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The infested mind

THE INFESTED MIND
*Why Humans Fear, Loathe, and Love
Insects*

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51. Stephen R. Kellert, *Kinship to Mastery: Biophilia in Human Evolution and Development* (Washington, DC: Island Press, 1997).
52. Barlow, *Anxiety and Its Disorders*, chap. 7.
53. Jacqueline Ware, Kumud Jain, Ian Burgess, and Graham C. L. Davey, "Disease-avoidance model: Factor analysis of common animal fears," *Behaviour Research and Therapy* 32 (1994): 57–63.
54. Graham C. L. Davey, "Characteristics of individuals with fear of spiders," *Anxiety Research* 4 (1992): 299–314.
55. Arifa Akbar, "How women evolved blond hair to win cavemen's hearts," *Independent*, February 27, 2006, <http://www.independent.co.uk/news/science/how-women-evolved-blond-hair-to-win-cavemens-hearts-467901.html> (accessed January 20, 2012).

CHAPTER 3

Learning to Fear: Little Miss Muffet's Lesson

ENTOMOPHOBIC PRACTICE MAKES PERFECT

Sometimes well-meaning scientists can be a bit dense. Dewey Caron has a doctorate in entomology from Cornell, and he's forgotten more about bees than I'll ever know. Caron wrote an analysis of entomophobia for the *American Bee Journal* in which he suggested that beekeepers need to educate the public: "The consensus is that since insect fears and apprehension of stinging insects is a learned response it can be unlearned. . . . we need to show them there is nothing to be afraid of." Makes good sense. But the article then recounts the story of a fellow in Africa who was attacked by a swarm of bees:

The unfortunate man jumped into the shallow river as the bees literally coated his body. . . . he began to sicken from the effects of the venom. Vomiting, he managed to move into deeper water. . . . His head ached badly. He suffered from diarrhea so intense that he was incontinent.¹

So much for education. If you weren't freaked out before, Dr. Caron's tale provides outstanding fodder for any latent entomophobia you might be harboring. When I was a kid, a bee flew down the back of my shirt and stung me. I retain a vivid memory of the event, but it doesn't compare to the fellow who spent four and a half hours in the river and received 2,243 stings.

Most of my youthful encounters with insects were less traumatic. When I was ten we moved to the outskirts of Albuquerque, where there were grasshoppers aplenty seeking the greenness of our yard. On lazy summer afternoons I'd snag a few and feed them to the black widows that colonized the cinder-block wall in the backyard. I remember being darkly enchanted by the spiders' lethal tactics. Maybe that day on the prairie decades later evoked a

childhood sense of being entangled and unable to escape—or perhaps the insects crawling into my clothing took me back to the bee inside my shirt.

I don't know what memories conspired to induce my panic, but psychologists contend that adult reactions often reflect childhood learning. Figuring out how a person came to be fearful would seem to be a simple matter of asking, but various studies have found that many phobic people report that they have always had their fears.² Perhaps these people are evolutionarily hardwired, but it is possible that they have simply forgotten earlier events. A subjective sense of having always been afraid might be expected given that the average age of onset for arachnophobia is 4.7 years and that early trauma can result in childhood amnesia.³

Researchers have converged on three mechanisms through which early experiences can catalyze phobias: direct experience (e.g., a cockroach runs up a kid's pant leg), modeling (e.g., a kid sees his mother scream in terror at cockroaches), and instruction (a kid's father tells her a story about cockroaches burrowing into children's ears).

Of these routes, experiences that condition an individual to fear spiders or insects appear to be the most common, with 40 to 50 percent of subjects recalling a frightening event.⁴ Some studies report little difference in the frequencies with which normal and arachnophobic individuals remember encounters with spiders, but the intensity of encounters—rather than their mere occurrence—may be the critical factor.⁵ Given a traumatic event, fear can become entrenched through “false alarms” (the discomfort induced by harmless encounters) and parental feedback. Conversely, previous uneventful and positive interactions with spiders psychologically “immunize” children so they are less likely to be conditioned by aversive incidents.⁶

Adults can both reinforce and initiate fear in children through modeling. About 20 percent of children fearful of spiders and insects report learning their aversion from parents, although friends and siblings were also implicated.⁷ Some research even suggests that such vicarious or observational learning can be more important than direct experience. In his review of entomophobia, Tad Hardy noted, “For centuries it was believed that expectant mothers frightened by an insect (or any other experience) passed their fear to the developing child.”⁸ The medieval explanation was closer than one might think. Although no in utero learning takes place, spider fears are commonly transmitted from mother to daughter by same-sex modeling. Fathers serve as models for less than 5 percent of phobics.⁹ Of course, observational learning has a bright side—adults who model positive responses to insects can prevent the incipient fears of children from reaching phobic proportions.¹⁰

Instructional learning probably is the least frequent means of acquiring entomophobia, but it can be potent. Even inadvertent lessons can generate phobias, as in the case of a young girl who became terrified of insects after she was told that her sister, who contracted pneumonia, had died from a “bug.”¹¹

And as one might expect, stories and conversations emphasizing the favorable characteristics of insects can block the reification of fears. However, arachnophobes often avoid information about spiders, so there may be little chance for instructional learning to diminish their fear.¹² Moreover, while books, television programs, and movies can offer information that may mitigate entomophobia, most social messages exacerbate fear.

THE SIX GREAT FEARS OF SIX-LEGGED CREATURES

Entomophobia is rooted in six “fear-evoking perceptual properties.”¹³ Insects can: (1) invade our homes and bodies; (2) evade us through quick, unpredictable movements, to which it might be added that the furtive skittering of a cockroach, for example, with its head lowered as if slinking out of the room, evokes a sense that the creature is guilty or ashamed; (3) undergo rapid population growth and reach staggeringly large numbers, threatening our sense of individuality; (4) harm us both directly (biting and stinging) and indirectly (transmitting disease as well as destroying woodwork, carpets, book bindings, electrical wiring, and food stores); (5) instill a disturbing sense of otherness with their alien bodies—they are real-world monsters associated with madness (e.g., “going bugs”);¹⁴ and (6) defy our will and control through a kind of radical mindless or amoral autonomy.

A particularly compelling formulation of these frightening qualities of insects is provided by the Yale anthropologist Hugh Raffles (in the following, his lines are rearranged to align with the order of the six perceptual properties presented above):

There is the nightmare of foreign bodies in our ears and our eyes and under the surface of our skin. . . . There is the nightmare of turning the overhead light on just as the carpet scatters. . . . There is the nightmare of fecundity and the nightmare of multitude. . . . There is the nightmare of their being out to get us. . . . There is the nightmare of too many limbs [and] the nightmare of awkward flight and the nightmare of clattering wings. . . . There is the nightmare of beings without reason.¹⁵

Western culture provides abundant opportunities for children and adults to learn that insects invade, evade, overwhelm, attack, perturb, and defy—and modern media are adept at tapping into these capacities. For example, these elements have been woven into several popular television series, including *Billy the Exterminator* (A&E), *Infested!* (Animal Planet), *Dirty Jobs* (Discovery), and *Fear Factor* (NBC)—which might have been better titled *Disgust Dilemma*. And the capacity of grasshoppers to evoke fear (see, it's not just me) is captured in Guy Smith's novel *Locusts*. This book reads like the screenplay for

a B-movie (with notable similarities to the 2005 cinematic flop *Locusts: Day of Destruction*), with the author managing to push all of our fear buttons:

The storm clouds were here already, speeding in at an alarming rate in a wide black line, blotting out the overhead midday sun. . . . Locusts! By the millions [*overwhelm*]. . . . On and on came the locusts, their appetites whetted by a feed of barley. Their hunger was at full pitch [*attack*]. . . . Mrs. Hatherton could not breathe. Locusts were jammed solidly in her nostrils and throat [*invade*]. . . . Those horrible eyes, fixed on [Mr. Hatherton] with expressions of hate, the repulsive bodies heaving as they breathed [*perturb*]. . . . These horrors had wings [*evade*]. . . . they were on him again in even greater numbers, raking, spitting and stinging, taking their revenge [*defy*].¹⁶

Before we explore how Western culture inculcates each of these half dozen fears into children and adults, it is important to consider that there are some positive images. My kids adored Eric Carle's books, for example, with their endearingly imperfect characters including a busy spider, a courageous honeybee, a quiet cricket, a clumsy beetle, a hungry caterpillar, and a grouchy ladybug.¹⁷ Such stories build on an ancient tradition in which myths portrayed insects favorably: ants exemplified industry and thrift, bees evoked cooperation and chastity, butterflies represented beauty and transformation, crickets radiated happiness and domesticity, ladybugs provided good works and fortune telling, moths embodied the soul and afterlife, and scarab beetles symbolized renewal and creation.¹⁸

Outside the West, many indigenous peoples include insects among their totems. Clans of Australian Aborigines assure the protection of their namesakes, which represent vital food sources, such as edible beetle larvae, witchetty grubs, and honey ants.¹⁹ And in the United States, athletic teams have adopted insect mascots, such as wasps, hornets, and scorpions, along with the less expected mosquitoes and boll weevils.²⁰

While positive portrayals of insects and their kin can be found, for every rendition of "The Itsy Bitsy Spider" and every screening of *Microcosmos* there are a dozen rounds of "Little Miss Muffet" and showings of *The Fly* (the 1958 version or its 1986 remake, not to mention the opera). Western culture—and particularly the movies, which so powerfully reflect and shape social norms—reminds us that insects can . . .

Invade our homes, bodies, and minds

Insects were the featured invaders of the big screen in the 1950s, with giant ants (*Them!*, 1954), spiders (*Tarantula*, 1955), grasshoppers (*Beginning of the End*, 1957—I knew it), and even a praying mantis (*Deadly Mantis*, 1957). The



Figure 3.1
This 1940 poster from the Works Progress Administration portrays the classic story of the spider and Miss Muffet in less negative terms than we might expect in an effort to promote reading among children. But even this encounter seems to have evoked surprise—and perhaps fright—judging by the eyes of the cartoon girl (image by Gregg Arlington of the WPA Federal Arts Project).

conventional view is that these creatures were Cold War metaphors for our anxieties about communists taking over the world, along with our worries about technology (radiation invariably triggered the insectan incursions).²¹ However, at least one historian contends that sometimes a mantis is just a mantis and that these films simply reflected our fear of insects invading our homes.²² If so, this might explain Hollywood's continuing to produce films featuring insects insinuating themselves into our lives even after the collapse of the Soviet Union (e.g., *Mimic*, 1997, which was followed by *Mimic 2*, 2001, and *Mimic 3: Sentinel*, 2003; *Spiders*, 2000, and the sequel *Spiders 2: Breeding*

Ground, 2001; and *Tail Sting*, 2001—a predecessor of *Snakes on a Plane*, 2006, but with bioengineered scorpions). Even the relatively staid National Geographic Channel has exploited the entomophobic proclivities of viewers with an episode of *Nature's Nightmares* featuring insectan home invasions.

Insects are even scarier when they enter our bodies. "I know an old lady who swallowed a fly"—and from there every kid knows how things spin out of control. The lesson: Don't let insects into your body or perhaps you'll die. And when you die: "The worms crawl in, the worms crawl out / The worms play pinochle on your snout." The old wives' tale of earwigs is vividly exploited in *Star Trek: The Wrath of Kahn* (1982) when the villain places what look like alien antlion larvae in the ears of his prisoners, where they enter the victims' brains, rendering them "extremely susceptible to suggestion."

Bodily invasion is the name of the game on *Fear Factor*, a show in which contestants put live insects (e.g., beetles, crickets, and cockroaches) in their mouths and either consume them or transfer the contents to a partner's mouth. In other episodes, shapely contestants wearing little clothing are covered in lots of insects to suggest the titillating possibility of bodily invasion. The British version of the program was censored by the Broadcasting Standards Commission, which decreed that "graphic and extended footage of the consumption and treatment of the insects, purely for entertainment, had exceeded acceptable boundaries."²³ It's hard to keep a stiff upper lip with a mouthful of maggots.

Once insects get into our bodies, it's a small step to infesting our minds. In the original and the remake of *The Fly*, the hero's body is melded with that of a fly when the insect inadvertently enters a teleportation machine as the scientist is testing the device on himself. What begins as an anatomical invasion becomes increasingly psychological as the chimeric character begins to think and act with the amoral tendencies of an insect. In the remake, the fellow becomes a sexual dynamo and impregnates his girlfriend, who, when she figures out that he's slowly metamorphosing into a fly, seeks an abortion, declaring, "I don't want it in my body."

But if the arthropod insinuates itself only into our bodies, we might get the best of all worlds. In the Spider-Man comics and movies, the hero is bitten by a radioactive spider and subsequently acquires the powers of an arachnid. However, Peter Parker does not take on the psychological attributes of the spider. Rather than becoming a cold-hearted predator, he retains his human and humane mind and becomes a superhero. But not all (or most) transformations go so smoothly.

In *The Wasp Woman* (1959), an aging cosmetic mogul takes "wasp enzymes" to rejuvenate her body, and along with gaining youthfulness she periodically transforms into a bug-eyed homicidal maniac. And taking a page from *Fear Factor*, characters in *Starship Troopers 2* (2004) pass their insectan parasites from mouth to mouth. The new host is converted into a zombielike minion

devoted to spreading the infestation to others—the horror genre's version of being plagued by an "earworm," which is both the common name of a moth larva that infests corn and the term for that maddening condition of having a song stuck in your head.

The most terrifying cinematic portrayal of an infested mind is found in *Bug* (2006), based on the play by Tracy Letts. In the film, a honky-tonk waitress shacks up with a drifter who suffers from the delusion that he's infested with insects, and she is inexorably drawn into his madness. At first he simply feels a tiny insect bite him in their bed, next he's spraying the apartment, then she feels something under her skin, and then he's yanking out a tooth to get to the egg sac that the government implanted. By the final scene, they have draped their apartment with mosquito netting, hung dozens of bug zappers, and slashed their bodies in a futile effort to extract the imaginary insects. As the authorities arrive to end the insanity, the couple strip, splash gasoline over themselves, babble insanely about bugs, declare their love, and strike a match. So it goes when insects invade—and when they . . .

Evade our efforts to detect and destroy them

Insects are devious. Even giant insects are masters of concealment. In the cult classic *Them!* mutant ants manage to elude their human pursuers in caves, sewer systems, and cargo ships. And when not hiding, insects in the movies are sneaking. Spiders are notorious for their scurrying, as in the intentionally funny *Arachnophobia* (1990) and the unintentionally funny *Spiders* (and *Spiders 2: Breeding Ground*). At least the evil ones behave this way. Interestingly, when insects are portrayed as good (e.g., Jiminy Cricket in *Pinocchio*, 1940, and Flik, the hero ant in *A Bug's Life*, 1998) they exchange six-legged skittering for bipedal striding.

Nor are the evasive tactics of hiding and fleeing mutually exclusive. For example, in *Ticks* (1993) and *Bugged* (1996, a horror movie wherein the only real horror is that the film was ever made), the chemically catalyzed foot-long arthropods are extraordinarily secretive, and swift. Likewise in a nightmarish scene from the *Billy the Exterminator* episode featuring cockroaches, a woman screams in horror as a pile of cockroaches previously hidden beneath a trash can scatters in all directions. And this leads us to the realization that insects . . .

Overwhelm our sense of individuality

As the cockroaches scurry, Billy observes, "We've got literally five hundred to a thousand at this one location. . . . They've taken over." In a later episode he

extracts five thousand bees from a hive they've built between the walls of a house. But these numbers pale in comparison to the goosebumps raised by *Dirty Jobs* host Mike Rowe's encounter with the twenty-five million insects seething in bins and vats at Ghann's Cricket Farm.

Throughout Western literature, masses of insects have played a disturbing role; they have been described as "horrors of nonindividual groups [in which] the power of swarms was a frightening one, emerging from the sheer size of the pack . . . as in the case of locusts."²⁴ Indeed, one of the movies' most fantastic challenges to our precious individuality unfolds in the 2008 remake of *The Day the Earth Stood Still*. In this film, aliens release tiny, fast-reproducing bugs that coalesce into an enormous, machine-like humanoid that consumes every form of matter and energy—all to save humanity from its own technological and moral follies. According to film critic Matt Mueller, the monster's form and power are based on those of a locust swarm.²⁵

Other insects also have played the role of numerical villains, as with a band of Amazonian army ants constituting a "monster twenty miles long and two miles wide . . . forty square miles of agonizing death!" (*The Naked Jungle*, 1954). Killer bees wreak havoc in at least five films released in the 1970s (e.g., *The Swarm*, 1978).²⁶ And thanks to insecticides wiping out their food supply, tarantulas form "an army of deadly predators" to overwhelm larger prey, including livestock, in *Kingdom of the Spiders* (1977).

Being overwhelmed by insects can also be a matter of monstrous size. Just as an angry God sent locust swarms to punish an arrogant Pharaoh, the giant insects of twentieth-century films were the consequences of abundant hubris and deficient foresight. During the Cold War, radiation generated school-bus-sized carnivorous locusts (*Beginning of the End*), ten-foot ants (*Them!*), and monstrous moths (*Mothra*, 1961). By the 1970s, pollution was the sin, and humans were punished by giant ants spawned from a toxic waste dump (*Empire of the Ants*, 1977).²⁷ A misguided geneticist's attempt to play God created a vampire moth—a woman who transformed at night into a giant, blood-sucking moth in *The Blood Beast Terror* (1968). And not having learned our lesson, twenty years later we saw genetic engineering produce killer cockroaches in *The Nest* (1988).

While huge numbers (and sizes) of insects assail our modern sensibilities, for centuries Western culture has reminded us that these creatures . . .

Attack our health, food, and property

If the Bible is our guide to faith and fear, then it's little wonder that we're entomophobic. Tallying up references to insects in the Bible reveals forty-six negative allusions (e.g., "At his command came swarms of flies and maggots the whole land through"; Psalms 105:31) and just four positive mentions (e.g.,

"Go to the ant, you sluggard, watch her ways and get wisdom"; Proverbs 6:6).²⁸ On the Godly side, Yahweh coerces a recalcitrant Pharaoh with gnats, flies, and locusts. On the demonic side, Beelzebub, the prince of the devils, is the "lord of the flies." And in the Middle Ages, dragonflies were called the devil's darned needles and said to be giant flies sent by Satan to sew up the mouths of lying children.²⁹

With this cultural momentum, it is not surprising that insects continue to be cast as villains. Eric Carle has an uphill battle in children's literature given works such as Douglas Florian's *Insectlopedia*.³⁰ Dangerous insects in the book include army ants ("You're lucky if / We miss your place."), dragonflies ("The demon of the skies . . . I terrorize"), locusts ("Your grain, / Your grass. / They disappear / Each time we pass"), and mosquitoes ("They feast on your skin / For take-out food."). Although the illustrations are whimsical, the poems can be dark:

We are weevils.
We are evil.
We're aggrieved.
Since time primeval.
With our down-curved
Beaks we bore.
Into crops
And trees we gore.
We are ruinous.
We are rotten.
We drill holes
In bolls of cotton.
We're not modern,
We're medieval.
We are weevils.
We are evil.³¹

The biblical framing of insects has been woven into painting and literature throughout the history of Western culture,³² and it persists today in even low-brow cinematic ventures. For example, halfway into *Locusts: Day of Destruction*, a US senator is briefed on the swarms of bioengineered locusts ravaging the nation, and he compares the unfolding disaster to the Apocalypse. Indeed, the movie portrays locusts in terms of the Four Horsemen: pestilence, war, famine, and death.

As for pestilence, *Locusts* begins with scientists modifying the Australian plague locust into a "bioweapon" (a macroscopic version of germ warfare); the experts later advocate the imposition of a national quarantine to keep the infestation from becoming a pandemic. The element of war emerges as the US

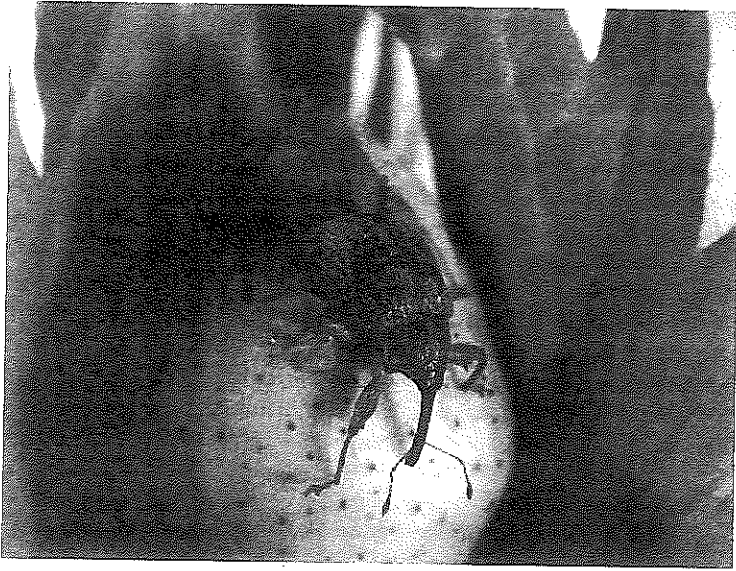


Figure 3.2
The boll weevil has been an object of considerable cultural attention, including a monument in Enterprise, Alabama, crediting the insect with forcing farmers to diversify their crops, which led to prosperity. However, most allusions in song and story, including “Boll Weevil Blues” and Douglas Florian’s poem for children, portray the weevil as devastating (image by US Department of Agriculture).

military prepares to spray the American heartland with nerve gas, as it is the only chemical lethal to the locusts. Thousands of unsuspecting rural folks will die if the heroine cannot come up with an alternative plan. Such staggering collateral casualties are justified in light of the third horseman, for unless the locusts are stopped there will be worldwide famine. As farmers race to harvest their crops, the fourth horseman arrives in various guises. Death comes in the forms of a massive traffic pile-up and an airplane crashing in a fiery ball after locusts clog the engines. After a swarm attacks livestock, the government expert warns, “Worst case scenario, they turn carnivorous,” to which the senator ominously responds, “We are on the menu.” A scene with a blood-soaked, locust-ravaged victim reveals the fate of those who are not gassed or starved. Humanity is saved, however, when the heroine turns the nation’s power grid into the world’s largest bug zapper.

This movie fails to horrify, as inept writing, acting, and directing make it a presumably unintentional parody of one of the most chilling films in cinematic history. *The Birds* (1963) is the one movie of my childhood that I cannot get out of my mind. Perhaps Alfred Hitchcock planted a seed—the sense of

being trapped in a swarm of creatures that are weirdly both mindless and malevolent—that germinated in a grasshopper-filled draw years later. And this takes us to the realization that insects . . .

Perturb our tranquility through their monstrous otherness

As alien beings, insects have enabled painters, dancers, essayists, novelists, poets, filmmakers, and advertisers to evoke fear for centuries.³³ In the Dark Ages, the Church maintained that insects were spawned from pockets of sin within cadavers, a macabre transformation that was captured in paintings such as Matthias Grünewald’s *Dead Lovers* (ca. 1480) and continued through William Blake’s insect-human hybrid *The Ghost of a Flea* (1812).

While such visual art is unsettling, the mind’s eye can see into even darker places. And no piece of literature taps into monstrous otherness more powerfully than Franz Kafka’s *The Metamorphosis*, in which Gregor Samsa wakes up to find himself transformed into a gigantic insect (a cockroach being the favored interpretation). Even those who once loved him are repulsed:

[Gregor’s mother] looked first with hands clasped together at his father, then took two steps towards Gregor and collapsed, surrounded by her outspread skirts, her face sunk and quite hidden in her breast. His father clenched his fist with a hostile expression, as if meaning to drive Gregor back into his room.³⁴

Kafka may not have originated the existential fear of becoming an insect, but his influence on Western art and literature has persisted. His disturbing touch can be felt in *The Fly*, *The Wasp Woman*, *The Blood Beast Terror*, and *Starship Troopers 2*. However, the most terrible transformations of humans into insects and monsters have taken place not in art, but in politics.

Given the human capacity for empathy, genocide requires an extraordinary alteration of the human psyche. Careful analysis has revealed an eight-stage process, the first three steps of which involve cognitive restructuring in which the enemy is classified, symbolized, and dehumanized.³⁵ This depraved conceptual metamorphosis often involves turning people into vermin:

We must kill them big and little. . . Nits make lice.

—Colonel John M. Chivington, exhorting his troops to massacre a Cheyenne community, including women and children, in 1864³⁶

Antisemitism is exactly the same as delousing. Getting rid of lice is not a question of ideology. It is a matter of cleanliness.

—Heinrich Himmler, April 24, 1943³⁷ (Adolf Hitler was profoundly entomophobic and framed the Holocaust in terms of extermination.)

If you gave me a pesticide to throw at these swarms of insects [the Iranians] to make them breathe and become exterminated, I would use it.

—Iraqi general Maher Abd al-Rashid, 1984³⁸

The Inyenzi [cockroaches] have always been Tutsi. We will exterminate them.

—Broadcast from a Hutu-run radio station during the Rwandan genocide, 1994³⁹

It should be legal to shoot [Mexicans] on sight. They breed their filthy race like the cockroaches that they are.

—Post on Rush Limbaugh Campfire website, 2002⁴⁰

Bugsplat is the official term used by US authorities when humans are killed by drone missiles.

—Jennifer Robinson, human rights lawyer, 2011⁴¹

If turning humans into insects countenances hate, then turning insects into humans has the opposite effect. Artists humanize insect heroes by transforming their alien features into eyes, mouths, heads, and appendages more like our own. In *Antz* (1998), the “good” ants stand upright and their forelegs function as arms with human-like fingers, while the “bad” termites run around on six legs. Likewise, in *A Bug's Life* the “good” ants are anthropomorphized into smooth-bodied beings with two arms, two legs, and human-like teeth. The “bad” grasshoppers have spiky bodies, six appendages (they are bipedal but have four “arms”), and jagged mandibles.

Animators are also keenly aware that we find infantile features charming, so “good” insects are drawn with proportions similar to those of a human baby. Infants have disproportionately large heads; their noggins are about 50 percent of the length of their bodies, versus 20 percent for adults. Disney's Jiminy Cricket in *Pinocchio* is phenomenally infantile by this measure, with a head that is 70 percent of his body length (versus about 15 percent in an actual cricket)! The eyes of a human baby are also enlarged, being about twice the relative size of adults' eyes. So to soften the insectan features of the hero of *A Bug's Life*, the animators gave him eyes that are a remarkable 50 percent of his head length (about twice the proportion in an actual ant). But even when we put a humanoid head on an ant, insects can still . . .

Defy our will and control through their amoral autonomy

In some social-historical contexts, insects have served as positive representations of determination and hard work. The Mormons who settled Utah used the beehive as an emblem of their own industriousness, and the imagery has

lived on in the Beehive State.⁴² However, the tension between the authoritative control in a hive and the autonomy of the workers has played out in a rather strange way in Utah as an extremely conservative state government has employed strikingly socialist policies.⁴³ And the oppressive implications of aligning with the social insects have come to dominate our imagery.

With the rise of industry, insects began to serve as sinister metaphors for powerful, efficient, cold, dangerous, heartless machines. This theme continued into the twentieth century, during which “the precision of the insect machine fed into dystopic fears of ‘inhuman technological society’ modeled on emotionless insect minds.”⁴⁴ This fear was captured in such works as Karel Čapek's *The Insect Play* (1921) and the film *Metropolis* (1927), featuring a queen-like woman commanding servile, ant-like workers. And with the emergence of totalitarian governments, insects came to represent not only the living cogs of industrialism but also the submissive followers of despotism.

In *Poetics of the Hive*, Christopher Hollingsworth traces the ways in which insects have been used in literature and film to frame social issues and political fears.⁴⁵ With the rise of fascism and communism in the twentieth century, the lives of ants, termites, and bees became ominous representations of forced collectives in which individuals were enslaved and sacrificed for the good of

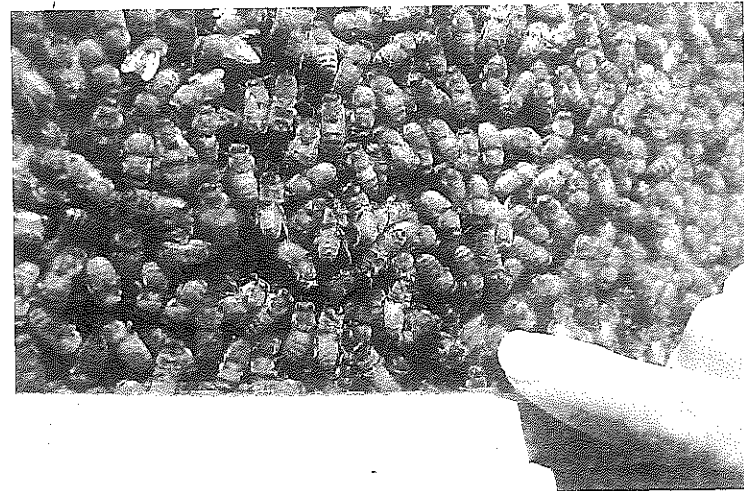


Figure 3.3
Although social insects such as bees were seen in largely virtuous terms prior to the twentieth century, with the rise of totalitarian regimes these creatures (along with ants and termites) became associated in film and literature with the sacrifice of the individual for the collective, the plight of servile factory workers, and the oppression by centralized governments (image by Vagawli through Creative Commons).

the whole. In the 1920s, Maurice Maeterlinck explored the staggering costs of perfect communal order in *The Life of the White Ant*.⁴⁶ And almost a century later, the human-turned-insect in *Starship Troopers 2* declared that humanity must be destroyed because it glorifies "the one over the many."

Even children's books and movies present insects as soulless automata. In the 1912 book *The Adventures of Maya the Bee* the main character sacrifices herself for the good of her hive.⁴⁷ Both *A Bug's Life* and *Antz* portray insects as docile servants of those in power. Individuals who aspire to be more than dispassionate drones are violently oppressed, although they eventually rise above the brutal hierarchy.

Finally, the uncanny power of insects is manifest in dark, psychic powers. Maeterlinck's novels allude to the "spirit of the hive," with communication taking place not as conscious language but "as affects of murmur, whisper, and a refrain that even the bees might not hear but sense in some uncanny way."⁴⁸ Likewise, Sylvia Plath's 1962 poem "The Swarm" attributes "A black intractable mind" to insect masses.⁴⁹ And Virginia Woolf taps into an old superstition in her 1922 novel *Jacob's Room*, with a death's-head moth (named for the skull-shaped marking on the thorax) serving as an eerie harbinger of death.⁵⁰

THE DISGUSTING ELEPHANT IN THE FEARFUL ROOM

Scary stories, songs, poems, paintings, and films involving insects often have another emotional component. Gregor Samsa, the giant insect in Kafka's *Metamorphosis*, is not only or even primarily frightening. Rather, he is detestable and elicits disgust. And the most appalling scene in the remake of *The Fly* involves the insectan fellow vomiting a white slime onto his food to begin digestion. This same sense of filth is vividly captured by Mark Twain:

The fly . . . hunts up patients suffering from loathsome and deadly diseases; wades in their sores, gaums its legs with a million death-dealing germs; then comes to that healthy man's table and wipes these things off on the butter and discharges a bowel-load of typhoid germs and excrement on his batter cakes.⁵¹

A growing body of research suggests that fear and disgust are entangled. After all, these are the two universal aversive emotions. Indeed, the best predictor of entomophobia appears to be parental disgust sensitivity, and arachnophobic girls tend to have mothers with a strong disgust of spiders.⁵² It seems that when insects infest our minds—through evolution or enculturation—they bring with them not only the capacity to invade, evade, overwhelm, attack, perturb, and defy. They also bring an organic, viscid, ugly, soft, wriggling filthiness.

NOTES

1. Dewey M. Caron, "Entomophobic," *American Bee Journal* 130 (1990): 782, 780.
2. Richard J. McNally and Gail S. Steketee, "The etiology and maintenance of severe animal phobias," *Behaviour Research and Therapy* 23 (1985): 431–35; Mairwen K. Jones and Ross G. Menzies, "The etiology of fear of spiders," *Anxiety, Stress, and Coping* 8 (1997): 227–34; Harald Merckelbach and Peter Muris, "The etiology of childhood spider phobia," *Behaviour Research and Therapy* 35 (1997): 1031–34.
3. Merckelbach and Muris, "The etiology of childhood spider phobia."
4. McNally and Steketee, "The etiology and maintenance of severe animal phobia"; Harald Merckelbach, Arnoud Arntz, and Peter J. de Jong, "Conditioning experiences in spider phobias," *Behaviour Research and Therapy* 29 (1991): 333–35; Harald Merckelbach, Arnoud Arntz, Willem A. Arrindell, and Peter J. de Jong, "Pathways to spider phobia," *Behaviour Research and Therapy* 30 (1992): 543–46; David H. Barlow, *Anxiety and Its Disorders: The Nature and Treatment of Anxiety and Panic*, 2nd ed. (New York: Guilford Press, 2002), chap. 7.
5. Merckelbach et al., "Pathways to spider phobia."
6. Merckelbach and Muris, "The etiology of childhood spider phobia."
7. McNally and Steketee, "The etiology and maintenance of severe animal phobia"; Merckelbach et al., "Conditioning experiences in spider phobias"; Peter Muris and Harald Merckelbach, "Treating spider phobia with eye-movement desensitization and reprocessing: Two case reports," *Journal of Anxiety Disorders* 9 (1995): 439–49.
8. Tad N. Hardy, "Entomophobia: The case for Miss Muffet," *Bulletin of the Entomological Society of America* 34 (1988): 65.
9. Merckelbach and Muris, "The etiology of childhood spider phobia"; Peter J. de Jong, Helene Andrea, and Peter Muris, "Spider phobia in children: Disgust and fear before and after treatment," *Behaviour Research and Therapy* 35 (1997): 559–62.
10. Edward P. Sarafino, *The Fears of Childhood: A Guide to Recognizing and Reducing Fearful States in Children* (New York: Human Sciences Press, 1986).
11. Harold Kolansky, "Treatment of a three-year-old girl's severe infantile neurosis," *Psychoanalytic Study of the Child* 15 (1960): 261–85.
12. Merckelbach et al., "Pathways to spider phobia."
13. Jamie Bennett-Levy and Theresa Marteau, "Fear of animals: What is prepared?," *British Journal of Psychology* 75 (1984): 37–42; David N. Byrne, Edwin H. Carpenter, Ellen M. Thoms, and Susanne T. Cotty, "Public attitudes toward urban arthropods," *Bulletin of the Entomological Society of America* 30 (1984): 40–44; Stephen R. Kellert, "The biological basis for human values of nature," in *The Biophilia Hypothesis*, ed. Stephen R. Kellert and Edward O. Wilson (Washington, DC: Island Press, 1993), 57–58. To package our revulsion more evocatively, consider Charlotte Sleigh's interpretation: "Insects are all wrong. There is a good case for regarding them as zoology's Other, the definitive organism of *différance*. We humans have skeletons; they keep their hard parts on the outside and their squishy bits in the middle. We humans celebrate intelligence as our defining feature; they form almost equally complex societies by instinct. No wonder we are disgusted and fascinated when we find them in the kitchen." Charlotte Sleigh, "Inside out: The unsettling nature of insects," in *Insect Poetics*, ed. Eric C. Brown (Minneapolis: University of Minnesota Press, 2006), 281.
14. James Hillman, "Going bugs," *Spring: A Journal of Archetype and Culture* (1988): 40–72.

15. Hugh Raffles, *Insectopedia* (New York: Pantheon, 2010), 202–3.
16. Guy N. Smith, *Locusts* (London: Sheridan, 1979), 112–16, 213–14.
17. Eric Carle's books include, *The Grouchy Ladybug* (New York: HarperCollins, 1977); *The Very Hungry Caterpillar* (New York: Philomel Books, 1983); *The Very Busy Spider* (New York: Philomel Books, 1984); *The Very Quiet Cricket* (New York: Philomel Books, 1990); and *The Very Clumsy Click Beetle* (New York: Philomel Books, 1999).
18. Gene Kritsky and Ron Cherry, *Insect Mythology* (New York: Writers Club Press, 2000).
19. May R. Berenbaum, *Bugs in the System: Insects and Their Impact on Human Affairs* (New York: Helix Books, 1995).
20. Ibid.
21. Richard J. Leskosky, "Size matters: Big bugs on the big screen," in Brown, *Insect Poetics*.
22. William M. Tsutsui, "Looking straight at *Them!* Understanding the big bug movies of the 1950s," *Environmental History* 12 (2007) 237–53.
23. Mark Jeffries, "Insect eating to be banned: You've had your Phil of TV bugs," *Daily Star*, September 30, 2003.
24. Jussi Parikka, *Insect Media: An Archaeology of Animals and Technology* (Minneapolis: University of Minnesota Press, 2010), 50.
25. Matt Mueller, "Excellent adventure, or bogus journey?," *Total Film*, December 2008, 68–72.
26. Tsutsui, "Looking straight at *Them!*"
27. Leskosky, "Size matters."
28. Kritsky and Cherry, *Insect Mythology*.
29. Ibid.
30. Douglas Flórian, *Insectlopedia* (New York: Voyager Harcourt, 1998).
31. Ibid., 25.
32. Kritsky and Cherry, *Insect Mythology*; Nicky Coutts, "Portraits of the nonhuman: Visualizations of the malevolent insect," in Brown, *Insect Poetics*; Yves Cambefort, "A sacred insect on the margins: Emblematic beetles in the Renaissance," in Brown, *Insect Poetics*.
33. Eric C. Brown, ed., *Insect Poetics* (Minneapolis: University of Minnesota Press, 2006).
34. Franz Kafka, *The Metamorphosis, and Other Stories* (New York: Oxford World's Classics, 2009), 39.
35. Christopher Hollingsworth, "The force of the entomological other: Insects as instruments of intolerant thought and oppressive action," in Brown, *Insect Poetics*.
36. Quoted in Steven Mintz and Sara McNeil, "Tragedy of the Plains Indians," *Digital History*, http://www.digitalhistory.uh.edu/disp_textbook_print.cfm?smtid=2&psid=3499 (accessed February 20, 2012).
37. Quoted in Raffles, *Insectopedia*, 141.
38. Quoted in Efraim Karsh, *The Iran-Iraq War* (New York: Rosen, 2002), 51.
39. Quoted in Mary Kimani, "Media trial: 'Hate radio' urged Hutus to break 'small noses,' expert witness testifies," *Internews*, March 20, 2002, cited in Hollingsworth, "The force of the entomological other."
40. William, "Mexicans are human garbage," on Rush Limbaugh Campfire, March 6, 2002, <http://killdevilhill.com/conservativechat/shakespearew/31.html> (accessed February 20, 2012).
41. Jennifer Robinson, "'Bugsplat': The ugly US drone war in Pakistan," *Al Jazeera*, November 29, 2011, <http://www.aljazeera.com/indepth/opinion/2011/11/201111278839153400.html> (accessed February 20, 2012).
42. "Emblem and Motto," *Utah.com*, http://www.utah.com/visitor/state_facts/symbols.htm (accessed November 9, 2012).
43. Jonathan Thompson, "Red state rising: How the Mormon GOP runs Utah with a collectivist touch," *High Country News*, October 29, 2012, 14–26.
44. Parikka, *Insect Media*, 42.
45. Christopher Hollingsworth, *Poetics of the Hive* (Iowa City: University of Iowa Press, 2001).
46. Maurice Maeterlinck, *The Life of the White Ant* (1927; repr., Whitefish, MT: Kessinger, 2005).
47. Waldemar Bonsels, *The Adventures of Maya the Bee* (1912; repr., Whitefish, MT: Kessinger, 2004).
48. Parikka, *Insect Media*, 50.
49. Sylvia Plath, "The Swarm," 1962, reprinted in *Guardian*, March 12, 2008, <http://www.guardian.co.uk/books/2008/mar/13/poetry.sylvia-plath1> (accessed February 20, 2012).
50. Virginia Woolf, *Jacob's Room* (1922; repr., New York: Melville House, 2011).
51. Mark Twain, *Letters from the Earth*, ed. Bernard DeVoto (Greenwich, CT: Fawcett Crest, 1964), 35.
52. Graham C. L. Davey, Lorna Forster, and George Mayhew, "Familial resemblances in disgust sensitivity and animal phobias," *Behaviour Research and Therapy* 31 (1993): 41–50; de Jong et al., "Spider phobia in children."