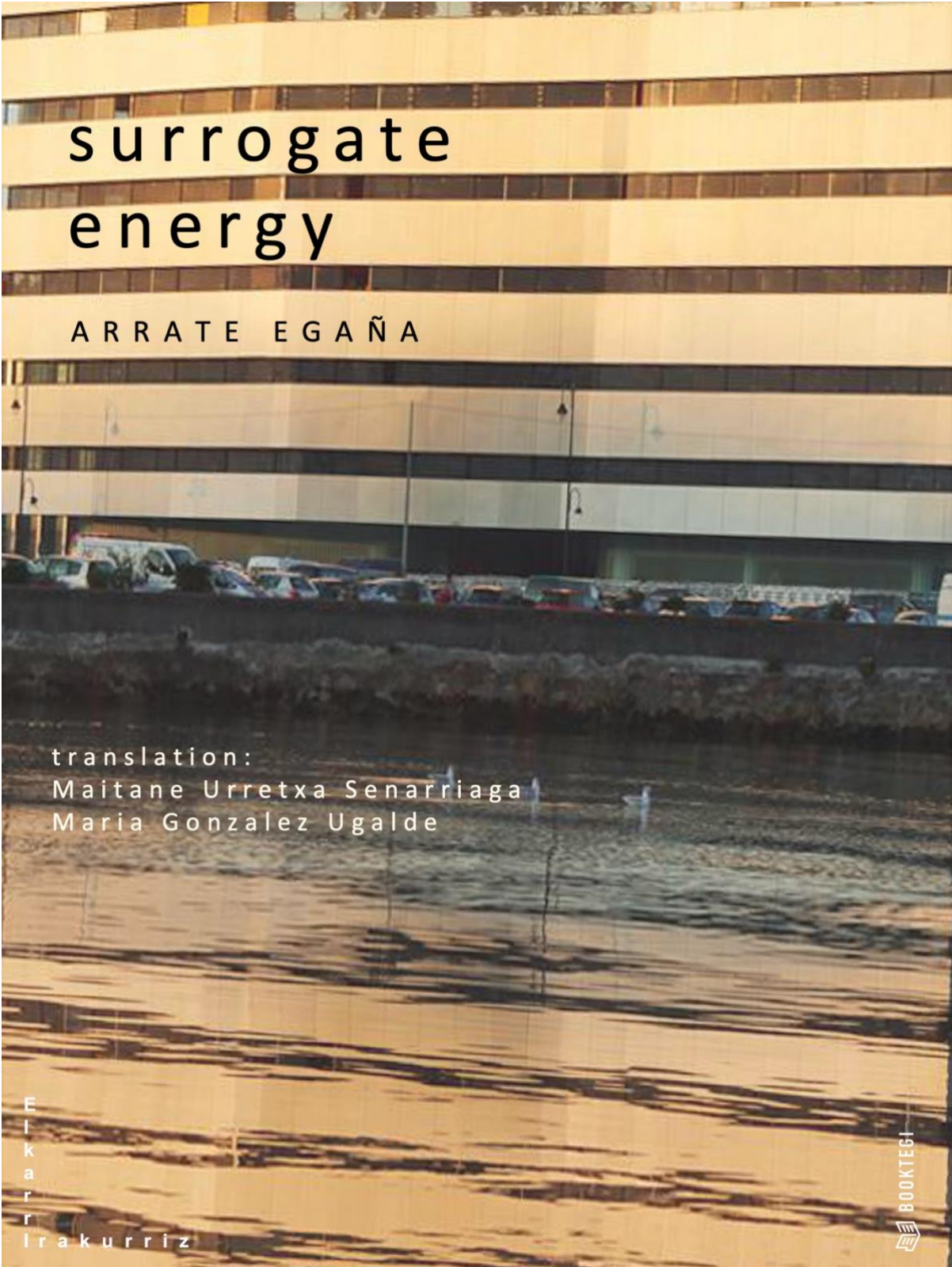


The background of the book cover is a photograph of a modern, multi-story building with a curved facade and horizontal bands of windows. The building is reflected in a body of water in the foreground. The water is calm, showing clear reflections of the building and the sky. The overall color palette is warm, with golden and brown tones.

surrogate energy

ARRATE EGAÑA

translation:
Maitane Urretxa Senarriaga
Maria Gonzalez Ugalde

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ARRATE EGAÑA

Surrogate Energy

Original title: Energia subrogatua

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Joselu doesn't like Christmas holidays. The streets, the shops and the TV commercials have all been immersed in a different atmosphere; the Christmas spirit has transformed every setting. Joselu's house, on the other hand, remains as simple as always since his grandmother doesn't believe in such celebrations. Joselu doesn't either, or maybe he does; he isn't sure. In any case, when his parents were alive, they decorated the house for him. Coloured lights? His grandmother saw that as tasteless decoration. Nativity scene? Absurd toys from the past? Christmas carols? That isn't music, even less so than military music. The gift from Olentzero¹ is the only tradition his grandmother has ever accepted, and that is precisely what Joselu has forgotten to buy, with so much on his mind.

In any case, this year's holidays will bring a change. He's going to leave the lab, head straight to the attic, and pick up the big bag of Christmas things. Whether his grandmother likes it or not, Joselu is going to decorate the house; this year, he will fulfill his wish. Hedy Lamarr, his grandmother's beloved cat, will dress up as Mari Domingi² even if it's just to annoy his grandmother, who always says that she's a very naughty cat.

"Oh my god, Joselu, you look like a child! Get over the Christmas thing," his grandmother usually tells him, a cigarette in her mouth.

"Well, you stop smoking," her grandson always responds. "You've had plenty of years to stop being an irresponsible teenager."

"I know that very well, dear, better than anyone. I'm going to open the window to let the smoke out..."

The central laboratory at Zorrozaurre-Laboratek has also altered its nuclear white appearance with the arrival of the holidays: it now has a predominantly red tone, with red balls and ribbons colonizing the walls, making the place feel warmer. The researchers are wearing their white coats unbuttoned; some have already taken them off. Their employees all seem happier, and more human. Distant melodies break the usual complete silence, and

¹ Olentzero is a character in Basque Christmas tradition. He comes to town late at night on 24 December to drop off presents for children.

² Mari Domingi is Olentzero's wife, She helps him to drop off presents on December 24th.

on the tables in the corners there is plenty of food from different countries for tasting, as if at a ceremony.

The employees, about thirty of them, are joking about experiments and research between bites and sips: science, technology, humanities... everything feels like an exaggerated joke, like a scene from a TV show. The cork from the champagne has been popped open. And they have begun to cheer. They have made a toast to Christmas. A well-deserved break after hard work!

The thought of the holidays would have been wonderful if Joselu hadn't had the weight of heartbreak on his shoulders. The Christmas decorations would have to make a great effort to soften that pain. Helga, the young Scandinavian researcher, ended their secret relationship – only his grandmother knew about it – just after the start of the relationship. When they were about to take the next step, she broke things off. Joselu realizes he is quite clumsy when it comes to love, but he has tried; he thought this time he would succeed. He feels sad and discouraged. Helga, on the other hand, is cheerful, with a drink in her hand, chatting animatedly with her colleagues. This morning she avoided Joselu, just like yesterday and the days before.

When Helga looks for more champagne, Joselu follows her with his head down. She has silver strips tangled in her light hair; her naturally pale face is blushed. He readjusts his glasses and approaches her, breathing heavily.

"Are you going to Troms to see your family?"

"Not this year, I'm swamped," the young woman replies with a strong Nordic accent.

"If you ever wanted to come to ours, my grandmother would love it."

"That isn't not a good idea, Joselu."

"We could talk."

"We've already said everything. Stay with your grandmother and leave me alone."

Joselu has ups and downs with his grandmother, but he doesn't accept anyone speaking badly about her; she doesn't deserve to be treated like that. When Joselu was orphaned, she had retired early to take care of him, interrupting her research studies. Since then she has cared for, listened to, and consoled him; she has allowed him a thousand whims every day. She finds him tasty gluten-free food – he was diagnosed with intolerance as an adult – and has signed Joselu up for the gym time and again, although he's never gone.

“What do you have against my grandmother?”

“Nothing, you didn’t understand me; I like your grandmother, she’s very patient. I used to be patient too, but not any more.”

“What do you mean?”

Helga pushed Joselu aside and moved forward. Her straight, light hair and silver ribbons headed toward the kitchen, and it seemed as if she left behind her magical dust, as if she were a fairy.

Joselu feels unwell, despite not having eaten gluten. Anyway, not even a small bite of what has been served would pass a nutritionist's approval. It hurts him that the party committee members have not taken his intolerance into account –they have known about it for a long time, and they have never managed to bring even a single cake made only from corn. He is drenched in sweat, drooling. His encounter with Helga has left him unsettled.

How had he come to imagine his future alongside a girl like her, even think that Helga could replace his grandmother? This Scandinavian girl is one of the leading researchers at the Zorrozaurre-Laboratek laboratory. Her work on the *Strongyloides* parasite has transformed the world of research into these organisms. This multicellular being, when a tropical disease called Strongyloidiasis arises, moves through the intestines or blood, and it is also capable of reducing or curing other diseases. Amazing! She has obtained key positions in the most important international scientific associations.

Joselu's research is more modest. The project initiated by his mother and grandmother sparked great hopes, and Joselu has taken on their legacy. After finishing his studies, he dedicated himself to this task, always helped by his grandmother.

"You're going too slowly, dear," his grandmother often tells him. "You need to introduce another variable, something more powerful to generate more energy..."

"Don't interfere, Grandma," the boy often replies with an air of empowerment. "It's my project now."

Despite the difficulties, the project is moving forward slowly. His grandmother occasionally asks for evidence, proof of the research's progress, but Joselu can't show her anything.

His mother and grandmother created a mutant by merging the genes of a leech and a female glow-worm, calling the monster 'lightvein'. Due to characteristics from the leech, it would continue to play the role it has always has, sucking blood, preventing blood from being clogged in thrombi or clots, and creating new blood connections, amongst other things. At the same time, it would generate light thanks to the photogenic organs provided by the glow-worm; an astonishing chemical process. That light, once sufficient power is reached, would be converted into energy.

It is true that Stanford, too, had obtained luminous plants through various genetic processes. However, the progress made by Joselu's grandmother and mother was qualitative as they worked with animals. The creation of that little Frankenstein sparked the interest of researchers, but discoveries from Joselu's work have not been exponential. Neither exponential nor promising; not even normal. He has continued researching with rats and mice, but the hosts die, and the light and energy emitted by the lightveins are quite slow.

Initially, Helga collaborated with Joselu as the philosophy of the lightvein project aligned with Strongyloides parasite project, but her friend's lack of initiative discouraged her. That failure also eroded their relationship.

The creatures, it must be said, seem disgusting to Joselu; he uses special tweezers – for instance stainless steel ones with crocodile tips – to handle them. His grandmother has advised him over and over to pick them up by hand, but he cannot touch them, not even with nitrile gloves, and as soon as he feels the soft body of those bioluminescent creatures he feels like vomiting. They have large black eyes and gastropod bodies, although they have developed four tiny legs that help them move. Suddenly, they may turn around and bite him,

with those 300 teeth arranged in three rows in their mouths, which they hadn't lost in spite of all the mutations. This repulsion should not hinder his progress in the research, but in reality, that's Joselu's main problem, an unspeakable problem.

He goes up to his workmates to take his eyes off Helga. He puts two bits of nougat into his mouth, one hard and one soft. A couple of pieces of chistorra and a small portion of tortilla. Somehow, he swallowed two shortbread cookies, one almond, and the other chocolate. What a gluten party!

After that, he decided to flee the laboratory.

Instead of buying a Christmas gift for his grandmother, he's going to take her six lightveins. He has caught them with tweezers and put them in a cardboard box. Among them is Bluish, the shy one that gives off a bluish light. In another box, he has put a white mouse. He is sure that this gift will please his grandmother, as it will finally provide the damn evidence she has been asking for, even if it's not much.

He leaves without saying goodbye and staggers to the metro. During the ride, he feels dizzy. A strong urge to use the bathroom hits him. After exiting the metro, he takes the bus instead of continuing on foot. Leaving the rest of the passengers reeling from his flatulence, he gets off and staggers home. He struggles to get the keys into the lock. His glasses fog up. Almost blind, moving along the wall, he makes his way down the hallway like a bullet toward the bathroom. Along the way, he steps almost intentionally on the cat, Hedy, who comes up to him hissing.

"Joselu? Sick again? You eat like a pig, my boy."

There is a smell of smoke in the house, a sign that his grandmother has been smoking again, and, as always, 'Earth Angel' or something like that is playing. She's fed up with doo-wops, with the jukebox in the living room, and the movie 'Back to the Future'. While still carrying his package, he puts on his headphones to listen to his favorite Christmas songs, and he feels lighter under the protection of classics such as 'Jingle Bells'.

When he stands up from the toilet, a wave of dizziness pushes him against the bidet. He bounces off it and falls to the floor. A thin trickle of blood runs down his head, along his neck,

to the floor. What a way to start the Christmas holidays, he thinks, with his cheek pressed against the bathroom tiles, no more shiny little ornaments, garlands, or the small decorated fir tree...

Suddenly, a white mouse with red eyes runs in front of him, pitter-patter. Apparently, the box had opened when Joselu fell. The mouse slips in the blood and, with its little paws stained, moves on, leaving red footprints behind him. Six lightveins follow him.

The disgusting worms move nimbly across the tiles. Joselu looks into those dark, shiny eyes, one by one. Their insatiable mouths make a continual noise; they are hungry. They eagerly try to absorb the blood from the floor, scraping the ground with their teeth. He wants to call for his grandmother, but he has lost the ability to make any sound after his fall. The creatures, attracted by the smell of blood, crawl into the folds of Joselu's waist, except for one, Bluish, who has been climbing slowly up his neck until... Joselu closes his eyes and throws up, and then passes out.

When he wakes up, he's comfortably in bed, leaving his nightmares behind somewhere. He's not listening to The Flamingos or Meghan Trainor but to Christmas carols. A touching aroma reaches him: squid in ink. Is this heaven? No; he can also smell smoke from his grandmother's cigarette.

Extremely weak, he manages to open his eyes. In the room's darkness, colours emerge here and there, diffuse, flickering, like traffic lights in the rain. Has Grandmother finally put up the Christmas decorations? Maybe even the nativity scene, all neatly arranged?

He hears some laughter growing clearer. There's a glass of water on the nightstand; he drinks it and coughs.

His grandmother appears in the doorway.

"Joselu is awake!"

"Who's with you?" Joselu whispers, hoarse.

"I hope it doesn't bother you, dear, but I called Helga. I was really scared when I saw you in the bathroom."

Joselu now feels better than in heaven. He wants to sit up to greet Helga in a dignified way but he can't.

"Be careful, Joselu, stay still," the young scientist goes up to him looking worried.

"I feel better; still weak, though."

"That's normal."

The itchiness makes Joselu's hand scratch the side of his waist.

"Don't touch!" Helga ordered him as she holds his hands.

On both sides of his lower body he feels the cold, slimy skin of the slugs. He can see Bluish hanging onto his temple. They are the lightveins, bigger, fatter. He screams.

"Calm down, Joselu, we have all your vital organs under control," his grandmother tells him.

"It seems your gluten allergy is decreasing," Helga continues. "We're also addressing the diopters; imagine, no stomach pain, no glasses..."

"And you've lost weight. You've already lost six kilos!"

Joselu goes crazy.

"Get them off!"

"I always told you that you needed to take your studies to another higher level. Well, that's what we've done, and by chance. If you hadn't fallen over in the bathroom..."

“Get them off!”

“Yes, slowly, we’ll take them off in a moment; we just need a couple more tests.”

“Take them off now, please! At least the one on my temple!”

“The blue colours lower the bilirubin, dear,” his grandmother explained. “Just stare at Bluish, and your stress will disappear.” Helga injects him with a sedative and gently strokes his head.

The women have started to cover the lightveins, yet the colorful lights still come through the bandages at an irregular rhythm. Joselu can feel the animals crawling, and the 300 teeth of each one stuck in his waist and nailed to his temple, but the tremors are worse than the pain.

On the other side, he notices a tangle of cables protruding from his back. They are connected to batteries. The batteries, in turn, are plugged into some photovoltaic panels on the nightstand, registering the increase in energy in numerical form. That is what's powering the Christmas lights and the other luminous decorations.

“You're extracting that energy from me...”

“That's right! Isn't it great? You're an energy donor. It's men's turn now.”

Joselu's grandmother is very pleased. She holds the white mouse in her hands. She's always been an animal lover and has opposed carrying out tests on them. She often speaks about the technological alternatives they've found, which have quickly been dismissed and deactivated due to dark interests. Every year they hold Laboratory Animal Day on April 24th.

The injections given by Helga have made him sleepy; his mind feels foggy.

“Did you bring the TV into my room?”

“Yes, and we’ll watch whatever movie you want. Here’s 'Little Women' with Elizabeth Taylor, 'It’s a Wonderful Life', 'Home Alone'... Whatever you like, sweetheart.”

“Christmas movies, that’s for sure! Please, sit next to me!”

Helga and the grandmother sit on either side of him as the first images are projected. Soon after, Joselu falls asleep. Hedy Lamarr is purring on top of his belly.

"I'm going to turn off the TV – otherwise, I'll get confused counting these parameters," says the grandmother. "I'd like to eat something..."

"Baby squids?"

"No, I don't like them; I bought them for Joselu."

"I have a sandwich in my bag; do you want half?"

"Yes, thank you so much."

The room's darkness is only interrupted by the blinking lights of the lightveins and the decorations, and in the silence the crunching of the lightveins is all that can be heard. Helga takes notes and then compares them with Joselu's grandmother.

"How many more days will we have to perform the Christmas experiment?" she asks.

"As long as the experiments need; does it make you uncomfortable?"

"No," Helga replied, looking into the room's darkness; "but this will be the longest Christmas of my life."

They laughed and threw themselves back into their work.