

Tanya Chaly  
Matthew Garrison

## Unravel

Tanya Chaly makes visible the invisible forces of nature through interventions into her analytical drawings on paper of animals and the ecosystems they inhabit. Her work balances order with disorder, meticulously combining renderings in graphite and charcoal with indications of impending microscopic threats. Often, they take the form of thousands of pinholes depicting the molecular structures and toxins that impact species, and the delicate systems in nature that support them. While some of the most vulnerable of animals might adapt to these environmental pressures, others will mutate or succumb to them. The tension in Chaly's work is apparent in the beauty of her drawing and the innate beauty of the creatures she's drawn, while, simultaneously, acknowledging the possibility of their extinction. Her work and installations are layered with clues to understanding complex issues in science and life. In the process, poignant questions arise surrounding resilience, survival and loss.

In the spirit of scientific inquiry, Chaly's work is grounded in observation and detail. The isolated animals are composed and presented for investigation, hovering in perpetuity, absent of landscape, surrounded solely by the punctured traces of their origins. Unflinchingly observed and refined, the accuracy of Chaly's work is rooted in both art and science, recalling a time before photography when proficiency in drawing was essential to recording the scientific method. Chaly's collaborations with an entomologist in Mozambique and a molecular biologist at Memorial Sloan Kettering coalesce into artwork, merging the world of endangered species with the microscopic realms of cellular information. Chaly utilizes the data she uncovers to connect species from around the world to threats of environmental encroachment and cellular disruption in their anatomy, bringing to light a collective survival instinct among those facing increasingly hostile aggressors.

But Chaly locates her investigations squarely in the realm of art through her realization of concepts with graphite and pastel, and her delicate puncturing and scratching of the paper's surface with pins and an electric Dremel. Paper, the material of textbooks and journals, serves as both a means of presentation and a framework for drawings and ideas. For instance, Chaly's series of forty endangered frogs individually rendered and presented in heavy wooden frames under convex glass and domes, initially appear to stem from direct analysis and a Victorian aesthetic, but closer inspection reveals the delicacy of her marks and a subtle range of hues and values. Her approach to drawing with a Dremel, by lightly scraping and sanding the surface while applying graphite and pastel, transforms the delicate paper in this piece into a kind of membrane, at times the domed glass recalling a bullfrog's vocal sac. Yet, all the while, science remains central to Chaly's investigations. She explains that amphibians use their skin to absorb moisture and to breathe, making them bio indicators because of their sensitivity to

environmental changes; also, how a fungus is currently decimating frog populations by thickening their skin and interfering with a life sustaining ability to absorb moisture and essential salts and electrolytes. Chaly further emphasizes the fragility of the frogs' ecosystems by referencing lungs in the layout of the installation, and indicating with pinhole evidence the difficult conditions under which they subsist.

Chaly's queries are evidenced through the traces of research punctured into the surface of the paper, recalling braille or scarification, while referencing an ongoing visual vocabulary. However, the beauty of these punctured constellations shifts after learning of the invisible threats they represent in conjunction with the depicted nutrients essential to survival. This tug of war between imperceptible forces is at the heart of Chaly's work. Behind its beauty is the uncomfortable reminder that over the past seven years scientists have discovered approximately a thousand new viruses in rain forests that coexist in their ecosystems with little impact on people and animals. But as ecosystems shrink due to deforestation, and animals are removed to become exotic pets in homes and private zoos - or through poaching, the possibility of viruses like Ebola and SARS spreading to untested populations increases. Chaly's drawings embody both a respect for ecology and a warning that the delicate balance between nature and civilization is unraveling.

Her atmospheric pastel of the Arctic Death Spiral, a scientific chart describing the rapid loss of melting sea ice from 1979 to 2016, connects Chaly's concepts to lands around the globe and exemplifies the urgency in her work. Below the pinhole death spiral, she has scratched into the paper with fluorescent orange ink words from the Roman Philosopher, Cicero, "Non audimus ea qua ab natura monemur." Already, in the first century AD Cicero cautioned, "We do not notice the things that nature warns us about." Chaly's drawings confirm Cicero's observation: in the name of profit, progress and power, warning signs received from the natural universe continue to be discounted, and the potential impact on our planet ignored when a species and its habitat cease to exist.