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The Force That Drives the Flower - Page 2

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The landscape of earth is dotted and smeared with masses of apparently identical individual animals, from the great Pleistocene herds that blanketed grasslands to the gluey gobs of bacteria that clog the lobes of lungs. The oceanic breeding grounds of pelagic birds are as teeming and cluttered as any human Calcutta. Lemmings blacken the earth and locusts the air. Grunion run thick in the ocean, corals pile on pile, and protozoans explode in a red tide stain. Ants take to the skies in swarms, mayflies hatch by the millions, and molting cicadas coat the trunks of trees. Have you seen the rivers run red and lumpy with salmon?

Consider the ordinary barnacle, the rock barnacle. Inside every one of those millions of hard white cones on the rocks—the kind that bruises your heel as you bruise its head—is of course a creature as alive as you or me. Its business in life is this: when a wave washes over it, it sticks out twelve feathery feeding appendages and filters the plankton for food. As it grows, it sheds its skin like a lobster, enlarges its shell, and reproduces itself without end. The larvae "hatch into the sea in milky clouds." The barnacles encrusting a single half-mile of shore can leak into the water a million million larvae.

How many is that to a human mouthful? In sea water they grow, molt, change shape wildly, and eventually, after several months, settle on the rocks, turn into adults, and build shells. Inside the shells they have to shed their skins. Rachel Carson was always finding the old skins; she reported: "Almost every container of sea water I bring up from the shore is flecked with white, semitransparent objects.... Seen under the microscope, every detail of structure is perfectly represented.... In the little cellophane-like replicas I can count the joints of the appendages; even the bristles, growing at the bases of the joints, seem to have been slipped out of their casings." All in all, rock barnacles may live four years.

My point about rock barnacles is those million million larvae "in milky clouds" and those shed flecks of skin. Sea water seems suddenly to be but a broth of barnacle bits. Can I fancy that a million million human infants are more real?

I have seen the mantis' abdomen dribbling out eggs in wet bubbles like tapioca pudding glued to a thorn. I have seen a film of a termite queen as big as my face, dead white and featureless, glistening with slime, throbbing and pulsing out rivers of globular eggs. Termite workers, who looked like tiny dock workers unloading the Queen Mary, licked each egg to prevent mold as fast as it was extruded. The whole world is an incubator for incalculable numbers of eggs, each one coded minutely and ready to burst.

The egg of a parasite chalcid fly, a common small fly, multiplies unassisted, making ever

more identical eggs. The female lays a single fertilized egg in the flaccid tissues of its live prey, and that egg divides and divides. As many as 2000 new parasitic flies will hatch to feed on the host's body with identical hunger. Similarly—only more so—Edwin Way Teale reports that a lone aphid, without a partner, breeding "unmolested" for one year, would produce so many living aphids that, although they are only a tenth of an inch long, together they would extend into space 2500 *light-years*. Even the average goldfish lays 5000 eggs, which it will eat as fast as it lays, if permitted. The sales manager of Ozark Fisheries in Missouri, which raises commercial goldfish for the likes of me, said, "We produce, measure, and sell our product by the ton." The intricacy of goldfish and aphids multiplied mindlessly into tons and light-years is more than extravagance; it is holocaust, parody, glut.

The pressure of growth among animals is a kind of terrible hunger. These billions must eat in order to fuel their surge to sexual maturity so that they may pump out more billions of eggs. And what are the fish on the bed going to eat, or hatched mantises in a Mason jar going to eat, but each other? There is a terrible innocence in the benumbed world of the lower animals, reducing life there to a universal chomp. Edwin Way Teale, in *The Strange Lives of Familiar Insects*—a book I couldn't live without—describes several occasions of meals mouthed under the pressure of a hunger that knew no bounds.

There is the dragonfly nymph, for instance,

which stalks the bottom of the creek and the pond in search of live prey to snare with its hooked, unfolding lip. Dragonfly nymphs are insatiable and mighty. They clasp and devour whole minnows and fat tadpoles. "A dragonfly nymph," says Teale, "has even been seen climbing up out of the water on a plant to attack a helpless dragonfly emerging, soft and rumped, from its nymphal skin." Is this where I draw the line?

It is between mothers and their offspring that these feedings have truly macabre overtones. Look at lacewings. Lacewings are those fragile green creatures with large, transparent wings. The larvae eat enormous numbers of aphids, the adults mate in a fluttering rush of instinct, lay eggs, and die by the millions in the first cold snap of fall. Sometimes, when a female lays her fertile eggs on a green leaf atop a slender stalked thread, she is hungry. She pauses in her laying, turns around, and eats her eggs one by one, then lays some more, and eats them, too.

Anything can happen, and anything does; what's it all about? Valerie Eliot, T. S. Eliot's widow, wrote in a letter to the *London Times*: "My husband, T. S. Eliot, loved to recount how late one evening he stopped a taxi. As he got in the driver said: 'You're T. S. Eliot.' When asked how he knew, he replied: 'Ah, I've got an eye for a celebrity. Only the other evening I picked up Bertrand Russell, and I said to him, "Well, Lord Russell, what's it all about," and, do you know, he couldn't tell me.'" Well, Lord God, asks the delicate, dying lacewing whose mandibles are wet with the juice secreted by her own

ovipositor, what's it all about? ("And, do you know...")

Although mothers devouring their own offspring is patently the more senseless, somehow the reverse behavior is the more appalling. In the death of the parent in the jaws of its offspring I recognize a universal drama that chance occurrence has merely telescoped, so that I can see all the players at once. Gall gnats, for instance, are common small flies. Sometimes, according to Teale, a gall gnat larva, which does not resemble the adult in the least, and has certainly not mated, nevertheless produces within its body eggs, live eggs, which then hatch within its soft tissues. Sometimes the eggs hatch alive even within the quiescent body of the pupa. The same incredible thing occasionally occurs within the genus *Miastor*, again to both larvae and pupae. "These eggs hatch within their bodies and the ravenous larvae which emerge immediately begin devouring their parents." In this case, I know what it's all about, and I wish I didn't. The parents die, the next generation lives, *ad majorem gloriam*, and so it goes.

You are an ichneumon wasp. You mated and your eggs are fertile. If you can't see a caterpillar on which to lay your eggs, your young will starve. When the eggs hatch, the young will eat any body in which they find themselves, so if you don't kill them by emitting them broadcast over the landscape, they'll eat you alive. But if you let them drop over the fields you will probably be dead yourself, of old age, before they even hatch to starve, and the whole show

will be over and done, and a wretched one it was. You feel them coming, and coming, and you struggle to rise....

Not that the ichneumon wasp is making any conscious choice. If she were, her dilemma would be truly the stuff of tragedy; Aeschylus need have looked no further than the ichneumon. That is, it would be the stuff of real tragedy if only Aeschylus and I could convince you that the ichneumon is really and truly as alive as we are, and that what happens to it matters. Will you take it on faith?

Here is one last story. It shows that the pressures of growth "gang aft a-gley." The clothes moth, whose caterpillar eats wool, sometimes goes into a molting frenzy that Teale describes as "curious." "A curious paradox in molting is the action of a clothes-moth larva with insufficient food. It sometimes goes into a 'molting frenzy,' changing its skin repeatedly and getting smaller and smaller with each change." Smaller and smaller ... can you imagine the frenzy? Where shall we send our sweaters? The diminution process could, in imagination, extend to infinity, as the creature frantically shrinks and shrinks and shrinks to the size of a molecule, then an electron, but never can shrink to absolute nothing and end its terrible hunger. I feel like Ezra: "And when I heard this thing, I rent my garment and my mantle, and plucked off the hair of my head and of my beard, and sat down astonished."

I am not kidding anyone if I pretend that these awesome pressures to eat and breed are

wholly mystifying. The million million barnacle larvae in a half-mile of shore water, the rivers of termite eggs, and the light-years of aphids ensure the living presence, in a scarcely concerned world, of ever more rock barnacles, termites, and aphids.

It's chancy out there. Dog whelks eat rock barnacles, worms invade their shells, shore ice razes them from the rocks and grinds them to a powder. Can you lay aphid eggs faster than chickadees can eat them? Can you find a caterpillar, can you beat the killing frost?

As far as lower animals go, if you lead a simple life you probably face a boring death. Some animals, however, lead such complicated lives that not only do the chances for any one animal's death at any minute multiply greatly but so also do the varieties of the deaths it might die. The ordained paths of some animals are so rocky they are preposterous. The horsehair worm in the duck pond, for instance, wriggling so serenely near the surface, is the survivor of an impossible series of squeaky escapes. I did a bit of research into the life cycles of these worms, which are shaped exactly like hairs from a horse's tail, and learned that although scientists are not exactly sure what happens to any one species of them, they think it might go something like this:

You start with long strands of eggs wrapped around vegetation in the duck pond. The eggs hatch, the larvae emerge, and each seeks an aquatic host, say a dragonfly nymph. The larva bores into the nymph's body, where it feeds and grows and somehow escapes. Then if it doesn't

get eaten, it swims over to the shore where it encysts on submersed plants. This is all fairly improbable, but not impossibly so.

Now the coincidences begin. First, presumably, the water level of the duck pond has to drop. This exposes the vegetation so that the land host organism can get at it without drowning. Horsehair worms have various land hosts, such as crickets, beetles, and grasshoppers. Let's say ours can only make it if a grasshopper comes along. Fine. But the grasshopper had best hurry, for there is only so much fat stored in the encysted worm, and it might starve. Well, here comes just the right species of grasshopper, and it is obligingly feeding on shore vegetation. Now I have not observed any extensive grazing of grasshoppers on any grassy shores, but obviously it must occur. Bingo, then, the grasshopper just happens to eat the encysted worm.

The cyst bursts. The worm emerges in all its hideous length, up to thirty-six inches, inside the body of the grasshopper, on which it feeds. I presume that the worm must eat enough of its host to stay alive, but not so much that the grasshopper will keel over dead far from water. Entomologists have found tiger beetles dead and dying on the water whose insides were almost perfectly empty except for the white, coiled bodies of horsehair worms. At any rate, now the worm is almost an adult, ready to reproduce. But first it's got to get out of this grasshopper.

Biologists don't know what happens next. If at the critical stage the grasshopper is hopping in a

sunny meadow away from a duck pond or ditch, which is entirely likely, then the story is over. But say it happens to be feeding near the duck pond. The worm perhaps bores its way out of the grasshopper's body, or perhaps is excreted. At any rate, there it is on the grass, drying out. Now some biologists have to go so far as to invoke a "heavy rain," falling from heaven at this fortuitous moment, in order to get the horsehair worm back into the water where it can mate and lay more seemingly doomed eggs. You'd be thin, too.

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