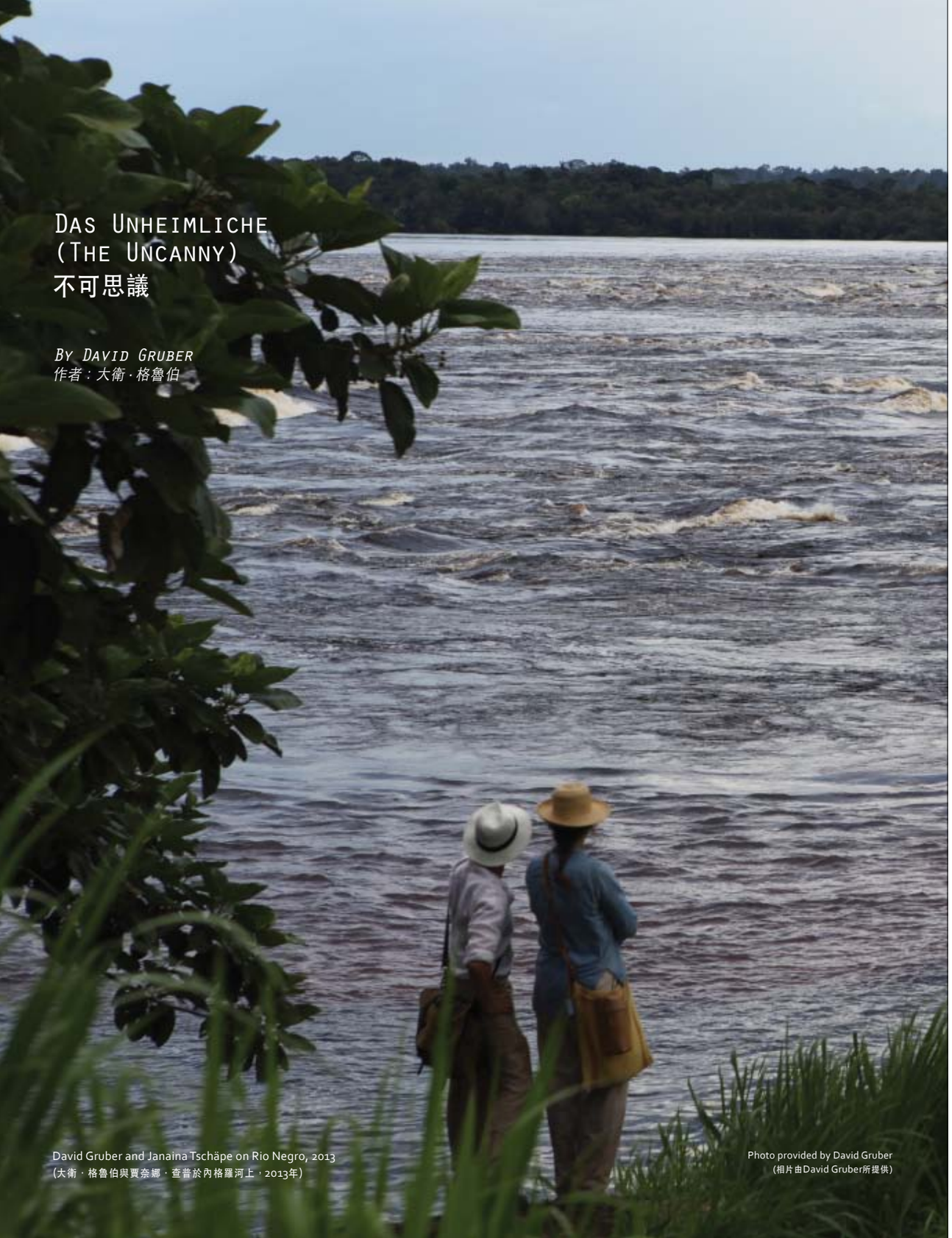
Das Unheimliche (The Uncanny) 不可思議

By David Gruber
作者：大衛·格魯伯



David Gruber and Janaina Tschäpe on Rio Negro, 2013
(大衛．格魯伯與賈奈娜．查普於內格羅河上，2013年)

Photo provided by David Gruber
(相片由David Gruber所提供)

'The cinema is a marvellous apparatus for taking us outside ourselves and outside of the world in which we believe ourselves to live.'

– Jane Epstein, *'Alcool et cinéma'*

For Janaina Tschäpe, the *aquatic* is a recurring theme. It ascends and surfaces in surreal and fantastical geometric forms in her videos, photographs, performances, drawings and paintings.

As a marine biologist and molecular biologist, I am drawn into Janaina's variegated universe. In my profession, I search the world's oceans for luminescent and fluorescent life forms. In order to undertake these studies, I dive at night into the sea, using homemade cameras and lighting to seek out and examine glowing sea life. After I emerge from the water, my laboratory fastidiously deciphers these bioluminescent animals' genomic code, searching for the animals' DNA blueprints for its living light. As a form of paint, I use a palette of marine creature molecules to illuminate, sketch and visualise the inner machinery of living cells.[1]

Life forms are art. And, science is tantalisingly close to fiction.

Commonly associated with the French artistic, philosophical and scientific movements of the 17th and 18th centuries, "salons" were a place where ideas could be exchanged. In New York City, beginning in 2010, Janaina and I began our own salon in her Brooklyn home. Every few weeks we would assemble a cast of freethinkers with the purpose of meeting and discussing ideas. It was during these "salons" that we discovered the mutable boundaries of our art and science. It was quickly uncovered that we shared several common inspirational seeds.

First, Janaina that I are both building "submarines". Janaina's submarine, *Jelly Space*, is a structure of floating and penetrable nature that she is designing in partnership with architect Lloyd Huber. Part submerged, part aloft, it will be installed in canals, rivers and lakes. Janaina's vision is to float down the Amazon in her *Jelly Space* submarine. My submarine, *Deep Reef*, is a robotic, remotely operated vehicle that I am designing in concert with robotic engineers and neuroscientists. My vision is for this submarine to glide underwater, searching for glowing animals far beneath the reach of where humans can descend using scuba gear. In these deep regions nine out of ten animals flash and communicate to each other using a blue or red glow.

Our second connection was an attraction to the films and photographs of Jean Painlevé (1902-1989). Painlevé had a decades-long career in which he created hundreds of short f ilms on subjects ranging from astronomy to birds[2] to marine life marvels.[3] Considered the founder of "scientific-poetic cinema", Painlevé's study of skeleton shrimps and sea spiders with a magical score by Maurice Jaubert[4] was screened in 1930; Fernand Léger called it "the most beautiful ballet" he had ever seen. Marc Chagall praised its "incomparable plastic wealth" as "genuine art, without fuss".[5] In an article Painlevé penned for *Surréalisme*, 'Exemple de surréalisme: le cinema'[6], he compared painting to film as both art forms incorporate "elements given in a higher sphere, giving them a form and order".

The idea of an 'expedition' had been burning in both Janaina's and my own thoughts since we f irst met. We poured over books of earlier explorations, such as Margaret Mee's *Flowers of the Brazilian Forests*[7] and Wade Davis' *The Lost Amazon*[8] and admired pioneers who searched, described, drew and photographed exotic terrains and species. The interconnection of art and science involves exploration and creative thought, and sometimes finding a canvas in far off lands or abysses.

One evening in June 2013, I came to Janaina's house with a map of Amazonas and a small town circled, 'São Gabriel da Cacho'. A friend who travels extensively in the Brazilian rainforests had given this name to me. He had also provided the name of a premier jungle guide, Sandro Gama Pedroso, who he recommended travel with us down the Rio Negro, a meandering tributary of the Amazon and the largest blackwater river in the world. By mid-July, Janaina, myself and the members of our tightly knit expedition team (Heloisa Passos, Marina Quinete, Lula Buarque, Isadora Buarque) set down the river. Sandro proved to be a mythic figure; unassuming and soft-spoken, he used the jungle as his laboratory, conjuring up cuisine and canoes. A self-taught linguist, he could communicate in over a dozen local dialects. This facilitated our communication with the indigenous tribes as we travelled downstream, drifting toward Manaus. Over campfires, we learnt the mythic stories of departed ancestors and the river pink dolphins, known as *boto-vermelho*, that are known to transform at night into handsome young men that dance, drink and seduce women before jumping back into the water in the morning as dolphins[9].

During the day, Janaina mingled with the indigenous inhabitants of the jungle, collecting paints and dyes from the jungle environment. As trust, combined with curiosity, was established, she began to intertwine the community into her art. A section of this imagery is assembled within *The Ghost in Between* (2013) [p.108-113], where the tannic tea-like qualities of the river create mirror reflections and add dimensional space.

Once the sun set, Janaina and I would descend beneath the inky depths of the Rio Negro and look for living light amongst the sub-river inhabitants.

[1] V. Pieribone and D.F. Gruber, (2006), *Aglow in the Dark: The Revolutionary Science of Biofluorescence;* Harvard Press.

[2] Directed by J. Painlevé, *Pigeons of the Square (Les Pigeons du square)*, (1982) [Film], France: La Cinématographie documentaire.

[3] Directed by J. Painlevé: *The Octopus (La Pieuvre)*, (1928), [Film]; *Daphnia (La Daphnie)*, (1929), [Film]; *Sea Urchins (Les Oursins),* (1929), [Film]; *Shrimp (Crevettes),* (1931), [Film]; *Hyas and Stenorhynchus, Marine Crustaceans (Hyas et Sténorinques, Crustacés),* (1931), [Film]; *The Sea Horse (L'Hippocampe),* (1935), [Film].

Entering the expanse of the Amazon tributary at night is uncommon to the locals. Beneath the water live an array of marine animals, including piranhas and crocodiles. I was there to probe the river bottom with strong blue lights to illicit the phenomena of biofluorescence. In fact, these were the first instances of scientific exploration into these depths in search of fluorescence. In consultation with Dr. Marcelo Rodrigues de Carvalho of the Universidade de São Paulo, we agreed to probe for a species of *Potamotrygon* stingray that he had previously described in the area. At night, our expedition team slept cocooned in hammocks webbed across the hull of our riverboat.

In my scientific explorations, I have found the study of biology to intermingle dreams and reality. In Janaina's films, cinematic beauty presents itself as a supernatural gift, such as her depiction of mermaids in her cinema and stills. Janaina has also re-invented and discovered jellyfish (*Hydromedusa*; 2013 [p.130-131]) and octopus forms of mythic proportions in several pieces. In her watercolour *Scyliorhinus* (2013) [p.124-125], she portrays a fluorescent shark, *Scyliorhinus* rotifer, that I had just photographed and transforms it into something supernatural. This was one of several new species we had just discovered manufactures surreal biofluorescent molecules and eyeballs[10], including the same sea horse, *Hippocampus erectus,* depicted in Painlevé's iconic 1935 film, *L'Hippocampe*.

What began as ideological discussions in Brooklyn between two people with different destines has led us to explorations deep within the Amazon forests. Different natural and dream forms intersect and reality becomes a fiction-like science. The extraordinary inventiveness of *Nature* abounds; and radiant creatures await with a lens.

David Gruber is currently working on *Dictionary of Imaginary Jellies* with Janaina Tschäpe. He is a Research Associate at the American Museum of Natural History's Sackler Institute for Comparative Genomics and Associate Professor of Biology at City University of New York. David's research focuses on bioluminescence and biofluorescence, and his laboratory has discovered more than 40 fluorescent proteins from marine creature's ecosystems around the globe. A former tropical forester for the Smithsonian Tropical Research Institute, he now uses extended-range SCUBA, remotely operated vehicles and submarines to probe deep marine environments for glowing marine creatures. Recently, he described over 180 new species of biofluorescent fish, including sharks, stingrays and seahorses. He is the co-author of *"Aglow in the Dark: The Revolutionary Science of Biofluorescence"* (Harvard University Press, 2006) and he is currently co-producing a 3-D IMAX film on bioluminescence. David received his Ph.D. in biological oceanography from Rutgers University in 2007. He was a postdoctoral fellow at Brown University, working to develop fluorescent proteins from the ocean into cell-based sensors for cancer drug development.

[4] Directed by J. Painlevé, *Caprella and Pantopoda (Caprelles et Pantopodes),* (1930), [Film], France: La Cinématographie documentaire.

[5] Deux Aveugles, (1930), 'Un entr'acte aux "Miracles"', *L'Intrasigeant,* (23 December), p.6.

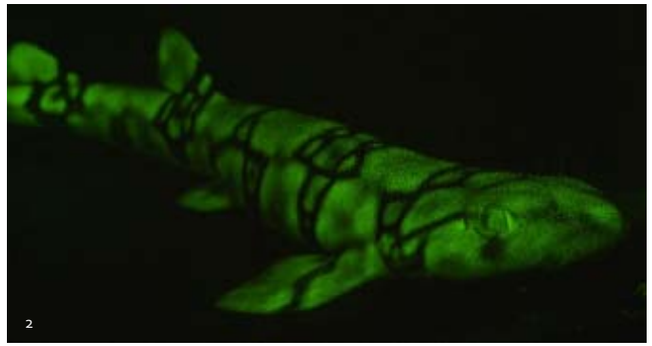
[6] J. Painlevé, 'Exemple de surréalisme: le cinema', *Surréalisme,* (1 October 1924).

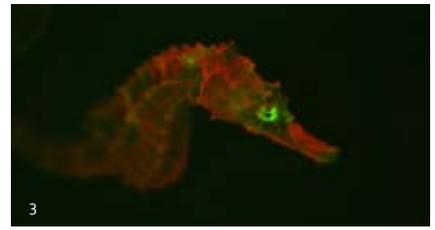
[7] M. Mee, (1968), *Flowers of the Brazilian Forests*.

[8] W. Davis, (2004), *The Lost Amazon*.

[9] M.A. Cravalho, (1999), 'Shameless Creatures: An Ethnozoology of the Amazon River Dolphin', *Ethnology*, 38:47-58.

[10] J.S. Sparks and D.F. Gruber, (2014), 'The Covert World of Fish Biofluorescence: A Phylogenetically Widespread and Phenotypically Variable Phenomenon', *PLoS ONE,* 9(1): e83259, doi:10.1371/journal.pone.0083259.





[1] Night research on Rio Negro (黑夜中探索內格羅河)
[2] Biofluorescent shark (熒光鯊魚)
[3] Biofluorescent seahorse (熒光海馬)
[4] Aequorea victoria (維多利亞多管發光水母)