cannot afford them, for they are very poor.

In El Salvador, for example, the cost of DDT to control malaria is ten cents a person. Other insecticides would cost at least three times that much. Where is the money to come from?

The wealthy nations pointed out that the danger of pesticides is everyone's responsibility, for when you pollute the atmosphere, and the waters which flow to the oceans, everyone suffers. Ecologically, the nations of the earth are one.

The poor nations replied that the wealthy nations are not faced with malaria epidemics, wholesale destruction of their food supply, and mass starvation. They can afford to worry about the future of the environment. The poor nations can only think of day-to-day survival. Seventy-five per cent of the people in the world go to bed hungry, and the great majority of them are in the poor, nonindustrial countries.

Ecologists from underdeveloped countries, faced with starvation and disease, can only choose the lesser evil-DDT. But the real answer to their problem is to find new solutions. Work is going forward on drugs for the prevention of malaria. Unfortunately, these new drugs have some bad side effects. Others are not



effective for all kinds of malaria. And all drugs are very expensive.

A more fruitful road is for scientists to seek an insecticide that kills mosquitoes and nothing else. Scientists have discovered that under crowded conditions, some mosquitoes release a toxic chemical that kills young mosquitoes. If they can isolate and synthesize that chemical, it would be a great step forward in malaria control.

Another possibility, which shows considerable promise, is to breed a variety of mosquito which leaves seventy-five per cent of the female eggs unfertilized. Released among other mosquitoes, this new strain transmits its infertility to all the offspring. Thus each generation would breed fewer and fewer mosquitoes.

We've been talking about DDT and the farmers of Borneo, but ecological problems are extremely varied and serious, and they cover the whole world. For example, the fumes of automobile exhausts have greatly increased the number of people who get lung diseases. Atomic radiation has increased the incidence of certain types of cancer. The hot water from power plants, when poured into lakes and rivers, kills the fishes.

There is pollution by lumber mills in Lake Baikal in the Soviet Union. There is too much sewage in the canals of Amsterdam and Venice. The Danube is no



longer blue. One can no longer swim in the Rhine in Germany, or in the Seine in Paris, or in our own Hudson River. Whole stretches of beaches in Italy, South America, England, and the United States have been polluted with oil slicks from the sea.

This is bad enough, but if the oil spills continue, worse will follow: a thin film of oil will spread over all the oceans. This will cut down the sunlight which very tiny plants, called diatoms, need both to reproduce and to live. These tiny plants, billions and billions of them, are the source of food for all the fishes of the sea. Further, these tiny plants use sunlight to combine with water to form carbon dioxide (used as food by them) and oxygen which is released into the air. Eighty per cent of all the oxygen in the world comes from these tiny plants. If sunlight is cut down and the amount of oxygen is reduced, the whole animal kingdom, including man, will suffer.

We need to know these things, so that we can do something to keep the air and water clean for all the people, as well as for all the animals and plants in the world. The ecologist should not protect the farmer against malaria with one hand and bring the roof down on his head with the other. But the answer is not for the ecologist to do nothing, but to be wiser about what he does. This is the moral of Borneo.

