

Forces of Physics

That Shape the New Economy

Doppler Jubiläum Symposium
3 Juni 2017
Salzburg, Österreich

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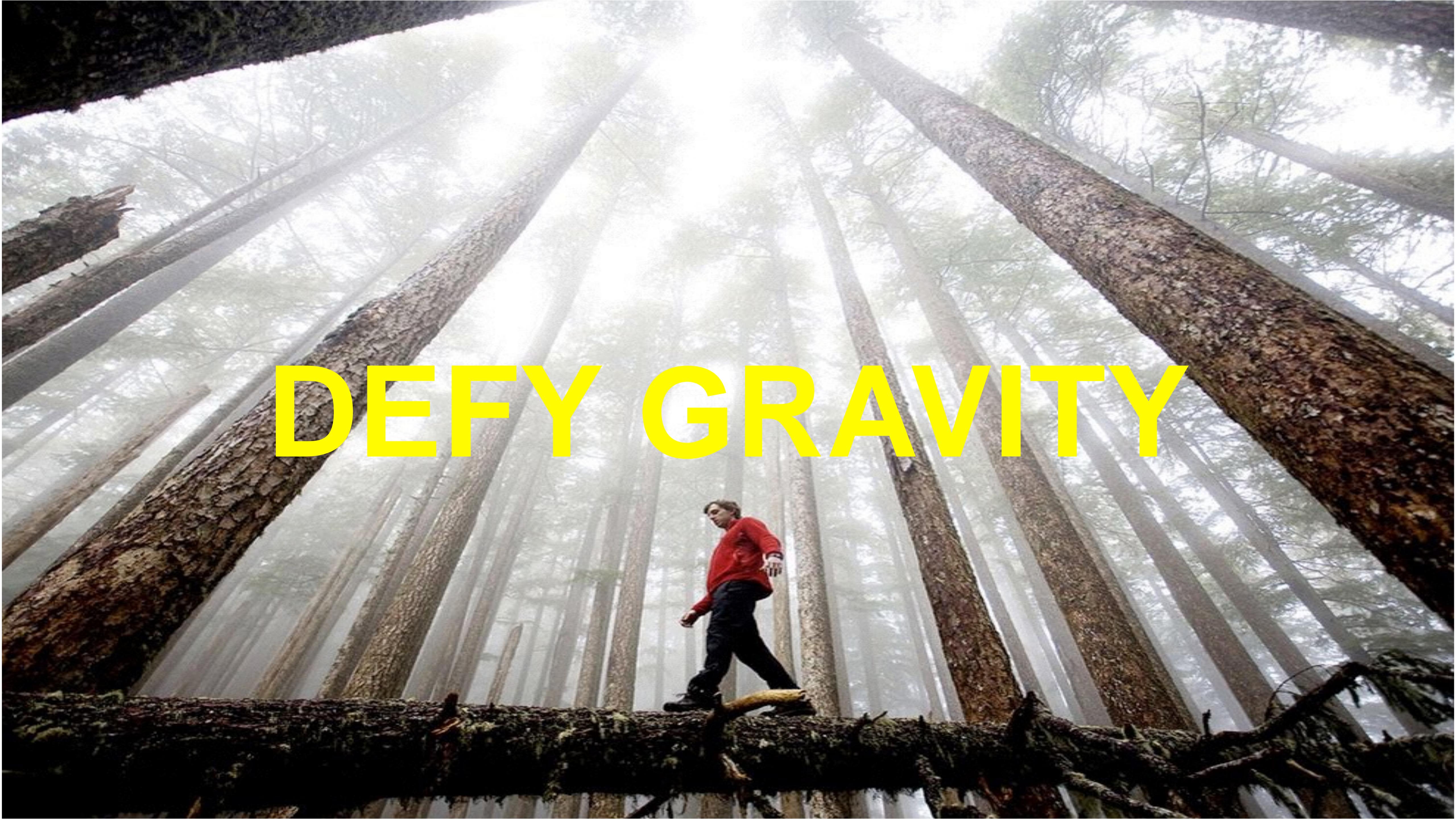
Prof. Dr. h.c. Gunter Pauli
Author The Blue Economy
Founder ZERI Network

Photos © Shutterstock, Pauli



NATURE

No Waste or Unemployed

A photograph of a man walking across a fallen tree trunk in a dense forest. The forest is characterized by extremely tall, thin, and straight trees, likely Douglas firs, which creates a unique perspective where the trunks appear to converge towards the sky. The man is dressed in a red long-sleeved shirt and dark pants, and he is looking back over his shoulder as he walks. The scene is misty, with sunlight filtering through the canopy.

DEFY GRAVITY

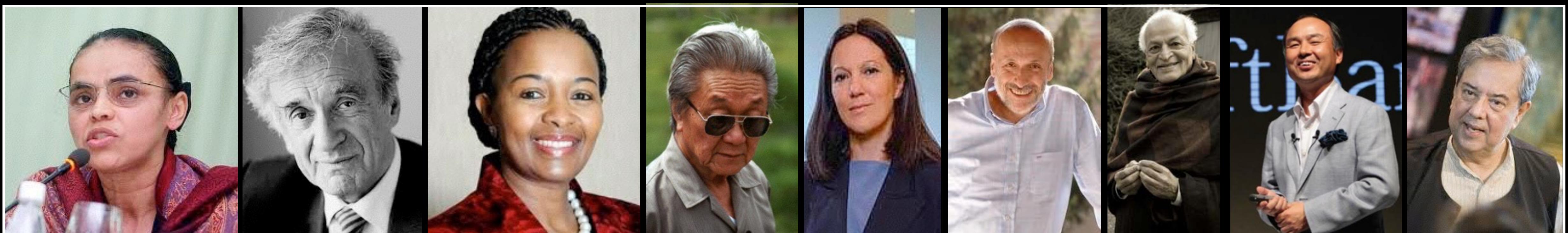
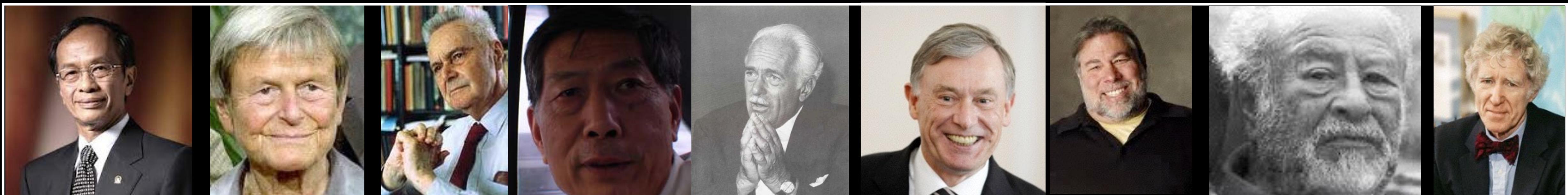
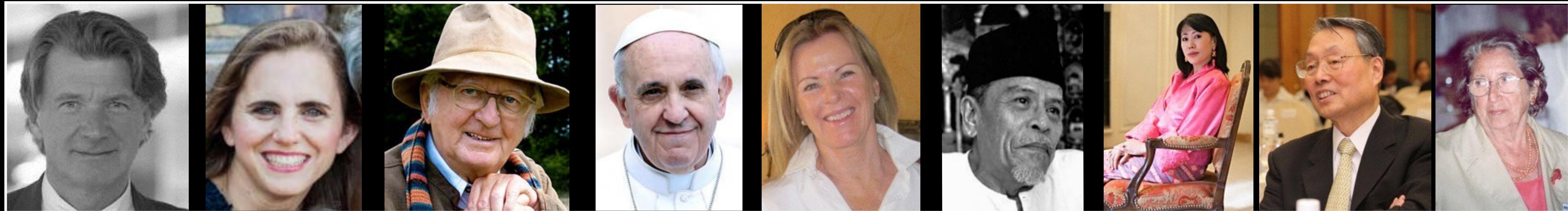
The background of the image is a dense, lush forest. The trees are primarily palm trees, recognizable by their distinct fan-shaped fronds. Interspersed among them are various other tropical and subtropical species, creating a rich tapestry of green shades from deep forest green to lighter, sunlit greens. The overall scene conveys a sense of natural abundance and environmental health.

SUSTAINABLE



Think Tank and Do Tank

Inspiration





THE BLUE ECONOMY

VERSION 2.0

200 PROJECTS IMPLEMENTED

US\$ 4 BILLION INVESTED

3 MILLION JOBS CREATED

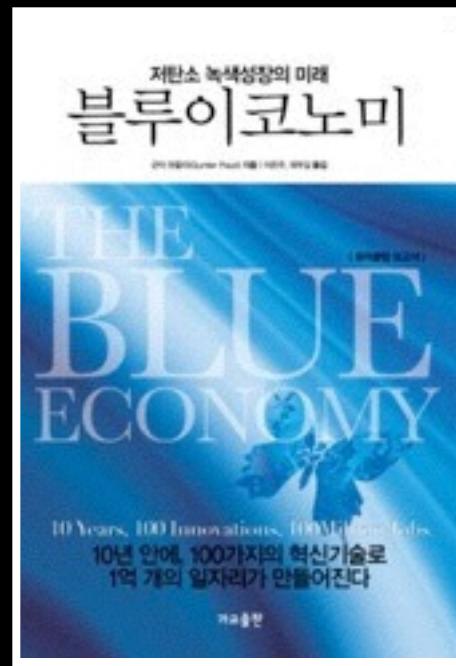
GUNTER PAULI

REPORT TO THE CLUB OF ROME

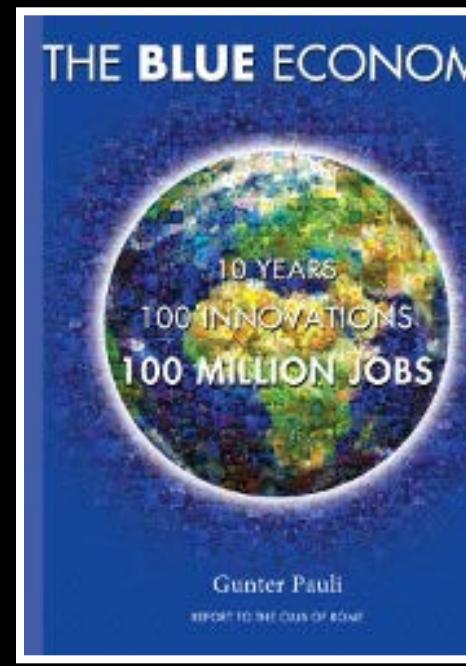
41 editions + one million copies sold



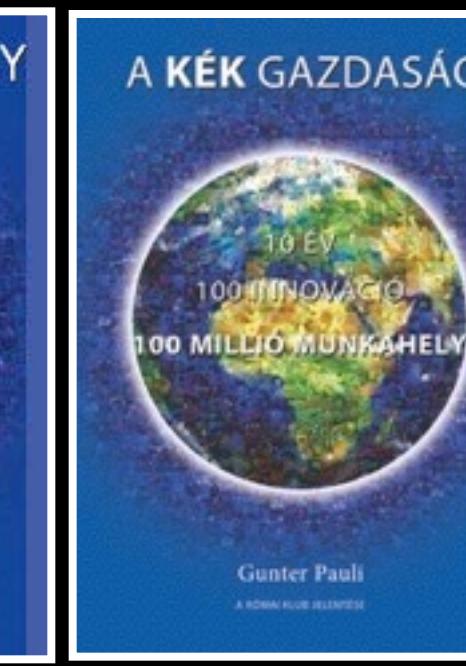
Japan



Korea



USA



Hungary



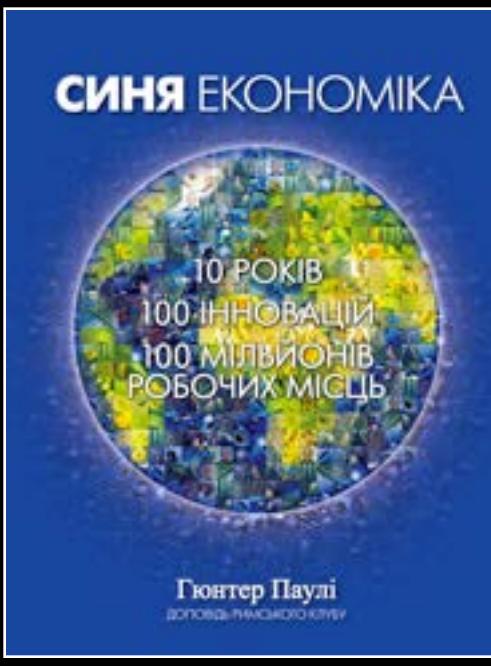
Netherlands



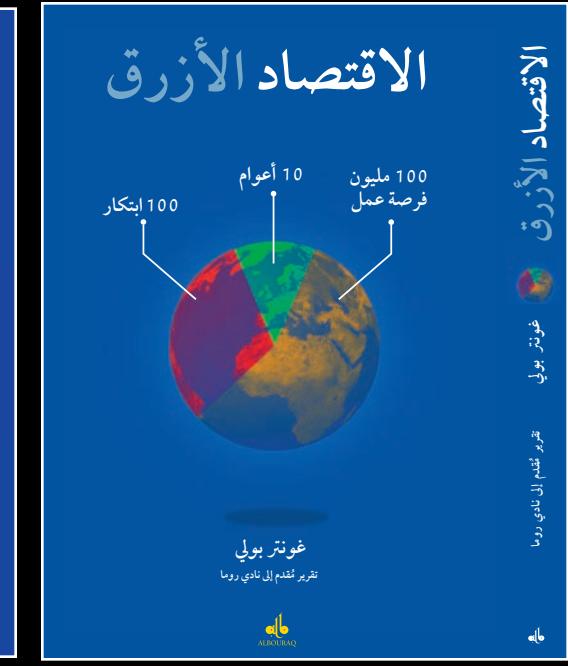
China



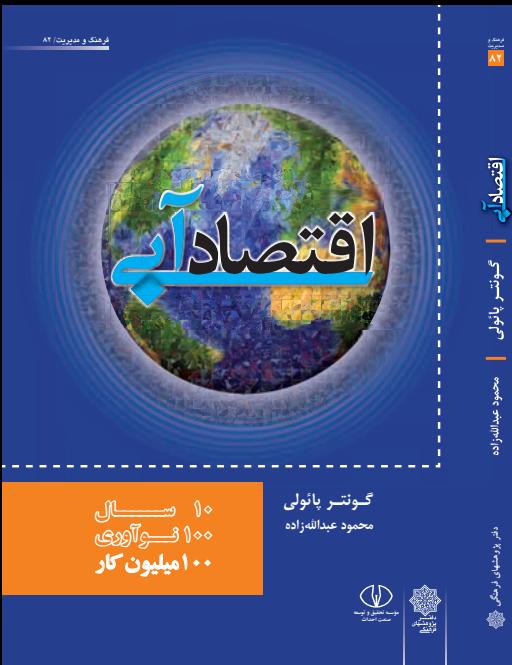
France



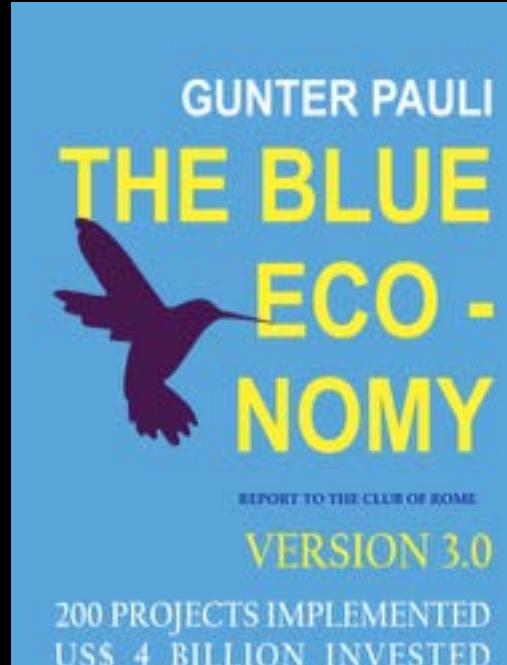
Ukraine



Arabic



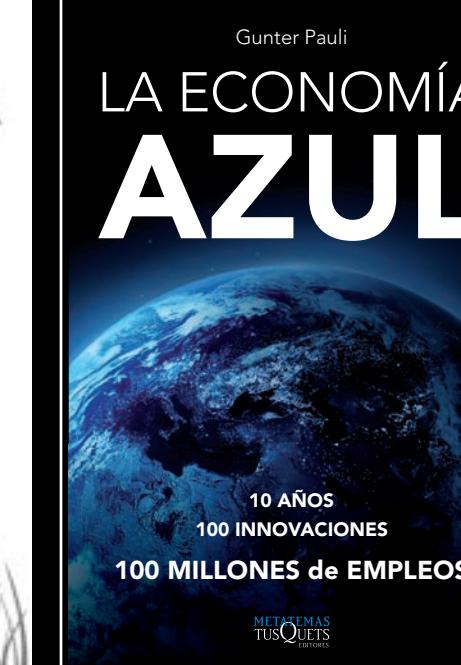
Farsi



South Africa



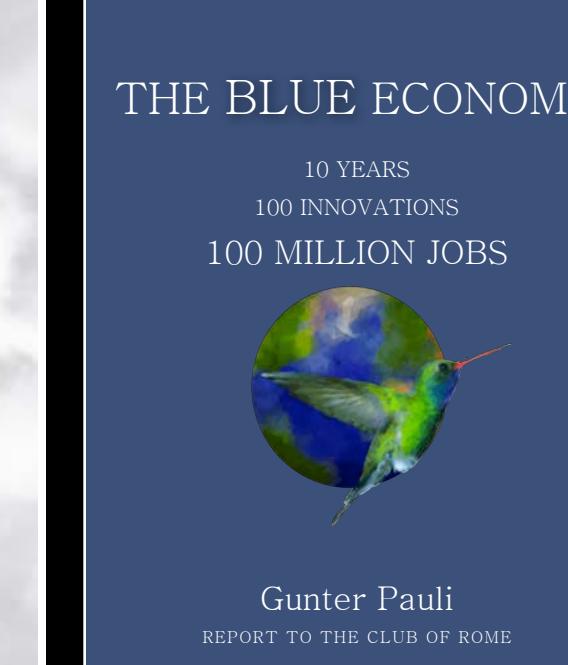
Bulgaria



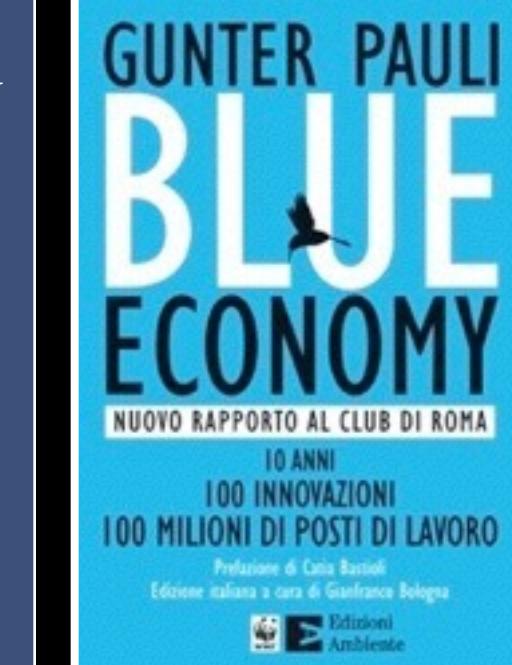
Mexico



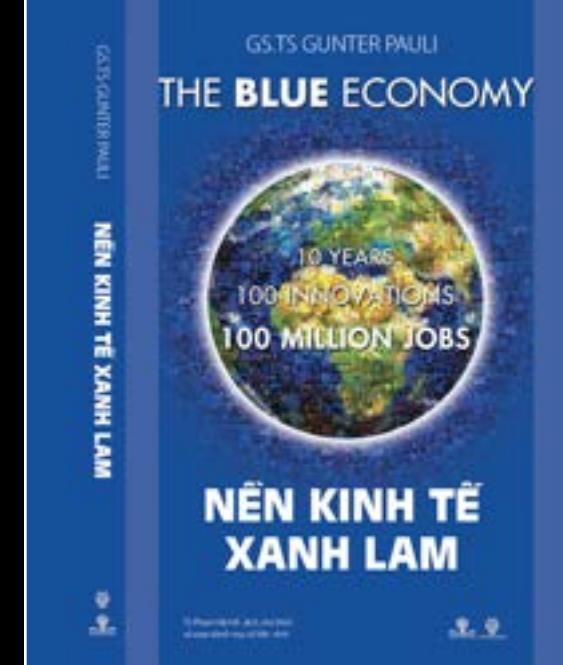
Spain



South Africa



Italy



Vietnam

Russian
Swedish
Basque
Indonesia
Braille
Portuguese
Croatian
Serbian
....

The Blue Economy

Innovative

Competitive

Jobs

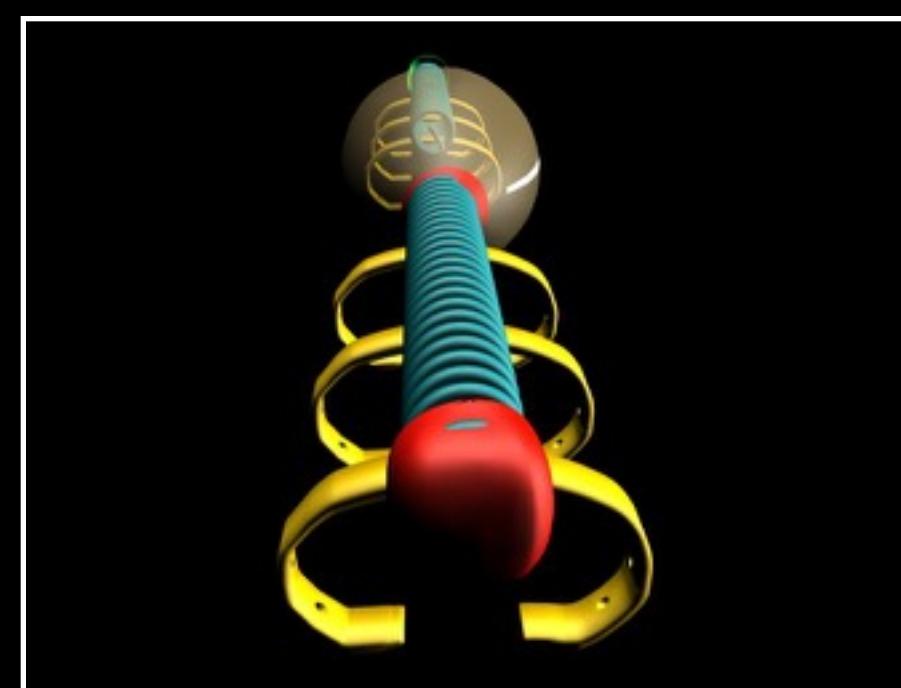
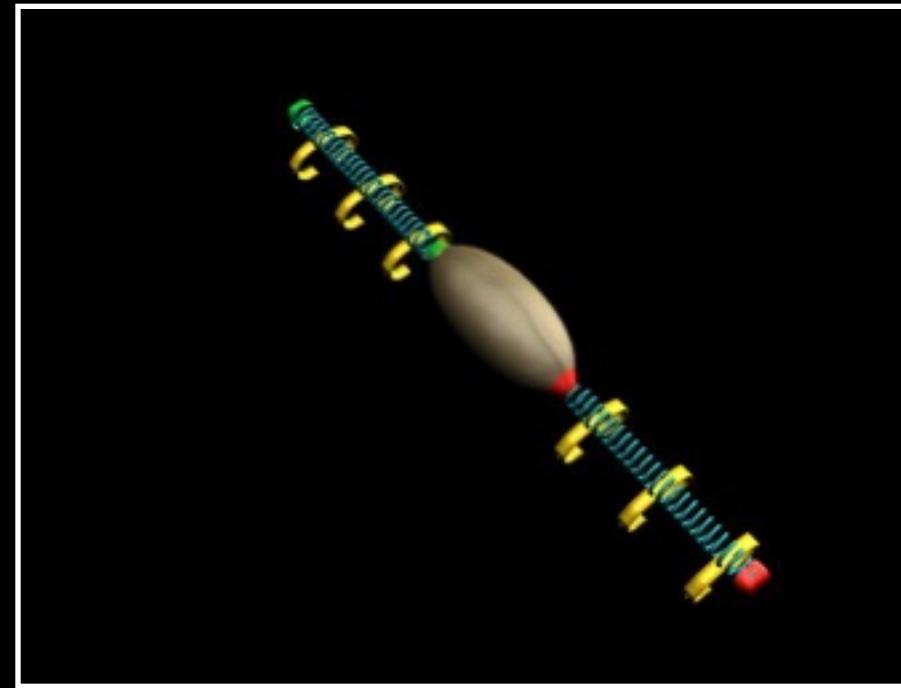
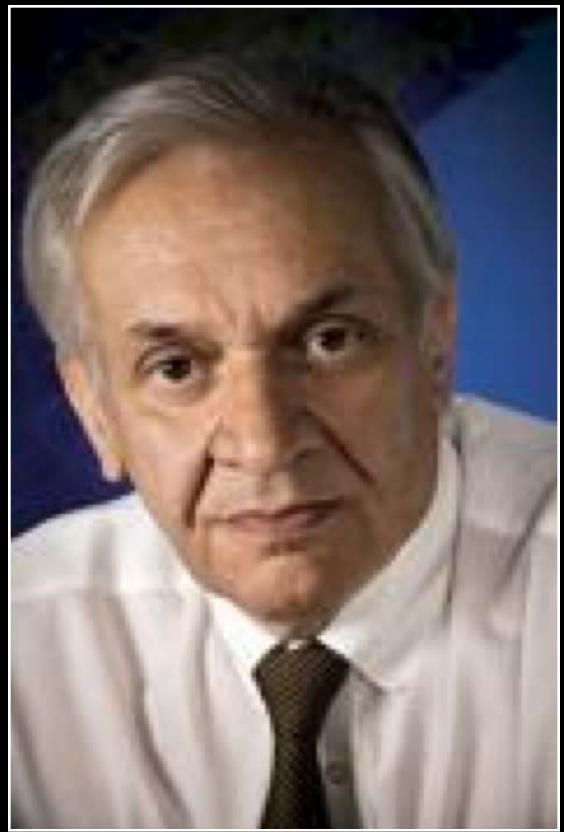
Use what you have

Guided by the Laws of Physics First



HALF FULL or EMPTY

Piezo-electric Cardiac Rhythm Bridge without Battery or Surgery



Wasting Water



15,000 Liter pro Kilo



17,500 Liter pro Kilo



2,000 Liter per Day



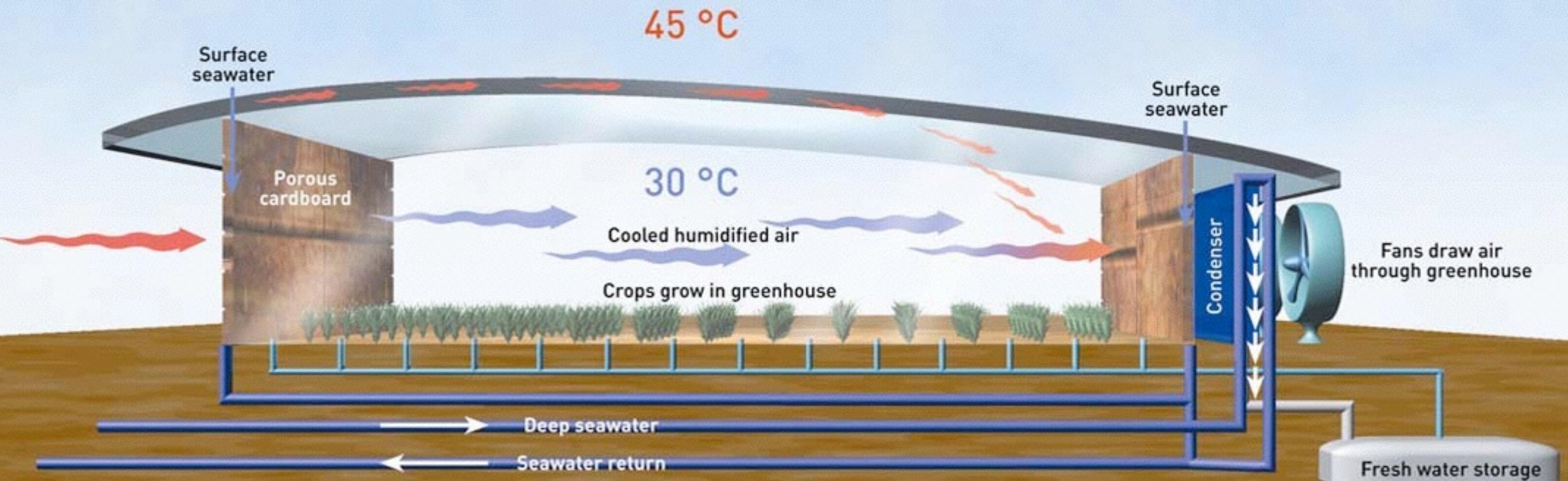
Hydrophobic

Generating Water by Farming





1 kg of tomatoes consumes 210 liters



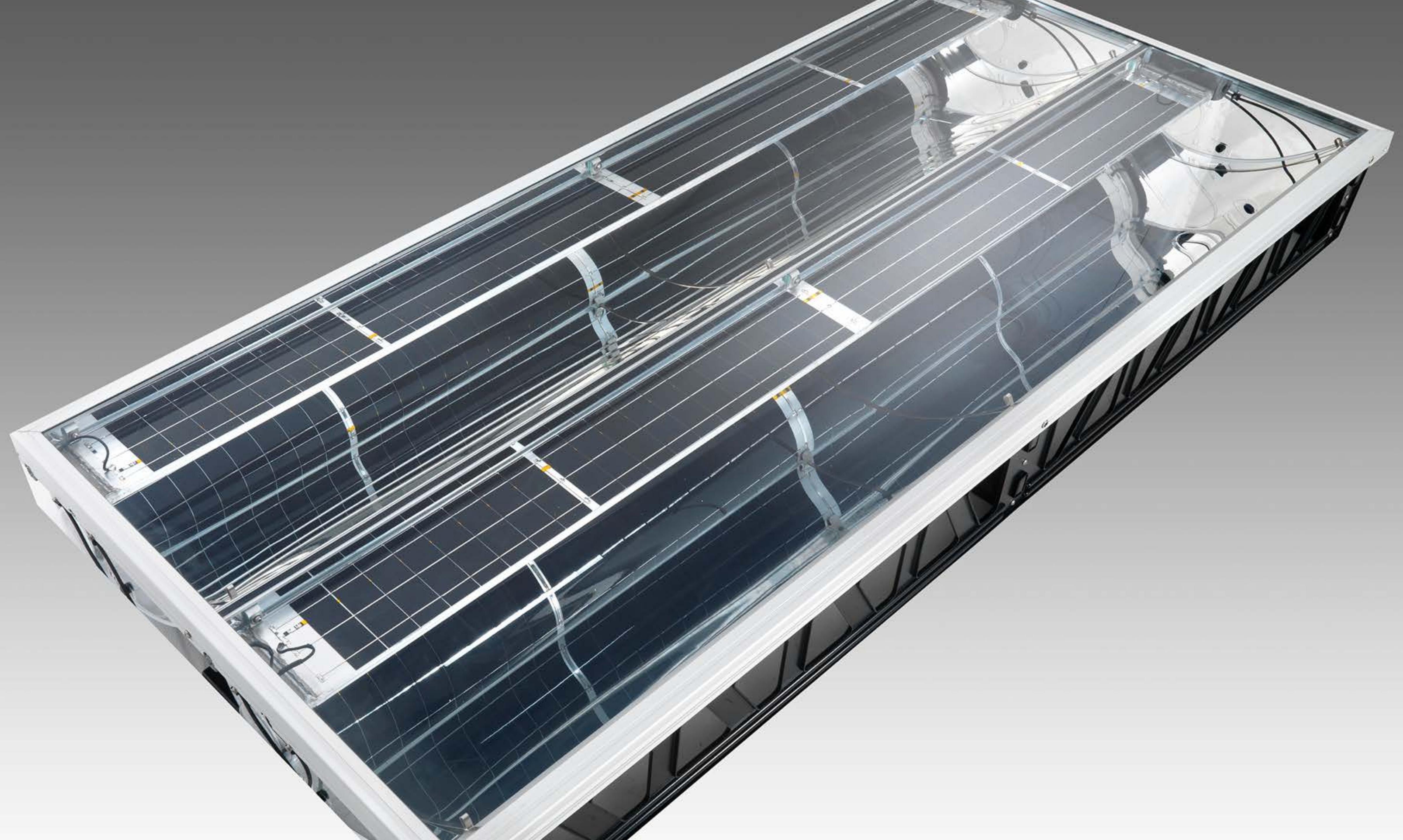


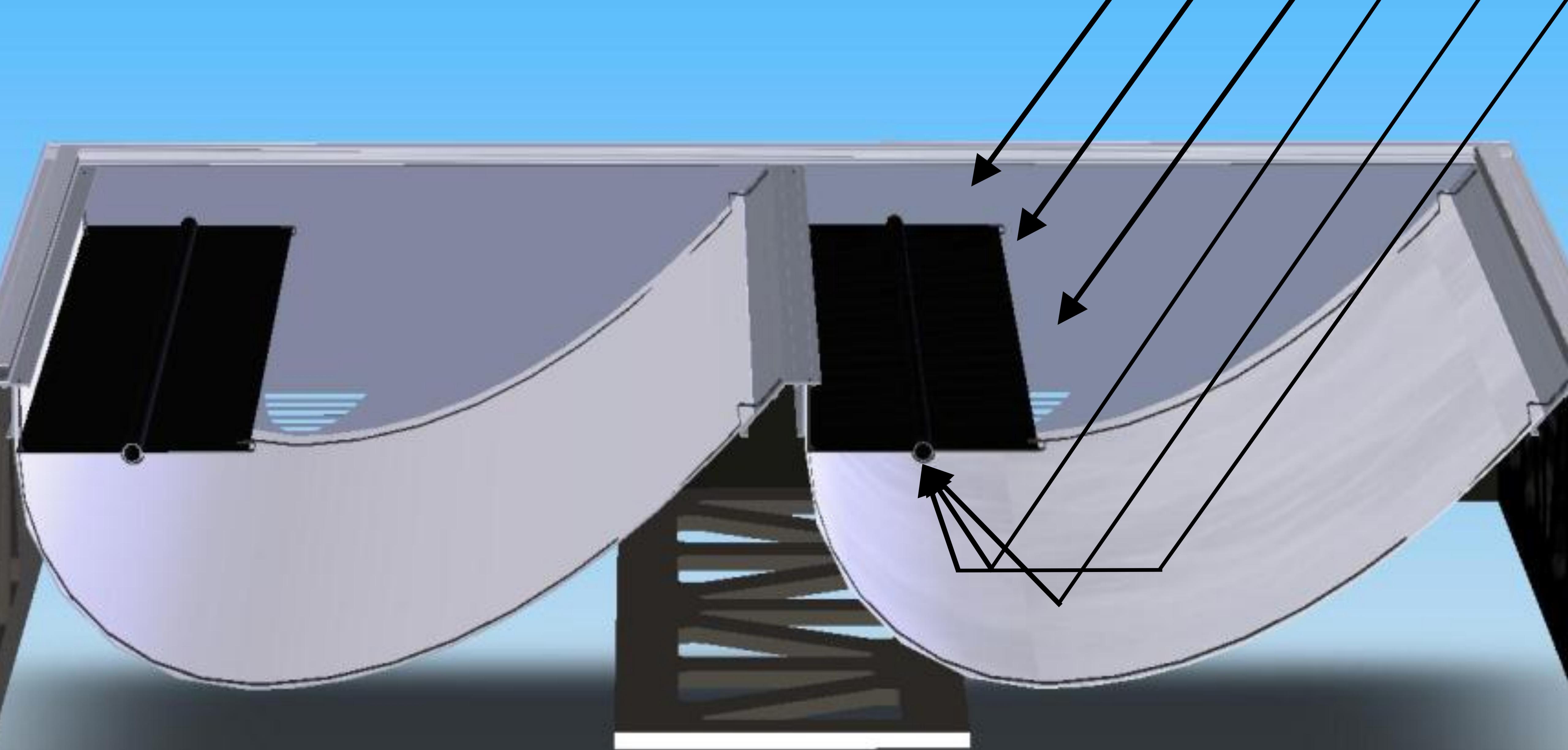


Δ3.7 million tons in 2017



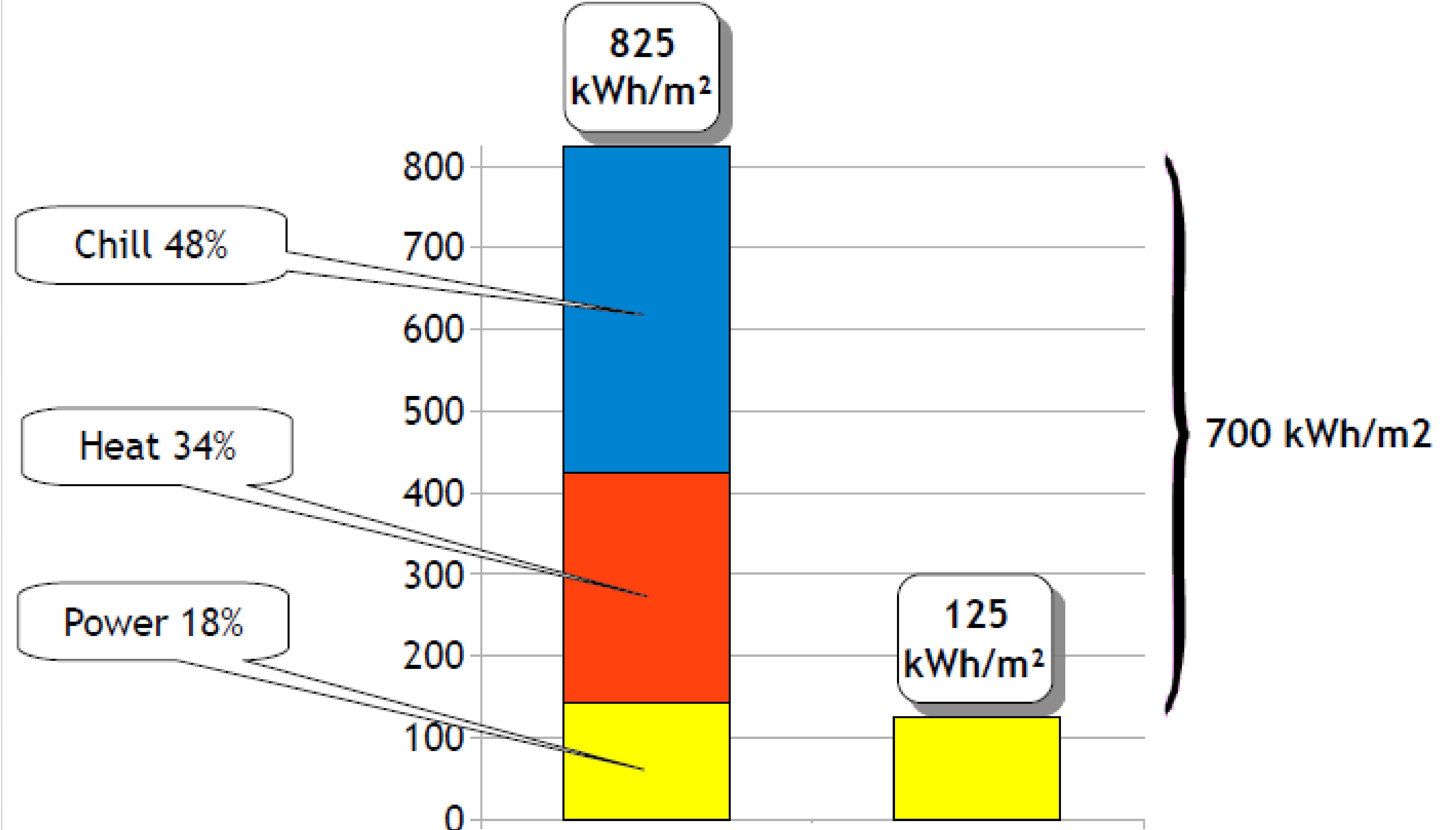
Do Solar Panels Work at Night?





Three arrows point from the top right towards the top edge of the dish, indicating the direction of signal reception or transmission.

An arrow points upwards from the bottom left towards the central feed horn, likely indicating the direction of the signal path or a specific feature of the dish's design.



If it works in Sweden ...



A photograph of a lush green forest. In the lower-left foreground, two large tree trunks are visible; the one on the left has a light-colored, textured bark, while the one on the right is smoother and reddish-brown. The forest floor is covered with a variety of green plants, including small shrubs and leafy groundcover. The background is filled with more trees and foliage, creating a dense, layered texture.

Regeneration of Forests based on Physics





An aerial photograph of a vast, green agricultural field. Several bright yellow paths or tracks are visible, winding through the crops. In the bottom left corner, a portion of a blue vehicle, possibly a tractor or harvester, is visible. The horizon shows a flat landscape under a clear sky.

At soil and rain



A large, circular industrial storage tank filled with a yellowish-brown liquid, identified as biodiesel. The tank is situated outdoors, surrounded by a metal fence. A yellow ladder is leaning against the left side of the tank. A black pump or hose assembly is attached to the top center of the tank, with a white pipe leading away from it. The tank has several horizontal bands around its middle.

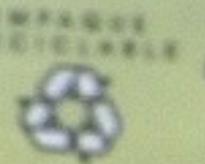
Biodiesel by filtration and blending only



Gaviotas: Una comunidad perfecta para decente,
sustentable, creativa, alegre y...

El agua puro natural GAVIOTAS es agua potable apta para el consumo humano en óptimo calidad en tratamiento químico.

Envase en su fuente de origen ubicado en los bosques tropicales de excelentes condiciones ecológicas que el Centro Experimental LAS GAVIOTAS tiene en el Vichada, Orinoquía Colombiano.



Comercio
SA S.A.





Hospital closed due to lack of patients

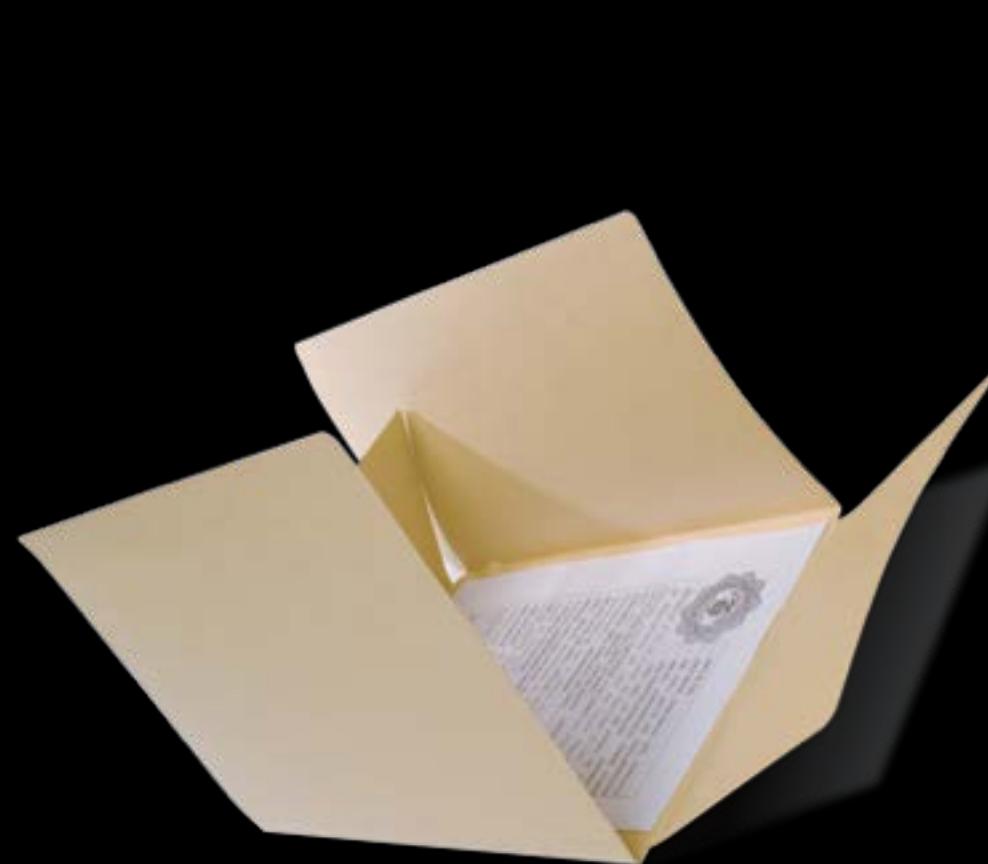


A photograph showing a massive pile of cut logs stacked haphazardly on a grassy hillside. The logs vary in size and are piled in several distinct rows. Some logs are leaning against each other, while others are stacked vertically. The wood has a light brown or tan color with darker, charred areas at the ends. The ground is covered with green grass and some fallen branches. The overall scene suggests a recent logging operation.

Micron-sized mineral particles replace cellulose

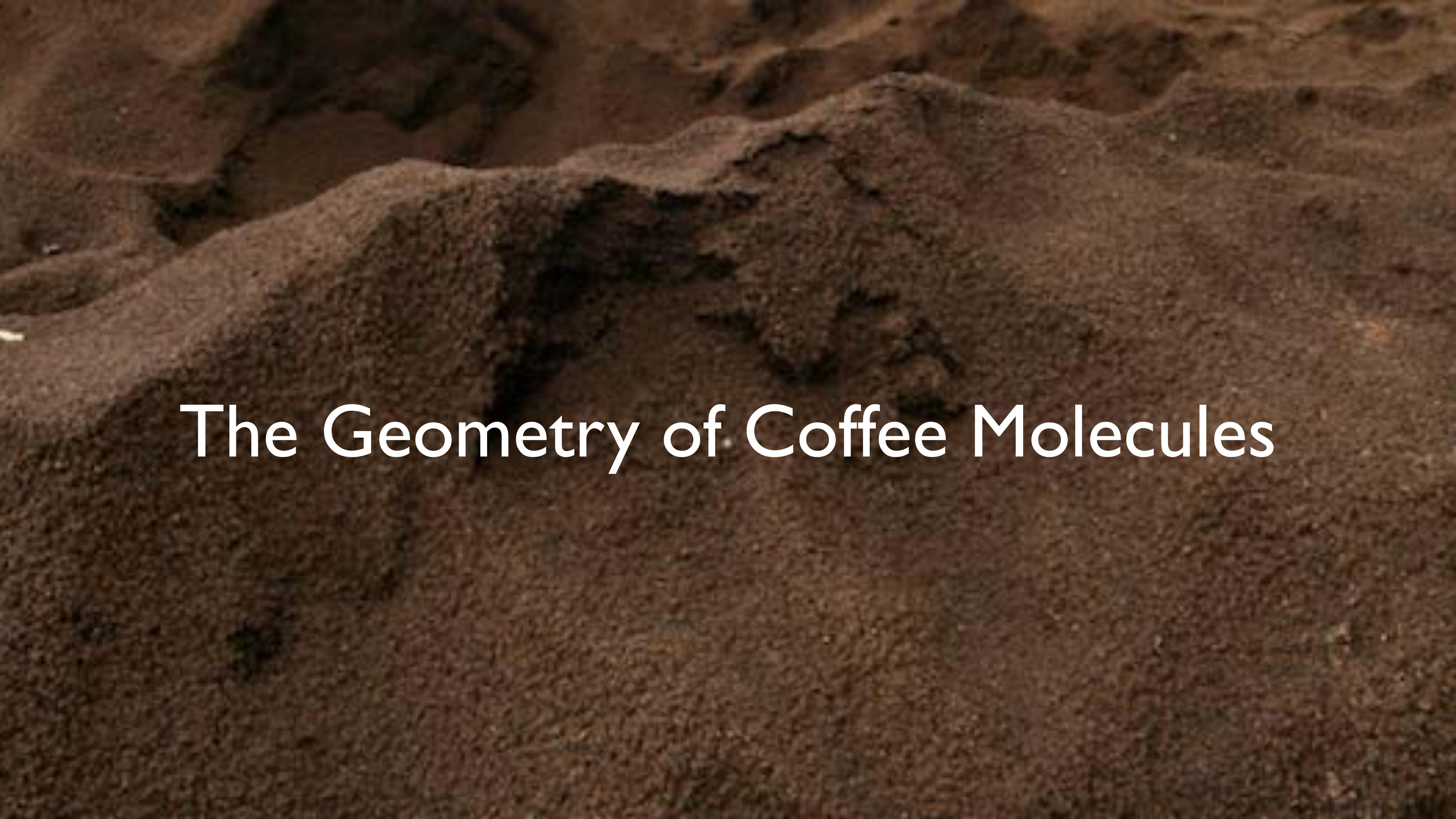












The Geometry of Coffee Molecules



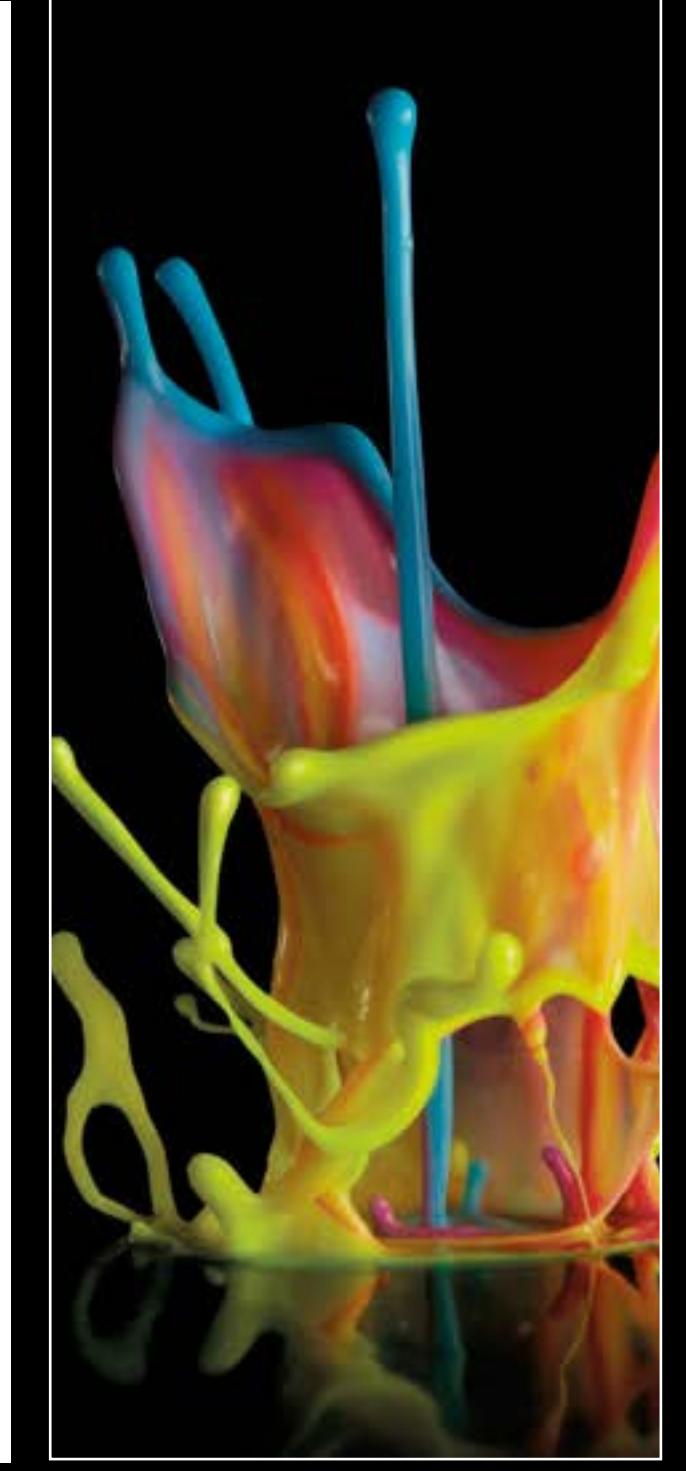
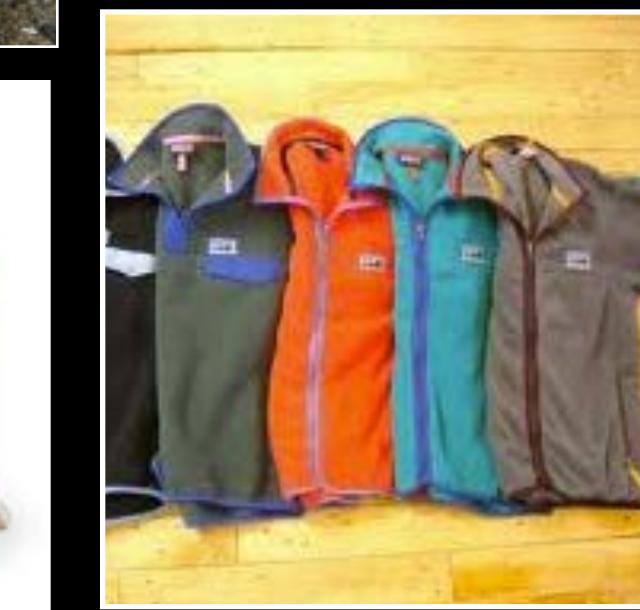
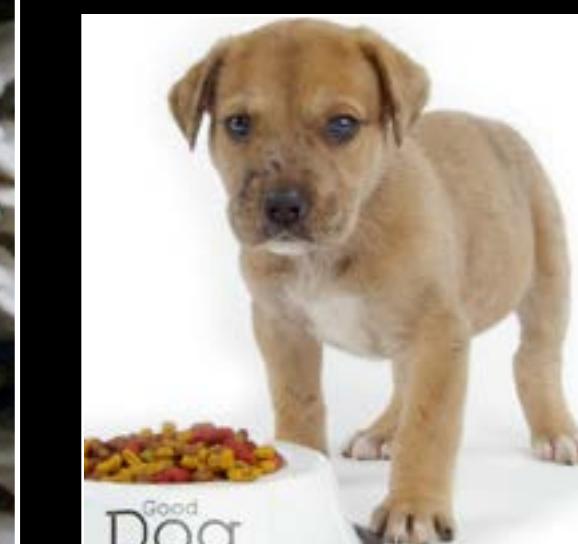
Odor
Control



UV
Protection



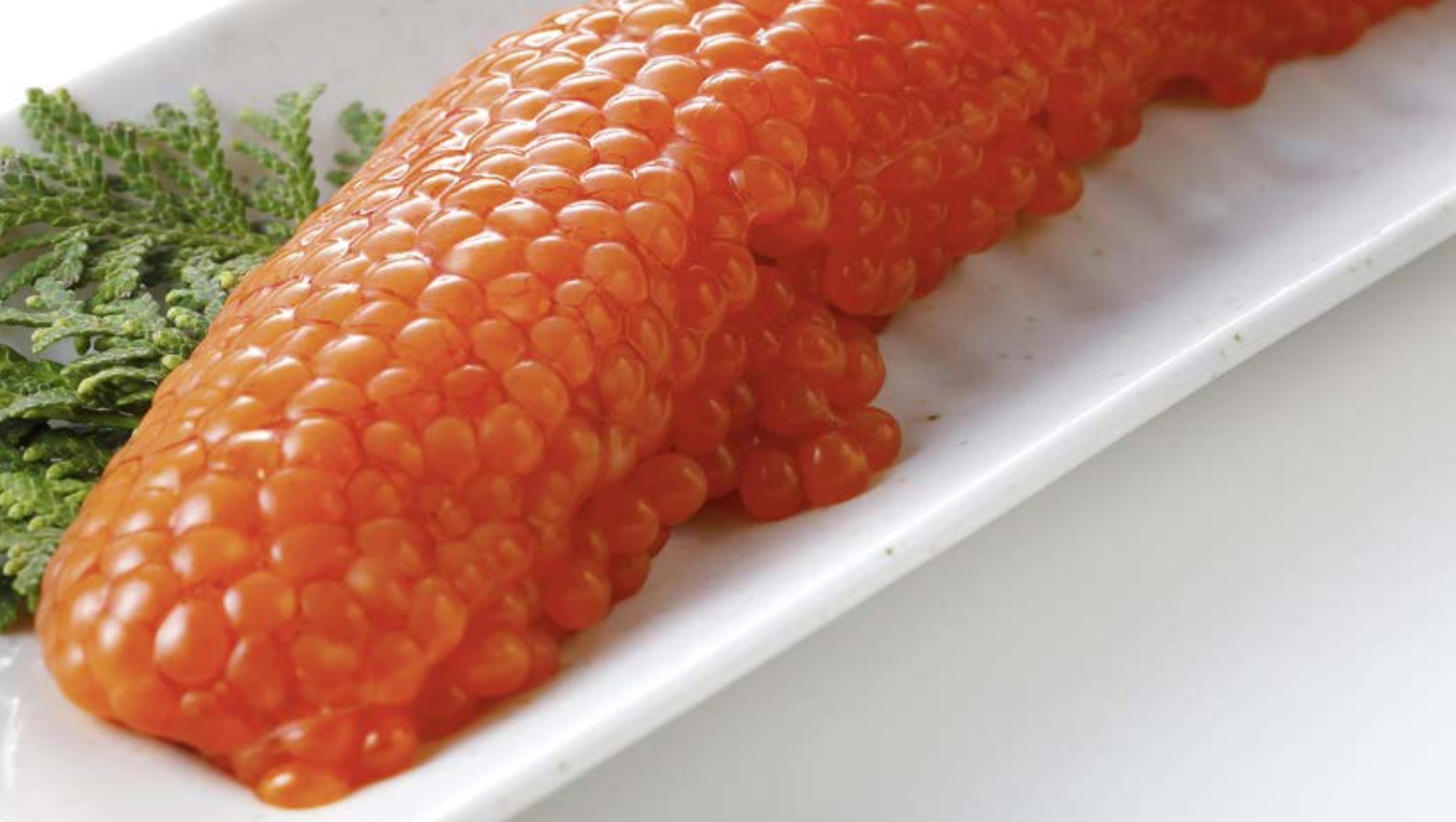
Fast
Drying

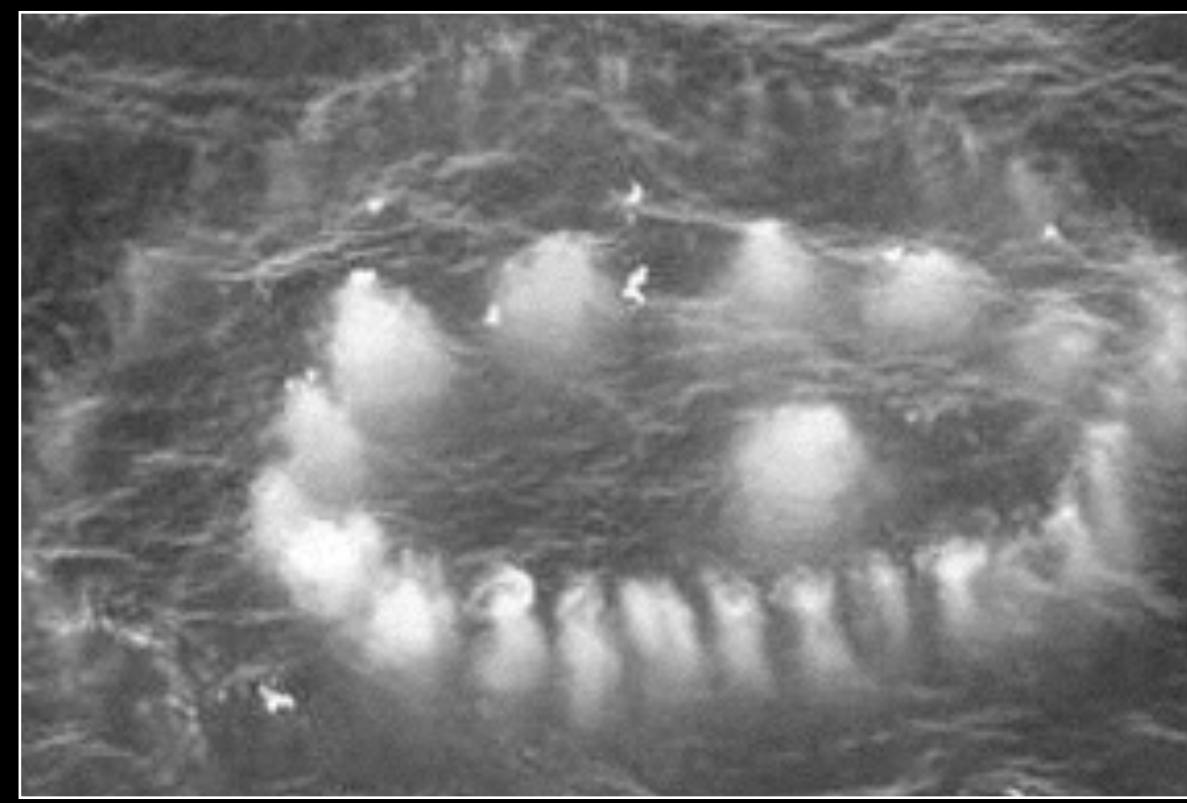


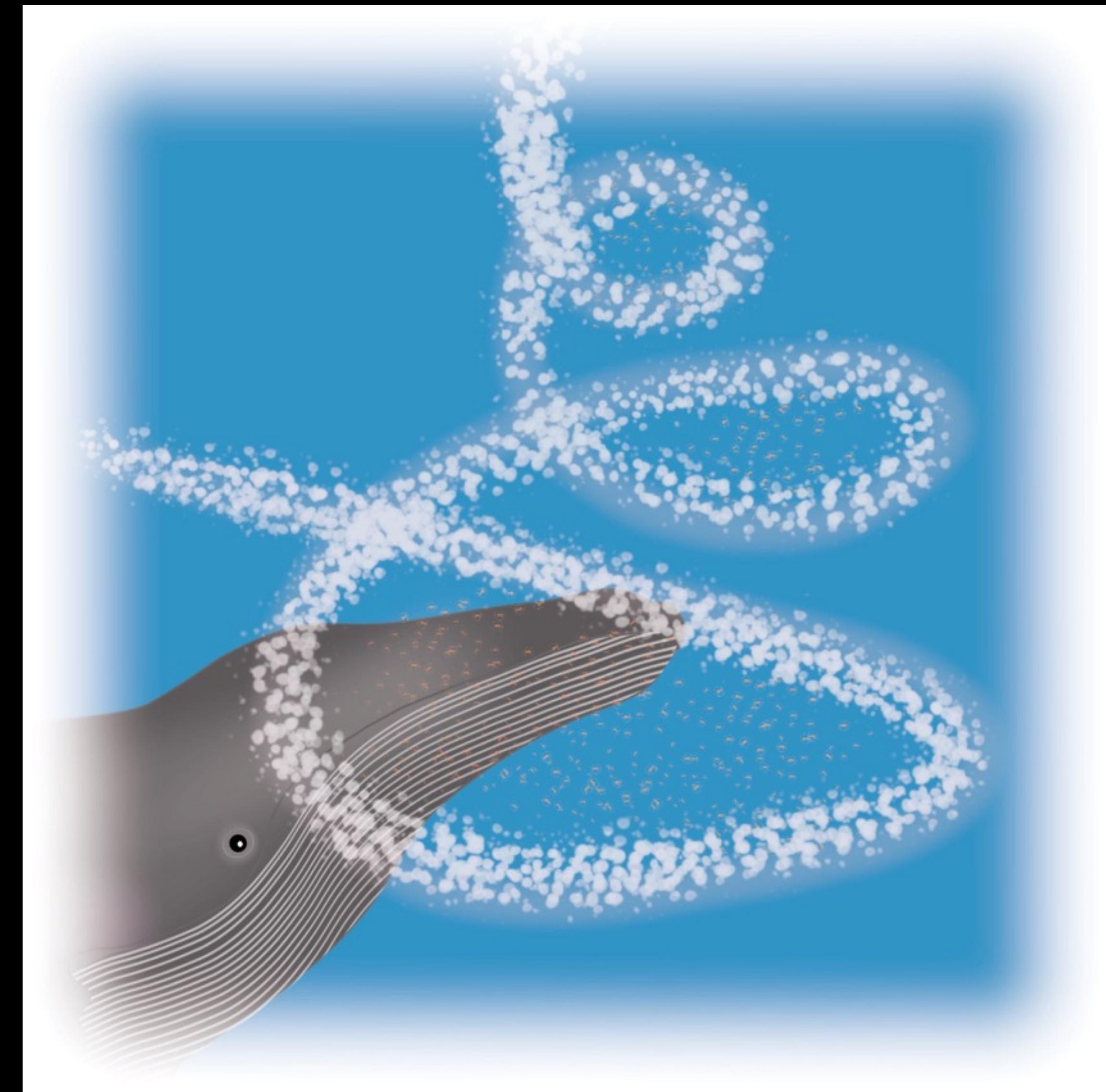
A vibrant underwater scene featuring a school of bright yellow tang fish swimming in a circular pattern around a large, dark-colored sea turtle. The turtle's textured, mottled shell is visible against the deep blue ocean water.

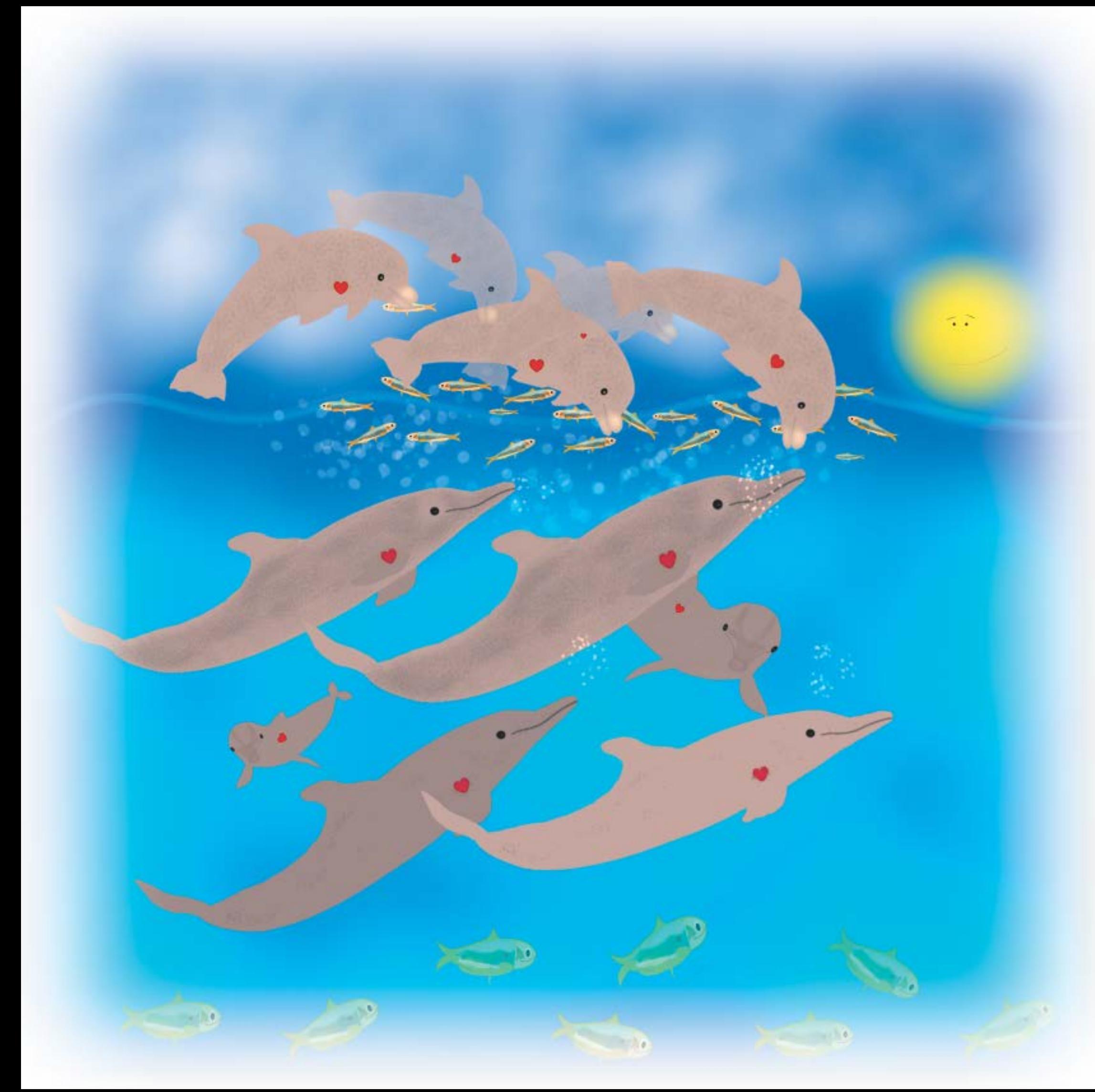
The Non-linear mathematics of Fishing

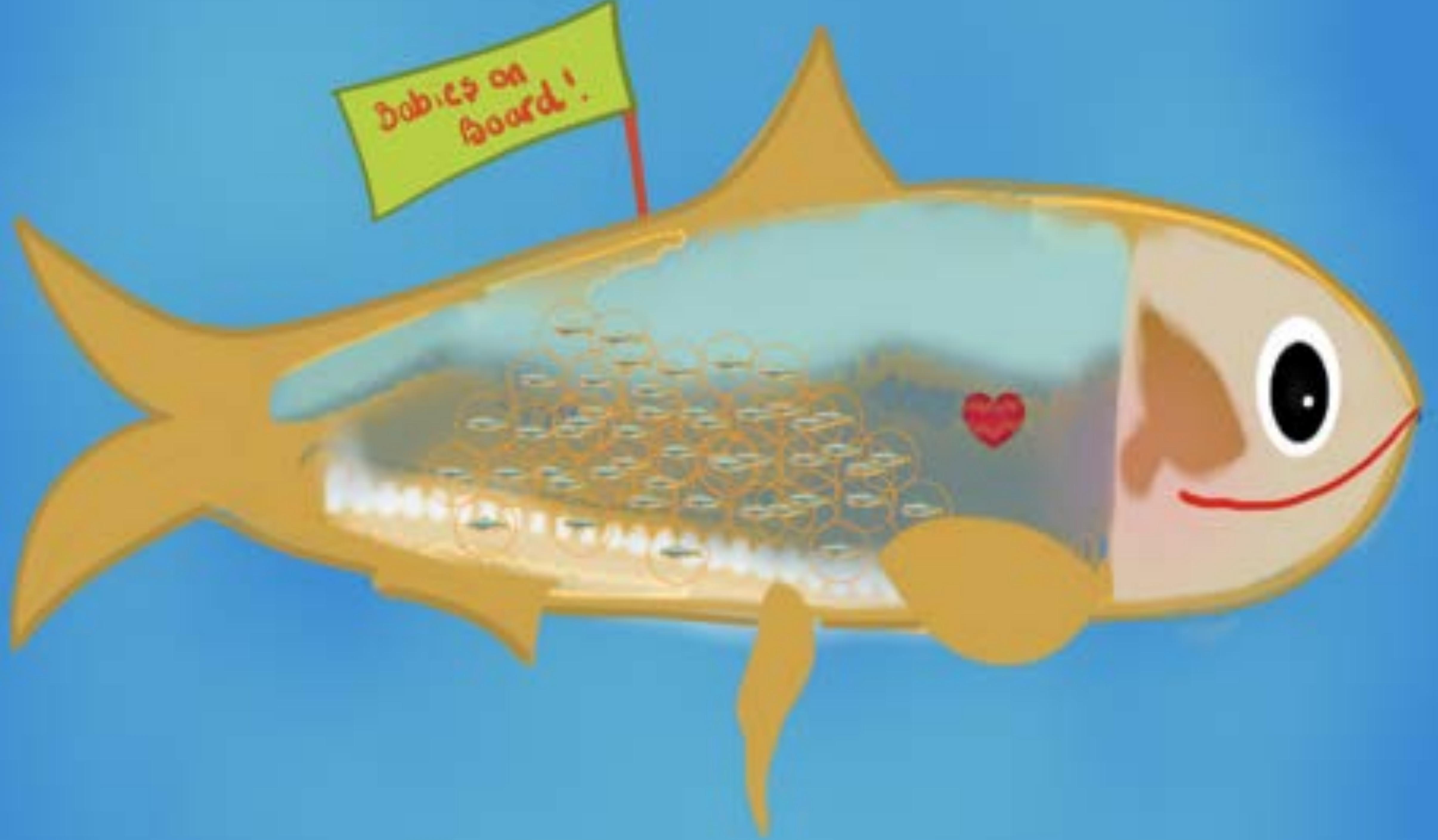




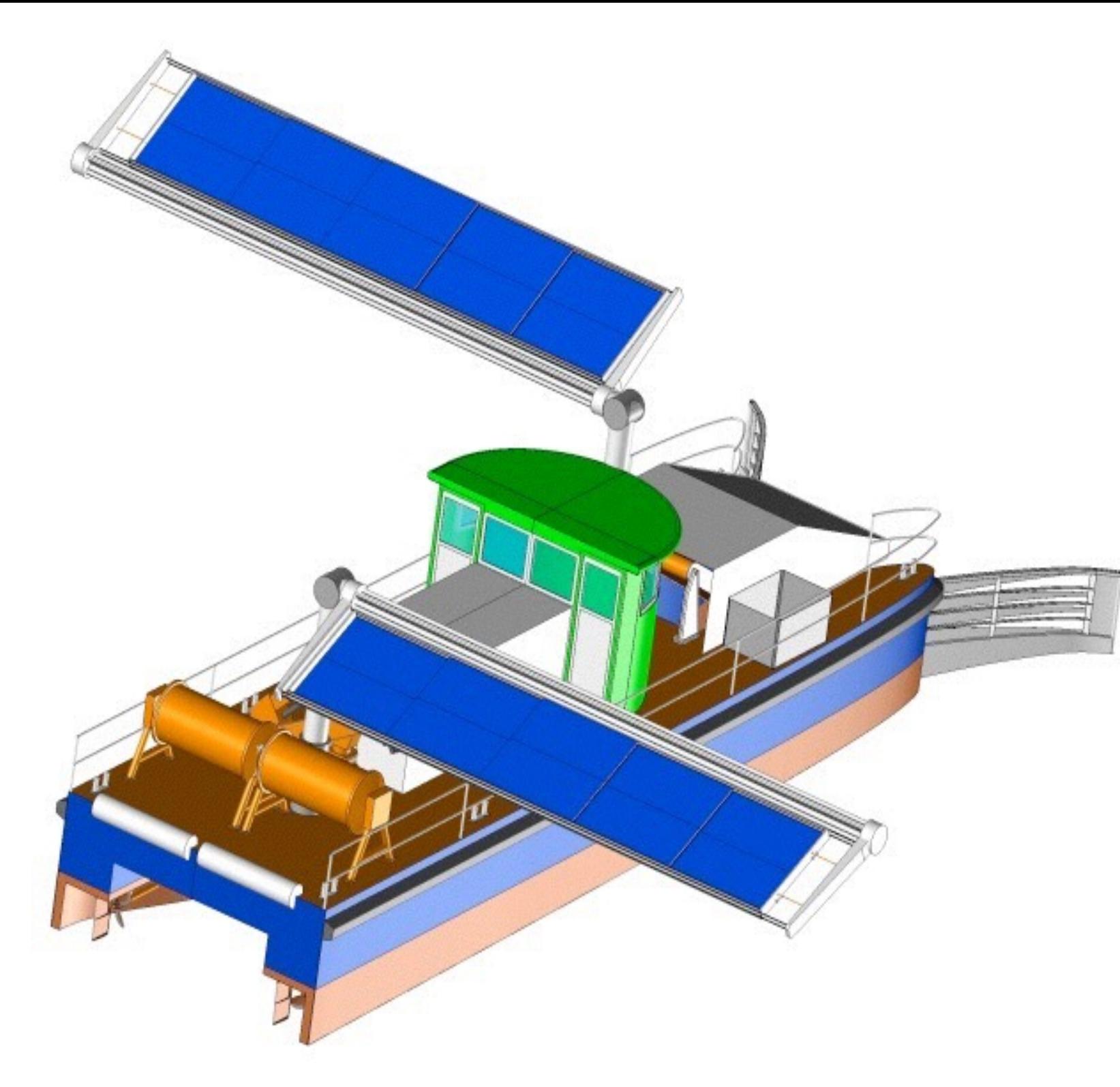








No fuel



(No nets)

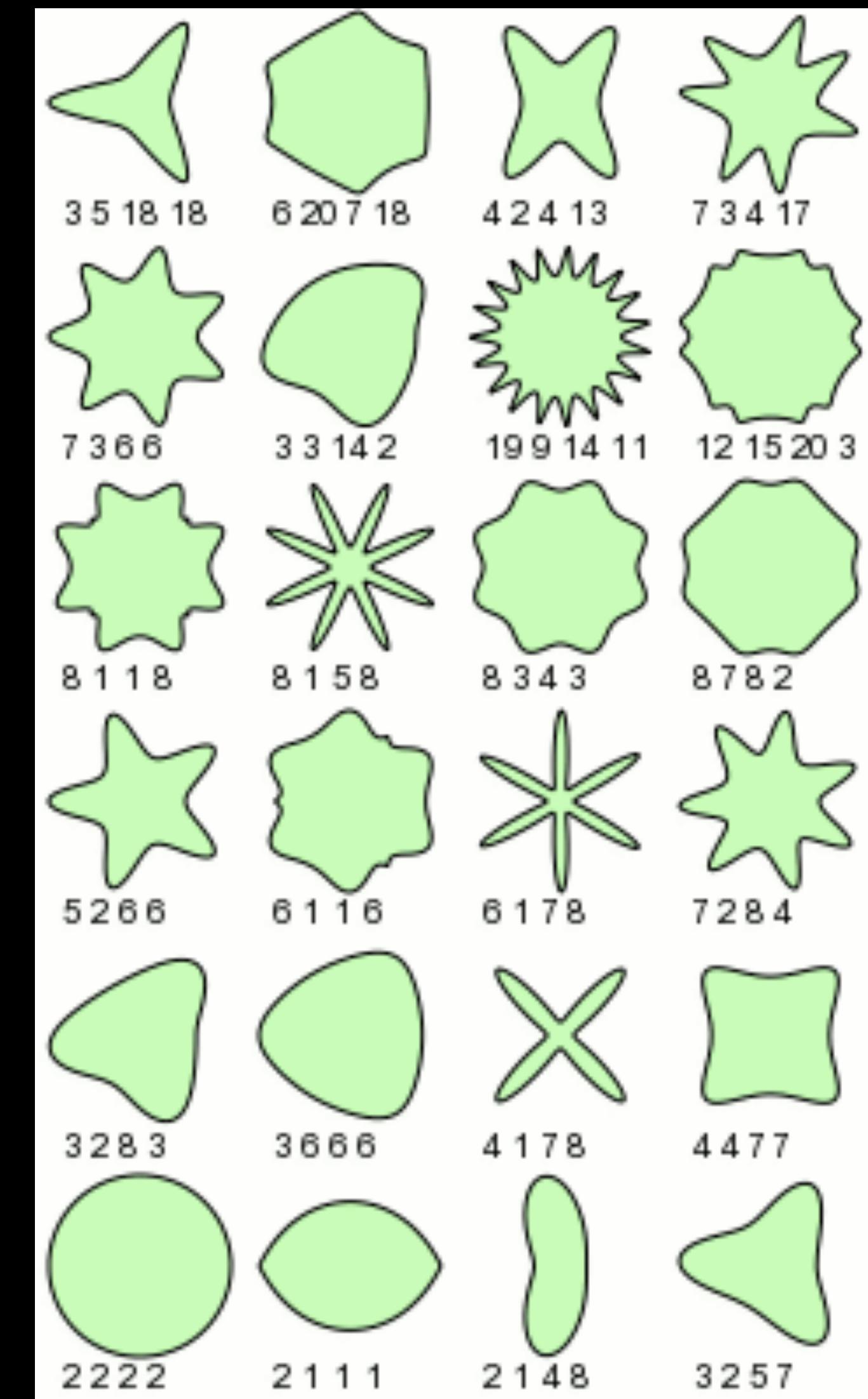


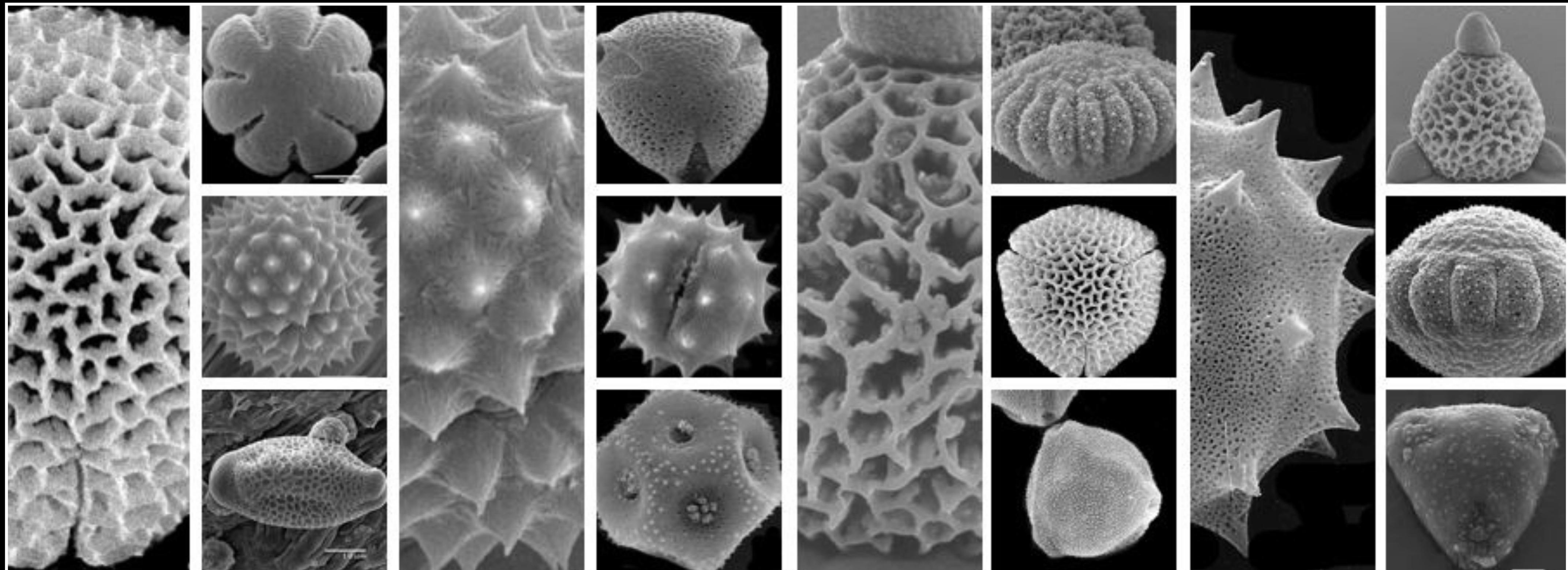
No ice

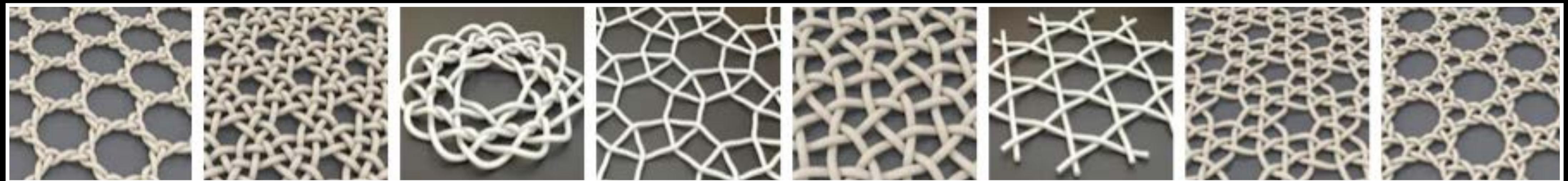
The Superformula of Mathematics

Johan Gielis

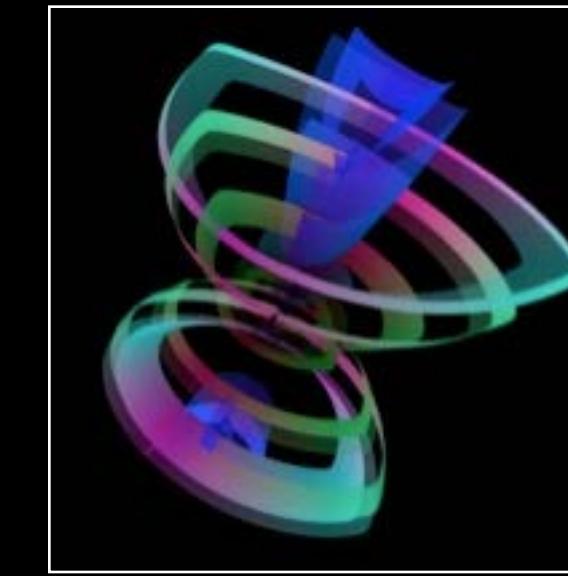
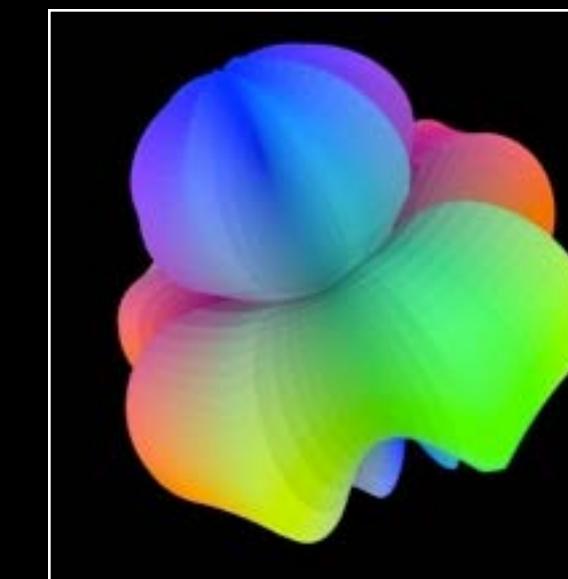
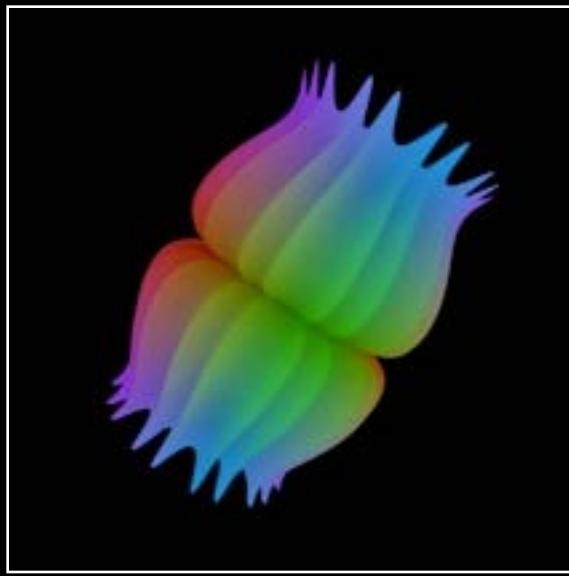
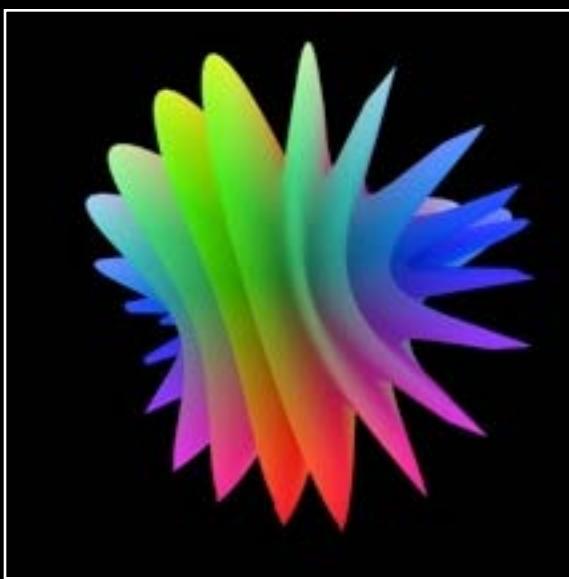
$$r(\varphi) = \left[\left| \frac{\cos\left(\frac{m\varphi}{4}\right)}{a} \right|^{n_2} + \left| \frac{\sin\left(\frac{m\varphi}{4}\right)}{b} \right|^{n_3} \right]^{-\frac{1}{n_1}}$$

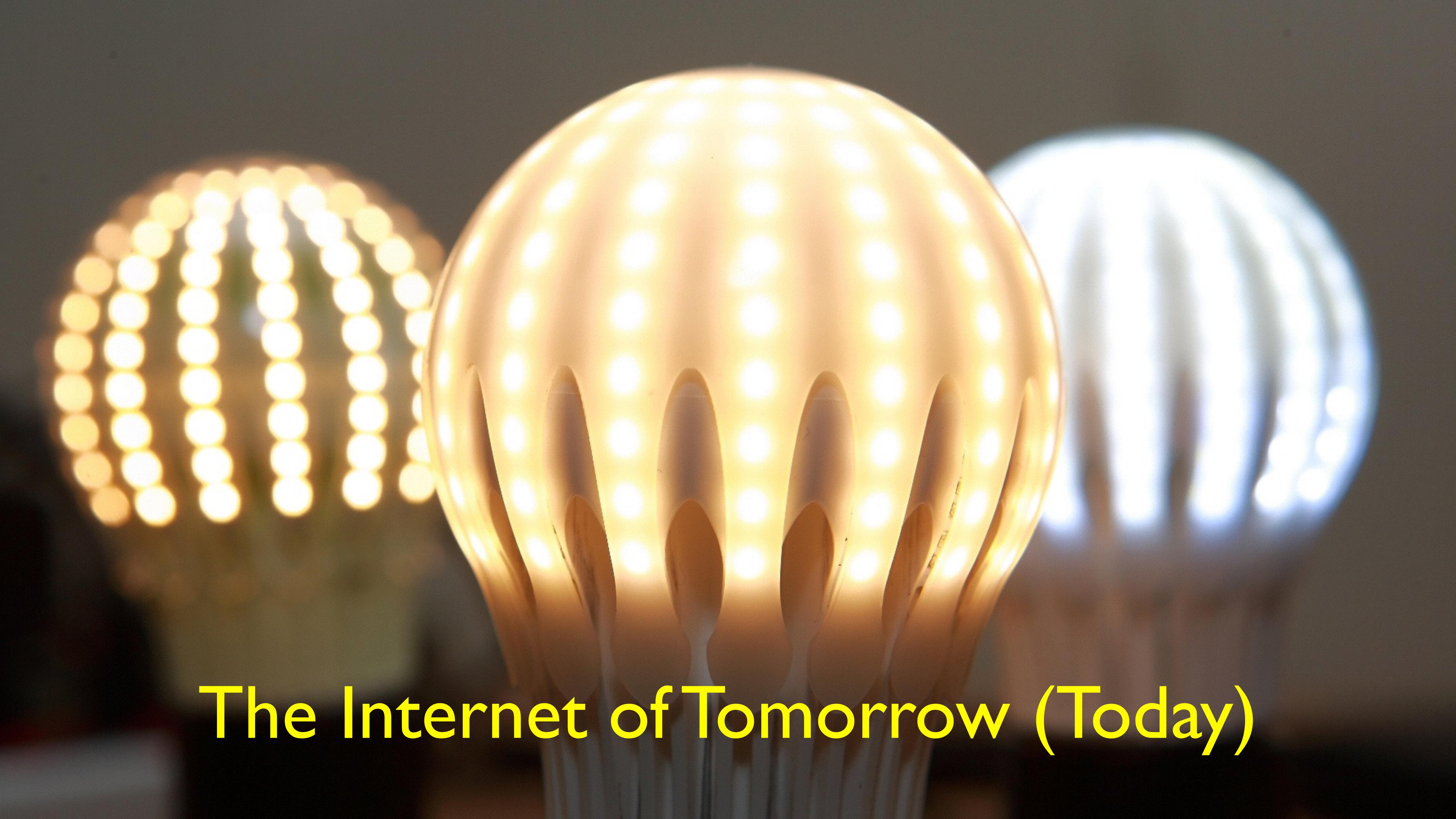






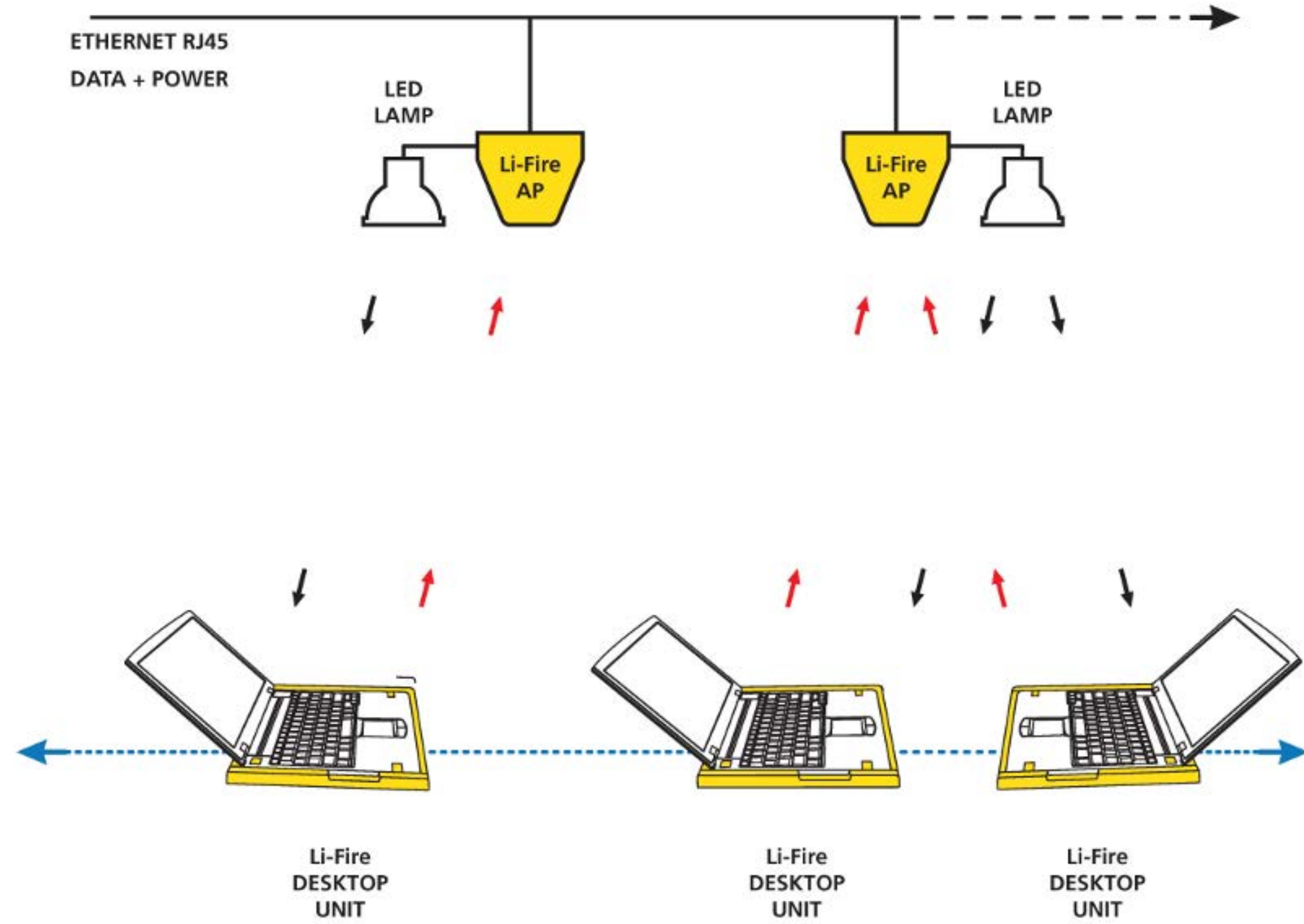
The Antennas of Tomorrow





The Internet of Tomorrow (Today)







DRIVER



SPOT LED



SERVER



APPLICATION LIFI



TABLET







The new Backbone of the Internet

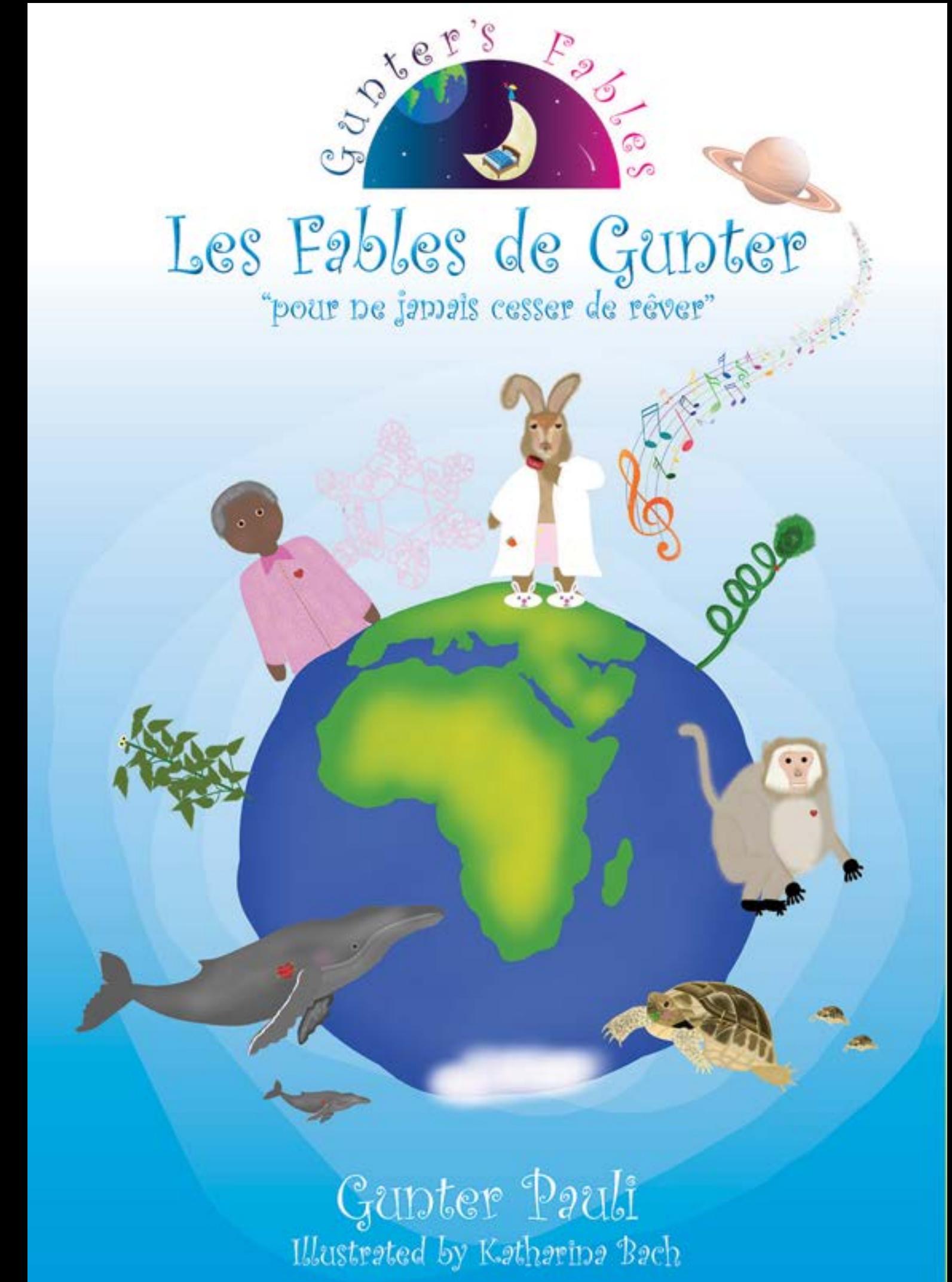
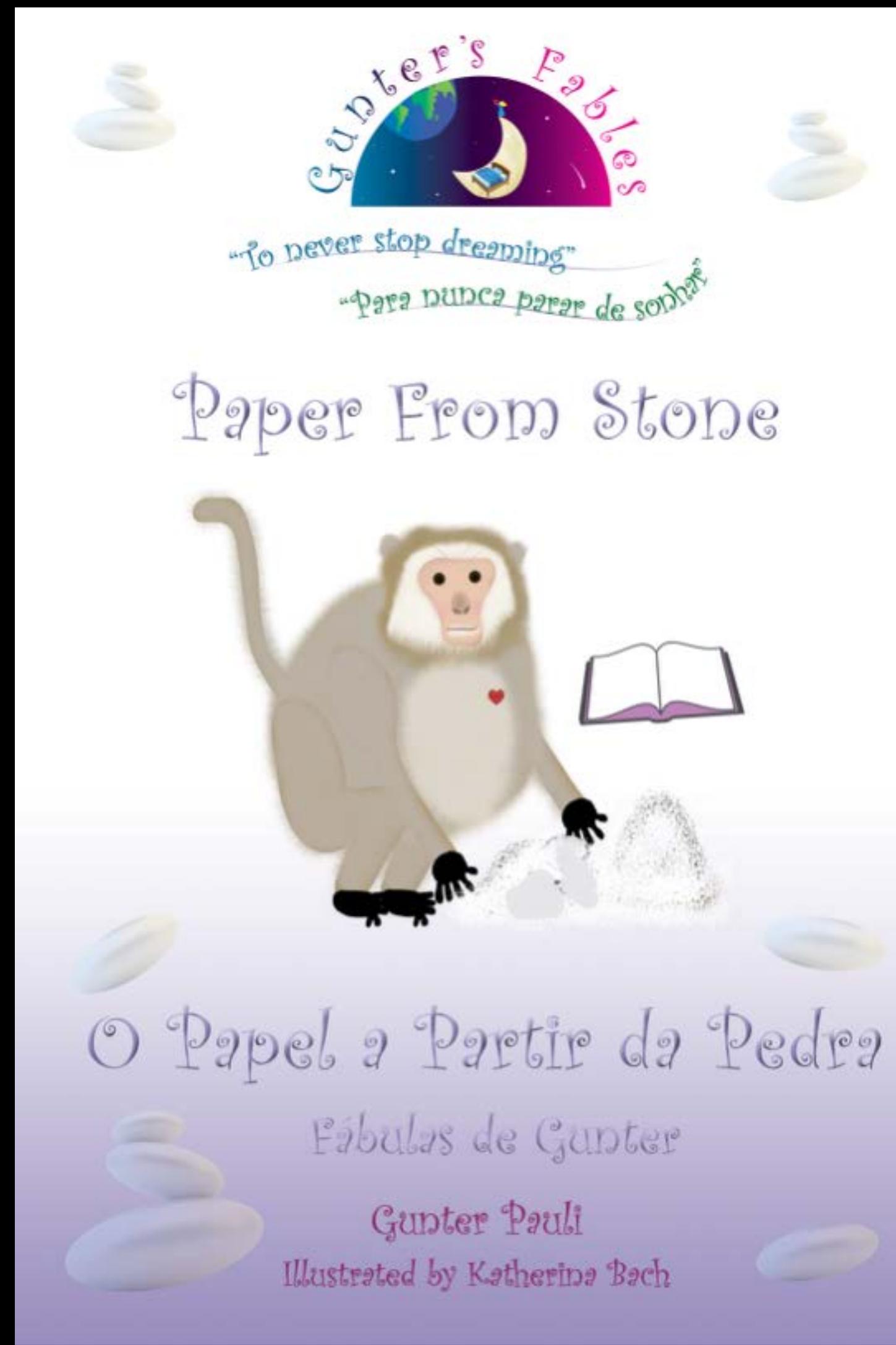


An aerial photograph of a large stadium filled with spectators at night. The stadium lights are brightly illuminated, casting a glow over the dark sky. The soccer field is visible in the center, with players scattered across it. The stands are packed with people, creating a dense crowd. The overall atmosphere is one of a major sporting event.

Each cell phone communicates with LED

If you only teach children what you know

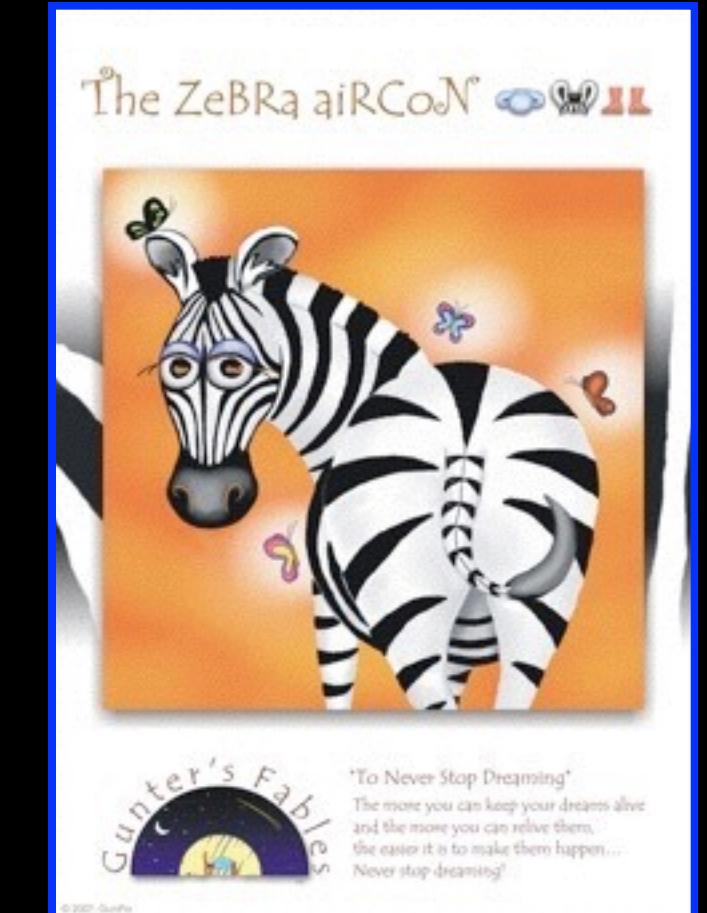




Zebra

Why do you have black and white stripes?

Wonders the termite looking at the butterflies fluttering around the zebra in the fable “The Zebra Aircon”



Apples

I do not care how the apple falls down from the tree,
I want to know how did it get up there in the first place!

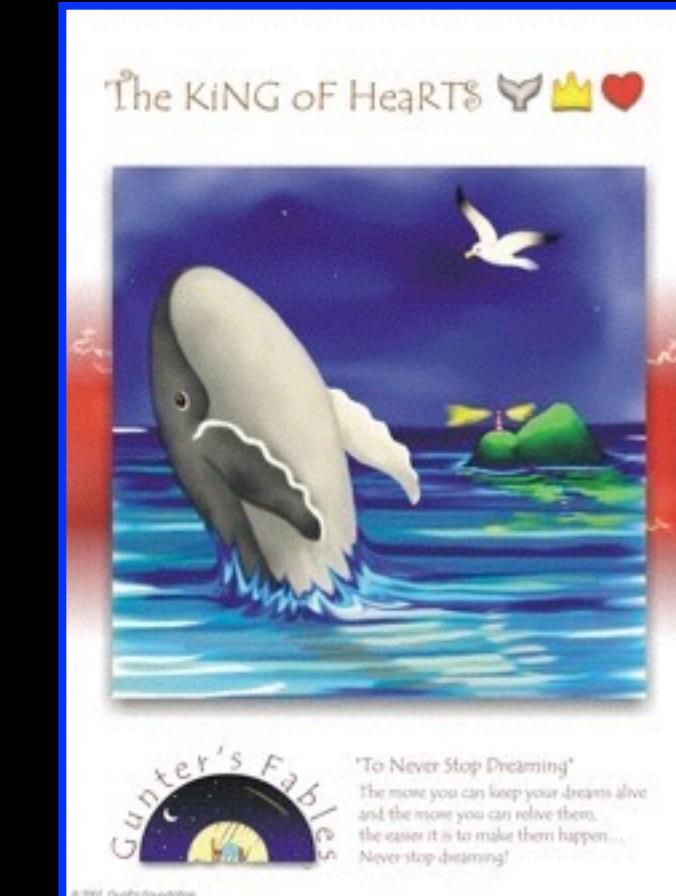
Tells the mouse to owl in the fable “Can Apples Fly?”



Whale

How can you pump 1,000 liters per heart beat?
You do not eat meat, fruits or veggies.

Wonders the seagull when admiring the whale in the fable “The King of Hearts”



HOW CAN I BE THE STRONGEST TREE OF THE WHOLE FOREST?

(english version)



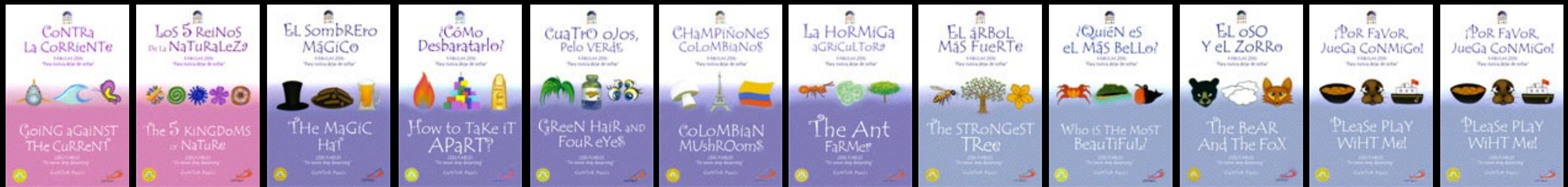
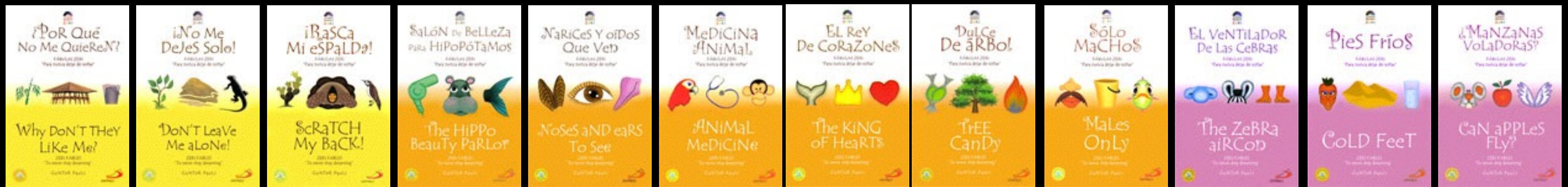
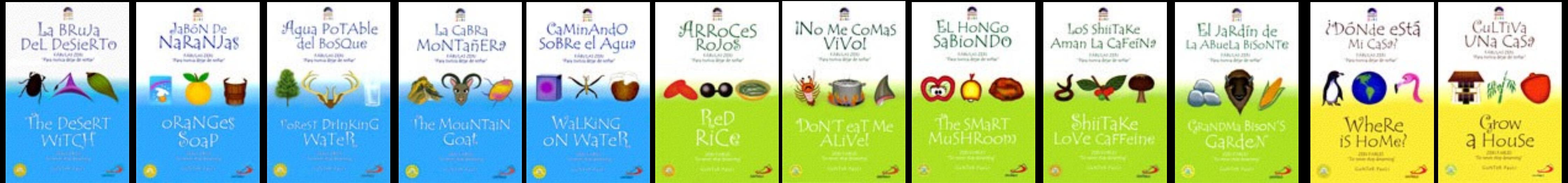
IN MORE THAN 100 LANGUAGES

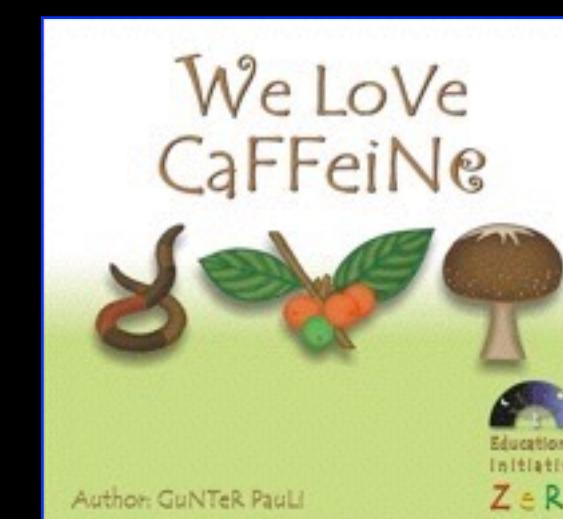
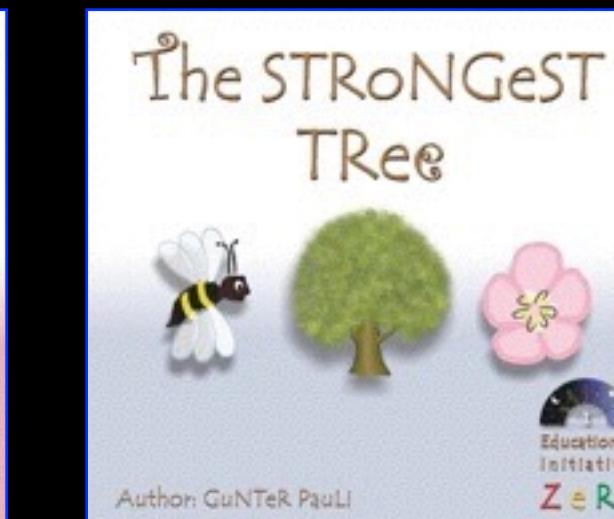
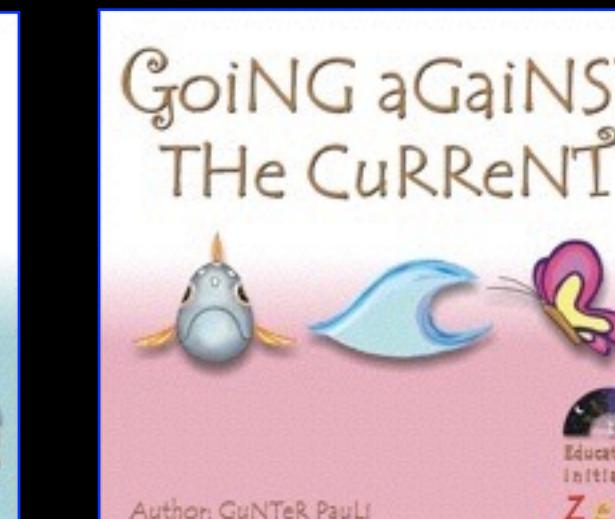
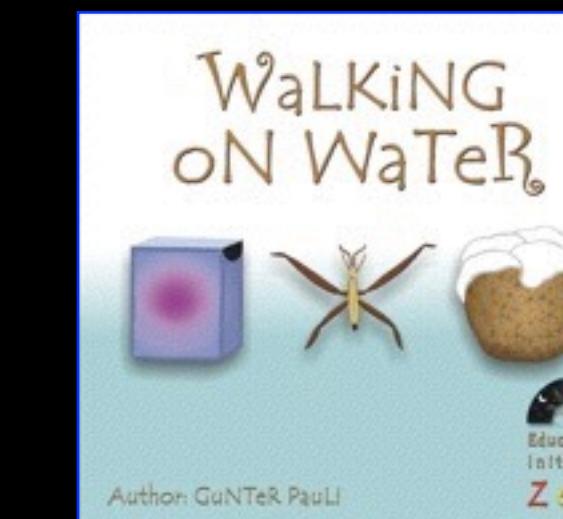
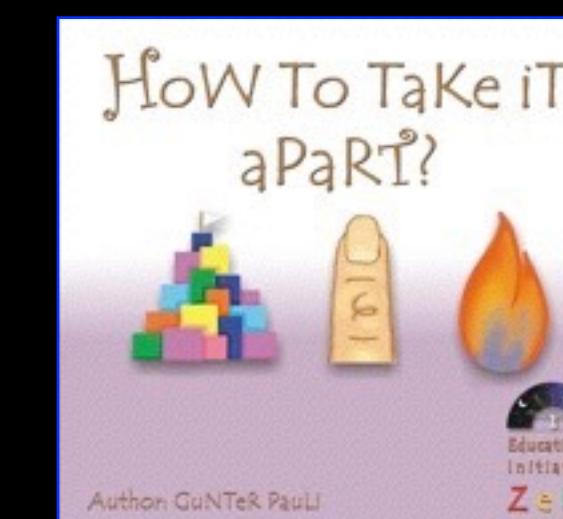
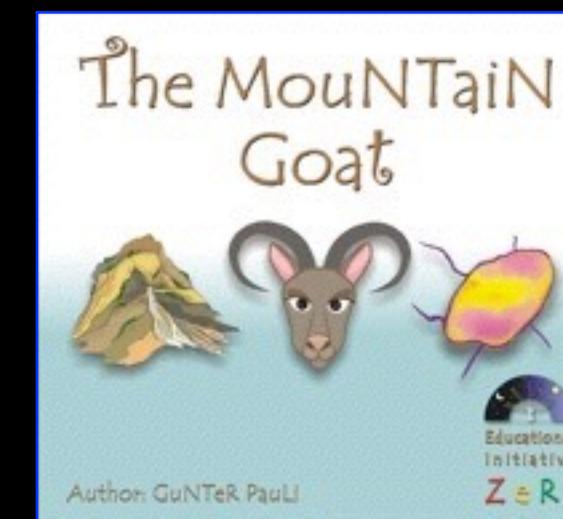
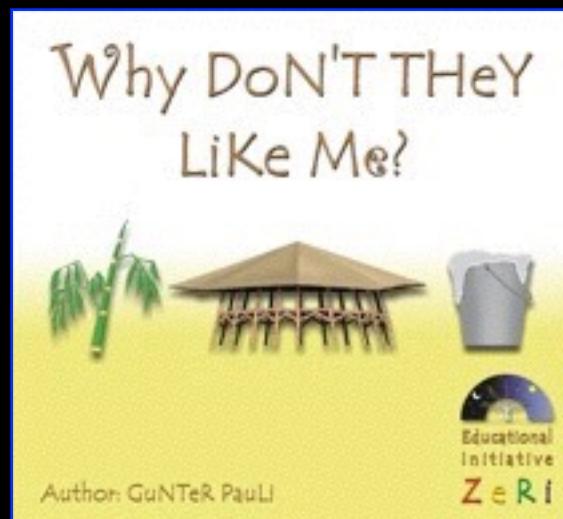


The ZERI story for the whole family!

ZERI®

Text by Gunter Pauli
Illustrations by Diana Méndez





Reach 500 million children
worldwide every day

Nothing extraordinary - that is what Nestlé does all the time.



LA MADUREZ CONSISTE
EN REALIZAR LOS SUEÑOS



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Herzlichen Dank!