

## AMEISENGRIPPE : THE APOCALYPSE OF THE LEAFCUTTER ANTS

"Rose, thou art sick!  
The invisible worm,  
That flies in the night,  
In the howling storm,

Has found out thy bed  
Of crimson joy;  
And his dark secret love  
Does thy life destroy."

*The Sick Rose*  
- William Blake -

My leafcutter ants got a virus, which turned into a disease and evolved into a pandemic killing the whole colony. The pandemic unfolded upon my ants, as I, being the generator of their environment, creator of their ecology, provider of their resources and keeper of their limits, disappeared from their life for a period of 5 days. On my return I was summoned as a powerless witness to contemplate their suffering and pain. Too late my arrival was, to revert the terminal illness that was destroying them.

The evolution of sickness can be better understood as a network of actions, positive and negative, undertaken by both invader and invaded, to occupy the same biological space, an embodied coevolution to pursue eternity; a never ending battle constantly emerging from different ecological circumstances and from the rich interactions of the populations that inhabit them. Such is the case of the highly evolved leafcutter ants of the New World Tropics, who according to sociogenetic studies have been cutting vegetation to culture a special fungus for as long as 50 million years. They depend on each other, the ants cut vegetation, process it and plant the fungus garden, and the fungus provides them with food and shelter. They were the first society that actually started agriculture on this planet. Each attini species co-evolves with a fungus that only responds to the colony that grows it. But every fortress is vulnerable.

This symbiotic system becomes the most suitable target for the attacks of certain pathogens, which throughout the evolution of the agricultural system in Attas, have been adapting and specializing in parasitism. Coevolution and coextinction is mutualism and parasitism. A parasite is invited when the fitness of the host is weak, and that's when the struggle to occupy the same biological space begins.

A pathogen virulence may have been the cause: an infectious agent was born, stimulated by the humidity, within the confines of the artificial ecology I created for them. To be precise, there was a contamination of the soil in the feeding chamber that was not handled on time. There was a mutation and the infectious agent started to easily propagate through the discarded organic material laid in the soil of the foraging arena, thus becoming the first medium for propagation. Then it expanded to the nest chamber to directly attack the source of energy of the Attas, the fungus garden. The illness attacked every single worker who came in contact with the pathogen, thus quickly propagating the infection to every other member of the colony. Ants strength relies on the sharing of information, so the presence of any unwanted guest infiltrated in the territory of the colony needs to be dealt with, needs to be communicated, from the guards to the transporters to the fungus care takers. Regrettably, in this apocalyptic case, the information being transmitted were pathogenic microorganisms, which using the ants as living carriers, expanded throughout the whole colony.

Transmission and replication are the key mechanisms of a pathogen. Since a colony of ants is in fact a population which depends on local interaction and the influence of its nestmates, the ants are in permanent contact, feeding back the local events flowing in the network. Thus, the colony becomes a perfect target for the evolution of an illness. Just like the so called 'swine-flu' pandemic, a deadly virus finds its way to debilitate the fitness of its host progressively by spreading through the network of social agents, in order to transmit and replicate itself. The more the subjects conforming the network interact, the closer the parasite invasion is in becoming a colony itself. Taking into consideration that the ultimate goal of an ant colony is the reproduction of a new ant colony, itself becomes the perfect habitat for the incubation of microorganisms, bacteria and parasites, present altogether at the same time or emerging individually to catalyze a pandemic.

I will not feel her cutting blades anymore... I will not suffer for them anymore.