

Do Not Underestimate Mind-Controlling Parasites

Analysis by Tessa Lena • August 04, 2022

- Parasites, through release of complex chemical cocktails, employ mind control techniques that put politicians and alphabet agencies to shame
- Some parasites know how to zombify their hosts, change their gender, make them alter their behavior and appearance, and even commit suicide
- The better known mind-controlling parasite, *Toxoplasma gondii*, tricks infected rats into being attracted to cats, the parasite's final hosts
- People infected by toxoplasma tend to act more reckless and distracted, and there is a strong correlation between toxoplasma infection and schizophrenia and other mental disorders in humans
- Behavior of biological parasites offers insights into social interactions in human society and highlights the importance of protecting ourselves from predators, both physically and spiritually

This story is about the stunning, Hollywood-worthy mind control techniques employed by parasites in nature that turn their prey into obedient, self-destructive slaves.

I became interested in the topic (tessa.substack.com/p/parasites-and-mind-tricks-a-story) as I was pondering the effectiveness of COVID propaganda and deceit in general (tessa.substack.com/p/anatomy-of-deceit). I then started researching parasites in detail and discovered a whole world of deceit that politicians only wish they could pull off.

On the surface, the story is just about parasites. But on a philosophical level, this story is about our mysteriously composite nature. In everyday life, we can point our finger in the mirror and say, "This is me." But, as a number of philosophers have pointed out and older cultures understood, what we perceive as "self" is a result of many forces, and herein lies the big mystery of life, the magical dance that we dance from birth to death.

Parasite Tricks

In nature, parasites employ techniques of manipulation and mind control that are so refined and treacherous that no alphabet agency can compete with them. They take over the minds of their hosts and, through release of chemicals, make them dramatically alter their behavior and even appearance and dedicate their entire remaining life to nurturing and protecting the parasite offspring.

Then, once the offspring is ready to move on to the next host (since parasite life cycle often consists of several different animals), the original host who has literally given their everything to "raising" parasite babies, gets murdered in cold blood.

Or sometimes, the host gets mind-controlled into behaving in ways that are atypical for uninfected animals and that turn it into easy prey for a predator who conveniently happens to be the parasite's next host.

There are even well-documented cases of parasite "commanding" their "used up" hosts to commit suicide – as well as observations that suggest a possible strong correlation between risky behaviors in humans and parasite infections.

Mind-Controlling Protozoa Known as *Toxoplasma Gondii*

Toxoplasma gondii is an intracellular protozoan that causes toxoplasmosis. It is found worldwide and is capable of infecting most warm-blooded animals as intermediate hosts. To complete its life cycle, it needs to hop hosts. Its final hosts, inside which the parasites can sexually reproduce, are felines such as domestic cats.

In the environment, toxoplasma can be presumably be found in soil, water, and fertilizer. A common infection route for people is eating uncooked meat, drinking contaminated water, or accidentally ingesting the parasite after cleaning a cat litter box.

The general scientific consensus at the moment is that about one third of people worldwide are infected (including in developed countries) but in most cases, the infection is dormant – which means that upon entering the human body, the parasite quietly forms small cyst-like structures and settles in place (for example in the muscles and in the brain, brain being an organ that this parasite favors), and then just stays there for years, likely for the rest of the person's life, while the body figures out ways to work around the latent infection.

Thus, in many cases, people with a latent toxoplasma infection have no idea that their body is harboring this bandit. However, if the immune system does not curb the invader, it leads to all sorts of havoc, and the havoc is often blamed on other causes since doctors don't necessarily test patients with cognitive decline or psychiatric disorders for toxoplasma.

According to Kathleen McAuliffe, author of the book that inspired this article, "This Is Your Brain On Parasites," researchers have noticed a strong correlation between toxoplasma infection and schizophrenia and other mental disorders in humans, and there have also been studies where anti-psychotic drugs inhibited toxoplasma in vitro – which makes one wonder if toxoplasma in the brain secretly drives people crazy, they act crazy, and then psychiatrists treat them as mental patients. There is also a striking COVID connection, which we'll discuss in detail in a second.

Infected Rats Are Attracted to Cats

Toxoplasma is famous for the role it plays in behavioral modification in rats. The parasite's ultimate destination is a cat, where it can sexually reproduce. For that reason, it very much likes to infect rodents since a cat who eats an infected rodent becomes the new host.

Through release of dopamine and a gender-specific cocktail of sex hormones, toxoplasma messes with the rats' heads and makes them very active, unreasonably fearless, and attracted to the smell of cats. While a healthy rat would very prudently do its best to stay away from cats, infected rats are seemingly sexually aroused by cats and actively initiate contact, to their detriment.

Predictably, such a self-destructive rat gets promptly eaten, and the mind-controlling parasite settles inside its new host, the unsuspecting cat. And so it goes. Inside the cat, the parasite sexually reproduces, the cat then excretes the parasite in its feces, rats presumably get infected by accidentally ingesting the parasite scattered in the environment, and the cycle repeats.

Does Toxoplasma Control Human Behavior?

There are many theories suggesting that in fact, it does. For example, it is speculated that people infected with toxoplasma tend to be on average more reckless than the uninfected ones. Among the non-intoxicated drivers getting into car accidents, there seems to be a high percentage of people infected with toxoplasma. Same seems to be true for industrial accidents.

There is also a correlation between being infected with toxoplasma and elevated testosterone level in men (but please don't tell that to the social justice warriors, or else we'll be hearing about "toxic masculinity" for the rest of our lives).

Jokes aside, in their limited experiments (please take them with a grain of salt), researchers found that both men and women with toxoplasma infections were on average rated as more attractive by the members of the opposite sex, based on "blind" surveys where the participants were shown photos of infected and uninfected subjects.

On a much more alarming note, active toxoplasma infection seems to prominently contribute to the development of schizophrenia and other mental disorders, which is

logical since the parasite, if unchallenged, literally eats your brain and drives you crazy.

There is even a hypothesis that tragically, toxoplasma may be a strong contributing factor in some cases of human suicide. After all, when inside an intermediate host, what toxoplasma wants is for the host to die and be eaten by a cat (and it may or may not know that the intermediate host is not a rat), which may explain why infected people are more prone to taking risks, etc. It is also possible that toxoplasma makes human beings particularly enamored with cats.

All of this is covered in great detail in the aforementioned book by Kathleen McAuliffe, "This Is Your Brain On Parasites," which I highly recommend.

I would also posit that a healthy person in a non-toxic environment is unlikely to be impacted by this parasite. However, we don't live in a non-toxic environment, and our immune systems are under constant stress – which suggests that modern people may be more at risk of being actively infected than our ancestors in the olden days, when people were physically active and spiritually alert, and when air, water, and food weren't poisoned on such a massive scale. We can only wonder ...

Toxoplasma and COVID

As I was researching this topic, I found that the list of folk remedies and herbs that may inhibit toxoplasma greatly overlaps with the list of remedies that seem to work against COVID (the forbidden list, that is).

That made me wonder if somehow, toxoplasma works hand in hand with the product of synthetic biology known as the spike protein. So I looked, and sure enough, there is at least one study that lists toxoplasmosis as a serious risk factor for severe COVID or, as I would put it, severe spike protein toxicity upon environmental exposure or as a result of COVID injections.

In related matters, it has been observed that the severity of COVID correlates with the pre-existing health of the microbiome (the amount of bifidobacterial in the gut, among other things), and the toxoplasma theory could complement the gut microbiome side of the story.

On my end, I would love to see more doctors test their COVID patients for toxoplasma to see what they find. Something to ponder!

Suicidal Crickets

In the words of Kathleen McAuliffe:

"The anecdotal reports were wild. Crickets that normally inhabited the forest floor and didn't swim were leaping head first into ponds and streams. Frédéric Thomas suspected that a worm seen wriggling out of the insect's body as it drowned was behind the cricket's suicidal impulse, but the only way to be sure was to go to New Zealand, where the phenomenon had been reported."

"In 1996, Thomas, an evolutionary biologist at the University of Montpellier in France, applied to the French government for money to investigate the matter, confident his proposal would be funded ... but the Centre National de la Recherche Scientifique (CNRS) — France's equivalent of the United States' National Science Foundation — turned down the proposal.

He was so angered by their decision that he decided to go on a hunger strike, and he told the president of France, Jacques Chirac."

"His message ... was passed up the chain of command to high-level officials. Far from generating laughter, his letter appears to have sent the French government into a panic. Officials from the administration were promptly dispatched to his university, where they pressed the chairman of his department to prevent him from carrying out his threat ...

Evidently the officials were unsettled by the thought of an emaciated Thomas turning public sentiment against the government. They put so much pressure on Thomas that he finally agreed to withdraw his threat."

The day was saved by the Swiss billionaire named Luc Hoffmann who offered some funding. And so the scientist went to New Zealand--where he promptly discovered that it was near impossible to track infected crickets at night, in nature, even with flashlights.

“Thomas was forced to admit defeat ... but before doing so, he sent a photo to a university colleague of a worm emerging from a cricket ... The friend posted the picture in his department’s coffee station, where a lab technician happened to see it. A cousin of his in Montpellier who cleaned pools for a living, wrote Thomas, and they were full of the worms.”

“Thomas was highly skeptical ... so he assumed the technician was mistaken. But when he got back to France, he met with the technician’s cousin and gave him a jar of alcohol in which to put any worms that he found in pools. Thomas figured he’d never see the fellow again, but a week later the man returned with a jarful of worms. He had collected them from a pool at a nearby resort.”

Turned out, the technician’s cousin was telling the truth, the pool was full of worms! Thomas then convinced his wife to go with him to a romantic getaway at that spa – and, after dinner, instead of going back to the hotel room with his wife, he went straight to the pool and started collecting suicidal crickets. To each one’s own but I commiserate with the wife!

It turned out that the scientist’s hunch was right, and that the crickets running toward their death were indeed infected by fully grown parasites.

“In addition to inhabiting crickets, the worms also turned up inside grasshoppers and katydids that similarly developed a mysterious attraction to water. Indeed, the ‘enchanted’ insects came in droves. On a typical summer’s night, over a hundred flocked to the pool.”

But how was the parasite able to control the insects?

“Once the hairworms break free of their hosts, the team discovered, they mate in the water, and the females then lay a string of eggs, which develop into larvae. As they swim around, they bump into the larger larvae of mosquitoes and hop aboard them, hiding inside them as tiny cysts (think of nested Russian dolls).

When those mosquito larvae morph into winged adults, they take flight, carrying the parasite with them to land, where they die and are eaten by crickets. The dormant cyst then springs to life, eventually growing into a worm three or four times the length of the insect’s body when uncoiled.”

“A team led by Biron made another intriguing discovery. Compared to healthy controls, the stricken insects have higher amounts of a protein involved in sight, possibly altering their visual perception. This revelation prompted the French researchers to explore whether crickets harboring the parasite are attracted to light. Indeed they were, whereas the healthy insects preferred the dark.

If you’re a cricket that lives in the forest, said Thomas, what in your surroundings is brightest of all at night? An open area filled with water — an excellent reflector of moonlight. By tinkering with the settings of the cricket’s visual system, he believes, the worm mesmerizes its host. It’s effectively whispering to the insect, ‘Go toward the light.’”

It is also possible that the infected insects were running toward water to get rid of the unbearable sensation of having a worm occupying most of their body. Scientists can only guess but that makes sense, too.

The plot gets even more bizarre, however. Ponds are full of frogs and other creatures that would snap a suicidal cricket in seconds, and what happens to the worm? The parasite knows how to travel back from as far as a frog’s stomach and squirm out of a frog’s mouth or nose. James Bond’s got nothing on this parasite.

A Scene From a Horror Movie

Another parasite, called guinea worm, compels people to go into water, using a completely different mechanism. More from Kathleen McAuliffe:

“The worm, which is now mostly limited to Sudan, gets into people when they drink stagnant water contaminated with water fleas that carry its larvae. The acid in the human stomach kills the water flea, but

not the parasites inside it, which develop into worms that slip through the walls of the intestines and mate inside the abdominal muscles. The males, which are only an inch long, then die and are absorbed by the body.”

“But the female grows and grows, eventually stretching a yard in length as the worm develops, it snakes through the body’s connective tissue toward a lower extremity — typically a foot or calf. After about a year, the female is pregnant with a bustling brood of larvae. To usher them forth into the world, she migrates up to the surface of the person’s skin.”

“Until this point, the parasite has used various types of subterfuge to remain invisible to the immune system, but now she releases an acid that causes the victim’s skin to bubble into a painful blister (the disease is called, not surprisingly, dracunculiasis; Latin for ‘affliction with little dragons’). If she’s lucky, this burning sensation will compel the sufferer to dunk the inflamed limb in the nearest body of water.”

“The moment the worm senses the aqueous environment, she breaks through the person’s skin and begins disgorging her young through her mouth. Hundreds of thousands of the larvae are ejected with each convulsion. Over the next few days, whenever she comes in contact with water, she again vomits up babies by the thousands.

Once released, they swim around until they find a berth inside a new water flea and then repeat the ghastly cycle that will torment more humans — or sometimes the very same ones.”

There is a method of pulling the worm out of the wound, which typically takes several days and involves wrapping the worm around a stick. It is speculated, that this process could be the basis for the contemporary symbol of medicine, Rod of Asclepius.

Deadly Attraction and Predators in Snails’ Eyes

The flatworm *Leucochloridium* “replicates inside a bird’s digestive system and gets excreted in its waste; so a snail feasting on bird droppings may accidentally ingest the worm’s eggs. Once inside the snail, the eggs hatch and eventually grow into long tubes that take over its brain and invade its eye stalks – the first step in the snail’s dramatic makeover.

As its eyestalks swell in size, their walls are stretched so thin that it’s possible to see the parasite within – and what a dazzling sight it is. The worm is bedecked in colorful, pulsating bands, which are in fact pouches packed full of its rambunctious larvae.”

“As the snail morphs, it abandons its nocturnal lifestyle and becomes active during the day ... To a songbird overhead, those plump, pulsating stalks look like caterpillar grubs, enticing it to swoop down and peck on them. The victim of the ruse gets a beak full of tiny parasites that will soon reproduce inside its body. As for the snail, it may not only survive the ordeal but also go on to regenerate its eyestalks.”

Free Cheese? Welcome to the Mousetrap

Another parasite, *Flamingolepis liguloides*, whose final host is flamingoes, is a master manipulator. When infected, the larva changes the color of the shrimp from transparent to red, making them noticeable to birds. The parasite also castrates the shrimp, expands its life span, and compels them to gather in large swarms, making them easy prey for flamingoes.

From the flamingoes’ perspective, it sure is awfully convenient to stumble upon this massive shrimp feast. But by eating the easy prey, the birds become infected with the parasite. A metaphor for life?

Zombified

Parasitic wasp *Polysphincta gutfreundi* turns its spider hosts into full-on zombies. First, the wasp deposits its eggs into the spider’s abdomen. When the larvae grows, it starts producing chemicals that compel the spider to completely change how it weaves its web and to weave a sturdy, weird-shaped “fortress” to protect the larvae.

The larvae keep snacking on the spider's body all along, until its ready to form a cocoon, and then it kills the spider, forms a cocoon – which is then safely attached to the web previously made by spider. Then it hatches from the cocoon, and the story repeats.

William Eberhard, an entomologist and arachnologist at the Smithsonian Tropical Research Institute and the Universidad de Costa Rica, researched this phenomenon and concluded that the larvae first released a cocktail of chemicals that messed with the spider's central nervous system, and then, when it was ready to make a cocoon, a poison to kill it.

In one of his experiments, he did away with the larvae before it killed the spider, and the spider fully recovered back to its original web making pattern. Another wasp, *Ampulex compressa*, also known as the “jewel wasp,” performs “neurosurgery” to achieve its aims. Its prey is *Periplaneta americana*, the American cockroach.

“Though dwarfed in stature by its prey, a female jewel wasp that has caught the scent of an American roach will aggressively pursue and attack it — even if that means following the fleeing insect into a house. The roach puts up a mighty struggle, flailing its legs and tucking in its head to fend off the attack, but usually to no avail.”

“With lightning speed, the wasp stings the roach's midsection, injecting an agent that will temporarily paralyze it so that the behemoth will stay still for the delicate procedure to follow. Like an evil doctor wielding a syringe, she again inserts her stinger, this time into the roach's brain, and gingerly moves it around for half a minute or so until she finds exactly the right spot, whereupon she injects a venom.

Shortly thereafter, the paralytic agent delivered by the first sting wears off. In spite of having full use of its limbs and the same ability to sense its surroundings as any normal roach, it's strangely submissive. The venom, according to Frederic Libersat, a neuroethologist at Ben-Gurion University in Israel, has turned the roach into a 'zombie' that will henceforth take its orders from the wasp and willingly tolerate her abuse.”

“Indeed, the roach doesn't protest in the least when she twists off part of one of its antennae with her powerful mandible and proceeds to suck the liquid oozing from it like soda from a straw. The wasp then does the same thing to its other antenna and, assured that the roach will go nowhere, leaves it alone for about twenty minutes as she searches for a burrow where she'll lay an egg to be nourished by the roach.”

“Meanwhile, her brainwashed slave [as a result of injected chemicals] busies itself grooming — picking fungal spores, tiny worms, and other parasites off itself — providing a sterile surface for the wasp to glue its egg. When the wasp returns, she seizes the roach by the stump of one of its antennae and 'walks it like a dog on a leash' to her burrow' ... Thanks to its cooperation, she doesn't have to waste energy dragging the massive roach.”

“Equally important ... she doesn't 'need to paralyze all the respiratory system, so the thing will stay alive and fresh. Her larvae need to feed five or six days on this fresh meat, which you don't want to rot.’

The wasp enters the burrow first, tugs the cockroach in behind her, lays an egg on the exoskeleton of its leg, and then leaves to search for twigs and debris to stop up the opening, thus entombing the fully alert roach. Her offspring then proceeds to clean out the roach's body from top to bottom, at which point the fledgling wasp emerges from the burrow to repeat the cycle.”

Infected Crabs That Change Gender to Serve the Parasite

Sacculina is a barnacles that attacks crabs. The female predator attacks the crab and injects its cells into the animal. The cells eventually grow into larvae that take over the crab's eyestalks, its nervous system, and other organs. The crab continues to walk around and eat but at that point, it is completely overtaken by the parasite.

The parasite castrates the crab and does “gender reassignment surgery” on male crabs turning them into females. It then grows through the crabs belly and forms a pouch where a pregnant female crab would typically develop a pouch for its offspring.

What seems to happen next is that the parasite releases chemicals to attract parasite mates who fertilize the invader. The crab, presumably thinking that its own babies, takes care of the pouch, cleans and protects it, then goes into deep waters to “give birth” to alien babies. According to researchers, the infected crab becomes a slave to the parasite for the rest of its life.

Are Human Beings Exempt?

We all want to believe that we are masters of our thinking and our choices, at all times. It is, however, unlikely, and just like animals, people can fall prey to visible and invisible predators. Over the course of my life, I came to believe that predators are a part of life, and that in order for us to stay alive and to thrive, we have to develop and maintain spiritual clarity and physical health and face any challenge with courage and faith in our goodness.

When We Look in the Mirror, Whom Do We See?

Every cell in our body and every microorganism that populates us contribute to our sensations, our choices, our self-perception, and our very identity. In modern culture, we learn to label the physical elements that carry our DNA as “us,” and external organisms as “the outside world.” But it is far more complex, and the line between “us” and “the world” is not a hard line.

It makes practical sense to look at our identity as a combination of “elements and forces that are harmonious to our health and well-being” and “elements and forces whose relationship to us is of parasites and vampires.”

For example, our own healthy cells, doing what they are designed to do, are our friends. “Good” bacteria helping us with many important functions, including a strong immune system, are our friends. Spiritual forces that resonate with our dignity and our life’s purpose are our friends.

Then on the other hand, we also have enemies who are parasitic or antagonistic. They try to ride us and vampire our resources for their own benefit, either physically or spiritually, or both. When thinking about them, it’s important to keep our focus firmly on our own well-being and dignity and not be scared. They serve an existential purpose but we don’t need to dwell on the intentionality of parasites and vampires.

They have their path, they may be simply feeding but what’s important to us is that their life’s purpose is not aligned with ours, and we have absolutely no obligation to feed or accommodate them because we are here on Earth to do our job, and we are responsible for doing our job successfully and protecting our purpose from invaders. It is the task of our life to love, support, and cherish our friends and keep the enemies at bay.

Truly, we are mysterious, composite beings whose different parts exist on different levels and in different worlds, some visible and some merely felt – and yet there is something that binds it all together and makes us who we are. That force that animates us is love.

About the Author:

To find more of Tessa Lena's work, be sure to check out her bio, Tessa Fights Robots (tessa.substack.com/about).