

*From Chapter One*

## ALARM CLOCK

From the alarm clock a spherical shock wave traveling at Mach 1 starts growing outward, spreading and spreading till it hits the wall. Some of the energy it carries causes the curtains over the window to heat up from the friction of the onslaught; much of the rest rebounds back, enters the ears of two sleepers, and finally rouses them awake.

There's a rolling of eyes and a stirring of head, then a female hand gropes out from under the security of the comforter, fumbles on the bedside table, finds the alarm clock, and clacks down the button on top to turn it off.

The buzzing from the alarm clock stops, but the even higher-frequency shriek from the quartz crystal inside takes over, spreading in a growing sphere out from the clock as the sound wave did, striking the walls and heating the curtains too. But this second room-filling shock wave is inaudible. The waker, desperate to fill the rigors of the morning with some soothing music, fumbles out from the covers again towards the radio. The spherical pulses from the quartz in the alarm clock crash unheeded over her arm, but she is not to be deterred: the radio is found, switched on, listened to for a brief instant, then the tuning knob is furiously grasped. Some simpleton had left it on the news station last night. Now it must be moved from that drivel and switched to the haven of the classical music station.

The tuning knob quickly rolls, speeding across the megahertz to the new location. There's a crackling as it moves between stations; a slight hiss and buzzing too which the waker single-mindedly ignores. Certain of the hissings are the cries of distant exploding galaxies, consumed in their death throes and sending out massively powerful particle radiation across space and time in the process of obliteration. Other static comes from lightning strikes on distant continents, which send electro-magnetic pulses through the upper atmosphere that travel across deserts and seas into the bedside radio; all are received, then passed over and ignored in the hunt for the right station.

## OUT OF BED

The radio disturbs the other sleeper, and after some fruitless tugging of the comforter, a division of resources is ordained. The first waker lies back to savor the music, while the second one, stifling deep inner protest, unsure of his domain and wondering where the civilized conversation of his usual radio station has gone, gets ready to emerge from the bed.

Whack thump bam! The man's foot extends out of bed and lands on the floor. The floorboards jam down and their vibrations travel sideways like pond waves to the wall. The whole house compressed in the new loading – bricks where the floor fits into the wall shrinking smaller by 1/100,000 inch from the weight.

## BED COMPANIONS

...The waker is now on his way to the bathroom, but in the pillows left behind something is moving, some things rather, roused out of their sleep by all the disturbance.

These are the mites, thousands and thousands of tiny mites: male mites and female mites and baby mites and even, crunched to the side away from the main conglomeration, the mummified corpses of long-dead old great-grandparent mites. Brethren of theirs stir in the bed too, where they have spent the night snuggling warm and cosy under our sleepers, and which now, the great burden above them stirring, are beginning to stir for the day too.

It sounds unpleasant, but is quite normal. You don't have to leave the same sheets on for weeks, let the dog crawl everywhere, and generally do all those other awful, unhealthy things we expect of people whose rooms are infested with bugs to get them. Even if the room is well aired and the floor clean – the dog never, ever let up to play – the mites will still be there. Epidemiological studies show that nearly 100 percent of our houses are host to these creatures. It's the same in Germany, Sweden, and apparently every other advanced country too. The consolation is that these are not great visible mites that produce itching, let alone the all too visible and loathsome bed-bug, but rather a special, ultra-tiny (so small they were only first discovered in 1965) breed that lives in human carpets and beds and nowhere else.

Mites have been called sacs with legs on, and that's a fair description. There's a mostly naked body, a few loose armour plates on it, holes for breathing, eating, elimination, and copulation, and stubby little hairs sticking out all over to help feel what's going on. Each one has eight legs, because at one time they were in the same evolutionary line as the spider, but that was over 300 million years ago, and since then matters have changed. The spiders went on to be great multi-eyed hunting carnivores; the mites went a different way, and many have ended up as peaceful grazers, munching whatever is left over from the larger creatures they shelter near.

In the house these leftover nibbles are called skin: tiny rafts of human skin flakes. There's plenty of it around. It's rubbed off when you move in bed, and it's brushed off when you dress. It falls off the body at a stupendous rate whenever you walk – tens of thousands of skin flakes per minute – and it tears off at only slower rates when you stand perfectly still. For us the skin flakes are insignificant,

noticeable only when they build up as dust, but for the waiting mites they are manna.

Hidden down at the base of the carpets these mites only have to wait, mouth up, for this perpetual haze of skin flakes to rain down on them – the ultimate in parachuted food rations. For the mites that live in the bed (an estimated 42,000 per ounce of mattress dust; 2,000,000 total in the average double bed) the floating skin rafts are even more accessible. They slip through the weave of any pyjamas that might be worn, through the spaces between individual threads in the bottom sheet, and so tumble down onto the mites contentedly waiting on the bottom. The warmth in the bed is nice, for the mites' original evolution was in the tropics, but carpets are all right too because the mites just slow down all their actions to make do in the greater cool in carpet fabrics.

What the mites do in their protected habitats is what most animals spend their earthly existence doing. They eat, they defecate, and in propitious moments they copulate. Twenty faecal pellets emerge from each mite a day, squeezed out of special anal valves. A vast heap containing nearly as many pellets as there are stones in the Great Pyramid would fit easily on the period at the end of this sentence (and a few are probably already there, come to that). The faecal pellets are so small that they float, an ascending offering-up to the gods who kindly let loose the sustaining skin flakes perhaps, and they soar and travel throughout the house.

Some of the mummified ex-mites are hollow and light enough to float up too – another Egyptian-style funerary offering to join the pellets. Where the mites make things more complicated than the ancient Egyptians is that not all floating mite-shaped husks in the home are mummies. Some are just the discarded shells of growing mites, for like many insects these carpet and bed dwellers shed their skin on a regular schedule: having it go dry, crack open, and a new naked mite step out.

A half day or so after being reborn this way the fresh mites are ready to mate. It is a delicate process. In certain cases the male produces a sealed packet of sperm, leaves it on a convenient surface, and then departs. The female, chastely having no part in the proceedings up to that point, then discreetly sits on the packet, or, in the case of those females with the genital openings on their top surfaces, plops backwards on it.

It's not quite what we're used to, but it works. Mite families with thousands of members have been found living 16,000 feet up on Mt Everest; others have been found in the Antarctic, deep under the Pacific Ocean and even, in the case of one New Guinea species, living out their whole lives – successful mating procedures included – within the fungal growths that are carried on the backs of large weevils living in moss forests. The environment of suburban bed and floor present few rigors after that.

...(after sections on breakfast, toothpaste, and other delights, on to the end of the morning:)...

## LIPSTICK

...One final preparation for the lady now, and then the dressing will be over. It is not a preparation handed down from time immemorial. Until quite recently respectable women did not wear make-up. Color on the face suggested passion, and passion was what they were supposed to avoid. Shortly after the First World War, lipstick was referred to as only being appropriate 'to repair the ravages of time and disease on the complexion of coquettes'. They were probably the only ones to put up with it, too, as it was then little more than a greasy rouge, containing crushed and dried insect corpses for coloring, beeswax for stiffness, and olive oil to help it flow – this latter having the unfortunate tendency to go rancid several hours after use. The New York Board of Health considered banning lipstick in 1924, not because of what it might do to the women who wore it, but because of worry that it might poison the men who kissed the women who wore it.

For the liberated woman of today, the product has been transformed, re-thought, entirely remade. Insect corpses have been expunged as a barbarity; beeswax and olive oil have been rejected too. What goes in tubes of lipstick today is only what the best of late 20th-century cosmetic science can devise.

At the center of the modern lipstick is acid. Nothing else will burn a coloring sufficiently deeply into the lips for it to stay. The acid starts out orange, then sizzles into the living skin cells and transforms into a deep red where it sticks to them. Everything else in the lipstick is there just to get this acid in place.

First it has to be spread. Perhaps at some time you've noticed children playing with softened food shortening, smearing it over their faces. Such shortening (hydrogenated vegetable oil, as in Crisco) spreads very well, and accordingly is one of the substances found mixed in with almost all lipsticks on the market. Soap smears well too, and so some of that is added as well.

Unfortunately neither soap nor shortening are good at actually taking up the all-crucial acid that's needed to do the dyeing. Only one smearable substance will do this to any extent: castor oil. Good cheap castor oil, used in varnishes and laxatives, is one of the largest ingredients by bulk in every lipstick, from the finest French marks on down. The acid soaks into the castor oil, the castor oil spreads on the lips with the soap and shortening, and so, through this intermediary, the acid is carried where it needs to go.

If lipstick could be sold in modified shortening jars or castor oil bottles there would be no need for the next major ingredient. But the whims of the lip-conscious consumer do not allow for such ease of packaging; the mix has to be

sold in another form. It must be transformed into a rigid, streamlined stick, and to do that nothing is better than heavy petroleum-based wax. Such wax can soak up shortening, soap, and acid-impregnated castor oil, and it will still have enough stability in its micro-crystalline structure to stand up firm. It's what provides the 'stick' in lipstick.

Of course certain precautions have to be taken in combining all these substances. If the user ever got a sniff of what was in there (all that castor oil) there might be some problems in continuing consumer acceptance. So a perfume is poured in at the manufacturing stage before all the oils have cooled – when the future cosmetic is still what the engineers call a 'molten lipstick mass'. At the same time, food preservatives are poured in the mass, because apart from smelling rather strongly the oil in there would go rancid (pace our ageing coquettes) without some protection.

All that's lacking now is the glisten. Women who smear on lipstick expect to get some glisten for their troubles, and their wishes do not go unheeded. When the preservatives and perfume are pouring, something shiny, colorful, almost iridescent – and happily enough not even too expensive – is added.

That something is fish scales. It's easily available from the leftovers of commercial fish packing stations. The scales are soaked in ammonia, then bunged in with everything else.

Is that it then? Shortening, soap, castor oil, petroleum wax, perfume, food preservatives and fish scales? Not entirely. There is still one thing missing: the color. The orange acid that burns into the lips only turns red on contact. That means another dye has to be added to the lipstick, a soothing and suggestive red one this time, so that what you see in the tube looks at least vaguely lip color and not a horrifying orange-juice orange. Which means, if you think about it, that the red dye you see in the tube has only a little to do with the color that's going to end up on the lips.

But such reflections are brought to a speedy halt – a glance at the clock shows it's late and getting later. The car is waiting, the office beckons, it's time to finish, to hurry, to speed. The house is about to be left alone – and the slamming door closes it tight.

— *(and then on and on for another 80,000 words...)*