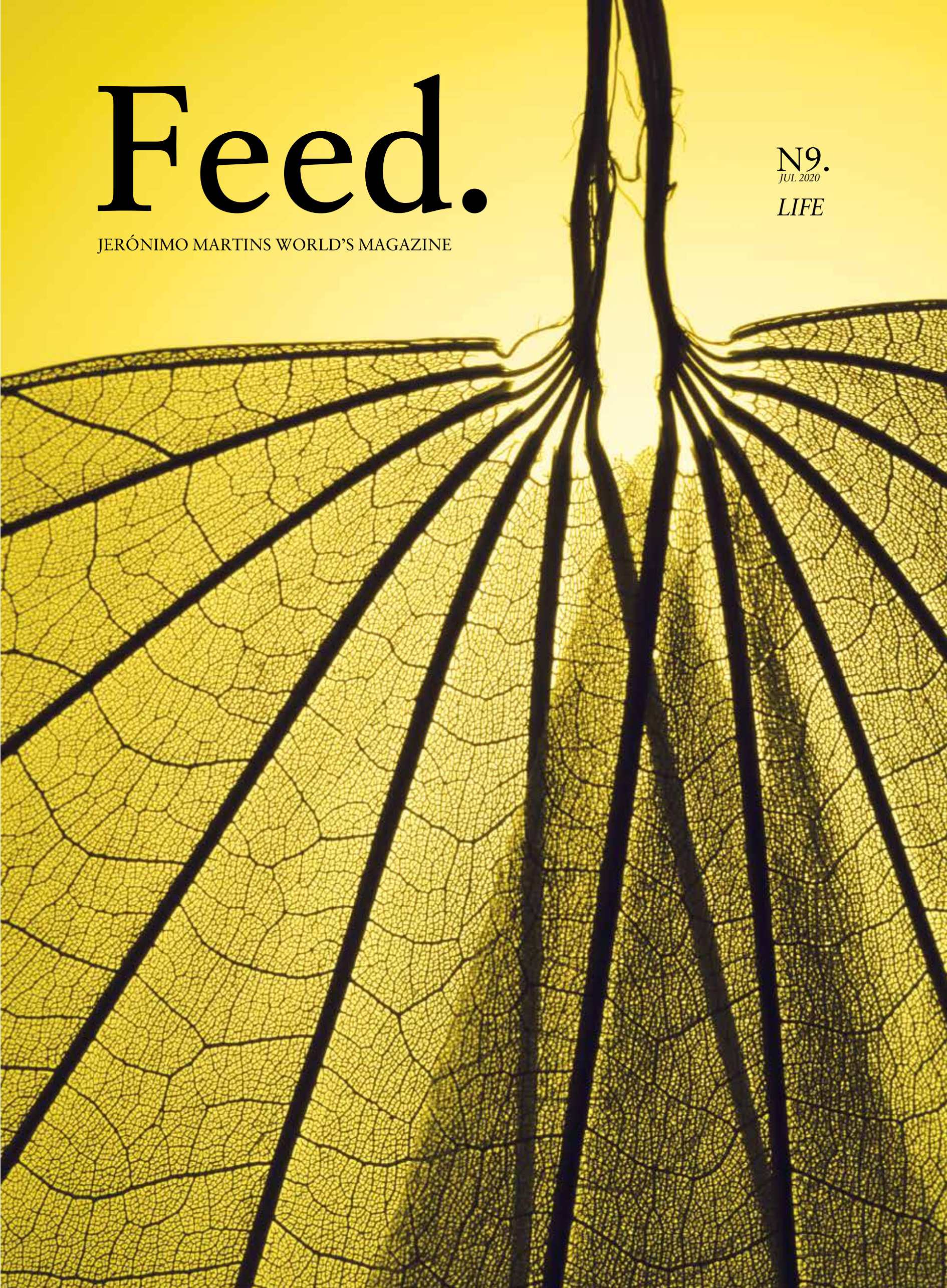


Feed.

JERÓNIMO MARTINS WORLD'S MAGAZINE

N9.
JUL 2020

LIFE



Feed.

JERÓNIMO MARTINS WORLD'S MAGAZINE

N9.
JUL 2020
LIFE

*Transforming light into energy
is a faculty only a few species have.*

*In other words, leaves feed
the plants that will ultimately
nourish other life forms.*

*Before leafing through this edition,
we invite you to take a closer look
at the cover. The macro image
of a leaf is a metaphor for life
in its essence: a powerful yet fragile
beauty meant to be cherished,
respected and enjoyed.*

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HOLDING ON
THROUGH
THE STORM

ANATOMY
OF A
LIFE LINE

LIFE
AS WE DON'T
KNOW IT

Feed.

JERÓNIMO MARTINS WORLD'S MAGAZINE

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LARGER THAN LIFE

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More than 75% of our food rely on pollinators. Bees play a crucial role, but are facing a serious decline. According to FAO, in a world without bees, supermarkets would have only half the amount of fruit and vegetables.



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Editorial.

TO LOVE LIFE

is to care for it

The first half of 2020 is already behind us and it has been a very hard reminder of how fragile and precious life is and how we cannot take anything for granted. Ever.

The Covid-19 pandemic has taken everyone by surprise and, as you will read in this issue, will most probably be reminded as the first human global reaction to an unexpected event.

As it often happens with individuals, hard times like these put the values of organizations to the test. We were no exception. Confronted with a scenario of enormous risk and uncertainty, I believe we have been living up to the value of putting people's safety and wellbeing at the core of everything we do.

At Jerónimo Martins we have taken this threat very seriously from the very first hour, starting by protecting our own people to the very best of our ability given the fact that our business is one of those that, being in the front line, never really can stop. Aware of the important social role that food businesses play specially in times of severe crisis, our store and logistics personnel have been showing incredible commitment and sense of duty for which I will always be grateful. We have also been reinforcing our attention to those whose lives are more dependent on us such as our suppliers. You can read some supporting initiatives of ours in this issue. The fight against the virus that has been stealing



PEDRO
SOARES
DOS
SANTOS

an important part of our lives for so long has many fronts. Science is key and for that reason we joined the Coronavirus Global Response efforts and also supported the launch of an innovative smart test in Portugal, together with the Portuguese Red Cross Hospital. Empathy and solidarity are the other side of the coin and that is why, for instance, the recently launched Biedronka Foundation has set up a large-scale support action for the nursing and special care homes in Poland, providing these institutions with personal protection materials. Every week, Pingo Doce and Recheio have been donating on-the-go food supplies in more than thirty public hospitals in Portugal as a humble way of showing gratitude towards the public health teams and their extraordinary sense of mission. And in Colombia, Ara has been contributing with donations in around one hundred municipalities. Along the next pages, we invite you to join us in a tribute to LIFE by celebrating some of its uncountable expressions and manifestations. From unique people who are greater than life – such as the great Portuguese poet Fernando Pessoa – to people from whom we can learn how to live a more meaningful life – like Polish Sister Małgorzata Chmielewska; from exploring what science is doing to discover life on other planets or to fight the new coronavirus, to understanding a bit more about the mysteries of human mind and behaviour in limit situations. Life is so powerful and yet so fragile that it needs to be constantly fed and protected. Somehow like the image on the cover: a structure we immediately associate with a living being, at the same time strong and delicate [in this case, a macro picture of a leaf].

I do hope you have a good time reading this edition of FEED and that somehow you may find, even if only briefly, some inspiration here to go through the next months with a renewed sense of purpose. ●



Pedro Soares dos Santos,
Chairman of the Jerónimo Martins Group

*I believe
we have been
living up to the
value of putting
people's safety
and wellbeing
at the core of
everything
we do.*

Fresh *in*

NEWS FROM OUR WORLD



Feeling the ocean like never before, in Oceanário de Lisboa

AN IMMERSIVE ARTISTIC JOURNEY TAKES US TO FEEL THE OCEAN

A sensory experience that takes visitors to explore the deep relationship between humans and the sea. This is the new Oceanário de Lisboa proposal with ONE, The Ocean as you never felt it. The temporary exhibition was inaugurated in January, within the context of Lisbon as European Green Capital 2020. Portugal's capital was awarded the title by the European Commission for putting into practice, over the years, ambitious and continuous measures in the fields of sustainable development and fighting climate change.

The installation is an invitation to feel the poetry and be thrilled with the grandeur of the Portuguese sea. Maya de Almeida Araújo is the artist behind this artistic exhibition. Specialised in underwater photography in motion, she has spent two decades exploring the connection between the human and water elements. All images were taken within Portuguese maritime territory, between Mainland Portugal, the Azores and Madeira during eight months of filming.

For João Falcato, CEO of Oceanário de Lisboa, this is surely "an unprecedented experience" which intends "to inspire pride for the magnificent beings that inhabit Portugal's sea, and ultimately, to instill a sense of admiration and responsibility for preserving this magnificent underwater world."

1.



South Korea and China are the next export markets for Colombia's Hass avocados.

COLOMBIAN AVOCADO PRODUCTION ON THE RISE

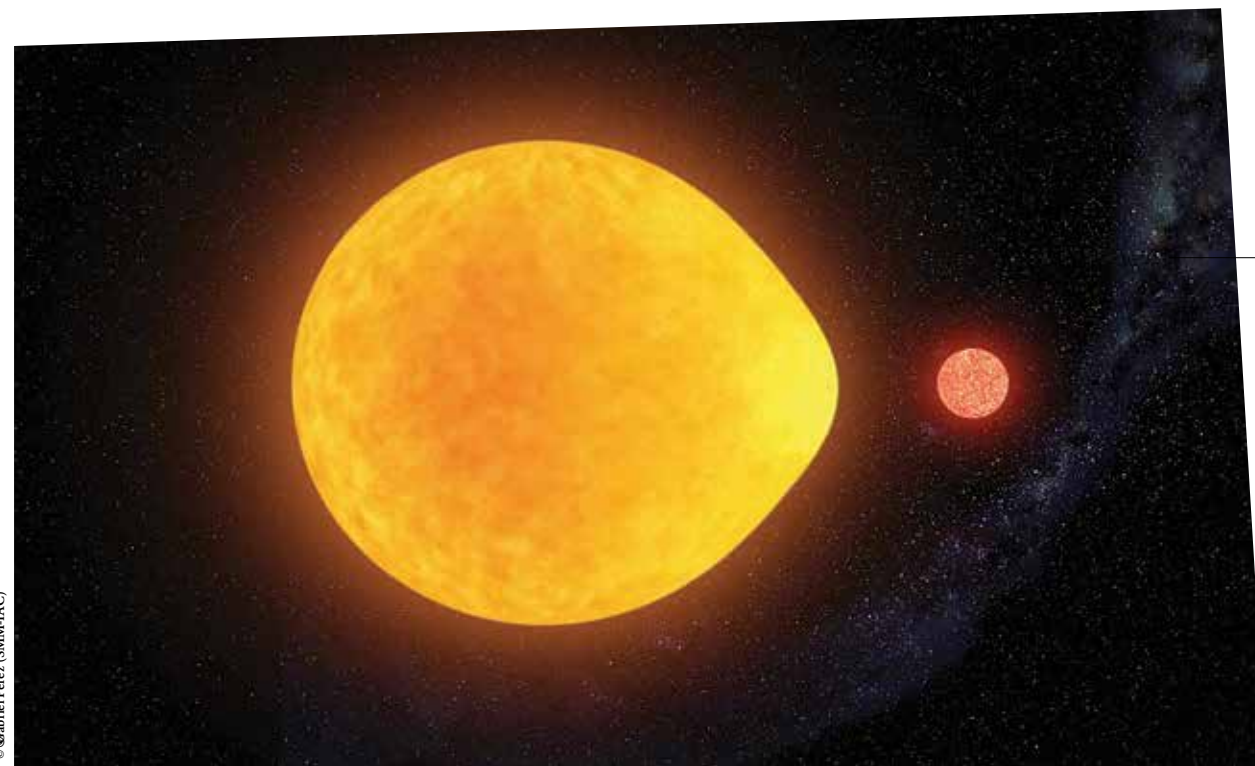
2.

In 2019, Colombia closed one of its best years as a global supplier of Hass avocados: exports to the United States of America and the European Union increased by 434% and 34%, respectively. Besides, Colombia has sent its first containers to Japan, and is awaiting green light into the South Korean market and the first shipment to China. Another important achievement was the certification of 1,000 hectares by the Rainforest Alliance, being this international seal a guarantee that environmental and social standards were accomplished. Likewise, there are 73 Colombian farms (representing an area of 952 hectares) with the GLOBALG.A.P. certification, which refers to food safety.

Fresh *in*

NEWS FROM OUR WORLD

3.



In a first of its kind, this star only pulsates in one hemisphere of its surface.

NICOLAUS COPERNICUS ASTRONOMICAL CENTER EXPLAINS RARE PULSATING STAR

Scientists have long known that the stars pulse. But no one had been seen pulsating on just one side of its surface. Until now. A team of international scientists under the lead of the Nicolaus Copernicus Astronomical Centre, in Warsaw, describes a star that pulsates on just one side, giving it the distinct shape of a tear drop. This star, named HD 74423, is about 1.7 times the mass of our sun. It was spotted in the Milky Way, some 1,500 light years from Earth.

The unusual behaviour was first noticed by citizen scientists inspecting data from NASA's Transiting Exoplanet Survey Satellite (TESS), which has been hunting for new planets since its launch in 2018. The explanation for the strange behaviour is a red dwarf, a small star in an orbit of just 1.6 days. The little neighbour distorts the biggest star oscillation.

COLOMBIA, LEADING ELECTRIC MOBILITY IN LATIN AMERICA

5.

The commercialization of eco-friendly vehicles in Colombia registers a remarkable growth. In 2019 alone, more than 5,000 of this vehicles' class were registered, including buses and electric motorcycles, as well as hybrid cars. Almost 1,000 units were electric cars, and the data provided by the National Association for Sustainable Mobility consolidate the country as a leader in this market in Latin America, surpassing the Dominican Republic (625), Chile (521), Costa Rica (460) and Mexico (295), which complete the Top 5 sales list. The trend will apparently continue, as the figures for the first two months of 2020 suggest, with 349 units sold (more than the double when comparing with the same period in 2019). This performance is partly due to the tax incentives for people to start buying more electric cars and help achieve the goal of having zero emissions by 2040.



Last year, 5,446 units of this class of motor vehicles were registered, 923 of which were cars.

4.

APPS FOR (THE) GOOD

"Apps for Good" is the biggest app competition for young talents and has just arrived in Poland. Every year, this initiative, launched by the Portuguese Ministry of Education, challenges participants to use technology to address sustainability and social-related issues, under their teachers' supervision. In this year's edition, twelve teams from Poland had the opportunity of presenting their ideas before a jury comprised by representants of the Polish Embassy and Portuguese companies like Jerónimo Martins. Among their projects are apps with the most diverse educational purposes. For instance, "Ecofuture" teaches how to select, recognize and find different types of waste, while "Second Brain" wants to help societies increase reading habits. The best Polish solution will compete at the final event, at the Calouste Gulbenkian Foundation in Lisbon, scheduled for September.

Life

IN BLOOM

Here comes spring: the season of change and growth. Of joy and new beginnings. The days become longer, the sun brighter and the Earth greener. Nature's symphony bursts again, surrounded by the vibrant colours and hues of life, reborn.



WHERE DO FLOWERS LIVE?

Colombia is one of the biggest exporters of cut flowers in the world because of its year-round spring-like temperatures.

“HAPPY

birthday.” “I love you.” “Get well soon.” From the welcoming of a new-born to a wedding celebration, special occasions in our lives often carry the scent of flowers. Offering them is not just simply a way of courtesy. It is rather a form of expressing feelings and emotions. And it is when Spring comes that impossible colours and sweet perfumes embrace life in all its beauty.

For more than fifty years, Colombia has been contributing towards turning these moments even more delicate and memorable. In this rich and diverse land, blessed with fertile soil and tenacious people, 260 thousand hands work in flower crops.

This blossoming vision covers over 8,000 hectares in the high, sunny plateaus outside of its two largest cities, Bogotá and Medellín. The country is in fact the second-largest producer of cut flowers in the world – only surpassed by the Netherlands –, accounting for 16% of the world’s exports, which total more than 1.4 billion dollars (approximately 1.2 billion euros) every year. Between twenty and thirty airplanes loaded with more than 20 thousand boxes of carefully packed flowers of various colours and species take off daily from Colombia. 77% go to the United States. The remaining production flies mostly to Europe to supply some countries, including the United Kingdom (4.1%). In Colombia, floriculture generates over 80,000 direct jobs and 50,000 indirect jobs, features 25% of female workforce and contributes with around 5% of the national agro GDP.

ORCHID: COLOMBIA'S NATIONAL FLOWER

The Colombian territory is home to more 1,500 varieties of orchids, but one of them is more special than the others: *Cattleya Trianae*, a specific Orchid species which has been the country’s national flower for almost 80 years. In 1936, the National Academy of History of Argentina asked Latin American countries to participate in an exhibition with the representative flowers of each country. The Colombian government gave the botanist Emilio Robledo, in representation of the Colombian Academy of History, the task to designate the most characteristic flowering plant of the country. *Cattleya trianae* was the chosen species, named after José Jerónimo Triana, a 19th century Colombian naturalist who is said to have catalogued over 60,000 specimens representing 8,000 species over his life. Also known as Flor de Mayo (“May flower”) or “Christmas orchid”, this rare flower is endemic to Colombia and grows between 1,500 and 2,000 metres above sea level, in cloud forest.

Located in the Antioquia Department, the city of Medellín is home to one of the greatest flower events in the planet. Gardens, terraces, balconies, billboards get flooded with bloom. A profusion of bursting colours, alongside with a party atmosphere, fills the streets. It is in August that the Flower Fair (*Feria de las Flores*) returns to honour the thriving floral industry in the country. For ten days, people from all over the world go there to delight themselves and celebrate this beauty explosion, as well as to enjoy the music, the traditions and the lifestyle of the “city of the eternal spring”. 500 people take part in the *silleteiros* parade, which anticipates the fair’s big finale. The word “silleteiro” derives from “silla” (meaning chair in Spanish) and has its origins in the colonial period. Due to the impossibility of pack animals like cows, mules or horses crossing over certain passages of the Andean Mountains, a group of men who could carry merchandise (ceramics, tableware, furniture, etc.) and people in wooden chairs (*silletas*) from one village to another was organised. The term “*silleteiros*” later stuck for flower vendors, as they always carried their huge stacks of flowers into Medellín on their backs.

Every summer, the Flower Fair returns to Medellín to honour Colombia’s thriving floral industry.



Cattleya Trianae has been Colombia’s national flower for almost 80 years.

The rose is the queen of flowers and the most offered on Valentine's Day.

QUEEN OF FLOWERS

Roses are one of the most exported products by Colombian flower farms, totalling 33.5% of all sales. And the Colombian red rose is a top-seller at the Jerónimo Martins Group's stores in Portugal, together with four other Colombian varieties of this flower, who feature in the top 10 of cut flower sales: the champagne rose, the two-colour red rose, the pink rose and the two-colour orange rose. In 2019 alone, more than 350,000 single roses from these five Colombian varieties were sold in Pingo Doce stores, along with over 69,000 Colombian rose bouquets.

Valentine's Day and International Women's Day are the occasions in which Portuguese people are more likely to buy roses. These two moments are celebrated with particular intensity in Poland. In Biedronka, more than half a million roses were sold on Valentine's Day in 2019. But the largest number of these flowers are not sold on Valentine's Day as one would assume. For Women's Day - celebrated on the 8th of March -, more than one million ladies received a flower purchased at a Biedronka store, whether a rose or, most typically, a tulip. This occasion contributes to nearly 8% of annual turnover generated from the sale of flowers in the largest food retailer in Poland.

FAMILY TRADITIONS

Last year, almost four million Poles bought flowers in Biedronka to offer as a gift on Mother's Day, celebrated on the 26th of May. Roses, tulips and orchids were the best-sellers. Grandmothers are also spoiled by their grandchildren every January 21st. The date is only celebrated in a handful of countries around the world and its tradition in the Polish calendar dates back to the 1960s. Children offer handmade cards to their beloved grandmothers, as well as chocolates and flowers. The January Grandma's bouquet usually includes roses in a variety of colours, but also tulips, gerberas or lilies. In 2020, almost two million flowers were sold across Biedronka stores to celebrate this day.

A GROWING SCENT

In Portugal, flower production is just taking the first steps. However, this market has greatly increased its investment, considerably improving the quantity and quality of production. Over 5,000 people work in floriculture in Portugal, a sector that registers a turnover of 600 million euros per year. About 70 to 75% of the national production of cut flowers is made in the municipality of Montijo, on the outskirts of the Lisbon Metropolitan Area. This activity has expanded considerably since the 70's: currently there are about 20 farms occupying around 200 hectares of greenhouses and 25 for the growing of bulbs and ornamental plants in the open air. Gerbera, chrysanthemum, rose, carnation and gladiolus are the most produced species. Gerbera occupies around 50 hectares of greenhouses, making Montijo one of the largest producers of this species in the Iberian Peninsula. In some areas of Portugal, flowers are synonym to celebrations. These are a tribute to spring and the season's exuberant flowering.

A symbol of metamorphosis, rebirth and fertility. A luxurious treat for the senses. Madeira Flower Festival ("Festa da Flor", in Portuguese) attracts thousands of visitors each year with its stunning carpets of natural flowers and fills the city of Funchal's main arteries with magic. The event's main attraction is the Flower Parade, where flower-bedecked floats make their way through the streets accompanied by hundreds of people dressed in costumes lavishly adorned with flowers. Other flower-themed initiatives include the "Wall of Hope", where children place flowers symbolising hope for world peace. Madeira Flower Festival dates back to 1954, when the Festa da Rosa (meaning "Rose Festival") took place at the Ateneu Comercial do Funchal. At that party, flowers were exhibited and culminated with a prize for the best ones. The fair's success led to this reedition under the name it has today.



The Flower Festival is a celebration of spring that attracts thousands of visitors each year to Madeira.

The Madeira Flower Festival started as the "Rose Ball", a celebration that took place for the first time in 1954

BREATH OF NATURE

WHEN

looking at a plant, there is a list of immediate things that can surely pop into our heads. It has distinctive leaves. It has beautiful flowers. It is bearing fruit. It has the sweetest perfume. And, beyond the visible, people would recall something they learned at an early age in school: plants are life. They are crucial to the function of the biosphere by recycling CO₂ and producing oxygen, while creating habitats for many organisms. A single tree can be home to hundreds of species of insects, fungi, moss, small mammals, and other plants. They are part of our diet since forever. Humans get 85% of their calories from 20 plant species and the majority comes from just three of them: wheat, rice and maize. Plants also satisfy other basic human needs such as clothing, shelter, and medicine thanks

to a wide range of products they provide, from fibres to dyes, from timber to oils. They also beautify everything that surrounds them, bringing a sense of calm, relaxation and boosting one's mood. Therefore, no wonder we all like having indoor plants in our homes and offices. Having plants inside is an easy way to purify and freshen up the indoor air. If challenged to name sources of air pollution, most people would think of cars and airplanes exhausts, or the dark smoke from factories. However, indoor air can be much more toxic than the air outside. At home or at office, smoke, fungal spores, chemicals used in paints, varnishes and cleaning products, or poorly maintained air-conditioned systems could be harmful to the human health. And people spend a lot of time between walls.



© Sabine Hornebach / Shutterstock

Aloe Vera

A very special plant. Besides acting as a natural healer for skin-related issues, such as sunburns or hard-to-bear scars, Aloe Vera also purifies the air. When its leaves start to have brown spots, the air of that room might be too polluted.



© Keiing Kan / Shutterstock

Painter's Palette

Native to Colombia and Ecuador, is effective in removing formaldehyde, xylene, toluene, and ammonia from the air. With bright leaves and a arrow-shaped core, these flowers can stay vibrant for months.



© Pixel-Shot / Shutterstock

Areca Palm

This bamboo-like clustering palm grows in tropical to temperate climate zones, both as an ornamental plant in gardens and as a houseplant. It is called "Butterfly palm", referring to the leaves which curve upwards in multiple stems to create a butterfly look. It helps remove toxins such as formaldehyde and xylene.



© Vivaldy Kypchuk / Shutterstock

Snake plant

It's easy to keep and doesn't require too much water. It releases oxygen at night, helping to avoid the night snoring. Also known as Mother-in-Law's Tongue, is one of the best plants for filtering the air of formaldehyde, xylene or benzene.

Humans get 85% of their calories from 20 plant species. The three more common are wheat, rice and maize.

NASA CLEAN AIR STUDY

In a 1989 report, NASA set off an entire generation of research (still ongoing) into this topic led by B.C. Wolverton, head of Stennis' Environmental Research Lab. The report, entitled "Interior Landscape Plants for Indoor Air Pollution", detailed a study of 12 different common houseplants (from the gerbera daisy to the bamboo palm) thought to be able to remove gas concentrations from enclosed, airtight spaces. At the time, NASA was interested in finding a solution to the lack of fresh air exchange (and consequent high concentration of gases) in space stations. The chemicals chosen for study were benzene, trichloroethylene, and formaldehyde. Preliminary results showed that the plants could play a major role in their removal in a sealed chamber and within a 24-hour period. But the most surprising finding was which parts of the plant were doing the filtering: those were the roots and soil (the researchers removed all the leaves and noticed that the air-purifying effect was only a bit less than before). In 1997, B.C. Wolverton published his findings in dozens of technical papers and in a consumer-friendly book: "How to Grow Fresh Air: 50 Houseplants That Purify Your Home or Office." In an easy-to-understand language, he explains which plants and varieties remove the most toxins and rates each plant for the level of maintenance it requires.



In this full-colour, easy-to-follow guide, scientist B.C. Wolverton shows you how to grow and nurture 50 plants effective in removing pollutants.

More than 75% of our food rely on pollinators. Without them, many of the crops wouldn't exist. Bees play a crucial role, but are facing a serious decline. In a world without bees, and according to FAO, supermarkets would have only half the amount of fruit and vegetables.

BEEING ALIVE

BUZZFEED: SAVING BEES

IT'S dinner time at home and the plate flies to the table in multiple colours. The menu: grilled smoky veggies with avocado and mustard greens. The cook surely did its best, but the yummy dish this hungry guy is about to try wouldn't have been possible without the precious help of bees. Yes, bees. As surprising as it may seem, they take much credit for this balanced, healthy meal. Tomatoes and peppers were taken care of by bumblebees. Squash, zucchini and cucumbers were the result of squash bees' job. Honey bees lent a hand (better, a wing) with avocados and mustard greens.

More than 75% of the world's food crops depend on bees and other pollinators (like butterflies, bats and hummingbirds), along with nearly 90% of the world's wild flowering plant species and 35% of global agricultural land. They play a crucial role either pollinating the many vegetables, fruits, seeds and oils we consume, or pollinating the food for the animals that we then eat. Besides, two other important products in our daily lives come courtesy of these tiny insects with a proven big impact: honey and wax (widely used in a variety of products, from candles to skincare products). And, while accomplishing all these tasks, bees are also key to protecting biodiversity.

A HONEY OF A DEAL

In 2006, the term Colony Collapse Disorder (CCD) was coined to classify the threat. This refers to a phenomenon in which the majority of honeybees in a hive disappear, leaving behind a vulnerable queen and younglings and meaning the colony is never able to recover. From 2013 to 2019, more than 10 million bee colonies across the world were lost, often to CCD, nearly twice the normal rate of loss. If this scenario of decline goes on, the first implication will be in the availability of a variety of crops: nutritious ones as vegetables, fruit and nuts will be substituted increasingly by staple crops like rice, corn and potatoes, eventually resulting in an imbalanced diet.

The good news is that there are countless collective ways of reverting the worldwide bee crisis. As individuals, by planting a diverse set of native plants which flower at different seasons or buying honey from local farmers and other sustainable products. As beekeepers or farmers, by avoiding pesticides as well as diversifying crops or creating hedgerows. As governments and other decision-makers, by enforcing strategic measures, involving communities in decision-making – in particular those of local people, who depend, know and respect ecosystems and biodiversity – and, finally, increasing collaboration between organisations, academic and research networks, to monitor and evaluate pollination services.

NATALIA JABŁOŃSKA



VISUAL ARTIST
AND PHOTOGRAPHER

“Among all God’s beings there are none so hard working and useful to man with so little attention needed for its keep as the bee.”

*Anton Janša, pioneer of modern apiculture
(1734-1773)*





In a world without bees, supermarkets would have half the amount of fruit and vegetables.

WORLD BEE DAY

In 2017, the United Nations designated May 20 as World Bee Day. The goal is to raise awareness of pollinators' contribution to sustainable development, as well as to challenge governments, organizations, civil society and concerned citizens everywhere to take action.

The date was chosen as it was the day Anton Janša (1734-1773), a Slovenian pioneer of modern apiculture, was born. Janša wrote two books on the field in German: "Abhandlung vom Schwärmen der Bienen" ("Discussion on Beekeeping", 1771) and "Vollständige Lehre von der Bienezucht" ("A Full Guide to Beekeeping", 1775). In the latter, he noted: "Bees are a type of fly, hardworking, created by God to provide man with all needed honey and wax. Among all God's beings there are none so hard working and useful to man with so little attention needed for its keep as the bee."

THE ASIAN HORNET

Identified in Portugal since 2011, it is a bee predator and is on the "List of Invasive Exotic Species of Concern in the European Union". European hornets, which have an important role in balancing biodiversity and pollination, are also haunted by the alien insects.

BITTERSWEET FACTS

There are around 20,000 species of wild bees in the world

Almost 90% of wild flowering plants depend to some extent rely on animal pollination

More than 40% of invertebrate pollinators – particularly bees and butterflies – are facing extinction

Up to 510 billion euros' worth of annual food production rely on direct contributions by pollinators

Source: Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES)

SOS POLLINATORS

EVERYONE

today knows that pollinators are vital to life on this planet. They are essential to producing most of the food consumed by people and animals, for balanced farming, for keeping ecosystems healthy, and for conserving biodiversity.

Of all the different pollinators (insects, birds, mammals or others), bees are responsible for pollinating around 80% of the world's crops. In other words – the food available for people and for the animals that also provide us with food. This means that without bees we would be left without most of the agricultural produce on which we depend, such as vegetables, fruit, cereals and fodder for the animals bred for human consumption. At the global level, if bees vanished, it would be enormously difficult to feed the world's current population. However, despite their crucial importance, many species of pollinators have been disappearing all over the world, as a result of human activities, and bees are the prime example. These insects are particularly sensitive to global warming, and an average temperature increase above the Paris Agreement targets (between 1.5°C and 2°C) could be fatal for bees. In addition, experts around the world are worried by the reduction in bee populations, caused by factors such as intensive farming, pesticide use, pollution, introduction of exotic species and others.

Concerned about this issue and the sharp decline in native pollinator insects, Quercus (a Portuguese environmental NGO) and the Jerónimo Martins Group have been running a nationwide campaign since 2015, called "SOS Pollinators". This campaign is designed to raise public awareness of the importance of pollinator insects and to alert political decision-makers to the need to take urgent steps to protect them and bees in particular. The campaign has engaged the general public, farmers, beekeepers, schools and organisations with responsibilities in this area. Several screenings of the documentary "More than Honey" and debates were organised, and a leaflet on the Asian hornet was distributed at Pingo Doce stores located in the areas affected by this invasive species. The topic has also been publicised on RTP's "Minuto Verde" ("Green Minute") show (in the scope of a partnership with the Portuguese public TV network) and was aired in other television and radio programmes in which Quercus participated.

In the last two years, the campaign theme has been "Family Beekeeping" and training courses for aspiring beekeepers were developed to address those interested in setting up a few hives to produce honey and other products for their own consumption. Copies of the "Family Beekeeping Handbook" have been distributed to people attending the training sessions, to the owners of the land where the practical training sessions were held, and to various regional and local organizations, farmers, beekeepers, technical staff and others. In 2019, the campaign also visited schools, organising a series of sessions to raise awareness about conserving pollinators and biodiversity whilst positively influencing the younger generations to take a stand in defending this small but important insect. Three hundred children and teachers were impacted by the campaign.

NUNO SEQUEIRA



VICE-PRESIDENT OF QUERCUS
- PORTUGUESE ASSOCIATION
FOR NATURE CONSERVATION

LARGER THAN LIFE

Fernando Pessoa was a man with many lives. With many ways of thinking. With different ways of expressing feelings. The countless personalities that lived within his mind helped forge one of the most significant literary figures of the 20th century.

THE MANY LIVES OF FERNANDO PESSOA

"THROUGH

these

deliberately unconnected impressions I am the indifferent narrator of my autobiography without events, of my history without a life. These are my Confessions and if I say nothing in them it's because I have nothing to say." (Fernando Pessoa, "The Book of Disquiet", 1982). Can an autobiography tell the story of someone who never existed? Can a man have a life story without having actually lived? However much aphorism might conceal a poetic confession, the answer could never be found in "O Livro do Desassossego" ["The Book of Disquiet"], on which Fernando Pessoa started to work in 1913, but was published for the first time 47 years after his death. The author's wandering exploration of existential angst, unfinished and reconstituted in multiple collages, is a two-decade long monologue not in one, but in three voices. None of them is his, all of them are his, and all belonging to each other. That of Vicente Guedes, named his representative, that of Barão de Teive and that of Bernardo Soares, an assistant book-keeper credited as author by certain publications and regarded by the critics as his semi-heteronym. As the author himself explained: "Whilst not my own personality, it is, not different from mine, but a simple mutilation of it. It's me minus the reason and the affection." So we can speak of a fragmented book or even argue that it is not one, but rather three books, running in parallel. And this is where, with the *magnum opus* of one of the greatest literary geniuses of the 20th century, we begin our inquiry into his many lives. Because, in fact, Fernando Pessoa wrote as if he were many people. For this reason also, he has never been an easy subject for biographers. Dark suit, round glasses, almost always wearing a hat. Poker faced, shy, melancholic. A brilliant student, eager for knowledge, who dropped out of his university course in languages and literature to study independently at the National Library. A self-effacing office clerk who led a discreet life and practically never left Lisbon (apart from his adolescent years in South Africa, with his mother and stepfather, who was the Portuguese consul in Durban). A sketchy romance with a young woman called Ophelia. The same cafes and walks. And an imagination that only found its home in the loneliness of rented lodgings and sleepless nights. Whether or not he had an actual life story, or that which, for the common mortal, would be a full existence, is perhaps of little importance in view of a chest overflowing with thousands of texts – some written by hand, others typed – an inexhaustible legacy, with the breadth and pulse of an entire language and greater than Life itself.

*"If, after I die,
you wish to write
my biography,
There is nothing
simpler./ It only
has two dates – my
birth and my death./
Between one and
the other every
day was mine".*

"THE COLLECTED POEMS OF ALBERTO CAEIRO", FERNANDO PESSOA, 1946

A MAN MULTIPLIED BY HIMSELF

He sought distance from the world in order to live in freedom but, ironically, he had to invent company to survive. "It's not my ambition to be a poet. It's my way of being alone," wrote Alberto Caeiro, born from Pessoa's imagination, and the poet who, with just primary education, was the master behind the other heteronyms of Fernando Pessoa and behind Pessoa, the orthonym. Alberto Caeiro, the pantheist, shepherd and poet of simple things, who was an orphan and lived on the farm of his elderly grandmother in the Ribatejo region, in the centre of Portugal. With him, the author discovered the philosophy of the senses, the one who teaches that "thinking is to have a disease of the eyes" or that trees, in not knowing what they live for, are masters of metaphysics. The extent of Caeiro's existence was the sensations he felt, and being sad of so much joy, he would feel his "whole body relaxed in reality" and say "I know the truth and I am happy." It was Caeiro who, in a way, prophesied that Pessoa's vast poetic oeuvre, impossible to catalogue, would one day be salvaged: "But they cannot be beautiful and remain unprinted,/ Because roots may lay underground/ But flowers bloom in the open, in clear sight." And these symbolise the ephemeral nature of life in the poetry of another of Pessoa's selves: Ricardo Reis, who had studied in a Jesuit college and assimilated the value of classical antiquity. Renouncing strong emotion, he gathers flowers only to set them down again, he loves them without however seeking them out. He commends to us the spirit of *carpe diem* and *ataraxia*. "Sit in the sun. Let everything go/ And be king of yourself." Epicurian and stoic in equal measure, he preaches pleasure as the secret of happiness, but this is a cool pleasure, heedless of ills and passions that undermine reason and serve no purpose in the irremediable flow towards the "final coin", death: "Let us disentwine our hands, because it is not worth tiring ourselves./ Whether we take our enjoyment, or not, we pass like a river./ The better wisdom is to pass silently/ And without great disquiet." Physician, pagan and staunch monarchist, Ricardo Reis is the only of Fernando Pessoa's heteronyms who is still physically alive: the date of his death is not known. Another giant of Portuguese literature, the Nobel prize-winning novelist, José Saramago, hazarded 1936 as the date of his death, in his novel, "The Year of the Death of Ricardo Reis" (1984). Whilst Caeiro is "pure and unexpected inspiration" and Reis "abstract deliberation", the temperamental Álvaro de Campos, with an aesthetic similar to Walt Whitman, was born from a "sudden impulse to write". A naval engineer trained in Glasgow, he sees the world as concrete intelligence dominated by the machine, seeking to be, like the machine, complete. He seeks to flee from monotony, to express himself as an engine might, "To tear myself open, to be permeated/ By all the scents of oils and engines and coal", in the fury of which he sees the archetype of beauty: after all, "Newton's binomial theorem is as beautiful as the Venus de Milo". The poet endeavours to feel everything in every way, to go through life like a fast car, which in the end brings "Extreme extreme extreme tiredness" and the discouragement of failure, and leads him back to the initial tedium and to the opium in which he finds consolation: "It is before the opium that my soul is sick". Pessimism also brings nostalgia for childhood, another recurrent theme in the poetry of Fernando Pessoa (orthonym), in which tradition and modernism co-exist. These intersect with other themes, such as the pain of thought (he is, after all, a disciple of Caeiro), the fragmentation of the self ("To live is to be another") and poetic pretence – according to which, when feelings and emotions are materialised in a poem, the poetic subject distances himself from them and transforms them, creating a "feigned" pain, which will then be transformed into a third pain, the one felt by the readers.

"ORPHEU" AND MODERNISM

Fernando Pessoa lived in almost complete anonymity. During his lifetime, the public encountered his literary work in two essential publications: "Orpheu" (1915), in which his celebrated heteronyms, in whom he diluted and found himself, took the stage, and in "Mensagem" (1934), a masterpiece of epic poetry that at the time he called a "small book of poems". The first of these publications marks the emergence of Modernism and its sub-currents in Portugal. Only two editions were published (the third never went to press, supposedly due to lack of funds), but they were enough to have an indelible impact on the country's cultural scene. Imagined by a group of young men with transgressive audacity, "Orpheu" introduced a radical language calculated to scandalise. Álvaro de Campos contributed to the first edition with "Opiário" (Opiarium) and "Ode Triunfal". The ensuing controversy and opprobrium exceeded expectations: the authors were decried as "imbeciles" and their literature dubbed as the "ravings of the madhouse". As Fernando Pessoa himself wrote, they were "the talk of Lisbon". And after "Orpheu", nothing would be the same again.



The poet introduced Modernism in Portugal with the "Orpheu" magazine (1915) and the epic "Mensagem" (Message), published in 1934.

THE PROPHECY OF THE FIFTH EMPIRE

The glories of a country. Its heroes and myths. A small people, a great race that had set out in search of a “new India”. In the 44 poems of “Mensagem”, Fernando Pessoa takes up his Story/History where Camões had left it, four hundred years earlier. Like Camões, he sees the voyages of discovery as an incitement to dream, but the empire that he sings and longs to see built is not of

this world; the Fifth Empire is civilisational and, out of decadence and fog, will bring (along with the lost King Sebastian) a nation reborn: “The time is come!”

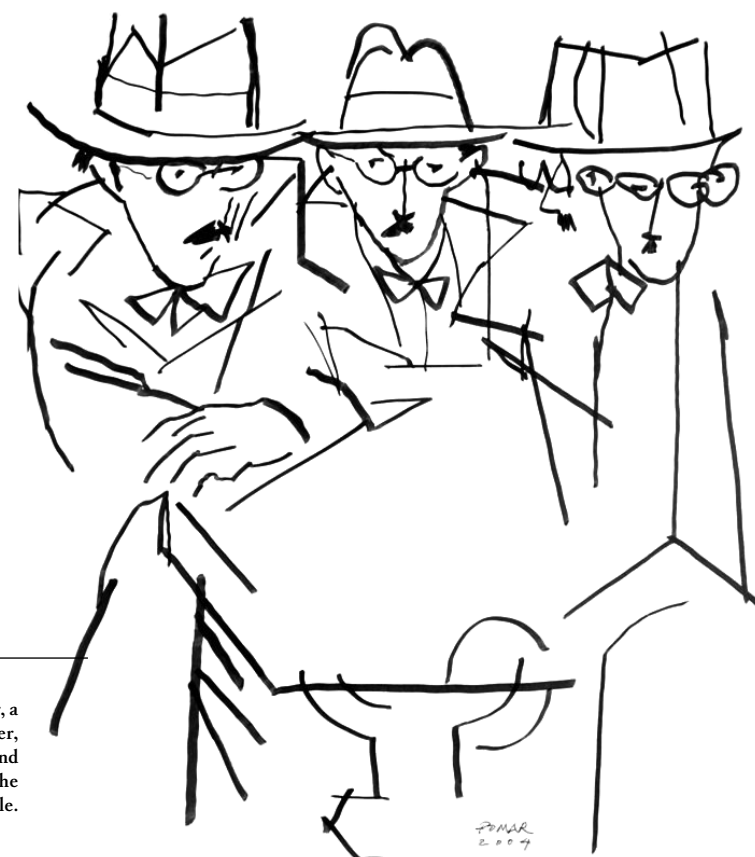
Fernando Pessoa was born in 1888 and died in 1935. Between these two dates, all the days belonged to the many identities that inhabited him.

PESSOA AND HIS HETERONYMS

Even though more than a hundred names feature in his work, three of them had their own physiques, writing styles and biographies.

FERNANDO PESSOA

Fernando Pessoa (1888-1935) is today Portugal’s main literary connection with the world. His work in verse and prose is as multifaceted as may be imagined, embodying countless interests and representing an authentic collective oeuvre that belongs to the author, to the various authorial figures he invented and to its readers. Pessoa called some of these characters – Alberto Caeiro, Ricardo Reis and Álvaro de Campos – his “heteronyms”, reserving for himself the title of “orthonym”. Editor and contributor to several literary journals, author of *Livro do Desassossego* (Book of Disquiet) and, in his daily life, “foreign correspondent in commercial offices”, Pessoa left a universal oeuvre in three languages which has continued to be published and studied ever since he wrote, shortly before his death, in Lisbon, “I know not what tomorrow will bring”.



Drawing by Júlio Pomar, a Portuguese Modernist painter, sitting Fernando Pessoa and some of his heteronyms at the same table.

ALBERTO CAEIRO

Described as a shepherd loved by the gods, although he speaks little of fields or gods, Alberto Caeiro da Silva was born in 1889 and became, before reaching the age of 25, the teacher of Fernando Pessoa and some of his other best-known selves. He spent almost his entire life – from 1891 to 1915 – on a farm in Ribatejo. If he held that “The only intimate meaning of things/ is that they have no intimate meaning”, it was not because he had no belief in the existence of things but because he never understood the metaphysical poets or certain poetic metaphors. His sense of nature, for example, has no place for verses such as Camões’ “O manto caminhar destes ribeiros” (“The gentle walk of these streams”). He was the author of a book, “O Guardador de Rebanhos” (“The Keeper of Sheep”), in which the critics – in other words, Fernando Pessoa divided into his many selves – heard the music of Walt Whitman and Cesário Verde poetry, among others, and concerning which he gave interviews; he was also the author of the poems that Álvaro de Campos suggested be collected under the title “Poemas Inconjuntos” (“Inconjunct Poems”), and of the poems in which love blinded him, entitled “O Pastor Amoroso” (“The Amorous Shepherd”). All the fictitious authors who knew Caeiro and his work wrote of him as an evangelist without religion (“To think of God is to disobey God”, he wrote). He is indissociable from what others wrote about him, both reconstructing their dialogues and philosophising on his paganism unfettered by faith.

ÁLVARO DE CAMPOS

Described as a naval engineer who studied in Glasgow, although he never completed his course (“I was always a poor student”, he will say), Álvaro de Campos was born in 1890 and was orphaned at an early age. He embarked for the Far East at the age of 23 and became an opium addict, like Camilo Pessanha. He belongs, he explains, “to a certain type of Portuguese/ Who once India was discovered/ were left without work”. He lived a life of idleness, although it was rumoured he had been Director of Public Works in Bragança, until he was dismissed for doing nothing at all. He was something of a dandy, a *flâneur*; he read Blake, Whitman and Nietzsche, among others. One day, on a trip to the Ribatejo, he made the acquaintance of Alberto Caeiro, an epiphanic encounter, as from which Campos became Caeiro’s disciple. As a poet, Álvaro de Campos left an unpublished book, entitled “Arco de Triunfo” (Triumphal Arch), and many individual poems, including “Tabacaria” (“The Tobacco Shop”); his prose included several political texts and the “Notes for the Remembrance of my Master Caeiro”, five of which were published in the journal *Presença* in 1931.

RICARDO REIS

Ricardo Reis remained latent in Pessoa’s soul until 1914, when he was born and became the author of a series of odes which was expanded up to 1935 when he wrote the poem “Vivem em nós inúmeros” (“Countless live in us”). It is true to say that countless beings lived in Reis: the neoclassical opponent of Portuguese integralism, the author of prefaces to Caeiro’s work, the defender of the perfect work of Milton, the essayist interested in sexuality, science and religion, the critic of “Christism”, the theoriser of a new pagan ideal, the spectator who watched the world as if it were a game of chess, the exiled monarchist, the semi-Hellenist physician, the poet of the fleeting nature of time and calm acceptance of fate. Born somewhere between Cubism and Dadaism, Reis represents the ancient world within the modern world, its modernity is inscribed in the paradoxical character of his existence: Ricardo Reis belongs and does not belong to his time, and his odes are deliberate anachronisms.

Though the author believed that seeking distance from the world was the only way of living in freedom, he turned out to invent the company of his heteronyms to survive.



THE PLURAL LIFE OF FERNANDO PESSOA

AND THAT OF A CAT

OCTAVIO

Paz, who didn't exactly have a quiet life ["*vida pacata*, in Portuguese], presented Fernando Pessoa as someone who didn't have a life, but only a work: "Poets don't have biographies," he wrote, "their work is their biography". I suspect Pessoa would have approved, with an ironic smile, the words of Paz. After all, Alberto Caeiro, who appeared in 1914 and died in 1915, said in a poem from November 8 of that year: "If, after I die, you wish to write my biography, / There is nothing simpler. / It only has two dates – my birth and my death. / Between one and the other every day was mine". In one of his rules of life from 1916, he wrote: "Organize your life as a literary work, placing in it as much unity as possible"; and in a letter to Ophelia in 1920, in which he ended the relationship, he said: "My destiny belongs to another Law Ophelinha does not even know it exists and is increasingly subordinated to obeying Masters who neither allow nor forgive". And Álvaro de Campos, in 1930, in a note for the memory of his master Caeiro, said: "More curious is the case of Fernando Pessoa who, strictly speaking, does not exist". Ah, and if we quote one last text, it could be the one that serves as a "threshold" to Aguiar's *Obra Poética*: "Ancient navigators had a glorious saying: 'To navigate is necessary; to live is not necessary'. The spirit of this saying serves me well when transformed to couple what I am. To live is not necessary; what is necessary is to create".

JERÓNIMO PIZARRO



PROFESSOR, TRANSLATOR,
LITERARY CRITIC AND EDITOR,
RESPONSIBLE FOR MORE THAN
30 EDITIONS BY AND ABOUT
FERNANDO PESSOA.

Artwork originally created for the purpose of complementing this article. By Portuguese illustrator and cartoonist André Carrilho.

Pessoa, who so often flew another, who so often felt everything in every possible way, who had so many dreams, was also someone? Or was he “many and no one”, as the God imagined by Jorge Luis Borges? In my opinion, writing a biography of Pessoa is one of the greatest challenges we have. I say this because there are already, and this is miracle-like, three great biographies of Pessoa. There are still many more to come, and there are already a lot of works that complement them... And the questions multiply. Is it possible to write a biography of a *pacata* [quiet] life – to reiterate this very Portuguese adjective? The days between 1888 and 1935 belong only to Pessoa or can they also be ours? Should the biography have as its skeleton a chronology of the work, or is it possible to “catch” the reserved and fleeting man that was Pessoa, a man who described a photograph of himself as an ephemeral visible representation of himself? Did the life of Pessoa have unity? Did Pessoa sacrifice his life for his work? Did he even defend it from the siege of love? Did he create, and feel, but didn't have a life “to tell”, in the sense that Gabriel García Márquez or Pablo Neruda effusively celebrated having lived a life to tell? Did Pessoa try, in a very Portuguese way, to go unnoticed, but then, in a very Lusitanian way, he entered into a

Photobiography and a new Pantheon? Anyway. I was invited to explore the theme “Life” and to propose a personal vision of the relationship between Pessoa and the word “Life”. I could have sketched a minimal chronology and recalled that Pessoa was born and died in Lisbon; that he had an English education in South Africa; that he worked translating business letters to “get by”; that he kept papers in a famous trunk; and that he invented at least 136 fictional authors. But I would prefer to defend the following: few lives have been as intense as Fernando Pessoa's, although he physically travelled very little, and few lives have ever changed as many – and will change even more – as the life of author of the *Livro do Desassossego* [Book of Disquiet]. Pessoa did not need to live the life of Aleister Crowley, who he met, to live an intense life. And no one needs to truly unfold to live a rich inner life made of a rare vastness. Pessoa made a simple “life plan” and his ambitions were never excessive. In that plan, written in English around 1919, he states: “A general plan of life must involve, in the first place, the obtaining of a financial stability of some kind. I put the limit needed for the humble thing I call financial stability at about sixty dollars, forty being for the necessary, and twenty for the superfluous, things of life. (...) The next essential thing is to fix on a residence where there would be enough room, both room-space and room-convenience, to lodge all my papers and books with due order; and all this without a very

Photo dedicated to Aunt Anica: “To his dear aunt he offers this temporary visible representation of himself, with a hug so big as your (whose?) senselessness, your very friendly, brilliant nephew and thanks, Fernando”
Portrait taken in January 1914, as one day it had to be taken.



© ullstein bild DAJ / Getty Images



© Marka / Getty Images

Fernando Pessoa in downtown Lisbon.

large possibility of moving in a short time”. What do we know about the “real” life of Pessoa? Perhaps not much yet, and it will be difficult to know more because almost all those who knew him have died. One of them, Francisco Peixoto Bourbon, in a text published in 1973, reminds us, for example, of a story that no biography has ever gathered and that I would like to evoke on this occasion. Bourbon added to the account things of his own doing, but I believe, like José Barreto, in the essence of the story. Pessoa would have confessed to Bourbon that days before Mário de Sá-Carneiro's suicide, he felt it would happen. This is the story of the cat poisoned with strychnine, in which Pessoa saw the face of Sá-Carneiro before knowing that he had committed suicide in Paris: “Two weeks before the tragedy I was wandering aimlessly through the streets of Lisbon and I felt something akin a strange force drawing me to Mouraria (...) And what did I see? It was a cat that, certainly because of his habits of stealing steaks or horse-mackerels and causing damage to a vicious woman, the latter decided to poison it with strychnine, a barbaric and cruel habit, but very common at the time. The cat was prostrated on the irregular pavement and performed uncontrolled movements, walking around. And in a long agony, it was all trembling, and it was evident that it was suffering atrociously. I reacted by saying: – Someone should kill the animal so that it stops suffering. But I realised, horrified, that the people were sadistically enjoying the spectacle because they said: – It is probably an attack and it will

get better because a cat has seven breaths. (...) I should have run away from such a spectacle, but I couldn't because I felt as if I was strangely nailed to the ground (...) And what do I see, holy God? The head of the animal, which was a pure breed – what people call a French cat –, increases in volume in my retina and then it was the round head of Sá Carneiro, his orbits, his cheeks and a sad and bitter farewell look. So I ran away like a possessed man pushing everything and everyone, hearing impropriety and insults while I ran. And that night I couldn't sleep. Later I heard the sad news.”

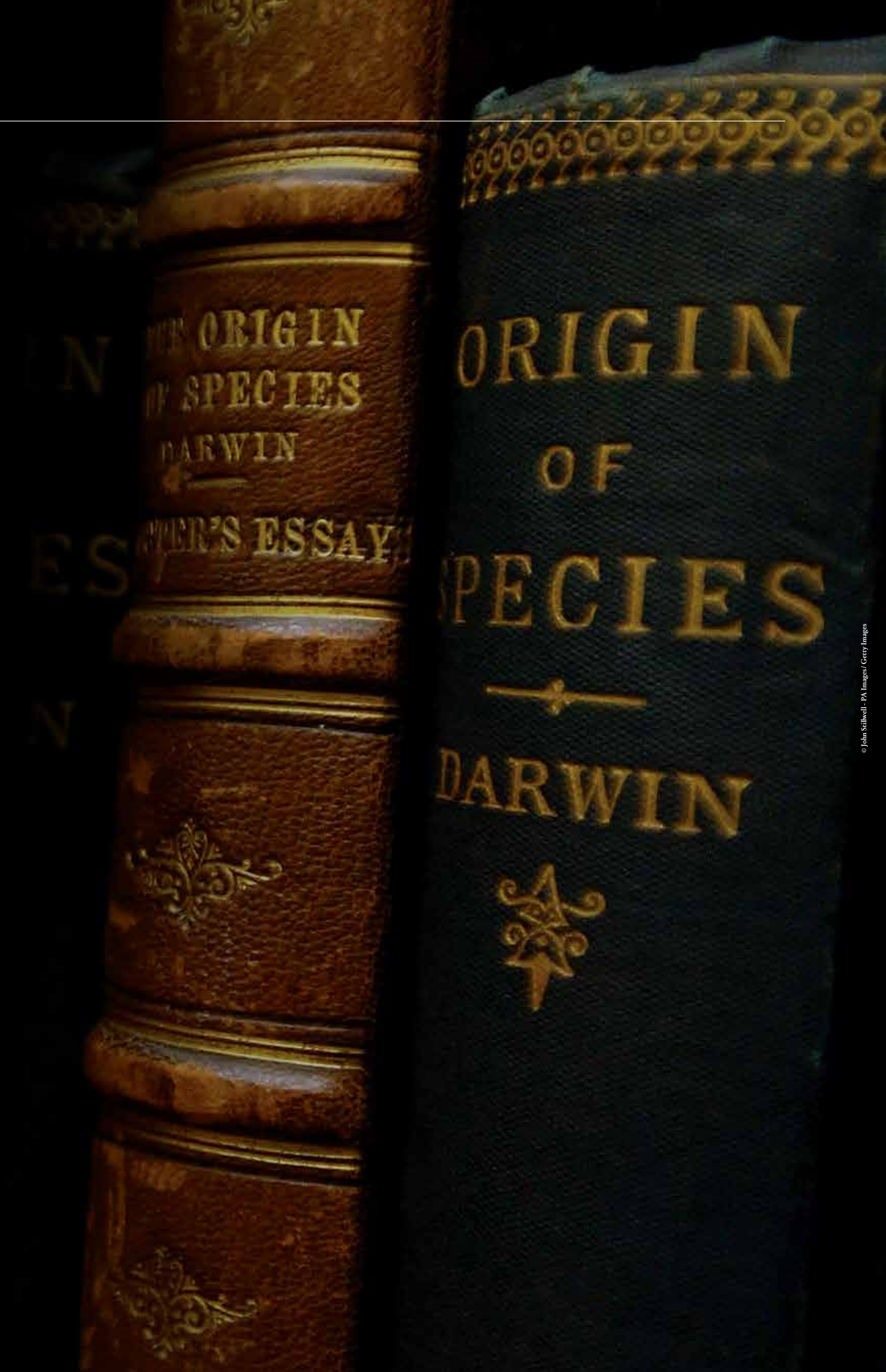
Pessoa tried to stop Sá-Carneiro from ending his existence. He failed. And “it was a real fatality”. However, in his way of life, he continued to fight, not only “always and everywhere, his three murderers: Ignorance, Fanaticism and Tyranny,” as we read in the Autobiographical note from 1935, but also cruelty and violence.

Although he physically travelled very little, few lives have been as intense and have ever changed as much as Fernando Pessoa's.

Life on Earth

A CHAPTER YET TO BE WRITTEN

On a cosmic timescale, the history of the most widespread species of animals on Earth is as brief as the blink of an eye, showing us how magnificently insignificant humans are in the grand scheme.



THE TIME OF OUR LIVES

THE passage of time has proved that, in our world, species come and go through the ages. And thinking about it timewise tends to help us understand in which evolutionary stage we are standing.

The idea of a cosmic calendar was popularized by Carl Sagan in the book "The Dragons of Eden" (1977) and in Episode 1 of his landmark television series "Cosmos, a Personal Voyage" (1980). Scaling it to the size of a football field, then "all of human history would occupy an area the size of (his) hand." A small square.

Prior to that, in 1979, David Attenborough flicks through the same calendar on "Life on Earth", introducing all the forms of life that preceded Homo Sapiens. It started with bacteria: "More complex microorganisms like these didn't develop until about the middle of August", and intensified in November, when "the first animals left the water and colonized the land". It was not until December that "the dinosaurs disappeared and the mammals came into the Earth." At last, "in the early morning of December 31, apes and apeman appeared. And we [homo sapiens] arrived about 2 minutes before the end of the last day."

In this triple revolution — physical, biological and intellectual — the last minute is particularly busy. Until midnight, mankind tamed fire, domesticated plants and animals, invented tools, settled agricultural communities that would evolve into cities, and created industries. But life itself appears much earlier: by the middle of the year (4 billion years ago), when clusters of genes — the library of instructions to an animal on how to solve the challenges of survival — began to reproduce. What if there had been another stage in the evolutionary history of life, a precellular world? This hypothesis sustains that self-replicating RNA molecules (RiboNucleic Acid, that act as a messenger

with genetic codes) proliferated before the evolution of DNA and proteins themselves, and which in some viruses is also the hereditary material. Proposed by American biologist and biophysicist Alexander Rich in 1962, it compels us to question if humans really are the pinnacle of evolution, or if that role belongs to the most abundant biological entities on Earth: viruses.

Viruses are more numerous than stars in the universe: an estimated 10 nonillion (10 to the 31st power), 100 million times more. They infiltrate every aspect of our natural world, soil, seawater and atmosphere. More than 200 viruses are known to cause diseases in human beings.

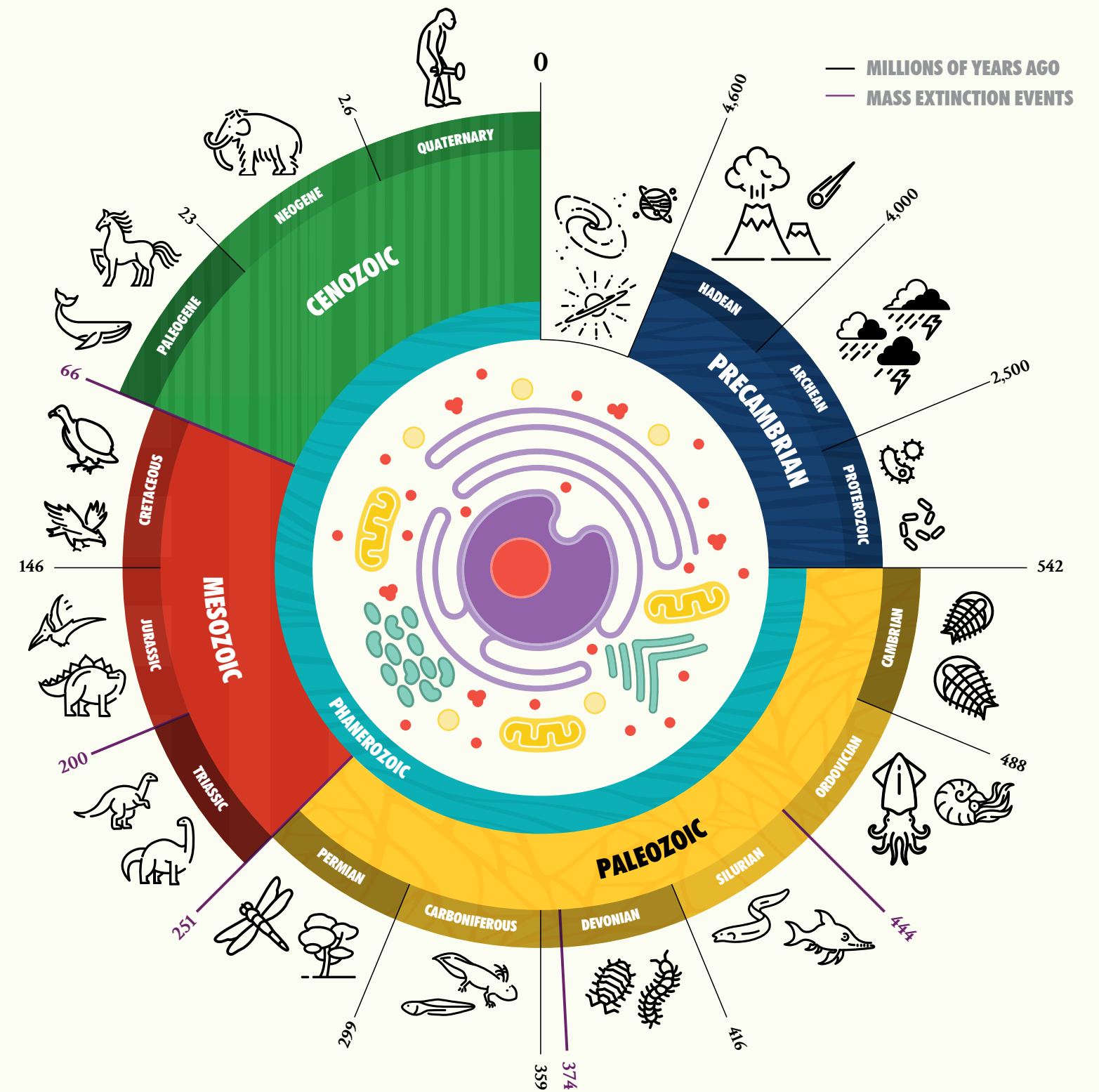
The new coronavirus is called that way because it seems to have a *corona* (the latin word for crown) made by its spikes. Because of the great diversity among these entities, biologists have struggled with how to classify and relate them to the conventional tree of life. There is no clear explanation on their origin, only three classical theories: viruses are degenerate intracellular parasites (reduction hypothesis), viruses are cellular genes that escaped (escape hypothesis) and viruses are relics of precellular life (virus-first hypothesis), being the precursors of life as we know it. The latter has been dismissed by some scientists because it violates the definition of viruses, in that they require a host cell to replicate. The discussion has gotten far murkier since the discovery, in 2003, of the first giant virus, a type of virus that contains many unique genes not found in other life forms.



David Attenborough, one of the world's most respected naturalists, pioneered programmes that changed our common perspective of the surrounding environment. In 1998 he became President of the Butterfly Conservation, helping to spread the word on the importance of butterflies and moths.

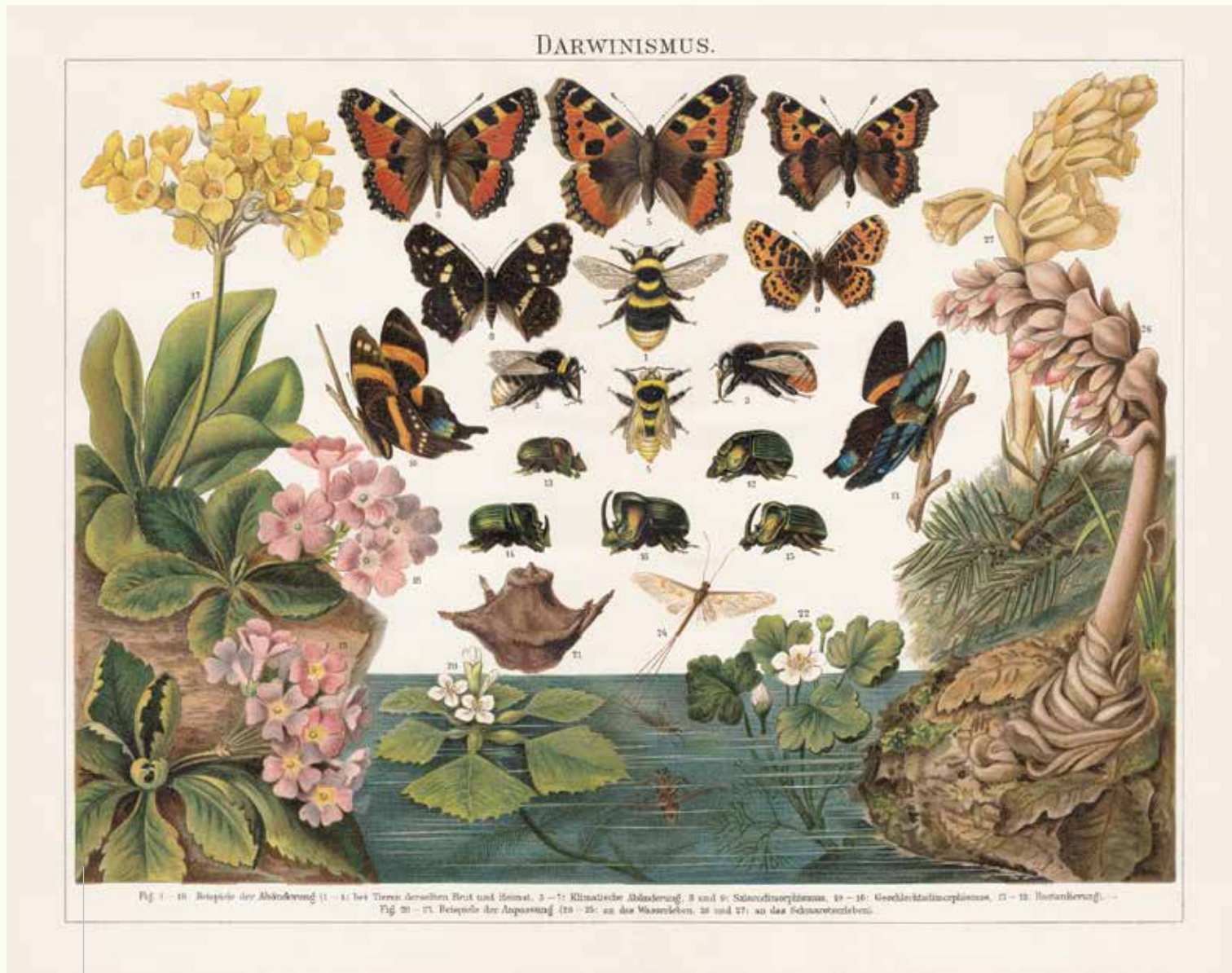
AFTER THE BANG

If we compressed 13.8 billion years – the age of the universe – into a single year, the Big Bang would have happened on January 1, at 00:00, and the first humans would have made their debut around 22:30 on December 31.



The division of geologic time (eons, eras and periods) are based on those suggested by the International Commission on Stratigraphy (ICS), the largest and oldest constituent scientific body in the International Union of Geological Sciences (IUGS).

SECRETS, BEYOND EVOLUTION



© ZL_09 / Getty Images

The natural selection of living organisms by Charles Darwin in a lithograph published in 1897.

It is estimated that 3,500 million years ago there was life on our planet; in a silent but continuous awakening, hundreds of millions of primitive species emerged adapting to the precarious conditions of the effervescent scenario, extreme climatic changes, unstable atmospheric conditions, hydrogen, oxygen, carbon, mixing in a bubbling equation that led life to make its way, in an exuberant, colourful and unique competition in search for proteins and resources to survive. Considering that scenario, imagine that, for a second, a simple but adaptable evolutionary entity emerges, with the ability to penetrate cells, parasite their machinery, and appropriate all its energy to make copies of itself. That structure is a virus, a microscopic primitive creation whose sole purpose is to replicate.

MANUEL TIBERIO AYALA



COLOMBIAN PHYSICIAN, SPECIALIST IN EPIDEMIOLOGY AND PUBLIC HEALTH. CURRENTLY, HE IS DESIGNING DISRUPTIVE EPIDEMIOLOGICAL STRATEGIES TO DEAL WITH THE COVID-19 PANDEMIC.

WE ARE EQUILIBRIUM

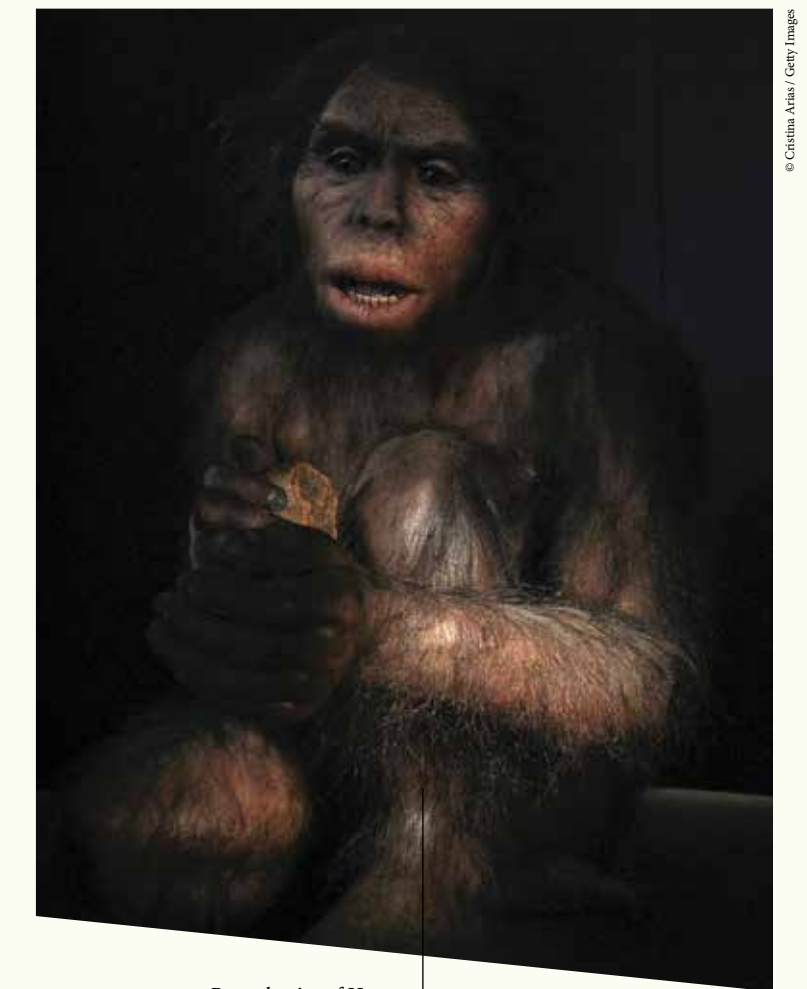
However, humans entry into the scene in this intricate evolutionary game is recent. Upon our arrival the evolutionary rules of survival were already established: viruses and bacteria live with us in a delicate balance, where most microorganisms are not harmful if this balance is maintained. We break this balance with human disruption in ecological environments of wildlife as contact between species facilitates human exposure to a new virus, bringing new diseases to our species (Zoonosis): 60% of pathogens capable of attacking man come from domestic or wild animals. The Globalization and changes in climate and human behaviour multiply the opportunities for pathogens to colonise new territories and evolve in new ways, it seems that our almost viral behaviour facilitates exposure to new diseases, and this is essentially the origin of the Covid-19 pandemic, as demonstrated by the sequencing of the virus' DNA. We must learn as a society that all our actions have an impact and this relationship with the environment is closely related to our survival. Adapt to changes, evolve and learn is the mission; finally, we are just one guest on this planet, our behaviour and habits impact the Earth, our home. Evolution has shown for millions of years that we are endowed by nature to survive, it is our historical responsibility to restore balance!

WE ARE VIRAL

Viruses have existed since the beginning of life; they have participated in the exchange of genes as evidenced by the traces they have left in the genomes of animal and human cells. The human genome contains 20,000 genes of primarily viral origin. They are in the surface waters of the sea (where there are 10,000 million different types of virus per litre), they maintain the balance between the different species that make up the marine plankton (and as a consequence the rest of the food chain). They live in our digestive tract generating short-chain fatty acids (fundamental energy source for human cells), providing essential vitamins for life. Self-medication destroys them and exposes us to infections by other infectious agents. They are in the soil participating in many cellular processes, and they will probably continue here when we become extinct as a species.

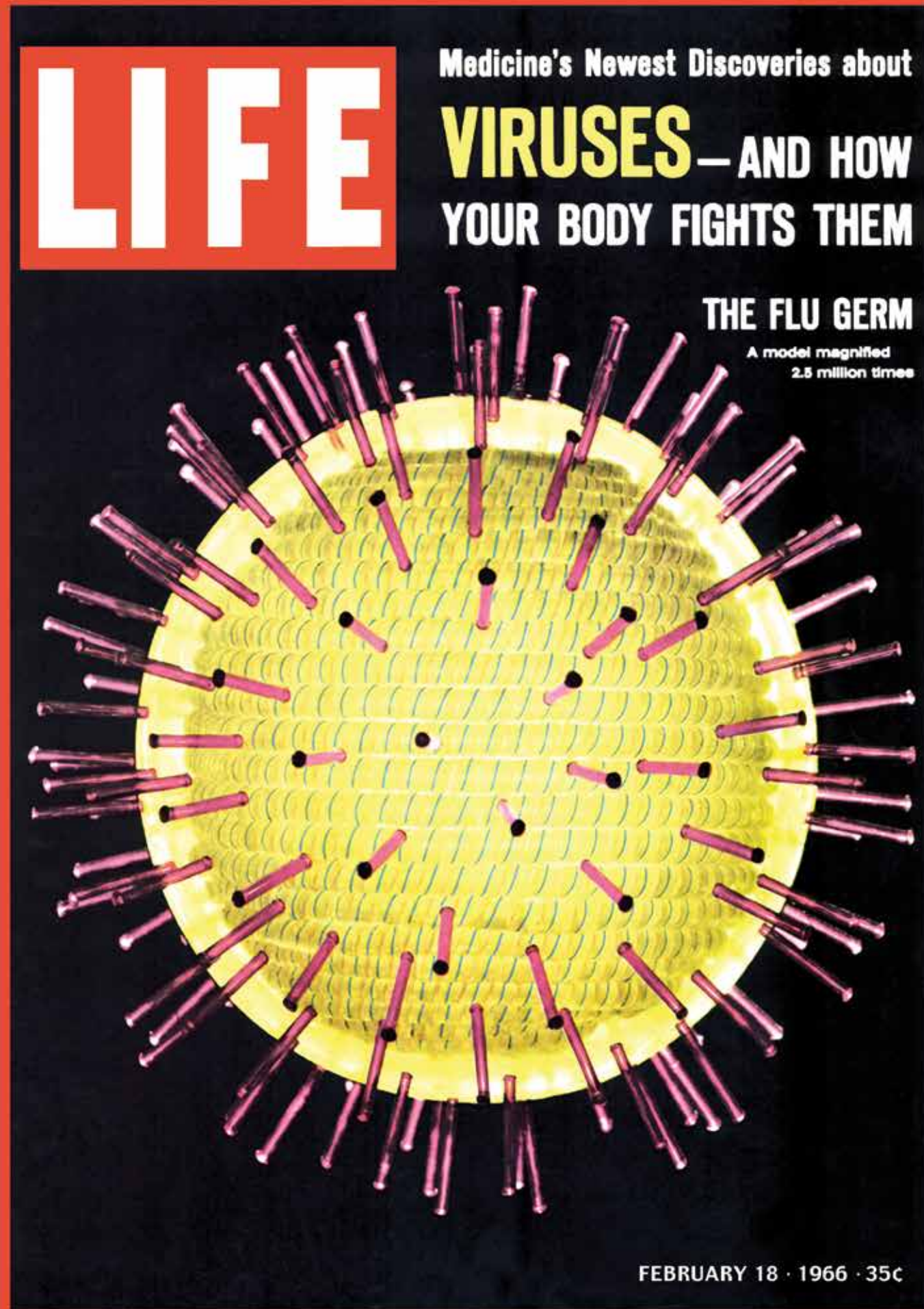
WE ARE EVOLUTION

Charles Darwin postulated more than 160 years ago that only the best and fittest individuals of each species survive, slowly exchanging information between lineages, transmitting the best survival characteristics to their offspring, gradually adapting improvements to their offspring with subtle changes (Mutations) in DNA, in a long and continuous evolutionary career that does not stop and that today we have verified from genetics. It was a series of mutations in the Pliocene (about 5 million years ago) that would favor evolution: during the glaciations, and due to climatic changes, their young would be born prematurely, without hair, without teeth, with the sutures of the cranial vault without welding, without being able to walk, demanding more time to fend for themselves. These changes are largely compensated by a longer childhood and better care from their parents (neurological development and better social capacities). Better care of offspring in childhood would formalize family and social ties. Better communication would lead to symbolic thought, which, in turn, would enhance the use of language. The hunting processes get eased, as tools "carved" the advent of Homo Habilis and led, later, to the appearance of modern man.



© Cristina Arias / Getty Images

Reproduction of Homo Habilis in hyper-realistic style by the French specialist Elisabeth Daynès. From the collection of the Museum of Human Evolution.



A PANDEMIC EXPLAINED

The first human global reaction

Viruses transmit between species, a phenomenon designated species-jump that is becoming more frequent due to human invasion of many habitats. SARS-CoV-2 adapted extremely well to a host whose population is of nearly 8 billion people.

THE only way to stop a pandemic is to reduce the number of susceptible hosts either through vaccination or natural infection - towards herd immunity - which could turn SARS-CoV-2 itself into the solution. Pedro Simas, head of the viral pathogenesis lab at iMM – Instituto de Medicina Molecular (Molecular Medicine Institute) – in Lisbon, believes that once the pandemic ends and the virus becomes endemic, “societies will embrace their typical social behaviour again”. And if eradication might be unlikely, knowledge is surely the right weapon to fight both the virus and our fear of it.

IS A VIRUS, IN ITSELF, A FORM OF LIFE?

It depends on how life is defined. If one defines cells as the fundamental units of life, then viruses are not alive. I prefer the definition that life is a sustained chemical system capable of undergoing Darwinian evolution. Viruses have genes that are competent to replicate. Alive or not-alive, viruses impact our life.

THERE ARE MANY DIFFERENT VIRUSES, AND THEIR FORMS OF TRANSMISSION VARY TOO. HOW DO SCIENTISTS CLASSIFY AND STUDY VIRUSES?

A virus is not a single identity! Viruses are organized in taxa from order, family, subfamily, genus, and species. This classification is part of the standard biological classification, which identifies groups of biological organisms on the basis of shared characteristics. But as a virologist, from a simplistic point of view, viruses can be organized anatomically as naked viruses or enveloped viruses, or by genome content as DNA viruses or RNA viruses. Both can have single or double stranded genomes. RNA viruses can have either single stranded positive-sense RNA

This cover of Life magazine - published on February 1966 - shows a model of the flu virus. Similarities with the representation of today's coronavirus are not pure coincidence.

REG. U. S. PAT. OFF.

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PEDRO SIMAS



**VIROLOGIST, GROUP LEADER
AT THE PORTUGUESE MOLECULAR
MEDICINE INSTITUTE (INSTITUTO
DE MEDICINA MOLECULAR JOÃO
LOBO ANTUNES)**

(e.g. SARS-CoV-2; COVID-19) or negative sense (e.g. Influenza) genomes. Viral genomes can also be circular or segmented or diploid (two copies like human beings). So, diversity is the common feature in viruses, which impacts the diseases caused by these agents. Hence, comparisons between different viruses need to take into consideration this complex diversity.

AS A VIROLOGIST, WHAT DO YOU FIND MOST INTERESTING IN THIS SARS COV-2 THAT WAS PREVIOUSLY UNKNOWN?

I would say the realization that SARS-CoV-2 can disseminate so efficiently amongst the human population with minimal virulence. Based upon the fact that 98% of current active infections cause mild upper respiratory disease, and that there is an estimate of at least 10-fold more undetected clinically silent infections. From an evolutionary point of view, SARS-CoV-2 is extremely well adapted to its human host. Jumping the species barrier into humans, probably from an endangered of extinction species, SARS-CoV-2 reached a host whose population size is of almost 8 billion individuals. Staggering.

WHAT MAKES CORONAVIRUS DIFFERENT FROM, FOR EXAMPLE, EBOLA?

Ebola and SARS-CoV-2 are very different viruses belonging to distinct families named Filoviridae and Coronaviridae, respectively. Infection of SARS-CoV-2 is mostly invisible. This means that apparently healthy people (asymptomatic) spread infection without knowing, which results in fast virus dissemination. Ebola infection results almost always in severe clinical disease - hemorrhagic fever - killing 25-90% of those infected. Hence, easy to identify and limited mobility of infected people to promote virus transmission.

A WILD SPECIES, NAMELY BATS, IS SUSPECT OF HAVING TRANSMITTED THE NEW CORONAVIRUS TO HUMANS. IS IT NORMAL TO HAVE TRANSMISSION OF VIRUSES BETWEEN SPECIES?

We do not know if bats were the source of contamination to humans, as yet. What we know is that bats are reservoir hosts for many coronaviruses and could have been the source. An intermediate animal is also a possibility. Viruses transmit between species, a phenomenon designated species-jump. However, there is a species barrier, so this phenomenon is rare between species that have evolved together. Species-jumps are becoming more frequent due to human invasion of many habitats, which brings animals and humans into closer contact.

WAS IT INEVITABLE THAT SO MANY PEOPLE SHOULD DIE?

Yes. The world was caught by surprise. This was due to the fact that a vast majority of SARS-CoV-2 infections is clinically invisible (asymptomatic). Therefore, when the first cases of severe respiratory disease were reported, there were already many infections in the community. But now it is a different time. We know more and more about the virus every day and we have scientific tools - virus detection tests and serological tests - to protect the high-risk groups and minimize deaths. This is our challenge as a society in the upcoming months.

CAN THIS VIRUS BE ERADICATED? OR ARE WE GOING TO HAVE TO LIVE WITH IT, JUST AS WE LIVE WITH OTHER VIRUSES?

It is extremely unlikely that this virus will be eradicated. Even the most severe measures of lockdown have not stopped transmission because it is impossible to totally inhibit human-to-human contact and most infections are invisible. Hence, this virus will most likely become endemic, a natural course for many viruses including other coronaviruses.

ARE THERE RATIONAL GROUNDS FOR THE WIDESPREAD FEAR, IF NOT ACTUAL PANIC, WHICH PEOPLE HAVE FELT?

Fear is a normal alarm response when something unknown and potentially deadly comes to us. It is essential for survival. However, fear is deleterious if prolonged. Knowledge ends fear. We now know through science how we can control virus dissemination, how we can protect high risk groups, and how we can solve the current pandemic. We know how to proceed and, if we do so, we know what to expect. Therefore, room for fear is shorter now. Once the pandemic ends and virus becomes endemic, we will embrace again our normal social behaviour.

ARE MUTATIONS EXPECTED TO HAPPEN?

Coronaviruses accommodate natural genetic mutations in their genomes as they replicate and disseminate. This is a normal process. Several hundred mutations have been identified for SARS-CoV-2. However, each virus can only accommodate 4-8 mutations.

“This virus will most likely become endemic, a natural course for many viruses including other coronaviruses.”

This genetic stability is afforded by a mechanism that coronaviruses have to correct mutations as they replicate their genomes. An important point for SARS-CoV-2 is that the genetic mutations identified so far do not result in significant altered biological properties such as virulence or antigenic variance. This is good news!

IS IT WORTH WAITING FOR A VACCINE THAT CAN PROTECT THE WORLD'S POPULATION?

In my opinion we cannot wait in isolation for a vaccine that is not guaranteed to work, i.e. be protective. Also, we know how we should proceed, even in the absence of a vaccine.

AND WHEN CAN WE EXPECT A VACCINE, PROPERLY TESTED, APPROVED AND AVAILABLE ON A LARGE SCALE?

Vaccine developers predict at least between 12-18 months for having a vaccine available for production. The fastest vaccine ever developed was for mumps and it took 4 years. A vaccine against rotavirus gastroenteritis took 26 years to develop. Vaccines to hepatitis C virus or HIV were not accomplished yet. I am hopeful that an effective vaccine for SARS-CoV-2 may be developed because our immune system efficiently eliminates this virus, hence so can a vaccine; and because there are currently many ongoing projects covering virtually all known vaccine technologies.

IS IT POSSIBLE THAT THIS VIRUS WILL MUTATE EVEN BEFORE THERE IS A VACCINE?

Everything is possible but given the genetic stability for SARS-CoV-2 so far, and what we know for other coronaviruses, it is unlikely that a mutation will arise that will significantly affect the protective effect of a vaccine. If such situation arises, it is not dramatic to contemplate such antigenic variation in subsequent vaccine production.

DO WE HAVE TO ALLOW PEOPLE (NOT BELONGING TO RISK GROUPS) TO BE INFECTED AND ACQUIRE NATURAL DEFENCES?

Herd immunity. It is a smart strategy when a vaccine is not available and the virulence of the virus allows. By definition, the only way to stop a pandemic is to reduce the number of susceptible hosts to a number that significantly reduces virus dissemination. This is achieved either through vaccination or natural infection towards herd immunity. Many vaccines used today, such as for mumps, measles, rubella and varicella, are nothing more than infection by attenuated viruses. It is predicted that protective herd immunity for coronaviruses may be achieved with 60-70% immune population. The virus can be in itself a solution.

THERE ARE COUNTRIES THAT HAVE OPTED FOR A LOCKDOWN, OTHERS DECIDED TO PROMOTE CONTAGION (TO ACCELERATE HERD IMMUNITY), AND YET OTHERS HAVE SWITCHED STRATEGY. FROM YOUR POINT OF VIEW, WHICH OF THESE OPTIONS WAS THE MOST APPROPRIATE?

The different strategies adopted were the best for each country. Now we can learn with each other. The best way forward now is to promote the controlled construction of herd immunity with maximal protection of human life. We have the knowledge and tools to do it.

IN YOUR OPINION, AT THE STAGE WHERE WE ARE NOW, WHAT IS MOST IMPORTANT, IN TERMS OF THE STRATEGY FOR FIGHTING THE PANDEMIC?

1. testing to identify infected individuals, monitoring virus dissemination and construction of herd immunity;
2. isolation of infected cases;
3. quarantine of contacts;
4. protection of high-risk groups;
5. adopting the three Cs rule, i.e. avoiding (i) closed spaces, (ii) crowded areas, and (iii) close contact.

HOW DO YOU THINK THAT SCIENCE HISTORIANS IN FUTURE WILL REFER TO SARS-COV-2 AND TO COVID-19?

As the first human global reaction.



GO AWAY!

Let's dive into a different perspective. António Araújo, an expert in contemporary history, draws a connection between humankind and the Greenland shark, a 7-meter long predator capable of living for several hundred years, but incapable of stopping a parasite the size of a penny.

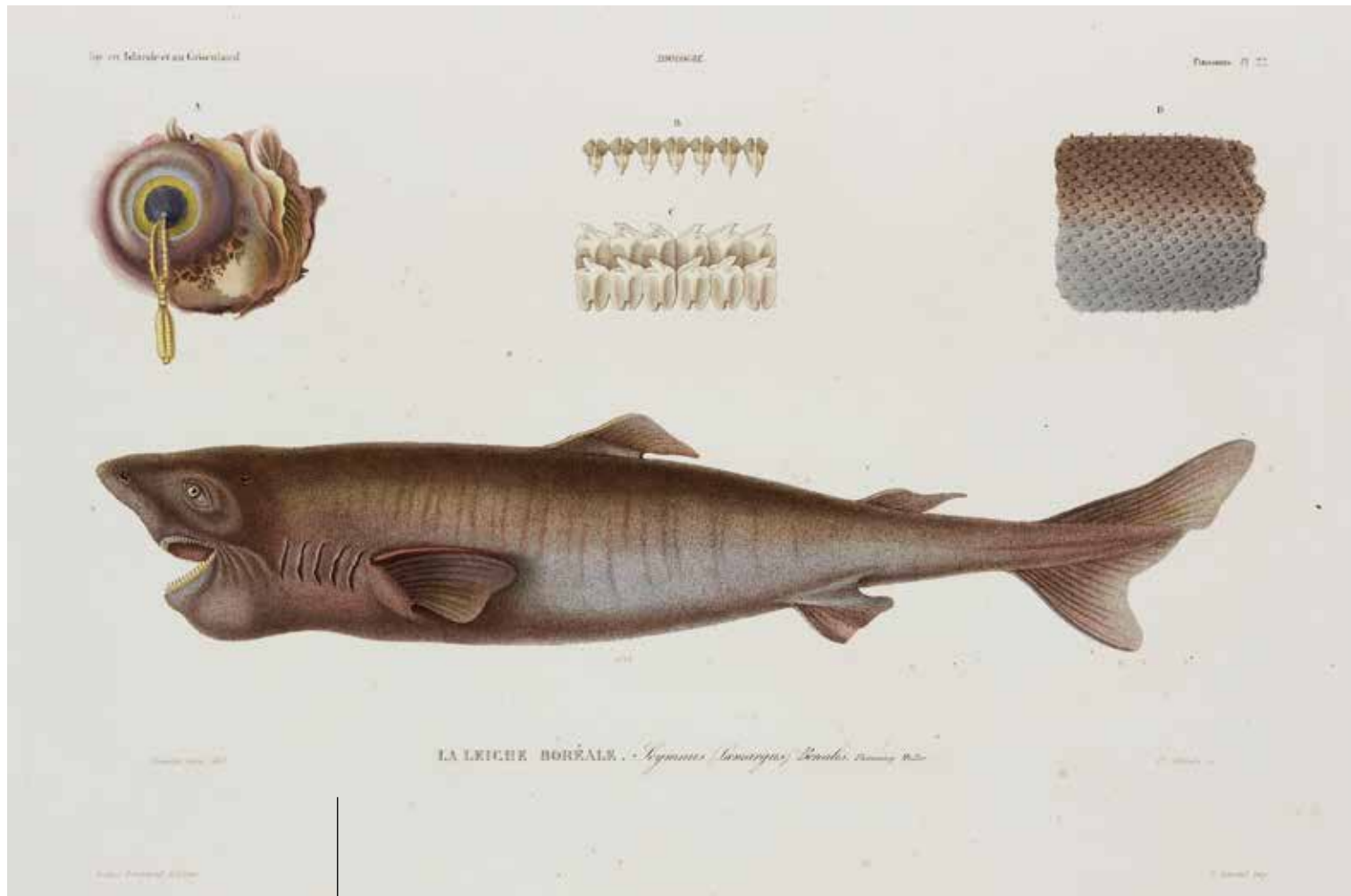


Illustration from the book "Voyage to Iceland and Greenland", published in 1851.

ANTÓNIO ARAÚJO



HISTORIAN, JURIST AND DIRECTOR OF PUBLICATIONS AT FUNDAÇÃO FRANCISCO MANUEL DOS SANTOS.

GO AWAY

I was here first. Those up there have just remembered that I exist and that I was here long before them. And, because of a big disease, they now talk about me in very important and widely read literary journals^(*). One of them, a Norwegian who travelled around, wrote *Havboka/The Book of the Sea*, the story of how they hunted one of my brothers, just like me^(**). But long before all this, I was already here. Go away.

Up there, they say a lot of things about me, but they know hardly anything about me, about who I am. They know I can live a long time, more than 500 or 600 years, which is the way of counting the passage of time they have up there. My parents lived at the time of Dante, my great-great-grandparents were contemporaries of Julius Caesar. As for me, I was here when the ones up there went to India or Brazil, and I've come through all the plagues, a lot of wars. I was already here, swimming in the depths, when a great disease broke out, the most deadly pandemic in their history, that infected a quarter of all of them living up there, that killed many of them, so many that they have lost count, maybe 50 or 100 million. That great disease appeared in the year that a great war ended, which killed 15 or 20 million of them. Not long after, the ones up there had another war, even bigger than the first, in which 70 to 85 million died. In comparison, the disease they're now experiencing is very minor, hardly anything. Believe me, I was already here, I've lived all that, and worse. I'm old, believe me, the oldest of all the existing vertebrates. Go away.

I live down here, in the depths, very deep down. The ones up there have this huge construction, an enormous high tower, the Eiffel Tower. I am capable of living six of those towers under the surface of the sea, 2,200 metres down, which is how those up there count the distance between things.

(*) Katherine Rundell, "Consider the Greenland Shark", London Review of Books, vol. 42, no. 9, 7 May 2020.
 (**) Morten Strømsknes, *Havboka*, Oslo, Forlaget Oktober, 2015; Spanish translation: *El Libro del Mar*, Barcelona, Ediciones Salamandra, 2018.

The ones up there think they know everything and have seen everything, but that's not true, they don't know me. They've never seen one of mine give birth, they've never seen us mate or even hunt. They don't know how I manage to catch seals, who are much faster than me. They say that perhaps I ambush the seals while they are asleep, but the ones up there don't know, they know very little about me, hardly anything. They know that when seals are sleeping, they sleep deeply, with their eyes closed, with the two halves of their brain switched off, dormant, in what is called "symmetrical bilateral sleep", and so they are more exposed and vulnerable than other species. The ones up there also know that I am slow, slow and old, the slowest swimmer of all the fish my size, at most I can swim at about two miles an hour (my cousins

can swim five miles an hour, which is the same speed as the fastest Olympic swimmer). The ones up there know that I'm slow, but they don't know why. They say it has to do with my metabolism, which is extremely slow. It's true, I have a very slow metabolism, I need very little to live. The ones like me, of my species, if they weigh around 200 kilograms, they only need to eat a daily dose of calories equivalent to a bar of chocolate. One bar of chocolate a day, to swim and to keep me warm down here, six Eiffel Towers below the water line, more than two kilometres from the surface. The ones up there should learn with me: unlike them, who devour everything they get, who use and waste, I need very little to survive and to reach an old age, a very old age. I was already here 500 years ago. Go away, go away, go away from me.

Most easily seen around Greenland and Iceland, these sharks have been reported on the coasts of Portugal, France and Scotland.



Ancient map of the North Pole.

I'm slow, like the elderly up there, who are now dying of a great disease. I can hardly see, I'm almost blind. I'm big and I'm a carnivore, and I can even snare seals while they sleep, but I can't beat a small creature, a thousand times smaller than me, a crustacean in the form of a worm, to which the ones up there have given a long name, *Ommatokoita elongata*, and that makes its home in my eyes and parasites them. They've given me a long name too, *Somniosus microcephalus*, several long names, *Squalus squatina*, *Squalus carcharias*, *Somniosus brevipinna*, *Squalus borealis*, *Scymnus gunneri*, *Scymnus glacialis*, *Scymnus micropterus*, *Leodon echinatum*, but I am known as the sleeper shark or the Greenland shark. It's where I live, but they've seen brothers of mine, big ones, in other places, such as in Scotland or off the coast of France.

Or Portugal, which went by sea to discover India and Brazil when I was already born and living down here. I was already here, I saw them all passing by.

I'm big, huge, one of the largest in my family, the largest carnivorous shark in the world, but I'm going blind because of a worm with a long name that is devouring my corneas. Slowly, bit by bit, my corneas. I'm old, I was already here when Portugal went by sea to India. I have brothers who are more than seven metres long and weigh more than a tonne and a half, in the way they count things up there. I'm big and strong, but a tiny, ridiculous worm is capable of beating me, of blinding me. The ones up there should learn from me. Now, they're dying a lot too, dying of a great disease caused by a tiny creature. A microscopic creature, measuring 70 millionths of a millimetre, with a long name, Severe Acute Respiratory Syndrome coronavirus 2 (SARS-CoV-2), and a genetic sequence of twelve letters. A combination of four letters – a, u, g, c – was enough to form the text that has already killed more than 350 thousand of them up there. The whole genetic sequence of the virus can fit on four pages of a newspaper.

“They talk about a ‘war’ on the disease, but they carry on waging wars against each other.”

But, contrary to the belief of the ones up there, who never understand nothing at all, dying of the disease caused by a tiny creature isn't death, it's life. Dying like that is dying of life, not dying of death. Dying of death is dying of other things, things that have nothing to do with life. The ones up there are the only ones that kill for death. Not us, we kill for life, to eat, to survive. In the viscera of my brothers, they've found the remains of large animals, walruses, polar bears, elks, whales, even the entire body of a reindeer and a leg of one of those up there. But, as I live in cold waters, I don't often attack the ones up there. Now the waters are getting warmer, perhaps my brothers and I will start attacking the ones up there more often, but it is rare, we usually prefer animals that are already dead, the fish that the ones up there take in their nets. This is not death, it's life, it's killing to live.

But the ones up there are capable of killing for other things, in just two wars they killed each other for no reason at all, more than a 100 million died, no one knows why they died. I was already here, I know, I saw all that, more than a 100 million of them dying for nothing. Even now, at the time of the great sickness, there are 47 active wars up there. They talk about a “war” on the disease, but they carry on waging wars against each other: in just three of those wars, in Afghanistan, Yemen and Syria, around 73 thousand of those up there died last year, much more than in the year before. I'm old, slow and almost blind, like the old ones up there who, because of the great sickness, are dying more than the others. I stink. My body has a lot of urea, like a lot of the old people or the sick people up there. I need it, the urea, to maintain the same concentration of salt as the ocean in which I live, to avoid my body gaining or losing salt water by osmosis. And that's why I smell so bad, like urea. It's so bad that the ones up there can't eat me. When they're rash enough to eat my flesh, they become poisoned, stunned, they stumble around like a blind old man. The ones up there call it “shark drunk”. If they eat my flesh, they lose their balance, vomit everything in their guts and fall down unconscious. All because of a substance I have in my body that has a long name, Trimethylamine N-oxide, which makes my flesh toxic and tasting



Sculpture of Sedna, the goddess of the sea in Inuit culture, at the old harbour in Nuuk, Greenland. By artist Christian 'Nuunu' Rosing.



The Greenland shark (*Somniosus microcephalus*) is the longest-living vertebrate on Earth. It may live for 500 years.

like urine. Up there, there are some, not many, who like to eat my flesh, after burying it for months, to ferment, and then leaving it another few months in the sun, to dry. Just a few, not many, enjoy eating my flesh like that. For these, it's delicious, a delicacy that they call *hákarl*, but most of the ones up there find the smell repugnant and the taste abominable. Even after drying out in the sun for months, my flesh is rough, impregnated with urea. Because of this, the few who like to eat it say that I came into the world in a pot of Sedna's urine. Sedna's, the goddess of the sea. It's an old story, invented many years ago. I don't mind, I was here before they invented that story. Actually, the ones who invented it and who like my dry flesh, they're also dying. Up there, some die more than others, some have worse deaths, younger, and with more suffering. Death is not equal for everyone, nor is life. And this disease they have now is also not equal, the ones up there are going to be even more different from each other. Not here, down in the depths we're all equal. They say I smell, that I was born in a pot of urine, but I don't mind.

I also don't mind that they say I'm ugly. The literary journal published by the ones up there says I'm very ugly, that I don't have the beauty of my cousins, the white sharks. I'm not sad or angry about that. Actually, I never get happy or sad, I don't know what that is, I don't have moods (you've never seen a cheerful or depressed shark). I don't even know what it is to be handsome or ugly, nor what good or evil are, right or wrong, these are things that the ones up there invented to carry on just as they like or see fit, always in their own way. My own kind and I, and all my cousins, we don't say that something is beautiful, that it's good or that it's wrong. We don't say that nature is beautiful, that the bottom of the sea where I live is beautiful, that the mountains or glaciers are beautiful. Not us, we don't say that nature is beautiful or that it is good, because neither nature nor myself are beautiful or ugly, we're not good or bad, that's just how the ones up there see us and treat us, with words that mean nothing to us, that are worthless to us.

Down here, we don't call nature “mother”, Mother Nature, and then do her harm and kill her little by little. Some years they've killed more than 30 thousand of my kind, my brothers, just to extract the oil we have in our livers. They don't kill us to eat, or to survive, but to paint houses, their houses, facing the sea. They

used to say that a house painted with our oil lasted forever and still looked shiny and new after 50 years. And for that, they killed us. For that, for nothing more, because of the oil to paint their houses. From my family alone, they killed more than 30 thousand a year. We're old, a female in my family only reaches maturity and is able to procreate at 150 years of age. None of those up there have ever reached that age, the age when we start to create life. Our males only start to copulate at the age of 100. And so, when they kill us, there's a large risk of us not yet having left descendants, the danger of wiping us out for ever is much greater. The ones up there don't know how many of us there are left. To tell the truth, they don't know much about us, hardly anything. Not even I know how many of us remain, and we've been here for millions of years, since prehistoric times. Now there's just a few of us, less and less. That really is death, killing for death.

The virus that causes the great sickness is minuscule, 70 millionths of a millimetre. The proportion between the virus and one of them, a human being, is the same as between a chicken and the whole planet Earth. When the virus kills one of them, it's like if a chicken had destroyed the whole world, from the highest mountains down to where I live, in the deeps. An organism measuring 70 millionths of a millimetre can kill a human being and infect many more. Something just 70 millionths of a millimetre has put 7.7 billion human beings on alert, locked up at home, terrified, unlike me, because I'm slow but free, and no, I won't let this frighten me. I was here long before this, I've been through a lot, I've seen worse. They say the virus is death, but it's not. It's life, the miracle of life. A chicken being capable of destroying a whole planet is life, a celebration of the amazing strength of life. Believe me, I know, I've been here for a long time, longer, much longer than any of you. Oh, and go away from me, because sometimes I bite.

Beyond the **HORIZON**

In the eyes of different people, life can mean so much and so little. The quest for an answer to this endless question shows how hungry for a purpose humankind can be. Colombian philosopher Roberto Palacio is willing to share his perspective on this profound idea.

ON THE MEANING OF LIFE

ROBERTO PALACIO



ROBERTO PALACIO IS A COLOMBIAN PHILOSOPHER, ESSAYIST AND A REGULAR COLLABORATOR OF COLOMBIAN MAGAZINES SUCH AS EL MALPENSANTE, SOHO AND ESQUIRE.

FACED

with such a question, I feel that frailty of someone who is about to give a disappointing answer. Because, truth be told, we philosophers, just like anyone else, spend most of the day wandering, avoiding to think about the meaning of life, what lies behind the dim curtain of death, the paradox of an infinite universe yet with limits, and other mysteries of human consciousness.

But let's give it a try. Who else but philosophers have the responsibility of providing an insight into such questions? A profound idea about the meaning of life? Well, one which is really worth living for is that of the Chilean biologist Humberto Maturana. Ready? Life, its meaning, is to *permit appearance*. Just like that, *to allow the other to emerge*.

Maturana talked about emergence referring to love, but I believe it could refer to life itself as a whole. As the scientist explained, in love we want a bespoke partner. But out of the scope of what is imposed, of what my dreams are, to love is to care enough to withdraw now and then so that the other can simply be. Now, is this not the absolute purpose? Letting the other emerge, because I have marked them with my desires, *I have infected them with my facticity*, as Sartre would say.

Not only is it about letting other humans emerge, it is also about letting the animals emerge, because we have slaughtered them, not only in the wet markets in Wuhan. Shyly, with the quarantine, foxes appeared in parking lots in my city, deer in front gardens. Paradoxically, our harassment has led to the point where we had to let the animals out from where we had relegated them.

Maturana's idea portrays a peculiar beauty: it is focused on others. And on affection and self-control. Buddhists claim that every source of suffering can be traced back to the self, and to repetition. They are not mistaken. The greatest unhappiness in life happens when we cannot help thinking about ourselves obsessively. Consider the question that haunts us during insomnia: *Why me? Why me?* When the only concern is the self, all of the inner life that has evolved to interact with the world begins to devour itself, like a machine processing its own parts. I am very fond of reading the work of a philosopher called Daniel Dennett. Dennett is a rather technical writer who, overwhelmed about being asked what the meaning of life was, came up with

this idea that tells us what we can do so that the self is not the centre of our existence: *find something larger than yourself and dedicate your life to it*. Larger than yourself can be gardening or interplanetary exploration.

That is, to a certain extent, my metaphysics, one which I share with Maturana and Dennett, and which I wish I had devised. And that is precisely what we are not doing: letting others surface. But I have been talking about other people's ideas, this darn habit of making someone else talk when the question is directed to me. Well, my say on this matter, one in which I find myself in, is this: there is no plan, no pre-established meaning to be fulfilled. For me, it wouldn't make sense to live in a pre-written life. The idea of an ending already described in detail is like a "spoiler" that could but throw me into despair or into an obsessive search to try to read the signs of the omen. Of course, I have no way of proving it. But the mere contingency, the fly that smashes against the window over and over again, the monkey scratching its scrotum in the zoo cage, the hardened chewing gum under the school chair, makes me think that a certain randomness with no pre-set plan is part of the whole. Not even the gods could have made life seem so governed by chance, even if they tried. And thank goodness for that. There is no book from which I bring words into life each time I wake up and look at myself in the mirror. And even supposing we were a brain on a tray, hooked up to electrodes that stimulate a sense of reality, like the philosopher Hilary Putnam once imagined (an image that gave birth to the movie *The Matrix*), there certainly is no computer powerful enough to assume that one day, precisely that day in which I accidentally met the love of my life, a zit popped up on my nose.

I know it sounds like rhetoric, but beyond what I will utter here there are no words to further explain what gives meaning to my life. It is like an amazing benevolence that resides deeply within everything, it is *that extraordinary thing that seems is going to occur at dusk, when the shadows cloud over the mountain*, even though nothing ever happens, as described by the Colombian poet Luis Fernando Afanador. It is that delectable and yet overwhelming feeling towards some people who we enjoy just looking at, a feeling I imagine is called love. It is music in June, with the

There is no plan, no pre-established meaning. For me, it wouldn't make sense to live in a pre-written life.

breathing of the invisible sea for background, in which the far away passage of a train *is like a long caress, moving gently across the warm living body of the night*, a music that led Aldous Huxley to ask himself, in a breathtaking essay entitled *Music at Night*, what that feeling of being alive, here and now, is.

Even the light that seemed to capture my mother on her death bed, a scene which I remember every day as the most daunting pain ever felt, is part of what gives meaning to the whole, for the simple reason that death is a part of the equation. Indeed, what would be the point of having eternal life? One in which there is no boredom, deadlines, or desire? People don't know what to do with time on a Sunday afternoon, let alone on an eternal life. Letting the other emerge is a process that we must grasp in the limited time of our lives. And not in infinity.



A PRECIOUS FEAR

MEIN
SCHATZ!



“Fear always depends on our notion of it.” The words are from José Palma-Oliveira, specialist in psychology focused on risk perception and management. He reflects on the way fear affected us collectively in the peak of the pandemic period, leading to unpredictable behaviour, erratic shopping patterns and panic buying.



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Alfred Hitchcock, the "Master of Suspense", directed over 50 films with a unique style, framing his shots to induce anxiety and fear.

FEAR: AS NECESSARY AS THIRST

REALITY

is a very tricky and demanding master. It controls us, fools us, makes us take unwanted paths, but yet it does not exist. Well, that is to say, it does not exist as we know it, its access being always conditioned by our perception of it. Fear always depends on our notion of it. Nevertheless, we are ready to assess the impact it has on our actions, and the plethora of events that lead to it, justifying it with theories that give it credibility. In our mind, our theories fit in so perfectly with reality that they remain unchanged for a very long time, defining us as conservative. We like stability because it confirms the (positive) view we have of ourselves and of the groups to which we belong.

Fear is only as deep as the mind allows

JAPANESE PROVERB

However, although a good thing most of the time, this isn't always adaptive, because there are things that escape us in (our) reality and all living beings need to be very flexible to cope with new unknowns and old negativism.

Thus, psychobiology found a very interesting tool, fear, or rather the stress mechanism behind which it hides. We are all familiar with the "fight or flight" response, which we share with numerous living creatures. It is our default state of alert when exposed to a threat, forcing us to decide whether to face the threat or to run away, or whether it is merely a sand castle or a menacing shadow. This pattern of behaviour is essential for our survival and that of other species. Using all our resources, and I mean all, entails having a lower adequate notion of pain, an immune system that is prepared for possible injuries, an accelerated circulatory system that pumps oxygen into the bloodstream and the release of hormones that mobilises pent-up energy, and the complete shutting down of the reproductive system and desire. Obviously, this mobilisation is what is commonly referred to as acute stress. Temporary by definition, it is what helps us face that which threatens us, or makes us run away. Control is often only psychological, such as when we are in a crowded lift where we feel calmer when we are closer to the control panel than when we are cramped in the back. And we never touch it.

The crowded community life led to a different kind of fear, more insidious and destructive kind of stress, the so called chronic stress. There, unable to control the real or perceived source of our concerns, we continue to display the behaviour that the animal within us designed to be quick and temporary. In this case our concern, our fear, is still present. Our immune system is still prepared and, as time goes by, its response deteriorates, blood pressure continues to increase the risk of cardiovascular diseases, the reproductive system develops fertility issues and leads to abortion and, most frequently, increases the risk of depression. The stimuli that are usually capable of such a feat, however, are different. They are more than just a fright or happenstance. They are "things" that involve a high perception of permanent risk, and that we are always relentlessly trying to control. But controlling them can hardly be done directly and permanently, and when we cannot even associate stimuli to the will of more powerful beings (... "let God's will be done"...) this can lead to paralysis and learned helplessness.

When something occurs (coronavirus, unemployment, a debilitating illness, a mass disaster, etc.), a risk object that puts an important object at risk, such as life itself, fear and chronic stress are likely to follow.

But let's not forget that most of us use protective mechanisms ranging between risk denial and unrealistic optimism, which is why the large majority of us finds a psychological balance in which stress disappears, even though the risk itself does not. It disappears because in order to keep our balance and self-esteem, we cannot carry on feeling belittled.

So it is a bittersweet picture. Many of us drop our risk perception by finding explanation mechanisms that help us to stay in control, or, better still, to keep our perception of control. The influenced view of reality. As reality is always something impossible to fully apprehend, it is ultimately determined by our assessment thereof. Living in society always implies living under pressure, and there is only less risk if risk-reducing behaviours exist, which, in turn, are only shown when there is a perception of risk, which we avoid like the plague.

To make matters worse, most of us, especially when in a position of power, find that others, and not ourselves, easily panic. In fact, panic is something very rare. It is easier to be paralysed and fall into depression than panic.

All around the world and at the onset of the pandemic, the panic buying of toilet paper and other goods was used abundantly to demonstrate such panic, as though Damocles's sword were looming over the poor humans. Consider this: were those who swarmed the supermarkets irrational barbaric invaders or simply individuals with limited information and a perception of high risk who believed that the most rational thing to do was to hoard goods? And let's not forget that fear and stress hinder our cognitive and analytical ability.

If we could accuse our psychological process of anything, it is of its tendency to be automatic and lazy. That is, we always want as much as we can get but with minimal effort. However, this does not, by any means, lead to panic, but rather to limited responses and a very simplified view of others. Thinking that the "populace" will panic is, in itself, a limited view which could, in fact, hinder adaptation. Just like fear, stress and the inability to adapt can lead to paralysis and depression in a small but significant part of the populace. Inconsistencies in information at times of crisis can have many negative repercussions. Psychological science and the so-called behavioural economics offer a number of strategies that could be used to find the appropriate tension, because the absence of fear or its destructive presence is just as negative.

Like the brilliant Benjamin Disraeli said "fear makes us feel our humanity". The problem is that many of us have this false notion of what humanity is and how a human being behaves. (Un)fortunately, psychology can explain it.

JOSÉ PALMA-OLIVEIRA



PSYCHOLOGY PROFESSOR AND RESEARCHER IN THE FIELDS OF SOCIAL AND ENVIRONMENTAL PSYCHOLOGY. HE IS SPECIALIST IN RISK PERCEPTION AND MANAGEMENT.

OFF ONE'S TROLLEY

IN the beginning of the coronavirus outbreak, people flocked to supermarkets worldwide to stock up with emergency supplies. Fear of food scarcity and the subsequent confinement period prompted consumers to buy panic goods, such as canned fish or toilet paper, storing these products at home. At the same time, a trading down trend has been registered, meaning a shift from added-value products (i.e. gourmet or ready-to-eat solutions) to generic goods. This infographic depicts the atypical increase in sales in the Jerónimo Martins Group's stores in Portugal, Poland and Colombia. The data gives a visual perspective of the most sold items, as well as of the ones that grew the most.

PORTUGAL

Stockpiling's critical week was 9-15 March, with Pingo Doce registering a 58% variation in sales, compared with the same period of 2019. Canned products ranked first, followed by fresh fruit and pork meat, but the biggest increase was observed in pasta.

PRODUCTS WITH THE BIGGEST INCREASE IN SALES

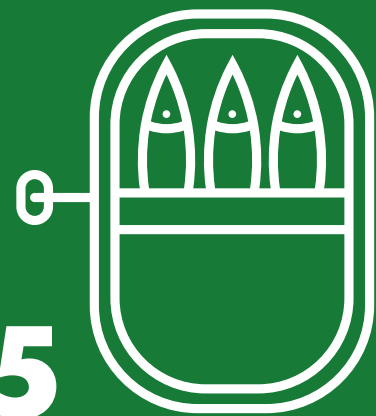
when compared with the same period in 2019

3.8 X MORE PASTA



3.5 X MORE

Canned products



3.3 X MORE RICE



STATE OF EMERGENCY

As people began to realize that essential goods were not running short on supermarket shelves, shopping habits gradually changed. And, since they had stopped drinking coffee outside, a very portuguese passion, the biggest percentage increases in sales were registered in coffee and coffee machines. Eggs, flour and sugar, as well as confectionery products, also increased significantly due to the production of homemade bread, cakes and desserts.

POLAND

The critical week in Poland, 9-15 March, coincides with the announcement of the governmental decision to close schools. In food products, the increase was observed mainly in first need products and basic commodities able to be preserved for long periods. In Biedronka, the top selling products were pork meat, sugar and milk.

PRODUCTS WITH THE BIGGEST INCREASE IN SALES

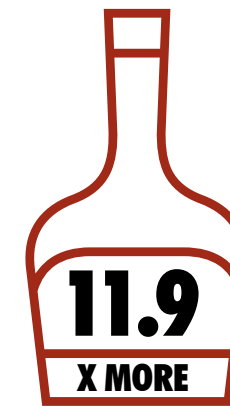
when compared with the same period in 2019



11.9 X MORE CANNED MEAT



11.2 X MORE Millet Groats



11.9 X MORE SPIRIT BEVERAGE (ABV 95%)

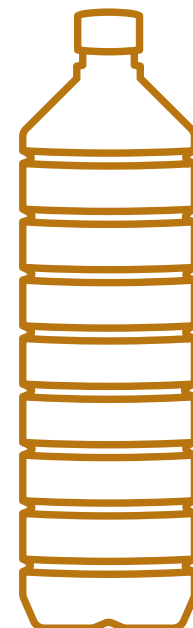
The increase in spirit beverages is mainly explained by its use as a substitute for alcohol disinfectant.

COLOMBIA

The stockpiling period in Colombia was from 16 to 22 March, in which Ara's sales increased 117%. Rice, UHT milk and vegetable oil were the most sold products. All these references are staple foods in Colombian households, but uncertainty and the decline in income generated unusual consumption behaviours. As an example, pork products registered a significant sales increase in the perishables category, both in the stockpiling period and in the weeks after.

PRODUCTS WITH THE BIGGEST INCREASE IN SALES

when compared with the same period in 2019



1.9 X MORE VEGETABLE OIL

Canned fish 2.2 X MORE



2.2 X MORE Rice

holding on

through the
STORM

As the Covid-19 outbreak was starting to be felt all over the world, words had to be spoken, decisions had to be made, actions had to be taken. Present in two continents and employing over 110,000 people, the Jerónimo Martins Group has been proving its resilience during this pandemic period, while protecting its employees, backing up its suppliers and supporting those on the frontline.

PUTTING LIFE FIRST

Excerpt from the opening remarks by Jerónimo Martins' Chairman and CEO in the conference call with analysts to present first quarter results held on May 14, 2020.

PEDRO SOARES DOS SANTOS



CHAIRMAN AND CEO OF THE
JERÓNIMO MARTINS GROUP

AS we gather here today to look at Jerónimo Martins' first quarter results, I ask you to bear in mind three words: prudence, resilience and commitment.

After a very strong 2019, our Companies started 2020 in full shape to keep growing and delivering. And so they did, in January and February.

As the first Covid-19 cases were confirmed in our countries – first in Portugal on the 2nd of March, then Poland two days later and finally Colombia two days after Poland – Governments reacted differently and so did consumers.

As a Group, we had been paying close attention to the evolution of Covid-19 since late January. On the 28th of January, two days before the World Health Organization declared the outbreak of Covid-19 as a Public Health Emergency of International Concern, we had forbidden all business trips to China. This was the start of our prudent approach to managing the situation.

On the 3rd of February we sent a Group internal communication with information on the virus and prevention.

On March 9, two days before the World Health Organization declared that the outbreak of Covid-19 had reached the scale of a global pandemic, Biedronka pro-actively communicated the reinforcement of shops' and carts' disinfection and introduced instore communication on prevention practices. Two days later, while securing supply chain continuity, the Company launched its Foundation to actively support the seniors in need.

On March 13 – the day the Portuguese Government declared the State of Alert – I publicly announced in Portugal that, in order to protect business continuity and our people and clients' safety, opening hours in Pingo Doce and Recheio stores were to be reduced to allow half of our people to go home.

For several weeks we kept, in Portugal, over 14 thousand people protected in pre-emptive confinement at their homes while paying

them full salary. And so we did for a couple of weeks in Poland where three days before the Polish Prime Minister introduced the State of Epidemic in the country, Biedronka had already introduced disinfectants, safety glasses and limitation of the number of people in the stores.

And we certainly have been using our experience in dealing with this pandemic in Portugal and Poland to anticipate risks and necessary measures to be taken in Colombia.

The additional costs incurred in the last two weeks of March to allow our banners to operate safely are estimated around 15 million euros.

I believe what I shared with you so far today allows you to understand how we have been guided by a sense of prudence and also of courage to do the right thing in tough and uncertain times. We've decided to suspend investment in new stores and remodelling projects, remove the guidance and submit to the Annual General Meeting the reduction of the dividend payout from 50% to 30% of 2019 consolidated net earnings.

We have always valued having a strong balance sheet and freedom of choice as we move forward. And when uncertainty is at a peak this rule is even more important to us.

Despite the material first impact of Covid-19 on our businesses, we managed to end the quarter with a solid net cash position of 137 million euros. This tells us a lot about the resilience of our Companies.

Although being, by many times, the smaller of our countries, Portugal has been so far – with no doubt - the one that suffered the most. Not only in terms of absolute number of cases of infection but, above all, in what concerns the number of deaths. Pingo Doce and Recheio started to feel the negative impact of the sanitary crisis immediately after week 11, the week of stockpiling in Portugal.

The three consecutive periods of Emergency State in Portugal, with lockdown already crippling the economy, have been hard on our Portuguese operations.

Like-for-like of both Pingo Doce and Recheio were negative in March. And, in April, the severe restrictions to the circulation of people and limits on the number of customers per store have led to a reduction of over 14% in Pingo Doce's like-for-like versus the same month in 2019.

In what concerns Recheio, the loss of HoReCa trade due to mandatory lockdown of hotels, restaurants and cafés has generated a material impact on the Company's activity. Sales decline marked the last two weeks of March extending into April. Easter - as we are used to knowing it - did not exist in Portugal and Poland, which was also a source of additional pressure.

Biedronka proved to be our most resilient Company during this hard crisis.

Fighting with every possible weapon to grow sales – from around the clock opening hours to special promotions during nighttime – Biedronka managed to increase top line in April by 6.5% and to reinforce its market share.

We have postponed to May first quarter results' release in order to provide you with slightly increased visibility on the different levels of impact on performance according to each country's strategy and execution. However we urge you not to extrapolate on the basis of April's performance. We feel that uncertainty is very high and we are still facing too many unknowns.

In Europe, including Portugal and Poland, we are seeing an easing of lockdown measures, as businesses reopen, and life tries to resume some of its routines.

In Poland, where Presidential elections have been postponed due to the public health crisis, hotels, shops, shopping centers, museums and galleries have reopened last week, mostly on the basis of one person per 15 sqm.

Both the European Commission and the International Monetary Fund anticipate the worst economic recession in Portugal since 1974.

In Colombia, there is mandatory curfew and around 30% of our store network is under the obligation of closure during weekends. As such, Ara is dealing with the complexity resulting from different municipalities' approaches to the pandemic.

The Company is strongly betting on promoting a one-stop-shop commercial offer to consumers, while reinforcing its price positioning.

In the context of this global pandemic, I believe the set of results we are delivering in the first quarter reflects a secure underlying operational performance, strong resilience and the remarkable commitment of our teams and partners in the supply chain.

Tough crisis like this one are acid tests to our ability to live up to our values and our sense of mission. My confidence in our teams' ability to hold on and stay strong in face of adversity is beyond words. The strong will of our suppliers – in particular the small and medium ones – to fight and keep going deserves to be supported.

And we are happy that we are in a position to help, by buying their products and incentivizing consumers to keep buying them at very attractive prices. We will also keep reinforcing our social commitment and investment, namely by contributing to the Covid-19 Global Response and also by financing scientific investigation on this disease.

I believe our organizational culture – being disciplined, efficiency-driven and focused on operational excellence – has been playing an important role in this battle. And will continue to be a positive force behind our performance in the near future.

A RENEWED SENSE OF TRUST

Even though the pandemic gale is not yet over, its impact on the economy was instantly felt by the primary sector. It was time for Jerónimo Martins to step-in, by not only reinforcing its investment in established local suppliers, but also by setting up new partnerships to support struggling producers.

A LEAP OF FAITH



© Edit Ser Co

PAULO BRITO



LAMB PRODUCER AND SUPPLIER OF PINGO DOCE FOR ALMOST A DECADE.

FUNDÃO

, a city in the centre of Portugal with scorching hot summers and freezing cold winters. The region is nestled between the mountains, on a plateau that waited more than 50 years to have a steady supply of water for drinking and agriculture.

Since time immemorial, these raw rural lands in Portugal have produced sheep and goat meat, cheese and wool. However, globalisation at the end of the 20th century led to desertification and saw people abandoning the lands. Conversely, recent years have seen an impetus with the advent of irrigation, which has breathed new life into many activities. Many sheep producers (and those of derivative products such as cheese) found a trustworthy partner in the Jerónimo Martins Group, for both the good and the bad times.

Paulo and Beatriz Brito exploit 700 hectares spread by several farms in Fundão, and are one of the largest lamb suppliers in the Iberian Peninsula. This partnership began almost a decade ago, spurred by an ambition Paulo Brito wanted to nurture. In a leap of faith, he picked up his car and, with no planned meeting, drove

over 200 km to Azambuja - located near Lisbon, and home to one of the biggest Distributions Centres owned by the Group in Portugal. The goal was to simply say: "This is me. I'm based in Fundão and have half a dozen sheep, but I want to do this for my region". By "this" he meant not only having someone to buy his animals, but also to involve other producers by "teaching them animal husbandry, how to work the land and to use the water resources now available in the region", he explains.

What started out as a seasonal business, centred around festive seasons such as Easter and Christmas, grew into something requiring year-round commitment. Paulo Brito now works with 400 producers from across the country who, collectively, keep 140 thousand animals. This growth was also a driving force for the expansion of other related areas, such as the "cheese factories that had been shut down and that are now up and running again," the "new cheese factories" that opened, and the "2 to 3 thousand hectares that lay fallow and which are now used to cultivate clover, rye-grass, rye, oats...".

Genetics, quality pastures and the climate, influenced by the region's proximity to the Estrela and Gardunha mountain ranges, and the Zêzere River are key to producing the meat that consumers enjoy. Paulo Brito rates the relationship with Jerónimo Martins as "based on trust, the ability to anticipate needs, loyalty and commitment". During the Covid-19 pandemic, these aspects were at the forefront and when many farmers were unable to sell their animals, because of the drop in consumption, the Group's stores were the answer. Nobody was "forced to close their doors" and "the price agreed to before the campaign remained the same throughout".

"EVER SINCE I CAN REMEMBER"

José António Martins, a producer located a few kilometres south of Fundão, also told us his story. "I've kept sheep ever since I can remember. Even when I was in school, I looked after the sheep before leaving. Just like my father and my grandfather did before me." He has fond memories, highlighting his love of agriculture, recalling the days of copious rain, dripping animals, and days of intense heat "shearing sheep in 46°C and a dust cloud. It's tough, but I love it". The business has been growing and he has been supplying lamb to Pingo Doce for almost ten years.

José felt the uncertainty brought on by the virus. "People panicked and started staying at home and consumption simply dried up." The circumstances called for patience, perseverance and unity. "I was worried. My lambs were bought at an established price before the pandemic and it caught everyone off-guard, but I managed to sell all the animals to Pingo Doce at the agreed price." The storm seems to have passed and we have come out of it with a renewed sense of trust.

During Easter time, Pingo Doce sold 440 tonnes of Portuguese lamb from over 400 local producers.



Lamb is one of the most appreciated and traditional meals of the Easter celebrations, in Portugal.

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PUSHING LOCAL PRODUCTION

CHANGES

in family dynamics caused by confinement and closure of the HoReCa channel (hotels, restaurants and cafes) challenged the ability of many suppliers to keep their businesses running. That is why Pingo Doce reinforced its strategic investment in local sourcing, which represents over 3 billion euros per year and corresponds to around 80% of this banner's food purchases.

In collaboration with the Portuguese Ministry of Agriculture, the retailer contacted a number of struggling suppliers to understand how they could start a new long-lasting relationship. During the

state of emergency declared by the Portuguese government, several new agreements were celebrated between food suppliers from different areas and Pingo Doce.

After an atypical Easter in which the leading retail chain in Portugal supported lamb producers that were at risk of losing a big slice of their annual revenues, it was time to look at the whole pie. Portuguese Aberdeen Angus beef, regional delicatessen, wild fish, fruit or regional cheeses were key investment areas of local support, contributing towards mitigating the negative impact of the pandemic on the market landscape.



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CHEESE

The major change in consumer habits, and the mandatory closing of restaurants have caused a shock in the cheesemaking sector. Tonnes of regional sheep cheeses were prepared to sell during the Easter period. If not sold, there was a risk of a major disruption in the supply chain, affecting the producers of sheep milk and jeopardising the survival of this genuine national heritage. Pingo Doce opened the doors to the cheese producers who demonstrated the need and interest in selling their products in the chain's stores. During the state of emergency period, 116 tonnes of regional sheep cheese were sold in Pingo Doce stores, 45% more than in the same period of 2019.



© Filomena Ferreira / Shutterstock

BEEF

For more than 10 years, Pingo Doce has been carrying out a vigorous partnership project that includes a total of 300 national veal producers. During this pandemic period, it has increased its orders of national veal and started a relationship with various Portuguese beef associations, from the northern region, encompassing a total of 1,400 small national producers.

PORTUGUESE DELICATESSEN

Many of the regional delicatessen products contribute to the development of the most disadvantaged and depopulated regions of Portugal. To keep this tradition alive, even in a time of suspended gatherings, Pingo Doce reinforced its store offer. More than 90% of all delicatessen products sold in Pingo Doce stores were sourced from Portuguese suppliers. In May, sales of Portuguese delicatessen grew by 20%.



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FINANCIAL SUPPORT

@Jerónimo Martins

As an additional step towards supporting local production, the Jerónimo Martins Group made its credit lines available to more than a thousand small and medium suppliers, with the risk coverage of the Group being used in the negotiations with banks. This way, those suppliers were able to anticipate their receivables and avoid liquidity constraints. Since 2012, and following a very severe drought in the country, the Group also has an agreement with the Confederation of Portuguese Farmers for anticipation of the payment terms for an average of 10 days, without financial costs for the producer.

WHEN A WINDOW CLOSES, A DOOR OPENS



© SOPA Images / Getty Images

During the pandemic period, selected Biedronka stores were working 24/7 to ensure that nothing was missing for Polish consumers.

AS SOON

as the pandemic took over, Biedronka began inviting producers who until then had only sold on a regional level to integrate its nation-wide supply chain, opening a door for a fruitful cooperation.

As the largest food retailer in the country, with more than 3,000 food stores, and one of the largest companies in Poland, Biedronka has been cooperating with Polish farmers and industries for 25 years. In 2019 alone, over 93% of the products sold in its stores have come from more than 1,000 local suppliers. But this was the time to run the extra mile. To step up. After all, the effects of Covid-19 on the food world are still being sensed, as many suppliers struggle to ensure the sustainability of their businesses. For smaller businesses, it might be difficult to reach the required scale that retailers need in order to guarantee operational efficiency and competitive prices. That's why the banner has also

made possible for these suppliers to deliver in only one or two Distribution Centres, therefore making sure the product was available at the stores located in a specific region. Each store's product range varies depending on the location, and, in some cases, it can even differ from selected stores of a given province. Up to 50 new local products are progressively finding their place on store shelves. To boost production following the Covid-19 crisis, Biedronka also announced new shorter payment terms for Polish fruit and vegetable producers whose total turnover did not exceed 100 million zlotys (25 million euros). Between the beneficiaries are mostly family-run companies that count on these sales as one of the most important sources of income.



INTERVIEWING

WALDEMAR SZAJKO

VICE-PRESIDENT, DISTRICT DAIRY COOPERATIVE, OSM SIEDLCE

Located about 90 km east of Warsaw, the Dairy Cooperative of Siedlce produces high-quality milk and dairy products. To do so, around 140,000 litres of milk are collected every day from over 500 regional farms. Until now, the company has been focusing its business strategy in the HoReCa channel. After starting to work with Biedronka during the pandemic period, the Cooperative reinvented itself and launched a brand-new cream cheese, available in the Group's food retail stores in Poland.

WHAT WERE YOUR FIRST THOUGHTS ABOUT PARTNERING WITH BIEDRONKA?

When a representative of the Biedronka chain called me at the beginning of the pandemic, I asked myself whether entering into cooperation with such a demanding customer was worthwhile. Initially, I hoped that the coronavirus would not affect our business very much. But today I am positive that it would have affected us severely if it were not for the cooperation with Biedronka.

THE PARTNERSHIP IS NOW FULLY RUNNING. IN WHAT EXTENT DID IT AFFECT YOUR BUSINESS PERFORMANCE?

We are currently supplying Biedronka stores with four products, including one on a national scale (milk powder), which is a great achievement for us, but also soft cheese, yoghurt and cottage cheese. Our sales volume has grown. I am sure that without the opportunity to sell our products in Biedronka stores, our revenue in this difficult time would have been reduced by one third or even as much as half.

HOW DO YOU EVALUATE THIS INITIATIVE SO FAR?

After several weeks of cooperation, I can safely say that the campaign's claim - "Time to support small producers" - fully corresponds to its purpose. Even if the Cooperative was able to continue operating, we would certainly struggle to survive. Biedronka gave us the reassurance of being able to work and to keep our production at consistent levels, despite the adverse market conditions caused by the pandemic.

LOOKING AHEAD, HOW DO YOU SEE THE FUTURE OF THIS PARTNERSHIP?

Biedronka is one of our best clients at the moment. Continued cooperation will allow us to maintain our production and employment levels giving us a stable outlook for the future. This requires us to comply with strict quality standards because Biedronka is known for only being interested in products of the highest quality, not only regarding taste and composition, but also in terms of packaging. We are determined to ensure that these standards are met because we know that otherwise our products will not be sold in Biedronka. Of course, we also have other customers, but none of them operates on a scale larger than that of Biedronka.



INTERVIEWING

URSZULA KINOWSKA

OWNER OF URSZULA KINOWSKA CONFECTIONERY FACTORY

Kalisz Wafer is a local certified product originated from the tradition of Jewish matza - an unleavened flatbread - very popular in the Polish region of Kalisz. Located in central Poland, this historical and ethnographical area is home to many multi-cultural and multi-religious traditions as it was historically a melting-pot comprised of people from many different places: Jews, Macedonians, Russians, Ukrainians and Germans. This handmade wafer - now available at Biedronka stores - is a living evidence of a strong cultural cooking heritage.

WHAT HAVE BEEN THE MAIN BENEFITS OF YOUR COOPERATION WITH BIEDRONKA?

First of all, it was the opportunity to continue our business with peace of mind. While we can see that our local usual sales channels are slowly recovering, being able to sell our products in Biedronka stores during the most difficult times made us feel safe. With the support of our partner, we were able to take a calm approach to the pandemic and, adhering to rigorous safety standards, maintain full production. No one had to be laid off or sent on an extended leave. The situation was - and still is - under control.

DURING THIS UNPRECEDENTED TIME, WHAT WERE THE MAJOR DIFFICULTIES YOU EXPERIENCED?

For a business based on artisanal production methods like ours, if we remove one element of this jigsaw puzzle - for example if our main market somehow vanishes - everything starts to fall apart after a short period of time. We are convinced that Biedronka has already saved many small businesses which would not have otherwise survived a long break in production and would have been unable to sell their products.

HOW DO YOU SEE THE FUTURE OF THIS PARTNERSHIP?

Every small and medium-sized manufacturer would like to have such a solid partner. We are grateful for the opportunity and expect to remain as Biedronka's partner for many years to come.

Life

AID

Through these hard times, Jerónimo Martins joined those on the frontline fighting the pandemic. Driven by the will to help, the Group set up initiatives to support hospitals and healthcare professionals, as well as to promote scientific innovation in the fight against the virus.



António Serrano, representative of the Jerónimo Martins' Executive Management Team, in the opening ceremony of the second intensive care unit of the Hospital do Espírito Santo de Évora.

HOPING FOR THE BEST, PREPARED FOR THE WORST

THE Alentejo region, located in southern Portugal, has the highest ageing rate in the country. A region in which equipment for medical support and professionals for healthcare service are much more than a need. They are a challenge. That is why the Jerónimo Martins Group has donated over 300,000 euros to finish and thoroughly equip a second intensive care unit in the Hospital do Espírito Santo de Évora - the main hospital of Alentejo. The new unit significantly increases the region's capability to address the Covid-19 pandemic, enabling the treatment of patients with respiratory failure who need also a ventilator.

Given the rapid progression of the disease, Pingo Doce invested around 30,000 euros in an innovative smart screening project at the Portuguese Red Cross Hospital, in Lisbon. Developed by the Portuguese startup Biosurfit, the system allows the patient to stay inside his vehicle during an intelligent screening process. In less than ten minutes, the test allows to assess patients' general clinical status and determine their health condition, according to a three-level severity scale. The equipment allows the evaluation of 240 patients per day and the early detection of the potentially more severe cases among patients referred by the National Health Service. The Group's support was extended to healthcare professionals to recognise their extraordinary effort at a very demanding time. Pingo Doce and Recheio Cash & Carry offered fresh fruit, water, milk and juice to more than 40 healthcare facilities and hospitals in Portugal, reaching over 30,000 professionals. Recheio also joined hands with the dairy company Montiqueijo to donate 25,000 litres of milk to health professionals and Covid-19 hospitalized patients. Within the scope of this initiative, Montiqueijo contributed with the raw material and Recheio handled both the packaging process and the logistics.

GLOBAL RESPONSE TO COVID-19

The Jerónimo Martins Group, together with its main shareholder – Sociedade Francisco Manuel dos Santos –, have committed to donate 1 million euros for the development, production and equal access to accurate diagnosis tools and treatments for the Covid-19. This global initiative aims to bring together the efforts of governments, entrepreneurs, foundations and citizens to collect a total of 7.5 billion euros.

The contribution's goal is to speed up the development of the vaccine and treatments for the disease.

Public presentation of the Portuguese contribution to the Global Response to Covid-19 initiative, with the participation of the Portuguese prime minister, António Costa (front row, second from the left), and José Soares dos Santos (second row, second from the right), executive president of Sociedade Francisco Manuel dos Santos BV and member of the Board of Directors of the Jerónimo Martins Group.



© Paulo Vaz Henriques - Gabinete PM

ANATOMY OF A

LIFE

LINE

The Biedronka Foundation was launched in April 2020 with the mission of helping elderly people live better, healthier and longer lives. Lives worth living. The Foundation's President, Katarzyna Scheer, expands on the values, concerns and goals of its work with Polish seniors.



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THE SMILES THAT MOVE THE BIEDRONKA FOUNDATION

“I would still like to live much much longer. I am very fond of living” says Elzbieta who is 84 years old, in a brief report produced by the Biedronka Foundation. The Foundation, launched last April, focuses on helping senior citizens, improving the quality of their lives and – drawing on what Elzbieta says – contributing to their long and good living.

The idea of setting up the foundation by Jerónimo Martins Polska was born a few years ago. By then, the fast speed of Biedronka’s development had already made us quite a large company, in fact, one of the largest in Poland. And, as we were going along our growth path, we were always very conscious that we are in an industry that is, by definition, close to people. We simply work hard to satisfy a basic human need. Feeling a sense of a justified pride, we think that

KATARZYNA SCHEER



PRESIDENT OF THE MANAGEMENT BOARD OF THE BIEDRONKA FOUNDATION

Through a programme run jointly with Caritas, 10 thousand seniors will receive financial support for purchases in Biedronka stores.

over the last twenty five years - a period during which many Polish households still have had relatively modest financial means - we have made a real change by providing them with high quality and nutritious food at affordable prices. Along with our growing operations, we have also run several Corporate Social Responsibility initiatives for the benefit of groups at risk of malnutrition and social exclusion. Still, we felt that we could do more and try to give back something more to the population who trusted us, enabling our growth and success. It is for this reason that we have set up the Biedronka Foundation and focused it exclusively on social issues.

As already said, the Foundation focuses on the seniors. And for good reasons. The Polish population is ageing fast. Today, every fifth Pole is 60 or more years old, and, according to the forecasts, by the year 2050 this group will account for 40% of all population. Obviously, this reflects longer lifetimes which is an achievement of the last 30 years. What is growing the fastest is the segment of people 80 or more years old. Many of them need support in their daily lives. To sharpen the Foundation’s focus, we analysed in detail the economic well-being of the Polish retirees. And we found out that almost 300 thousand of them live in poverty, especially those who suffer from a long-term illness or disability. This fact is very disturbing. Now, of course, in this context, one has to note the profoundly changing family model and lifestyle in Poland and how these changes affect the seniors. The weakening of intergenerational bonds and the quickly disappearing model of the multi-generational living as well as internal and external migrations imply that a growing number of seniors can no longer rely on the care provided by their families and are simply left to themselves.

It is a truism that new technologies have a very far-reaching impact on all of us. This is especially true in the case of seniors. The technology, while providing numerous and very tangible benefits, could also cause exclusion. And elderly people are at a very high risk here. We see it happening all the time that an otherwise completely self-sufficient older person with a rich lifetime experience – because of her unfamiliarity with the latest technology – cannot do a simple thing in, for example, the doctor’s office or a bank without the help of her children or grandchildren. This generates the sense of powerlessness and dependency. At the same time, the younger generation, rightly

Launching ceremony of the Biedronka Foundation, in Warsaw.



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proud of its technological prowess, does not seem to fully appreciate the wisdom of their grandparents, the wisdom which took decades to earn. In the Biedronka Foundation we believe that life matters irrespective of age. And our goals are to increase society’s awareness about the seniors and to contribute to the improvement of their lives. We will specifically address the disturbing and increasingly widespread syndromes of loneliness, isolation and exclusion. We will promote an intergenerational dialogue also through the development of the elderly-people-focused volunteering.

The Foundation started in April 2020 with a programme targeted at the neediest seniors, which we run jointly with Caritas. Through this programme, ten thousand seniors receive on a monthly basis a financial support enabled by the payment card which can be exclusively used for purchases in Biedronka stores. These individuals are also assisted by Caritas’ assigned volunteers.

Reacting to the Covid-19 pandemics, the Foundation has launched a large-scale support for the nursing and special care homes. We are providing these institutions with personal protection gear and needed materials.

We believe that all of us have a universal obligation to strive to provide people with fair opportunities, irrespective of age. The seniors do have every right to actively participate in the society and enjoy a long, healthy, active and meaningful life.

Finally, as Maciej - who is 78 years old and a participant in one of our programs – says “it is better to smile than to feel unhappy”. And it is exactly this smile, which we want to see on the faces of as many seniors as possible in Poland, that keeps and will keep us going at the Biedronka Foundation.



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The Foundation is supporting nursing and special care homes, by providing them with personal care items.



LIVE TO LOVE

“AN ordinary woman who happened to find love” and share it with the neediest as a lifelong task. A graduated in Biology who took the path of faith. A mother of five who believes the children she helped grow up to be decent people are her major achievement. Sister Małgorzata Chmielewska is much more than what she does, either as head of the “Chleb Życia” community - which runs houses for homeless, sick and single mothers in Poland - or now as a member of the Biedronka Foundation Council. And she is also more than what she tells, even if words give a little hand to meet the soul, the nun, the activist, the thinker, and the believer.

THESE COVID-19 TIMES HAVE FORCED US TO SLOW DOWN AND FIGHT FOR LIFE. YOU HAVE STUDIED BIOLOGY AND LATER YOU CHOSE TO FOLLOW A PATH OF FAITH. HOW DO YOU RECONCILE THE BIOLOGIST AND THE BELIEVER TO PROPOSE YOUR OWN DEFINITION OF WHAT LIFE IS?

Poetically – a miracle. If we look at human life, it is a unique and special time of existence on Earth for every human being. Every human being is unique and necessary, no matter where they were born, who they are, or how old. Whether he or she will represent beauty depends primarily on them, but also on what opportunity they are given to develop their humanity. Our calling is to love. Someone who has not experienced it since childhood, a child who is hungry or without good education, or a person who wasn't loved will have less chance to fully develop what is best in them. Apart from human life there is also the life of nature. Fascinating.

AFTER GRADUATING IN BIOLOGY, HAVE YOU FELT THE INTENTION TO MAKE A CHANGE IN YOUR LIFE? WAS THERE AN EVENT THAT TRIGGERED YOUR CHOICE TO LIVE DIFFERENTLY?

I searched for the truth in various philosophies and even religions. I found it in the Gospel and the person of Jesus Christ, and also in the Catholic Church. I decided to put into practice what I understood from the Gospel. And so until today.

YOUR FATHER WAS A DOCTOR AND YOU HAVE DEVOTED YOUR LIFE TO CARE FOR LONELY SOULS. YOUR MOTHER WORKED IN A SCHOOL AND YOU YOURSELF HAVE ALSO DEDICATED SOME TIME TO TEACHING. HAVE YOU FOUND INSPIRATION IN YOUR PARENTS' EXAMPLE AND SENSE OF MISSION?

Certainly, the values taken from home were and are a support. I grew up under communism. My parents were members of the Resistance Movement during World War II, a formation later unwelcome to the communists. Throughout the communist period, they were in a way “internally emigrated”, forced to live

in a system that they did not accept and taught by their example of adherence to values. They were very sensitive to the needs of the weak and always ready to help. I did not like that world either. My brothers changed it by participating in the anti-communist underground, I chose a different way - supporting the weakest.

WHEN TIMES GET TOUGH, THEY ARE ALWAYS MUCH TOUGHER FOR THE ONES WHO WERE ALREADY VULNERABLE BEFORE THE CRISIS: THE OLD PEOPLE IN NEED, THE SICK, THE POOR, THE DISABLED, THE MARGINALIZED. THESE ARE THE PEOPLE TO WHOM YOU HAVE CHOSEN TO DEVOTE YOUR LIFE. WHAT HAVE YOU LEARNED ABOUT LIFE FROM LIVING IN COMMUNITY WITH THE POOR AND THE MARGINALIZED ONES?

First of all... freedom and a kind of humility. The people we live with are very different, they come from backgrounds far from mine and often have had tragic experiences. In material terms, they have nothing, although some once had companies, families, positions. And many of them do not break down, but continue to fight for their lives. They often turn out to be better than me, bolder, more patient, generous in sharing what they have, for example, their last cigarette. This teaches perspective, respect for others, and how to listen. It requires us to step out of our comfort zone. Our life is constant improvisation - currently we have 11 houses for the homeless, we also run a scholarship fund for poor youth, a day care centre, a kindergarten, we support many poor families, renovate their flats, etc. The vast majority of us do not have permanent financial security. The poor do not fit in systems created for the needs of those who are well off. Hence the constant life of the unpredictable combined with the need for good organization and logistics. If it were not for the good people – as believers say – directed to us by God, we could not help. We simply wouldn't have the means or resources. Help from people of good will come always, sometimes at the last minute. I have also learned that love requires a little bit of madness. For this you receive the joy of seeing someone who had been in the dark improve, begin to be happy, regain a sense of dignity. Also that there are no losers. There is always hope. Sometimes it takes many years, sometimes we do not see the results of our work. And also the fact that there is a limit which is set by the freedom of each person. We will not reach beyond it. A person may not want to change. At least not now. Or perhaps an alcoholic of many years can't do it anymore. And yet he still remains human and should be treated as such.

For Sister Małgorzata Chmielewska, who has devoted her life to the neediest in Poland, to live is to perform a task that has to be completed. Hers is a way of giving back the love she gets every day.



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HOW, IN YOUR OPINION, CAN HUMAN SOLIDARITY AND COMPASSION BE ACTIVATED TO SUPPORT THOSE WHO NEED HELP THE MOST?

In a crisis situation there are generally two attitudes: human solidarity and egoism. The first is people hurrying to help, making a creative effort to face the situation and often risking their property, even their lives. The second is to shut oneself up to the needs of others for fear of losing what one has and the desire to protect oneself. In addition, many people actually lose their livelihoods and become dependents instead of contributors. Only daily solidarity, small, daily material gestures of heartfelt support with words and hospitality can help to survive. And the awareness that no one does well forever. That I myself can fall on hard times tomorrow. In an empathic, solidarity-based society one lives more safely and simply more pleasantly. A crisis like the present one can only be survived together. And together means with the weakest of us. There is a tendency to sacrifice them “for the common good”. It always ends badly, because tomorrow you or someone close to you may become the weak. You have to show that good is just more enjoyable than evil and selfishness. Promote these values wherever possible, build fashion for them, especially among young people.

YOU ARE A STRONG BELIEVER IN THE VALUE OF WORK AS A UNIVERSAL HUMAN RIGHT. WHEN AND HOW HAVE YOU BECOME CONSCIOUS OF THE RELATIONSHIP BETWEEN WORK AND DIGNITY?

When I was young, a very long time ago, I used to visit two ladies in a sick people’s home. We became friends. Such houses were terrible under communism. Both ladies were bed-ridden, but their minds and hands were fully functional. All the time they were simply lying in beds and were treated as objects with diapers to be changed, and the staff showed contempt for such people. They had a deep sense of being worthless. I brought them to my mother’s house for a few weeks. And once it occurred to me that although they needed help with many things, they could help with dinner. I put a pot and bowl by their beds and asked them to peel potatoes. Then we made pasta together and so on... They were happy. At last they could give something of themselves! They felt like normal women. Modern welfare systems are generally geared to providing a minimum for survival, not engaging people in active life. This gives rise to learned helplessness, often passed from one generation to the next, and entitlement attitudes, but also bitterness and a hidden sense of inferiority. Also aggression towards those who are better off. It excludes from social, cultural, economic and even spiritual life. It takes away the sense of self-agency necessary for the development of a free person.

THIS CRISIS IS ALREADY THREATENING EMPLOYMENT AND MANY PEOPLE ANTICIPATE THAT POVERTY WILL INCREASE EVERYWHERE. WHAT, IN YOUR VIEW, ARE THE MOST URGENT CHALLENGES AND NECESSITIES THAT THE POLISH SOCIETY WILL NEED TO ADDRESS IN THE COMING MONTHS OR YEARS?

First of all, loss reduction. The point is to ensure that people who have lost their jobs do not fall irretrievably into the role of beneficiaries of benefits and assistance, which of course should be provided quickly when they are hungry or have no housing. This would be a great loss for entire societies, because they have great

“A crisis like the present one can only be survived together.”

potential, not to mention the suffering of each of them and their families. Maintaining or creating jobs is the first challenge. The second is, of course, to organise the emergency chain. Anxiety, an atmosphere of danger already causes mental problems in many, especially amongst the young. Politicians in Poland, instead of creating an atmosphere of solidarity and building programmes for the present and the future together, bicker with each other and engage in foolishness. This is a tragedy for Poland. There is chaos that reinforces the feeling of uncertainty. I trust that just as in the case of the fight against the coronavirus, society has taken matters into its own hands and organised itself in spite of politicians, the effects of the epidemic will be partly mitigated by citizens organising themselves from the bottom up.

IS IT POSSIBLE THAT THIS CRISIS WILL ALSO BRING A POSITIVE CHANGE TO OUR LIVES?

Of course, good can finally come out of any tragedy. There may be changes for the better in health care, in Poland, which has been in terrible condition for years. People can see that they can afford to do sometimes heroic deeds – like volunteering in infectious diseases hospitals or care homes. Having experienced the hardship of being locked up in their homes, they can become more sensitive to those who are weak. We encounter many gestures of solidarity and understanding.



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Sister Małgorzata Chmielewska being awarded with the Commander’s Cross of the Order of Polonia Restituta by Aleksander Kwasniewski, the President of the Republic of Poland, in 2005.

THE COMMUNITY YOU FOUNDED IN POLAND IS CALLED "BREAD OF LIFE" AND DEDICATES ITSELF TO THE SICK, THE OLD, THE DISABLED, AND HOMELESS WOMEN AND MEN. WHERE AND HOW, IN YOUR OPINION, CAN A HUMAN BEING FIND THE MOST NOURISHING BREAD TO FEED HIS/HER LIFE?

We are Christians, Catholics. We don't force our people to practise religion, but we enable them to meet God. We live as we do for Christ's sake, which we do not hide. Many people take advantage of such a meeting, often after years of being away. There they find peace and strength to live. There are also people of other religions or beliefs with us, there are unbelievers. We encourage people to deepen their spiritual life and often it gives them joy and strength.

YOU HAVE BEEN CALLED A "GENERAL IN A HABIT" AND A "TOUGH NUN WITH PRINCIPLES". FOR THOSE WHO DO NOT KNOW YOU AS WELL AS THE POLES DO, HOW WOULD YOU PUT THESE TWO IMAGES INTO A BIGGER PICTURE OF WHO YOU ARE?

An ordinary woman who happened to find love. And even though I took a vow of celibacy... I have five children and a few more around. All of them, of course, met on the way of life in dramatic situations when you had to decide to become a mother for them. Today they're grown-ups and most of them work with us because they chose to. One is deeply disabled and lives with me all the time. I got a lot from life and I try to give it back. It's not my accomplishment that I was born healthy, that my parents gave me an education, that I met many wonderful people who inspired me and still inspire me. It's just a task to be performed.



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"I got a lot from life and I try to give it back (...) It's just a task to be performed."

IT IS SAID THAT THERE ARE MANY WAYS TO GOD AND YOU HAVE SAID THAT THERE ALSO MANY WAYS TO MOTHERHOOD. YOU YOURSELF HAVE ADOPTED SEVERAL CHILDREN. WHAT HAS MOTHERHOOD TAUGHT YOU THAT OTHER PREVIOUS EXPERIENCES HAVEN'T?

Patience! And it still teaches me that, especially with my autistic son. Seriously? Love, love and perseverance after all. The children were not without problems, they had gone through hard times. I had to learn how to love otherness, how to activate my imagination, how to manage a gang - at one point of nine kids with problems while constantly thinking... where to get money from, how to fight bureaucracy, doctors, schools, who weren't always helpful in our reality. At the same time, I learned and taught others to have trust in life and in people. There is always a way out. This is what I taught the children. We do not break down, we will find a way. It has built up in them the courage to face difficulties and the self-confidence and sense of value. They were children despised by everyone, humiliated by strangers and their own family. They are wonderful and full of empathy for others. Two of them had begged in the streets when they were children.

WHAT HAS BEEN SO FAR YOUR MOST IMPORTANT ACHIEVEMENT IN LIFE, THE ONE YOU ARE MOST PROUD OF?

Certainly the children who have grown up to be decent people. Also because, together with my co-workers, I managed to touch the conscience of thousands of people and draw attention to the fate of the weakest. And also to save thousands. Or at least relieve their suffering. The fight is not over yet.

AND DISAPPOINTMENTS... WHAT WAS THE MOST PAINFUL ONE?

I haven't been disappointed in any great way. Maybe because I'm a realist and I know that the world and people are not a paradise on Earth, so I acknowledge my own weakness and that of others.

DO YOU HAVE DREAMS YET TO BE FULFILLED?

Oh, perhaps, the last and greatest of mad ideas - to build a decent home for the old and sick homeless in Warsaw. We were already close. After many hardships, the city of Warsaw had given us a plot of land, the architects had made plans, but then the epidemic came and crisis struck our friend who was supposed to sponsor this construction. Our shelters for the homeless are located in old buildings, the conditions are difficult, it is tight. I would like the poorest people to have a beautiful place to live, and for my colleagues who live with them to have decent conditions. For now they live in the basement of the shelter. I trust that we will succeed in spite of everything, although it will be difficult.

EVERY SINGLE PERSON DREAMS OF BEING HAPPY EVEN MAYBE NOT KNOWING WHAT EXACTLY THAT MEANS. HOW DO YOU DEFINE HAPPINESS? HAVE YOU FOUND IT?

Everyone's desire is to love and be loved however prosaic it might sound. Because I meet these two conditions for happiness: I love people and there are people who love me, and I deeply believe that Christ loves me (although sometimes I am surprised that He hasn't stopped yet), because of that I am happy. Though I'm not always laughing out loud.

WHO WERE THE PEOPLE THAT INSPIRED YOU THE MOST IN YOUR LIFE AND WHY?

People faithful to values: truth, solidarity, honesty. Who often pay a high price. Many saints, also contemporary, but also young people engaged in the repair of the world, having great ideas, brave. There are many of them. This gives hope and strength. I have been, and I still am, lucky to meet such people on my way. Some of them are well known - like John Paul II, Mother Teresa, some remain unknown, some of them simple, some of them scholars.

WHAT HAS BEEN THE BEST ADVICE SOMEBODY HAS GIVEN YOU?

"Experience is not transferable," an old nun's remark when I tried to convince someone based on my own experience that he was heading into something stupid. Often you have to come to certain conclusions yourself. And the words I heard many years ago on English television: "This is a task that must be completed." It was... Golda Meir, the former Prime Minister of Israel, who said them in an interview. Life is a task that has to be completed. And an old nun who shared the last piece of bread from the monastery kitchen with me a long time ago: "If your hands are clenched, the Lord God cannot pour into them. If your hands are open, He will pour into them."

ARE THERE, IN YOUR OPINION, UNIVERSAL LAWS TO LIVE A WORTHY LIFE?

Faith, love and mercy. And a sense of humour. And never stop using your common sense.

LIFE

AS WE DON'T KNOW IT

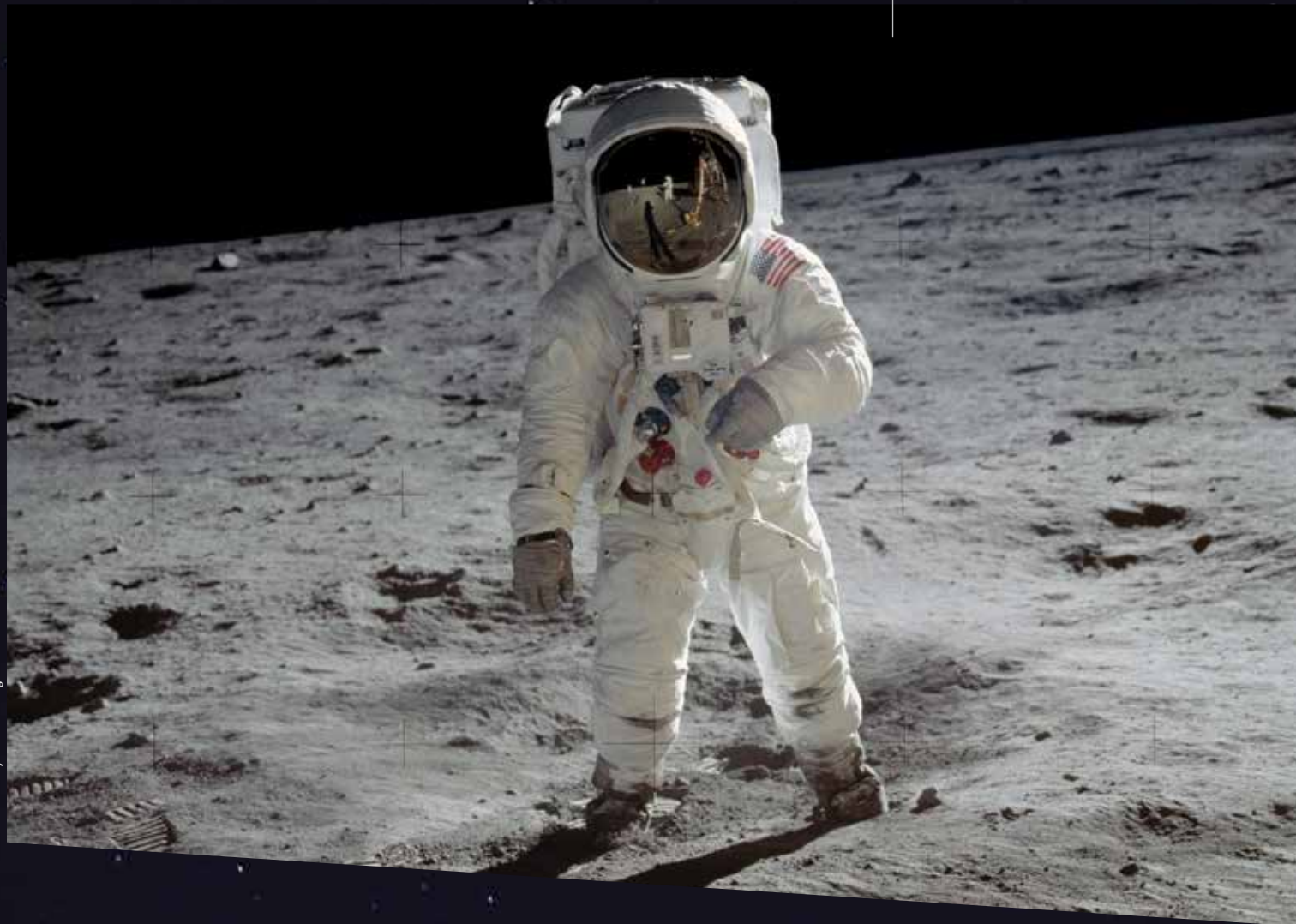
Is life some sort of a miracle or merely an unremarkable example of a widely spread cosmic phenomenon? Beyond Earth, the chances of life existing nearby are there.

As well as possibly the answers that help explain the existence of life on Earth. A great number of questions still orbit the scientific community.



WORLDS BEYOND OUR OWN

Astronaut Buzz Aldrin walks on the surface of the Moon near the leg of the lunar module Eagle during the Apollo 11 mission. Mission commander Neil Armstrong took this photograph with a 70 mm lunar surface camera, in 1969.



© Buzz Aldrin by Neil Armstrong / Nasa

ARE we alone in the universe or is existence a common feature elsewhere in the cosmos? The question is probably as old as humankind itself and remains as one of the greatest mysteries of all time. Since the beginning of civilization, humans have gazed at the night sky and wondered if others like themselves could be out there. The attempts to answer this question have found their expression in philosophy, fiction and religions worldwide and became one of the major themes of 20th century science. It was only 60 years ago that we extended our presence into space: first with robots, then with animals and, finally, with humans. Until the early 1990s, when the first exoplanet was confirmed, it was even uncertain whether there were any planets beyond our own solar system. To date, more than 4,100 exoplanets (planets that orbit around stars) have been discovered and are considered “confirmed”.

The revolution began in 1992, when astronomers Alex Wolszczan and Dale Frail, working at the Arecibo Observatory in Puerto Rico and the National Radio Astronomy Observatory in New Mexico, USA, reported the first planet-size masses circling a dead star, known as a pulsar, sitting 2,000 light-years away. Three years later, there was another big milestone in exoplanet science: Michel Mayor and Didier Queloz, of the University of Geneva, Switzerland, announced that they had detected a planet in orbit around a sun-like star, a mere 50 light-years from Earth. The pace of discovery skyrocketed, following NASA's launch of Kepler space telescope in March 2009, to study the prevalence of extrasolar planets (how many there are per star). Much of the search was concentrated on seeking planets that orbited in a star's habitable zone, the region around a star where liquid water — and maybe life — can exist. During nine years in deep space collecting data, the spacecraft made 2,600 planet discoveries. In 2008, the night sky said hello to NASA's Tess (Transiting Exoplanet Survey Satellite). Designed to search for exoplanets in an area 400 times larger than that covered by the Kepler mission, the operation of TESS is performing an all-sky survey to discover transiting exoplanets ranging from Earth-sized to gas giants. For its two-year primary mission, it was expected to find 20,000 of these planets. However, TESS has identified only 1,835 candidate exoplanets, of which 46 have been confirmed so far.

The past as a map to the future: astrobiology focuses on the search for extraterrestrial life and on deciphering the key factors that enabled life on Earth.



Artist's conception of Kepler-186f, an Earth-sized planet found in a habitable orbit around a star. It's about 500 light-years from Earth.

THE WORLD OF ASTROBIOLOGY

When thinking about life in outer space, it is hard not to look at Earth as a guide, striving to discover forms of life similar to our own, but no clear signs of life have ever been detected yet. And, perhaps, the most common ones are very different from both terrestrial life and the way we have always imagined them. However, that does not mean that universe is lifeless. On the contrary. Formerly known as exobiology, astrobiology is a young interdisciplinary scientific field not only focused on the search for extraterrestrial life but also on deciphering the key environmental parameters that have enabled the emergence of life on Earth. The past as a map to the future. Chemists, biologists, geologists, planetologists and astrophysicists are contributing to this enormous body of science by knowing more about the beginning of life (and what defines life), understanding the chemical composition of the cosmos, testing for habitable environments on solar system bodies (like Mars, Jupiter's moon Europa, and Saturn's moon Titan), as well as searching for biosignatures — any substance or phenomenon that provides scientific evidence of life — in exoplanets.

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A JOURNEY of Wonder

The near future is packed with exciting life detection missions. By looking to the same organic molecules that make up life on Earth, scientists try to find signs of extraterrestrial life in the solar system. Portuguese astrobiologist Zita Martins discusses the challenges of these quests.

SPACE MISSIONS AND LIFE BEYOND EARTH

**ZITA
MARTINS**



ZITA MARTINS IS AN ASTROBIOLOGIST, AN ASSOCIATE PROFESSOR AT INSTITUTO SUPERIOR TÉCNICO (IST, PORTUGAL) AND THE CO-DIRECTOR OF THE MIT-PORTUGAL PROGRAMME. HER RESEARCH INCLUDES THE DETECTION OF BIO-SIGNATURES IN SPACE MISSIONS, AND THE POTENTIAL CONTRIBUTION OF ORGANIC COMPOUNDS PRESENT IN METEORITES AND COMETS TO THE ORIGIN OF LIFE ON EARTH.

THE

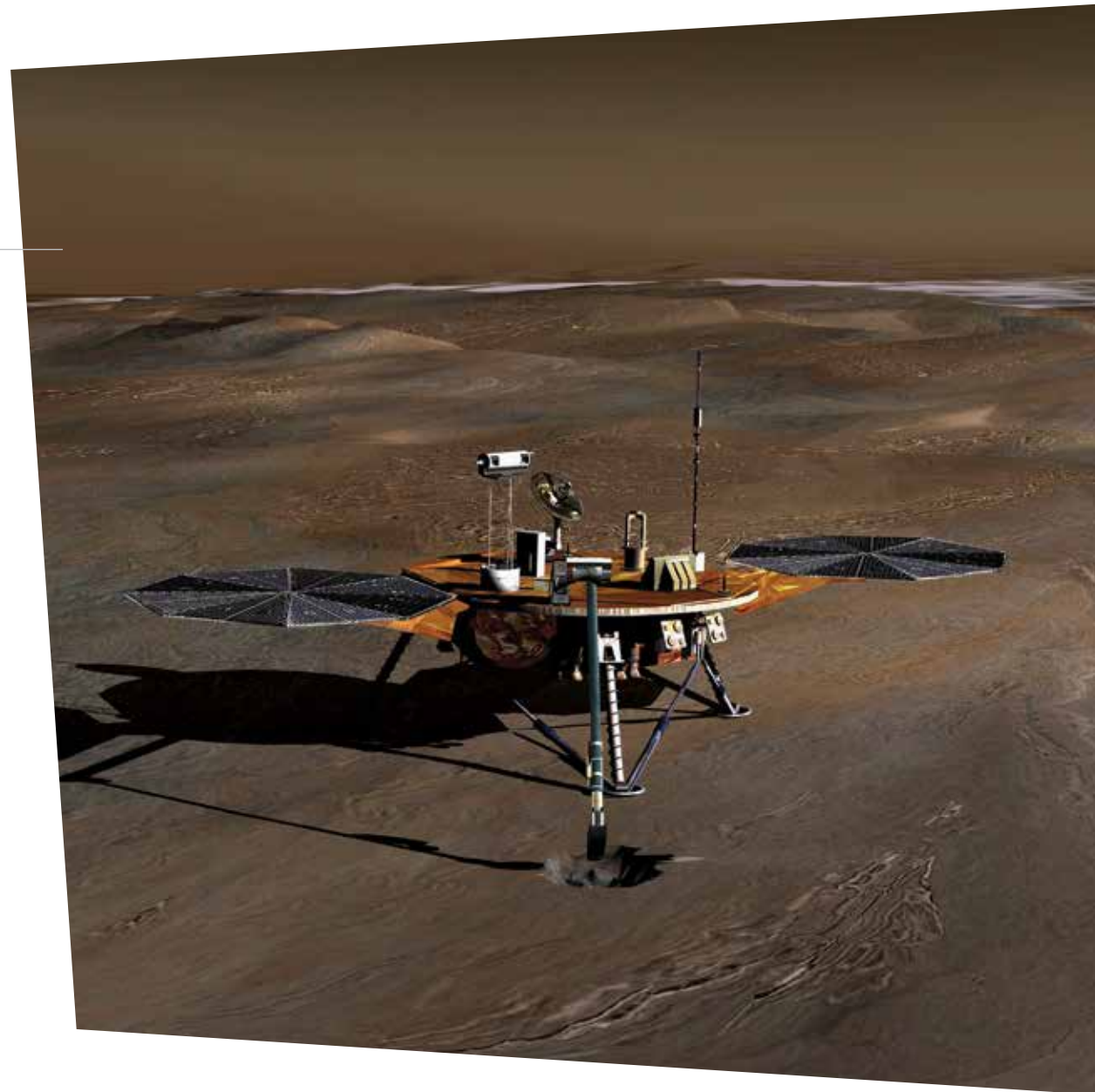
origin of life in our planet is a big scientific question yet to be solved. In order to understand this, we need first to travel back in time to the formation of our solar system. The analysis of meteorites presents an opportunity for the scientific community to know that the solar system is around 4.56 billion years old. Meteorites are samples that originate from asteroids situated in the asteroid belt between Mars and Jupiter. Some of them have not been significantly changed since the solar system was formed, therefore acting like time travel machines and allowing to determine its age. From the formation of the solar system until around 3.8 billion years, the Earth has witnessed heavy bombardment from meteorites and comets (commonly known as dirt snowballs, that travelled from the outer reaches of the solar system), which delivered tonnes of water and organic molecules (a process called exogenous delivery). If you think of these molecules as Legos, then the cell (the basic unit of life) may be considered like a little house made up of Legos. The passage from the organic molecules of life to having a cell, and later to complex life forms is not yet known. The only available data the scientific community has is that the organic molecules were delivered to the early Earth via exogenous delivery and/or were formed at the bottom of the oceans in deep sea hydrothermal vents (a process called endogenous formation). Several present and future space missions to comets and asteroids will determine which building blocks of life were delivered to the primitive Earth. These include the Japanese Hayabusa2 mission that collected samples from asteroid Ryugu last year and will arrive on Earth by the end of 2020; the OSIRIS-Rex sample return mission to asteroid Bennu that will arrive on Earth in 2023; and the Comet Interceptor mission that will be launched in 2028. As life originated in our planet, the scientists also wonder whether life may have started in other parts of our solar system (or even the Universe). To date, no extraterrestrial life forms have been found. The first time (and to date the only) there was a space mission to search for alien life was in 1976. It was part of NASA's Viking programme and the spacecraft successfully landed on Mars.

The way that space missions try to detect signs of extraterrestrial life is by looking to the same organic molecules that make up life here on Earth. This means that any of the past, present or planned space missions look for life forms that are carbon based, and like the ones we have on our planet. The Viking mission did not detect any signs of alien life on the Red Planet, which was highly disappointing. Years later, it was discovered that this happened because the Viking mission was looking in the wrong place (i.e., the surface of Mars is full of oxidative molecules that would destroy any signature of life), and that technology was not state-of-the-art (i.e., if we had a gram of Martian soil full of microorganisms, the equipment on board the Viking mission would not be capable of detecting any organic molecules). Soon we will have another space mission that will search for signatures of life on the subsurface of Mars.

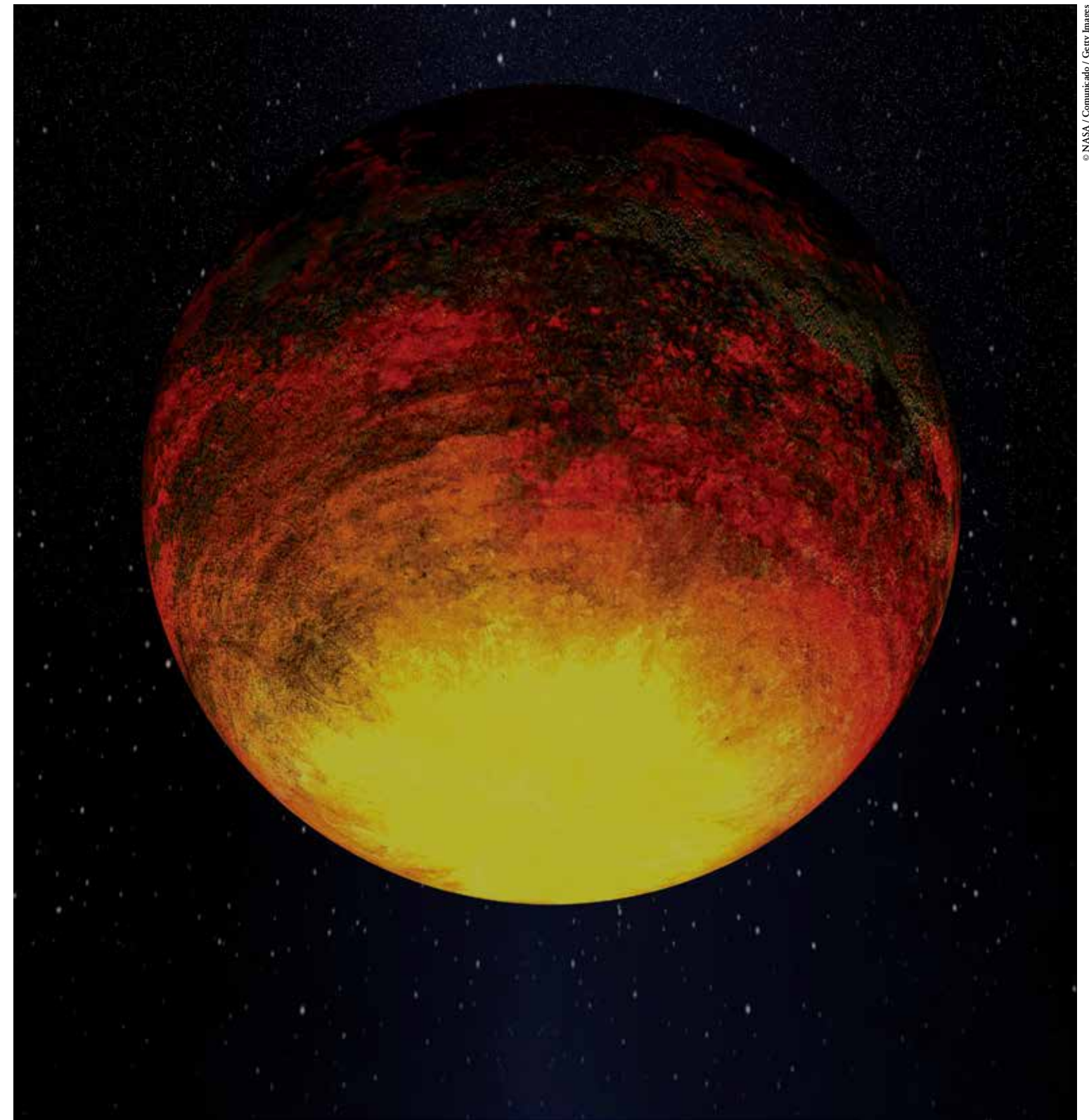
This space mission called ExoMars is a collaboration between the European Space Agency (ESA) and the Russian space agency Roscosmos. The ExoMars rover will be launched in late 2022 and it will drill at different depths of Mars (down to 2 meters) in order to finally try to determine whether there is life on the Red Planet. In addition to Mars, other places that may contain extraterrestrial life include the icy moons of Jupiter such as Ganymede, Callisto and Europa, and the icy moon of Saturn called Enceladus. All these have subsurface oceans and are thought to have deep sea

hydrothermal vents. Therefore, organic molecules may be formed, making these moons environments that may host extraterrestrial life. The Jupiter Icy Moon Explorer (JUICE) space mission from ESA is planned to be launched in 2022, and will visit Ganymede, Callisto and Europa. One of its main objectives is to detect organic molecules representative of life in the moon Europa. The next few years are packed with exciting life detection space missions with, most certainly, ground-breaking results. It is important to reinforce that the search for extraterrestrial life is based on the life forms we have on Earth, carbon based. It is possible (but less probable) that there is life in the solar system based on other chemical elements. While we have yet to detect alien life, the technology has significantly improved over the decades since the Viking mission. The advances in this research field depend heavily on the development of technology that can look for the appropriate signatures of life, whether they are carbon based or not. This journey to discover new worlds and potentially extraterrestrial life is a journey of wonder and new conquests every single day. The scientific community is working hard to achieve this goal and is looking forward to the day we discover that we are not alone in the Universe.

An artistic conception of the Phoenix Mars Lander on the Red Planet, which landed on Mars in 2008.



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© NASA / Communicado / Getty Images

In 2011, NASA's Kepler mission confirmed the discovery of its first rocky planet, named Kepler-10b

H·G·WELLS'

THE War OF THE Worlds



INSPIRED BY LIVES FROM OUTER WORLDS

IT is a 60-year old love affair the one between space and popular culture. They have been intersecting and feeding themselves across a broad spectrum of contexts: from cinema to music, from art to advertising, creating heroes and myths, marking generations and immortalizing writers, directors and TV hosts. Taking motion pictures as the greatest example, science discoveries and technology have made fiction more realistic. Likewise, fiction inspired dreams and skyrocketed careers in science. Ground control to souvenirs from outer space.

WELLS & WELLES

“Ladies and gentlemen, we interrupt our program of dance music to bring you a special bulletin from the Intercontinental Radio News.” October 30, 1938. The breaking news on CBS Radio reports several explosions of incandescent gas, occurring at regular intervals on the planet Mars. Because of the consecutive interruptions and the narration’s realistic tone, many listeners thought that a real Martian invasion was happening. But it was a fake newscast and part of Orson Welles “Mercury Theater on the Air” show. Welles wanted to grant listeners with modern adaptations of well-known literary classics. And, for that Halloween, he chose a book that changed science fiction forever. Written 40 years before, by the English author H. G. Wells, “The War of the Worlds” tells the story of a man and his brother struggling to stay alive as Martians invade South East England. Eventually, Martians were defeated by microbes, not humans.

This timeless masterpiece has never lost its grip on readers’ imagination and has been adapted by many film-makers, resulting in one of the first big sci-fi movies of its kind. Directed by Byron Haskin, “the biggest story that could have happened to our world” was the first of five adaptations. It changes the setting to 1953 California and its main character is an American scientist who tries to find a biological weakness in the aliens in order to stop them. The film won an Academy Award for Best Visual Effects.

Orson Welles broadcasting on CBS, in 1938.



© Bettmann / Getty Images



© Tomp Kornyol / Getty Images

The famed astronomer Carl Sagan (1934-1996) left a legacy that still lives on today, especially through his "Cosmos" series.

CARL SAGAN

Probably, no one has ever explained space as well as Carl Sagan did. Sagan's legacy lives on in people who were inspired by the way he promoted science. Some became famous scientists. His personal universe was full of diverse careers: an astronomy professor at Cornell, he wrote more than a dozen books, worked on NASA robotic missions, edited the scientific journal "Icarus" and was the face of science on TV. He was the house astronomer on Johnny Carson's "Tonight Show" on NBC, but his major contribution to the small screen was the co-creation and co-hosting of PBS series "Cosmos".

"COSMOS" & "CONTACT"

"The cosmos is all that is, or ever was, or ever will be. Come with me." It was with these words that the astronomer launched the epic 13-part TV series that brought science to the public like never before. It aired in the fall of 1980 and reached hundreds of millions of people worldwide.

The same year, Sagan, also a Pulitzer Prize-author for "The Dragons of Eden" (1978), had "Cosmos" adapted to a book. In its 13 heavily illustrated chapters, corresponding to the 13 episodes of the TV series, he explores 15 billion years of cosmic evolution and the development of science and civilization.

If the astronomer explains the universe in "Cosmos", he predicts our future in "Contact". Released in 1985 as a failed movie screenplay, the novel imagines the discovery of an advanced civilization in the depths of space. Eventually the film ("Contact") was released in 1997, starring Jodie Foster. She plays the role of Dr. Ellie Arroway, who finds conclusive radio proof of extraterrestrial intelligence. Someone out there is sharing plans to build a mysterious machine, and Dr. Arroway is chosen to make first contact.



© Archive Photos / Getty Images

The film introduces an alien race superior to ours whose purpose is to guide humans towards a higher level of existence.

2001, A SPACE ODYSSEY

Most of the sci-fi films that preceded Stanley Kubrick's "2001, A Space Odyssey" (1968) portrayed extraterrestrials as intruders, invaders and monsters. Creatures to be feared and fought. Regarded as one of the greatest and most influential films ever made, it introduces an alien race superior to ours which wants to gently guide mankind towards a greater level of existence. The alien intelligence was wisely hidden, and the monoliths left by the "Firstborn" (the name given to the unseen species) were the only connection. The movie also explores the difficult relationship between humans and computers with artificial intelligence. Written by Kubrick and Arthur C. Clarke, the screenplay was inspired by Clarke's "The Sentinel" and other short stories. The film was nominated for four Academy Awards. Kubrick won the Oscar for the Best Visual effects.

In Bowie's music, the spatial influence rocketed lots of metaphors for the things that made his inner space go round.

ZIGGY STARDUST... AND OTHER SPATIAL BOWIES

David Bowie reached outer space way before Man set foot on the Moon. In 1967, in "Love You till Tuesday", from his self-titled debut album, he sang "Don't be afraid of the man in the moon/Because it's only me". Two years after, exactly one month before the Apollo 11 moon landing, came "Space Oddity". And many more space songs would follow: "Moonage Daydream", "Starman", "Life on Mars?", "Hallo Spaceboy", "Dancing out in Space", "Born in a UFO".

The influence – clearly a sign of the times – was, actually, a metaphor for the things that made the inner space of pop culture's supreme alien go round: existential inquiries, utopian reveries, sex, fame and rock n' roll. Extraterrestrial androgynous, glamorous Ziggy Stardust, his most known alter-ego, definitely set a new

standard for the genre's theatricality and put Bowie's career into orbit. Ziggy retired from stage in 1973, but his creator would play another E.T. three years later, in Nicolas Roeg's cult-film classic "The Man Who Fell to Earth". In the film, the late artist poses as a humanoid who comes to Earth on a mission to take water back to his home planet, which is experiencing a catastrophic drought.

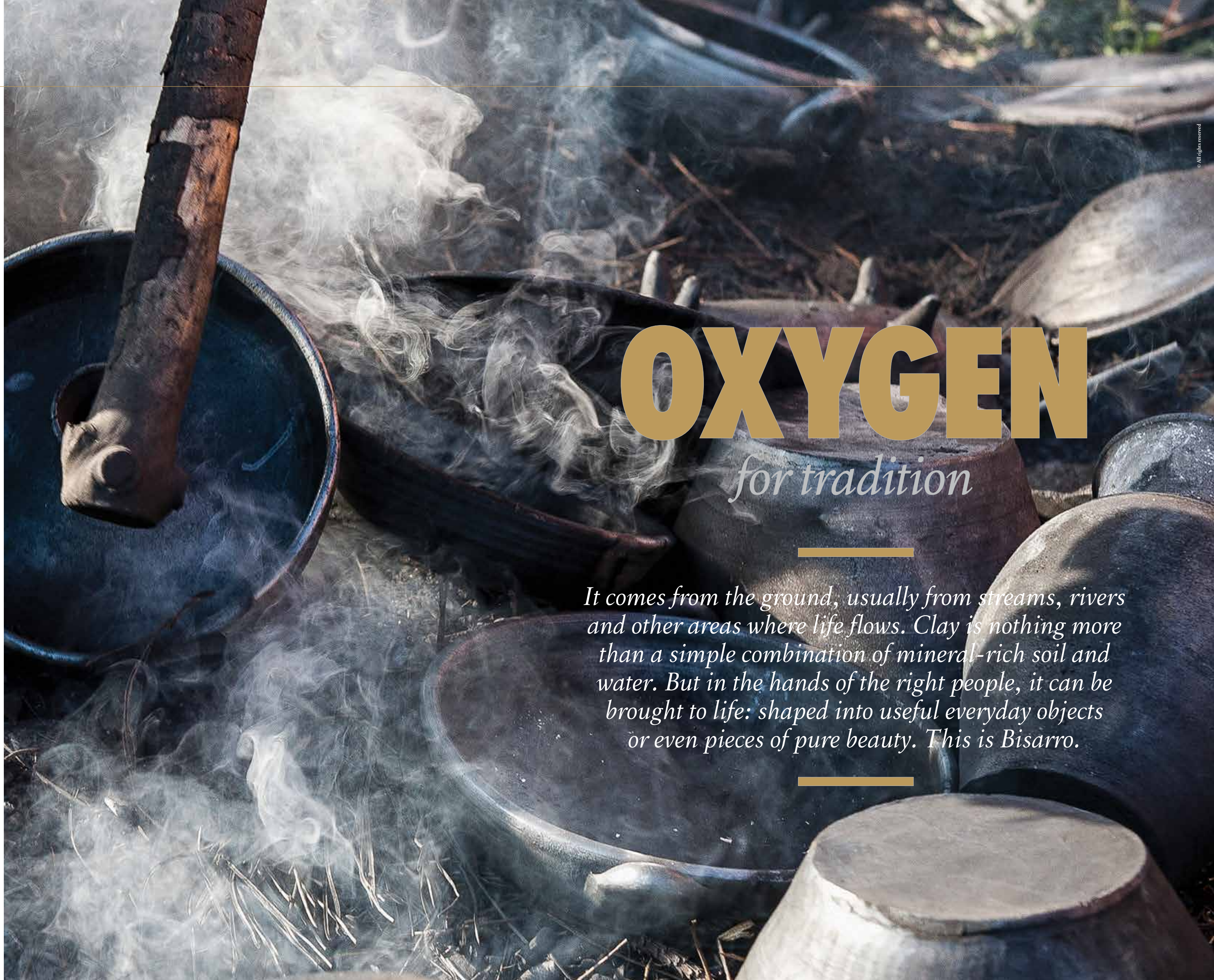
With "Lazarus", from his twenty-fifth and last studio album (2015), Bowie travels in the opposite direction, as a human who has ascended to the firmament: "Look up here, I'm in heaven... I've got nothing left to lose". Nina Simone, whom David Bowie befriended in the early '70s, once said: "David ain't from here". And music can only be grateful for his lifelong incursion.



© Gilbert Hankroot / Getty Images

One of the most influential musicians of all time, David Bowie was pop culture's supreme alien.

DELICIOUS



OXYGEN

for tradition

It comes from the ground, usually from streams, rivers and other areas where life flows. Clay is nothing more than a simple combination of mineral-rich soil and water. But in the hands of the right people, it can be brought to life: shaped into useful everyday objects or even pieces of pure beauty. This is Bissarro.

GO FOR SHOPPING

DELIGHTFUL

BLACK POTTERY



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ON the table in the hallway, a holly branch is resting in a clay vase. A closer inspection reveals that this is not a vase, but a pitcher. Or a mix between the two. It quickly becomes the focus of attention, with its black sheen highlighting its decorative beauty, while also bringing back memories of the pitchers that a generation of grandparents used to carry water to the iron wash basins. Next to this piece, three basins with different sizes emerge as a contemporary reinterpretation of the old ones for cooking rice in the oven: “They remind me of the family lunches at my parents’. They cooked rice in firewood ovens with these basins,

each size corresponding to a given rice measurement”, recalls Renato Costa, founder and CEO of Bisarro. The company’s name is a combination of two words: “Bisalhães”, the name of a village in the north of Portugal known for its traditional practices of black pottery, and “barro” (clay in Portuguese). Not to mention the happy coincidence that “Bisarro” has a homophone in the word “bizarro” (the Portuguese word for bizarre), alluding to the surprising design and features of the pieces this studio creates. The premise is simple: going back to the roots. And, with pieces like this pitcher, the result is visible: the reshaping of tradition.

Founder and CEO at Bisarro, Renato Costa sees design as a means to bring tradition to life through a more contemporary vision.

A NEW SHAPE

Interest in this secular art, classified by UNESCO as an Intangible Cultural Heritage in 2016, ignited the idea of honouring and reviving the tradition, by giving it a new shape. “I grew up in a village 3km from Bisalhães, called Vila Marim, where I used to see the black smoke rising. And whenever that happened, I would say: “Oh, look, the potters!”, evokes Renato Costa, adding “now we are using design as oxygen to relive those days.” Since glass and plastic appeared, hardly anyone makes use of ceramics to store and carry water anymore, but that does not mean that they are useless. When given this new skin, people seem to want to use them again. The trip back in time to tell new generations stories about this artisanal skill, which dates back to the 17th century, began with the commission to create a trophy for the 2015 edition of the Vila Real World Touring Car Championship (WTCC). Working at ceramics company SPAL Porcelanas at that time, Renato had the know-how on clay cooking and ceramic pastes, which helped him mould the idea.



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The first collection included 15 pieces. In the following year, Bisarro was invited to take part in Ambiente Frankfurt’s Talent programme, an international trade show of interior decorating and household articles. The high receptiveness, resulting in orders from 13 countries, forced the studio to rethink the business in a way that allowed it to expand itself consistently. One of the biggest concerns was to find more potters, a difficult task in a practice on the brink of extinction. At the moment, Renato has one potter working with him full time and others collaborating occasionally.



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Bisarro’s ceramics are strongly inspired by traditional local production methods.

GO FOR SHOPPING DELIGHTFUL

SLOW BURN

It's a balance between artistic inspiration and what can be done with ceramics that brings life to the brand's creations. Every piece is unique. If we look at two pots, one will have a spot in one place and the other somewhere else. "It is in that uncertainty, in that irregularity, that lies the inner beauty of the pieces", explains Renato. Once the concept has been defined, different moulds are cast by hand for each piece. The plaster moulds are then filled with liquid clay. Once dry, the piece is removed from the mould. It is a slow and delicate process, commanded by the temperature. It takes a month just to develop production. Another feature of black pottery is that, after cooking the clay, and unlike conventional methods, it isn't glazed. This means that they are not as resistant, but since they are premium pieces, to last, people handle them with special care. Next comes the *soenga*, the name given to the ancestral firing process that gives the clay its unique colour. A pit is dug into the ground. The pieces are then placed inside it and covered and, underneath, a wood fire burns for hours.



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The balance between inspiration, tradition and the possibilities of modelling clay is what brings life to the brand's creations.

There are no thermometers. The temperature is gauged by the colour of the flame, by how it crackles: "We often say: 'It's huffing!'", tells Renato. It takes between an hour and a half to two hours just to light the fire. The artisanal kiln is then covered with pine needles and broom plants. Once firing has been completed, the pieces are sent to the studio. Packaging reflects the studio's sustainable thinking. Sawdust is used for packaging the pieces and plastic is avoided as much as possible. The pieces are wrapped in paper - Bizarro paper, to resemble the newspaper that potters still use when selling at the city markets.



© All rights reserved

Men covering the artisanal kiln dug in the ground with pine needles and wood wastes.



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THE NEXT CHAPTER

Shops, restaurants, estates and hotels are the studio's biggest customers. They are mainly located in Portugal, the United States, Brazil and Nordic countries. The future looks promising, thanks to the versatility and vision of Bizarro, firmly grounded in its roots: the brand is increasingly investing in incorporating other complementary traditional Portuguese materials, such as Portuguese oak wood, brass and cork. As for cork, it can be found in the Batoque, for example. Its name comes from the piece's bung, a kind of stopper used to seal barrels. The stoppers come from an old store in Vila Real's historical centre. On the other hand, Bizarro intends to try a multidisciplinary approach, combining "wood spoons and brass vases in the same collection, for instance" and adding elements related to the wine industry, a very strong one in the Trás-os-Montes region: "Our aim is to have more decorative pieces and not just utilitarian ones."

The ancestral firing process called "soenga" is what gives the clay its black colour and the patterns that make each piece unique.

GO FOR SHOPPING

DELIGHTFUL



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HALF VASE, HALF BOWL

NAMED *Alguidar* (meaning basin), this decorative pottery by Bisarro is inspired by the traditional pots for cooking rice in the wood oven. Its simple lines make it an elegant and at the same time elemental piece. *Alguidar* is made from an ancestral firing process called “soenga”, according to the secular tradition of Bisalhães, a village eight kilometres from Vila Real, an inland city in northern Portugal. It consists in opening a wood-fired pit in the ground, with a reduction fired at 1,000°C which gives the item its black colour and some unique patterns from the wood firing. As a result, vases may vary slightly in shape and colour.

<https://www.bisarro.pt/>

NATURAL FOOD PACKAGING

Waxes by Malu are organic, reusable food packaging made of cotton which were designed to replace food foil, aluminium foil or disposable plastic containers. The cloths are soaked with a special mixture based on purified beeswax, pine resin and jojoba oil. This gives the material antibacterial properties that result in longer freshness of stored food. These wraps are ideal for storing bread, snacks, vegetables, fruit or cheese. They can also be used to cover a cup or a bowl. Under the hand heat and pressure, they will take the shape of the object and stick together. After each use, the wax can be washed in cold or lukewarm water, left to dry, folded and stored until next use.

www.woskowijki.pl



© Press Materials

INDIGENOUS JEWELLERY



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WORKING with indigenous communities and combining their ancestral techniques, Colombian brand MÂKUA makes gold-plated jewellery and accessories based on traditional motifs. The creations are inspired by the exuberance of the jungle and the innumerable species that inhabit it, as well as by the country’s landscapes. One of the pieces that best illustrate these roots is the Jaguar from the Jungle necklace. The item is made with crystal beads by Embera Chami indigenous women and is a handmade metal piece in gold-plated brass 24 Karats.

<https://www.makua.co/>

GO FOR SHOPPING
DELIGHTFUL

ORGANIC
FLAVOURED
HONEY

The most exciting of the entire range of Beesweet nectars, Beelove Drop N. 66 is irreverent and unique, with its intense notes of jungle fruits, coffee and cherry, and its chocolate colour. Obtained through artisanal processes, it preserves all the characteristics of 100% natural food. Ideal to accompany soft cheeses or crepes, it can also be used in meat sauces or as a topping to sweet desserts. Or even simply enjoyed raw. Beesweet was born from the dream of two cousins of placing innovative products on the market based on honey. Their legacy provided them with the essential tools, as well as some tips and homemade recipes of flavoured nectar.

<https://beesweet.pt/>



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WILDFLOWER
DRY SPIRIT

DISTILLED entirely from wildflower honey collected from the pristine Warmian-Masurian fields, Frant Wildflower is a refreshing, quirky take on the world of Polish vodkas. During its laborious production process, which involves local distillers and regional ingredients, sugar is fermented into alcohol, then revealing the inherent taste of honey - full and complex, not sweet. When it comes to tasting notes, one can also decode lavender and anise. But it all starts with smell: the nose leads with vanilla, camomile and ripe lemon aromas. Available at the finest Wine & Spirits stores, and high-end restaurants in Poland, Frant Wildflower is best served on its own, sipped with a meal or mixed with acidic ingredients.

<https://frantvodka.com/>

TRUFFLES
WITH EDIBLE
PETALS

IN a land of cocoa and flowers, it is no wonder that both come together to delight one's senses. Artisanal chocolate and confectionery company Fruto de Cacao, in Bogotá, works with 100% Colombian cocoa, planted by farmers in the Putumayo and Meta departments, to generate surprising flavours and combinations. Decorated with edible flowers, this box of 15 assorted truffles is definitely a must-taste. It consists of bitter and semi bitter chocolate filled with creamy flavours. On top, pansies, rose petals, centaurea petals and star flowers, add colour and freshness to the truffles.

<https://frutodecacao.com/>



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FERNANDO PESSOA
COFFEE CUPS



© Press Materials

A tribute to one of the most significant literary figures of the 20th century, this porcelain set by Vista Alegre portrays the poet and his three most relevant heteronyms.

Designed by Catarina Pestana and shaped by Carvalho Araújo, the set comprises four coffee cups and saucers in an invitation to experience their disparate ways of living and looking at the world. To sit and “to be” peacefully in nature with Alberto Caeiro, the Master, “to live” in rationality with Ricardo Reis, the Doctor. And “to feel” in a frantic, revolutionary manner with Álvaro de Campos, the Futurist. Founded in 1824, Vista Alegre is a recognised high-quality porcelain manufacturer located in Ílhavo, in central Portugal. The brand has always been intimately associated with Portuguese history and culture, being this tribute to Fernando Pessoa a good example of that affiliation.

<https://vistaalegre.com/>

BAROMETER OF

LIFE

More than 31,000 species are threatened with extinction, representing 27 % of all animal and plant life assessed to date. What is behind this threat? Let's take a look.

TENS

to hundreds of times faster than in the last 10 million years. Animals and plants are disappearing at rates unprecedented in human history, according to the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). And human activities are to blame. In the case of mammals, the most studied group of animals, the fossil record indicates that the extinction rate before the presence of mankind was so low that only one species disappeared per millennium.

But in the last 20 years, the number of plant and animals species under threat has almost tripled, growing from 11,000 to more than 31,000 according to the International Union for Conservation of Nature (IUCN) latest assessment.

After World War II, and under the auspices of UNESCO, the IUCN was created as the global authority dedicated to protecting nature. Over the years, its scope progressively extended to bring together national and local governments, communities and other bodies to properly safeguard the natural world.

This led to the creation of the IUCN Red List of Threatened

Species in 1964, one of the most representative indicators of the world's biodiversity and a comprehensive source of information on the global status of animal, fungi and plant species.

According to the most recent report published at the beginning of 2020, of the more than 116,000 species assessed by the IUCN, 27% of all animals, plants and fungi are threatened with extinction.

41% of amphibians are threatened with extinction, as well as 34% of conifers and 33% of reef building corals. However, in reality, the number is much higher as the IUCN has only been able to assess a small portion of the more than eight million animal and plant species the institute believes to exist on Earth.

The IPBES estimates that close to one million known and unknown species are at risk of extinction. According to the IUCN Red List, South America is one of the most worrying regions, in particular Brazil, Ecuador and Colombia, where the Amazon jungle spans over vast areas of the territory.

In Europe, Portugal is listed among the four countries with the most threatened species, and nearly 100 species are threatened in Poland.

PRESERVING BIODIVERSITY

Human activity, such as intensive farming and overfishing, is one of the main causes of this situation. Pollution also contributes significantly to the growing number of threatened species. In some regions of the planet, forests are seen as obstacles to the production of commodities used around the world by different industries, such as palm oil, soy or beef.

That is why deforestation, together with the dramatic increase in temperature and soil erosion, poses a threat to the survival of many living species. Forests are home to nearly 80% of land-based biodiversity.

FIGHTING DEFORESTATION

@Jerónimo Martins

As one of the founding members of the Coalition of Action Against Deforestation, promoted by The Consumer Goods Forum, Jerónimo Martins is committed to contribute towards reducing the deforestation rate, thus preventing the loss of biodiversity. The Group is the only food retailer in the world that reached a leadership level (A-) for responsibly managing all commodities associated with deforestation risks: palm oil, soy, beef, and paper and wood. Annually announced by the CDP - Disclosure Insight Action, the CDP Forests assessment encompassed more than 8,400 companies across the globe, which represent half of all global market capitalisation.

More than 31,000 species are threatened with extinction.



41%

Amphibians



34%

Conifers



33%

Reef Corals



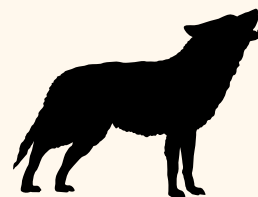
30%

Sharks and Rays



27%

Selected Crustaceans



25%

Mammals

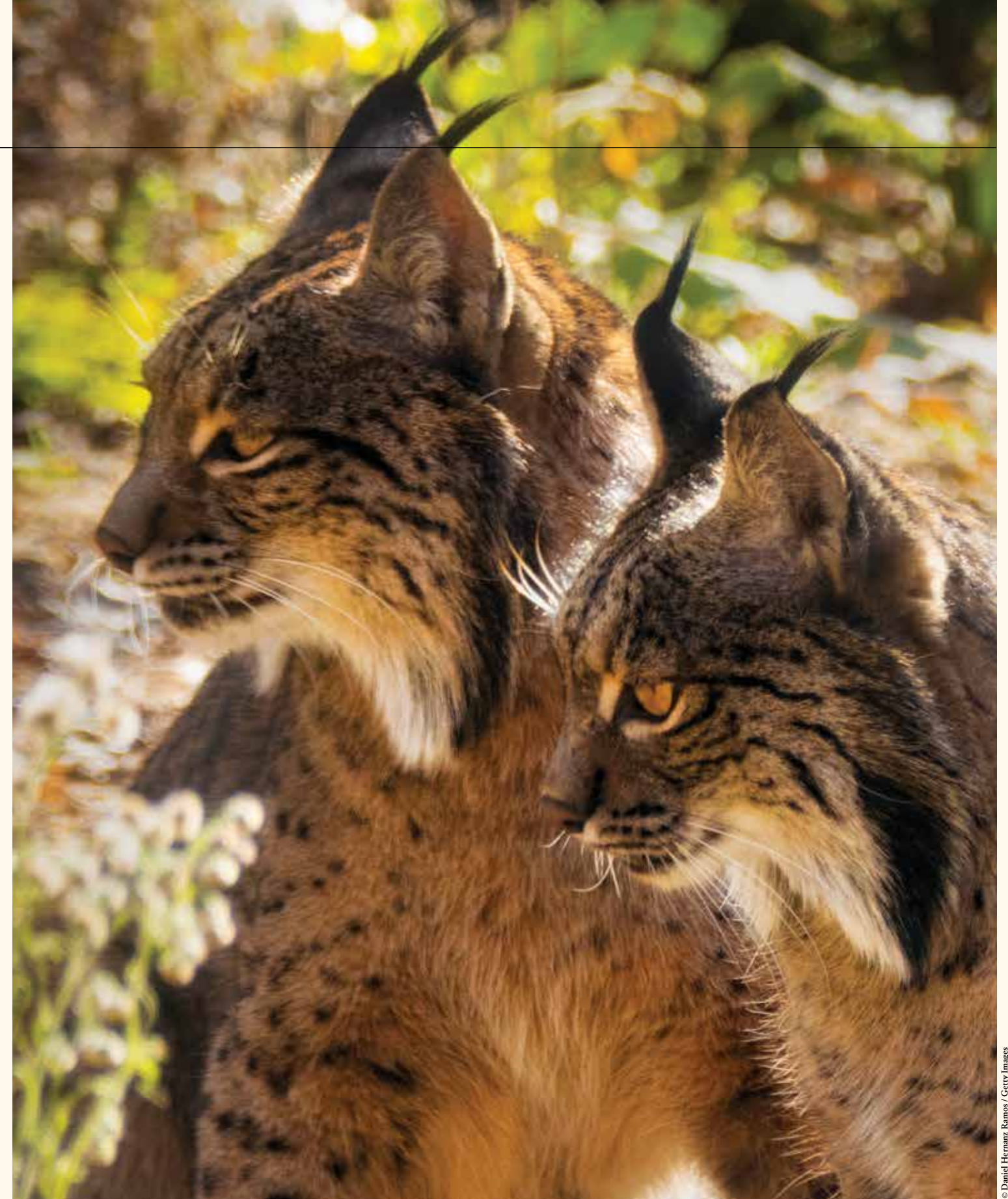


14%

Birds

IUCN RED LIST CATEGORIES AND CRITERIA

NOT EVALUATED	DATA DEFICIENT	LEAST CONCERN	NEAR THREATENED	VULNERABLE	ENDANGERED	CRITICALLY ENDANGERED	EXTINCT IN THE WILD	EXTINCT
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© Daniel Hernandez Ramos / Getty Images

THE EYE OF THE LYNX

After Spain, Greece and Italy, Portugal is the fourth country in Europe with more endangered species: 465 to be precise. Many animals are at risk, particularly the Iberian imperial eagle (*Aquila adalberti*), one of the world's rarest birds of prey. After a 20-year absence as a breeder, the Iberian imperial eagle returned to Portugal in 2003 to procreate. The cinereous vulture (*Aegypius monachus*), also known as the black vulture, which was critically endangered, returned, adapting to an environment with food shortages and seeking alternatives, such as the carcasses of cattle, sheep and goats. The main threats to the species are poisoning, direct persecution by shooting, nest robbing, and the destruction and disturbance of breeding sites. But there are positive developments. "Critically endangered" since 2015, the Iberian lynx (*Lynx pardinus*) has been downgraded to "endangered", although it continues to be the world's most

endangered feline species and the most threatened carnivore in Europe. There are currently a little over a hundred Iberian lynxes living in Portugal.

The Iberian lynx feeds almost exclusively on wild rabbits and finds it difficult to adapt to other prey. It was precisely the sharp decline in rabbit populations and its shrinking habitat, as a result of the construction of dams and roads as well as the use of illegal traps for rabbits and foxes, that contributed to the decline in the Iberian lynx population. The recovery is due to the so far well succeed reintroduction of adult animals born in captivity. Since 2010, the Iberian Lynx National Breeding Centre, located in Algarve (southern Portugal), managed to get 101 cubs born and survive. Eighty of these cubs had a successful reintroduction into the natural environment, and the others were delivered to zoos or maintained in captivity as reproducers.



EUROPE'S LARGEST MAMMAL

Poland has 95 threatened species, according to the IUCN Red List. Eastern Poland is part of a broader region, Polesia, which spans across three countries more: western Russia, southern Belarus and northern Ukraine. It is considered the Amazon of Europe, not only because of its large area but also because of its biological diversity. It is the largest wilderness on the old continent, with millennia-old forests, vast wetlands and hundreds of thousands of species. Over the past few decades, deforestation and climate change have threatened several endemic species, such as the Eurasian lynx, the largest of the four known lynx species.

The river dolphin and the brown bear are also endangered, although their respective populations have recovered in recent years and they are now classified as vulnerable species. The European bison is Europe's largest mammal and has already been on the brink of extinction as a result of being hunted for its skin and horns. In 2008, only 800 specimens roamed the Bialowieza forest, a nature reserve on the border between Poland and Belarus. In recent years, conservation efforts and the reintroduction of the species into its natural habitat has helped population numbers grow and the European bison is now classified as a vulnerable species.

Shortly after World War I the species was extinct in the wild and the captive population consisted of just 29 males and 25 females.

*The European bison
has been nearly
extinct but
conservation efforts
have been successful.*

JUMPING TOWARDS SURVIVAL

Of the more than 7,000 species that are threatened in South America, a significant portion is endemic to Colombia, the third South American country with the most animals and plants under the threat of extinction. Colombia has a variety of natural ecoregions that are home to a vast and unique biodiversity, including the Andes mountains, the Pacific Coast region, the Amazon rainforest and several other inland water systems. Indeed, Colombia is the country with the second-highest biodiversity in the world. The *Atelopus minutulus*, also known as the Colombian stubfoot toad, is one of the endemic species that is critically endangered. The destruction of its habitat, due to deforestation, intensive farming and pollution, is causing this species to disappear.

© Ronald Parrick / Getty Images



SAVING THE MACAWS IN COLOMBIA

@Jerónimo Martins

"It is not too late to make a difference, but only if we start now" through "transformative change" in society to slow the "drivers" of the biodiversity loss that threatens man and is just as catastrophic as climate change, warns Sir Robert Watson, chair of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystems (IPBES). Jerónimo Martins accepted the challenge and is supporting a new project to save the macaws in Colombia, in particular the military macaw (*Ara militaris*) and the red-and-green macaw (*Ara chloropterus*), whose populations have been declining in recent years. Although not yet endangered, according to IUCN data published in early 2020, action must be taken before it is too late. In 2019, the Jerónimo Martins Group launched a project to protect these two species, in a partnership with the ProAves Foundation.

As part of the project, the conservation status and habitat of the red-and-green macaw and the military macaw were assessed at the Montes de Oca Forest Reserve, in Guajira, which has a high biodiversity, with more than 200 plant species, 164 bird species, 35 mammal species and 45 amphibian and reptile species. The conservation of the forest where these two macaw species live and reproduce is essential to their survival. That is why 1,000 trees of 16 different species were planted in an area spanning 58 km².

Activities were also held in schools in the Montes de Oca region to raise awareness among local communities. This initiative encompassed more than 200 children, aimed at raising awareness for the need to protect the habitat of these species and showing them how to fill in the monitoring form for sightings. In three months, 50 records were collected indicating the location of where the macaws were sighted. This information is essential to implementing the appropriate conservation measures to prevent these birds from being classified as endangered species.

This species was abundant in the early 1980s, but the actual population size is suspected to be fewer than 50 mature individuals.



CELEBRATING LIFE

In the year in which we blow out the candles on the 40 years of Pingo Doce and the 25 years of Biedronka, we wanted to look further into the traditions around anniversary celebration. Why do we eat cake? Why do we sing the “Happy Birthday” song? The answers are not that simple, as each country has its own cultural habits and customs. Let’s dig into them.

WHY DO WE CELEBRATE BIRTHDAYS?

**JUAN PABLO
QUINTERO**



ANTHROPOLOGIST/
ARCHAEOLOGIST AT THE
LOS ANDES UNIVERSITY.

BIRTHDAYS are celebrated very similarly around the world or, at least, alike in those countries that count time according to the Gregorian calendar. In spite of the differences between regions and countries due to the evident idiosyncratic variances, the essence is basically the same: to commemorate someone's birth through a yearly celebration which involves some type of rituals that appear to be universal. It is not easy to track the origin and evolution of this ephemeris. There is not an "official story" on the matter, but there are a lot of hypotheses. Some scholars go back to Egyptian beliefs on death, some refer to an ancient Greek cult to the goddess Artemis, and some others agree in that the first birthdays celebrated as such were registered in ancient Rome, although celebrations were just for men. In any case, it seems clear that it has pagan roots as can be grasped by the fact that they were banned by Christianity during the first centuries of this era, until Christians started to commemorate Jesus's nativity. However, there is not an evident connection between all these stories and the fact that we now celebrate our relatives' and friends' birthdays as we do. Notable though is the fact that some traditions from the pagan past apparently remain in the performances of certain modern customs. It is the case of sharing a cake during a party, blowing out candles while making a wish, gift giving, or even blindfolded breaking of a piñata with a stick to claim the prize hidden inside. All these practices can be traced a long time ago and far away, but with different significance. As most of the rituals that we practice today in Latin America, it is probable that the "way" of birthday celebrations in Colombia mingles a series of different traits that were acquired some time during the 19th century and evolved during the second half of the 20th century. This is because, after the French Revolution, many western countries adopted Romanticism as the canon for what was called "the idea of nation" which would profile people's identities within a territory. In Colombia, particularly, elites brought numerous symbols from Germany, which finally mixed with local pre-Hispanic and colonial traditions in a very particular syncretism. Mass production, consequence of the Industrial Revolution, made sugary cakes and other luxury products available to a large population and so the *kinderfest*, as was called in Germany, became more and more popularized.



© Gilles Mangasom / Getty Images

It looks like a wedding, but it is a *quinceañera*, the celebration of the 15th anniversary of a Colombian girl.

During the second half of the 20th century, new technologies of information and communication influenced the public sphere around the world. Later, cultural globalization opened its way and soon after we all started to sing "japi verde tu yu" – the way hispanics pronounce "happy birthday to you" –, while wearing tight (sometimes very tight) conic hats, blowing whistles, applauding and cheering the *cumpleañero*. All this is not to say that the pagan past has nothing to do with birthday celebrations today. Several rituals such as lighting candles to ward off evil spirits, making wishes, or even gift-giving, probably come from Celtic social traditions from the late period of the Roman era and from Germanic tribes during the early medieval period. All these cultural practices most probably had different purposes which were paganized, so to say, by Christianity and, along the way, mystified. The significance of birthdays today is a more contemporaneous one. Ritualized according particular cultural norms. Symbols remain but meanings change. By the way, the history of the "Happy birthday" song is worth mentioning. The rhythm was composed by Patty Hill and Mildred J. Hill in 1893 but with very different lyrics. During the first half of the 20th century, the lyrics started to change slightly until they became what they are now. Rhythms remain but lyrics change.

Mass production, consequence of the Industrial Revolution, made sugary cakes and other luxury products available to a large population.

FROM SINGING “GOOD MORNING” TO A GLOBAL “HAPPY BIRTHDAY”



Marilyn Monroe singing “Happy Birthday” to USA President John F. Kennedy on his 45th birthday, celebrated at a Democratic Party event, in 1962.

Later on, in 1924, the song was included in a songbook edited by Robert H. Coleman without their permission. The author also added a second verse, containing the familiar “happy birthday”. After Mildred’s death, Patty and a third sister named Jessica took Mr. Coleman to court, where they proved that they, indeed, owned the melody. However, unbeknownst to them, the tune of “Good Morning to All” and the lyrics of “Happy Birthday to You” had already been published together many times before 1935: the first book including the combination is “The Beginners’ Book of Songs,” published by the Cable Company, a piano manufacturer, in 1912. In the mid-thirties, the tune was widely sung as a birthday celebration across the U.S.A., but the original lyrics had been forgotten. At that time, Western Union was a telegram company, and decided to use the song in its first ever singing telegram. “Happy Birthday to You” was also featuring in two Broadway musicals. In 1935, Hills book’s publisher, Clayton F. Summy Co. filed for the copyright. Then, in 1988, its successor, the Birch Tree Group music publishers, sold the copyright to Warner/Chappell for an estimated 25 million dollars (22 million euros).

The song’s strange tale took a twist in 2015, when filmmaker Jennifer Nelson filed a lawsuit against the music publisher. As part of a documentary she was making about the song and its history, she had paid 1,500 dollars (1,300 euros) to secure the rights. The following year, U.S. district judge in Los Angeles ruled that the company owned the copyright to a specific piano arrangement of the song, rather than the song itself known today.

As a result, “Happy Birthday to You” belongs to public domain since 2017. “Sing it loud, sing it proud, and sing it for free,” said a statement from the law firm which represented plaintiffs in court. Prior to the trial, Warner/Chappell had been earning 2 million dollars (1.7 million euros) a year licensing the song for commercial use. “Happy Birthday to You” is credited 471 times in the Internet Movie Database. But its defining performance was probably Marilyn Monroe’s sultry serenade to President John F. Kennedy in Madison Square Garden on May 19, 1962.

THE story of how “Happy Birthday” became the world’s most sung song takes us to Louisville, Kentucky, in 1893. Mildred J. Hill was teaching at the kindergarten school where her sister Patty was principal. Mildred wrote a little melody, Patty filled it with some child-friendly words and, together, they created a song to greet welcoming students to class each day. That quickly spread throughout Kentucky and beyond. The catchy tune went: “Good morning to you / Good morning to you / Good morning, dear children / Good morning to all”. That year, the sisters published it in a collection entitled “Song Stories for the Kindergarten”.

EGYPTIANS THREW THE PARTY

“On the third day, which was Pharaoh’s birthday, he made a feast for all his servants and lifted up the head of the chief cupbearer and the head of the chief baker among his servants.” (Genesis 40:20). This Bible’s reference is the oldest record of a celebration of a birthday, though some scholars claim it referred to Pharaoh’s birth as a god.

ROMANS MADE IT FOR EVERYONE

While the Roman government created public holidays in honour of famous citizens, regular citizens celebrated the birthdays of their male family members and friends.



GREEKS LIT THE CANDLES

Moon-shaped cakes were offered up to Artemis, goddess of the moon, as a tribute. To recreate the radiance of the moon, Greeks decorated them with lit candles.

AND NOW, IN PORTUGUESE

The Portuguese version, “Parabéns a Você”, has its roots in Brazil. “Happy Birthday” arrived in this country in 1930. Unhappy with the fact that it was not sung in Portuguese, the host of Rádio Tupi, based in Rio de Janeiro, launched a contest for the listeners to write lyrics for the song, in 1942. Bertha Celeste Homem de Mello was the winner, among more than 5,000 participants. According to the Brazilian newspaper Globo, Bertha’s daughter began to receive, in 2009, 16.66% of the copyright whenever the song was sung in public in Brazil, while the remaining 83.4% were divided between Warner Chappell and Hills sisters’ heirs.

WISHING HAPPINESS UNTIL 3,000

In Colombia, the song is quite similar to the Spanish one, but adds a special wish: “que los siga cumpliendo hasta el año 3,000”, meaning “hope you have more birthdays, until the year 3,000”. Every birthday party in the country has a piñata and the traditional *ponqué negro*, a wine-drenched cake with a cream or sugar coating. When a girl turns 15, there is a coming of age party that marks the transition from childhood to young womanhood. The *quinceañera* usually wears colourful dress which is the centerpiece of the celebration. Other – less orthodox – traditions include “la enmaizenada”, a prank where a box of *maizena* (corn starch) is dumped on the birthday person.

100 YEARS!, SING THE POLISH

“Sto Lat” (meaning “100 Years”) is the Polish birthday song’s title. Its tune is very different from the one in English. “Sto Lat”’s author and exact origin are unknown. The phrase is also often used to wish someone longevity or good fortune, or as a toast without the song. That is what happens every name day or “imieniny”. In most of Poland, especially among older people, name days are as important as one’s birthday.



The song entered into public domain in 2017, ending a long-running suit over its copyright.

HAPPY NAME DAY

Until recently, Poles may not have known their friends' birthdays, but they certainly didn't forget their name days.



In Poland, New Year's Eve is known as Silvester's Day.

DURING

the historical period in which Poland was known as the Polish People's Republic (1952-1989), there was no better excuse for socialising than to get together on the days that celebrated popular names, such as Anna, Krystyna, Ryszard or Tadeusz. Opportunities for celebrating name days arose quite often since pretty much everyone knew someone called Anna or Tadeusz. So if you liked parties, the solution was simple: opened a calendar, checked whose name day was, confirmed whether you had a person with such a name among your friends and off you went, celebrating at his or her place that very same evening. You didn't have to worry too much about a gift: a bunch of flowers was more than enough.

The name day tradition has its roots in the Catholic religion, which has a strong presence in Poland. Name days are associated with Catholic saints, so important dates in the Polish calendar are almost always associated with popular names. New Year's Eve is known as Silvester's Day ("Sylwester") in Poland. November 30 is St. Andrew's Day ("Andrzejki"), which is usually celebrated with a fortune telling tradition as our future is unveiled through a candle's flame. May 15 is St. Sophie's Feast Day known as "Cold Sophie" ("Zimna Zośka"), when people curiously use their thermometers to predict if there would be spring frosts that year. We also have St. Nicholas' Day ("Mikołajki") on December 6, in which children are offered a gift (yes, in December, Polish

children receive gifts twice). At St. John's Night ("Noc Świętojańska"), celebrated on June 24, Poles must search for a fern flower and throw garlands on the rivers. Midsummer Night is associated not only with the summer solstice but also with the name *John*, as it is the feast of St. John.

For today's generations of Poles, name days are a remnant of "times rightly passed". Birthdays were already the dominating celebration days in some regions, such as Kashubia or Upper Silesia. For some time and after the political transformation in the early 1990s, when Poland fell under a strong influence of the western culture, birthdays prevailed over name days almost completely. So today, only parents and grandparents still remember to give their best wishes to the person celebrating their name day. Young Poles are more likely to celebrate their birthdays rather than their name days, unless they use public transportation services. Whether you are on a tram or a train, electronic information boards in Poland still display information on the name being celebrated on the given day.

The tradition has faded so much that we sing the old Polish toast song "Sto lat" ("One hundred years") both during birthday and name day celebrations, although today this song (one of the two songs known to every Polish person, the other being the national anthem) is sometimes replaced by the English "Happy Birthday".

As Poland fell under a strong influence of the Western culture as from the early 1990s, birthdays prevailed over name days almost completely.



Calendar with the names that are celebrated on the 24th of December. Adam, Ewa or Grzegorz are some of them.

BOOKshelf

BOOKS FROM AROUND THE WORLD

Here is a handpicked selection of books that will allow the interested reader to further explore some of the topics addressed in this magazine. Because books are only alive if they are read, why not giving these a try?

POETRY

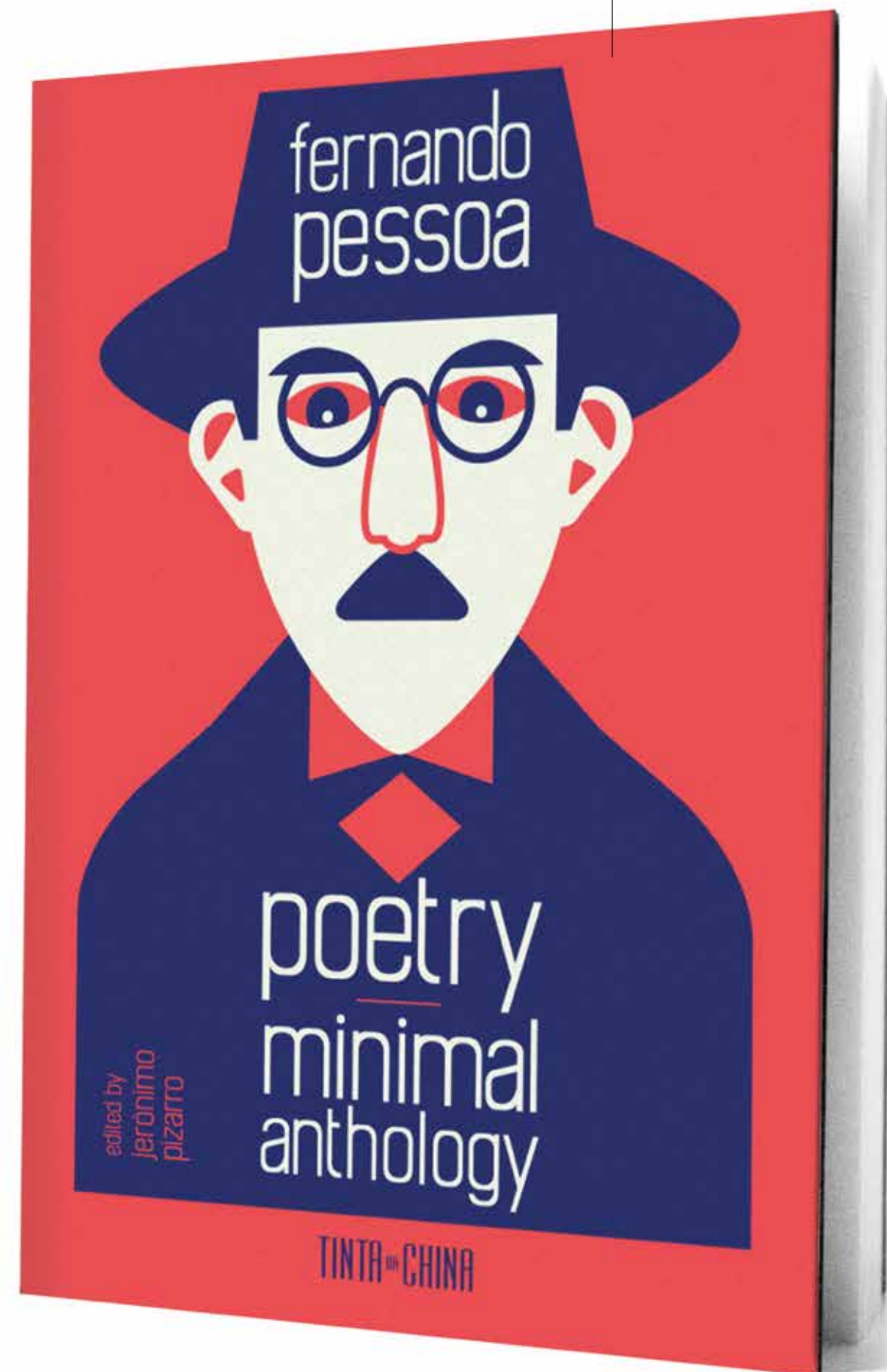
1.

Minimal Anthology

IT is a book that takes the reader to discover some of Fernando Pessoa's main alter egos. Like the master Alberto Caeiro (one of Pessoa's heteronyms) describes, it's an invitation to "unlearn Pessoa" and start reading the poet as if we had just met him for the first time. Edited by Jerónimo Pizarro, the Colombian that fell

in love with the Portuguese poet's verses, the book proposes the discovery of poems like "Opiarium" or "The Tobacco Shop", which starts with the disappointed Álvaro de Campos: "I'm nothing./ I'll always be nothing./ I can't wait to be something./ But I have in me all the dreams in the world."

The anthology is a (re)discovery of Fernando Pessoa's most admired poems.



BOOKshelf

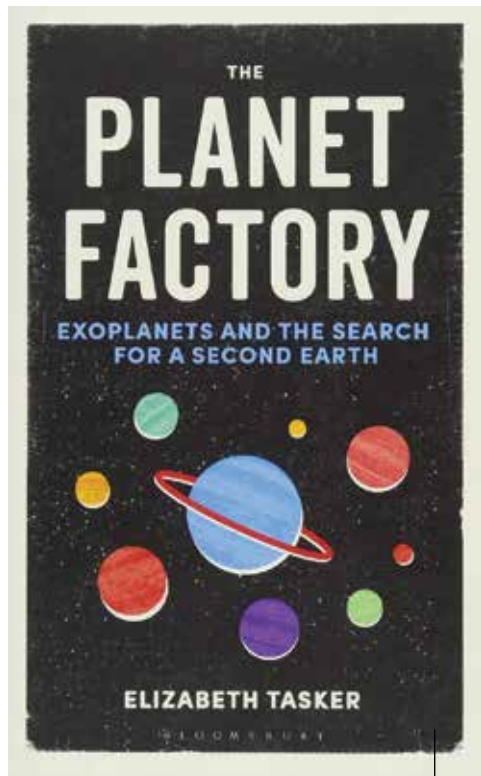
BOOKS FROM AROUND THE WORLD

2.

THE PLANET FACTORY

A cutting-edge journey through the ongoing search for worlds like our own

In “The Planet Factory”, the British astrophysicist Elizabeth Tasker, an associate professor at the Japan Aerospace Exploration Agency (JAXA), describes the current state of astronomy of extrasolar planets in an entertaining and accessible way. The author discusses how these planets form, their structure and features, and detection techniques used in their discovery, while looking at what readers can learn about the surface environments and planetary atmospheres. Each result is an invitation for us to question if it hints at the enticing possibility of alien life elsewhere in the cosmos.



The exploration of exoplanets and the hints on the possibility of alien life discussed in an entertaining and serious way.

3.

The life and death of the hive in an illustrated poem-journal by Sean Borodale.



BEE JOURNAL

The Birds and the Bees

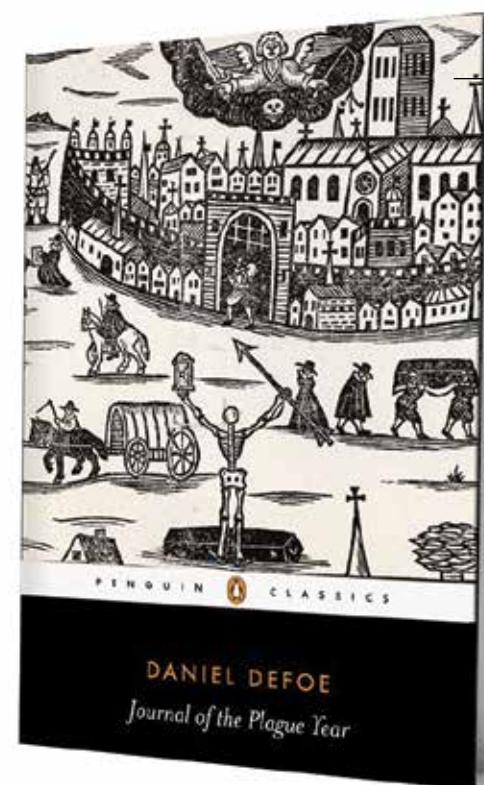
A poem-journal of beekeeping that chronicles the life of the hive, “Bee Journal” introduces us to the living architecture of the comb, the range and locality of the colony, as well as its flights, flowers, water sources, and parasites. Relying on a thrilling fresh imagery, this book by British poet and artist Sean Borodale scrutinizes life and death in nature with an unusual intimacy. “Bee Journal” is part of “The Birds and the Bees” series, designed by Scottish studio Timorous Beasties, which is famous for their designs inspired in the natural world. In 2012, it was shortlisted for the Aldeburgh First Collection Prize, the Costa Poetry Book Award and the T. S. Eliot Prize.

4.

A JOURNAL OF THE PLAGUE YEAR

Daniel Defoe’s chronicle of the Great Plague of London

In 1665, the bubonic plague struck the British capital in what became known as the Great Plague of London, claiming over 97,000 lives. Daniel Defoe, best known for being the author of “Robinson Crusoe”, was just five at the time but he later called on the personal diaries of his uncle, Henry Foe, who was a saddler in East London, to write this vivid chronicle in 1722. The story recounts one man’s experiences during the last epidemic of plague in the city. Defoe recalls how the authorities of London tried to contain the disease by banning public gatherings, closing schools, and quarantining infected people, showing a striking resemblance to 21st-century pandemics. Considered one of the most original and harrowing accounts of living through a virulent pandemic, “A Journal of the Plague Year” still educates readers three centuries on.

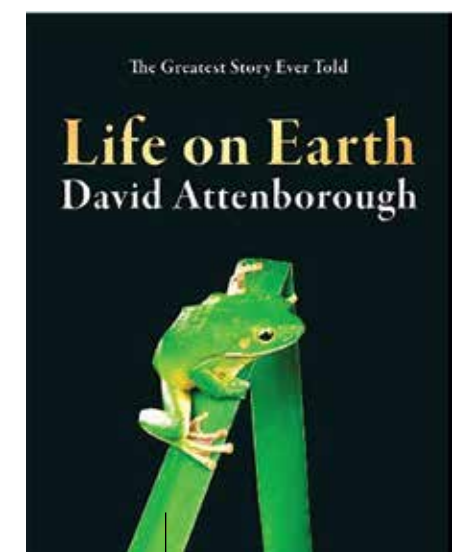


Daniel Defoe’s report of the Great Plague of 1665 has startling parallels with today.

LIFE ON EARTH

The greatest story ever told

A celebration of the 40th anniversary of its first edition, this book is a new, beautifully illustrated version of David Attenborough groundbreaking “Life on Earth”. Taking account of modern scientific discoveries from around the globe, the author has chosen completely new pictures to help illustrate it in a much elegant and contemporary way. Following the great success of BBC’s iconic TV classic, the book is, at the same time, an unforgettable journey of discovery and a tribute to the evolution of millions of species of living organisms on Earth. Attenborough’s unique approach captivated generations of fans, and is still alive for a whole younger generation of nature lovers.



A journey and a tribute to the evolution of the life of millions of species of living organisms.

5.

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