

# THE WONDER OF REALITY

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**In our modern world, individualism and isolation have distanced us from reality, leaving many with a deep sense of loneliness and boredom. But has reality truly lost its appeal, or have we simply stopped seeing its wonders?**

This exhibition invites you to rediscover your sense of wonder through the stories of contemporary scientists and how through their groundbreaking discoveries they were reminded of the beauty and mystery inherent to reality.

Join us in exploring how science can be approached with fresh curiosity and how we can rebuild a deeper, more meaningful connection with the reality that surrounds us.

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Marco Pisa, Fernando Valenciano

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# A LONELINESS PANDEMIC

In our modern world, individualism and isolation have distanced us from reality, leaving many with a deep sense of loneliness and boredom. **But has reality truly lost its appeal, or have we simply stopped seeing its wonders?**

## The Guardian



## 'Happiness recession': UK 15-year-olds at bottom of European satisfaction league

Robert Booth, Thu 29 Aug 2024

Quarter of British teenagers in age group report low life satisfaction, compared with 7% of their Dutch peers

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Catherine L'Ecuyer,  
The Wonder Approach to Learning

66 Wonder, innate in the child, is an inner desire to learn that awaits reality in order to be **awakened**. Wonder is at the origin of reality-based consciousness, thus of learning. [...] Unfortunate misinterpretations of neuroscience have led to false brain-based ideas in the field of education, all of these based on the scientifically wrong assumption that children's learning depends on an enriched environment. These beliefs [...] have contributed to **deadening our children's sense of wonder**.

This is the case of a child that has been bombarded with information, [...] overwhelmed by intensive technological multitasking and/or consuming environment. As a result, the senses' threshold of "feeling" reality goes down and wonder has less and less to expect from and to work with, until it is as though deadened.

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Marco Bersanelli,  
Only Awe Knows

Deep within every person, there is something that, like in a child, keeps their eyes wide open, thirsty for reality.

And the origin of this attraction is not merely the fact that they can "measure" and "analyse" things, but the simple yet dizzying fact that **reality exists**. It is a sense of wonder at the mere fact that things exist. A wonder that does not remain as an aesthetic feeling, nor is it reduced to momentary curiosity, but rather **marks the beginning of a process that sparks the desire to engage with the world, to know it**. Wonder accompanies every step. Every step in research is, in fact, a beginning.



# DEVOID OF WONDER WE REMAIN DEAF TO THE SUBLIME

Don Luigi Giussani,  
The Religious Sense

“If I were to open my eyes for the first time in this instant, emerging from my mother's womb, I would be overpowered by the **wonder** and **awe** of things as a “**presence**.” I would be bowled over and amazed by the stupefying repercussion of a presence that is expressed in current language by the word “thing.” **Things!**”

G.K. Chesterton,  
Orthodoxy

“When we are very young children we do not need fairy tales; we only need tales. Mere life is interesting enough. A child of seven is excited by being told that Tommy opened a door and saw a dragon. But a child of three is excited by being told that Tommy opened a door.”

Catherine L'Ecuyer,  
The Wonder Approach to Learning

“Why is it not raining upwards? Why is the moon round and not square? Children have asked these questions since the beginning of time. When children ask these questions, they might not be demanding an answer. Rather, they might be wondering in the face of reality. They are wondering because it rains downwards and because the moon is round. When children ask these questions, they are, as Plato and Aristotle suggested, philosophising. **They are surprised at the mere fact of seeing that things “are”.**”



L'information Scolaire © Robert Doisneau

Science follows reality's invitation to uncover these ‘things’ that fill us with wonder. It is a response to the mysteries that captivate our curiosity, urging us to explore, question, and understand. From the vastness of the cosmos to the intricacies of a single cell, science seeks to reveal the underlying truths that shape our world. Each discovery deepens our sense of awe, showing that the more we learn, the more there is to marvel at.

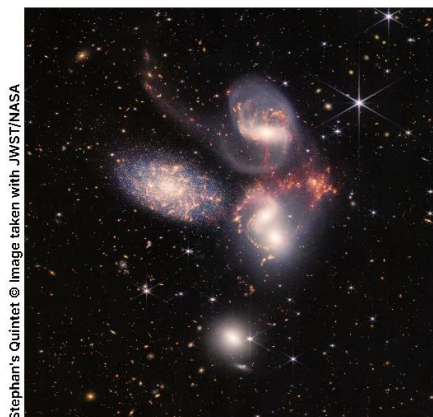
Carlo Rubbia,  
Alla ricerca  
dell'infinitamente  
piccolo

“I have said it many times before, but I love repeating it: when we observe a particular phenomenon—such as a starry night—we feel deeply moved and sense within us a message that comes from nature, something that transcends and overwhelms us. [...] I feel honoured to be able to witness these things, fortunate because **nature is truly a spectacle that never ceases to amaze.**”

# WHY SO MUCH BEAUTY?

Rigorous scientific investigation continuously unravels previously unimaginable details of reality, pushing the boundaries of human knowledge and revealing the intricate fabric of existence.

Yet, rather than diminishing our sense of wonder, each breakthrough only deepens the mystery. With every answer comes a new question, reminding us that, despite our intellectual progress, we remain on the edge of an ever-expanding unknown.



From an interview with  
**Juan José Gómez Cadenas**



There are 100 billion stars in the galaxy and 100 billion galaxies in the Universe. The God of the visible created a gigantic, overwhelming cosmos that places us in our tiny spot, forcing us to lift our gaze to the stars. I do not believe in God, so why, then, such immensity?

Beneath your fingernail, a hundred billion neutrinos pass every second. The God of the invisible created tiny particles, almost nothingness, angels or ghosts that I have pursued throughout my career. Yet these tiny specks of almost nothingness may be the very ones responsible for the existence of the Universe, the ones that introduced the first imbalance in matter over antimatter. If the God of the invisible had not created them, neither the Universe nor we humans would exist. I do not believe in God, so why, then, such futility?

In your brain, a hundred billion neurons make you the most prodigious machine in the world. A machine capable of perceiving the beauty of a rose and the elegance of a mathematical equation, a machine that created Shakespeare and Dante, Rilke and Maimonides, Yusupovsky and Einstein. The God of the complex created this machine that perceives the Universe and marvels at both the visible and the invisible. I do not believe in God, so why, then, such beauty?

**If we are only  
shadows, why,  
then, so much  
love?  
Why so much  
beauty?**





# MEETING REALITY WITH OPEN ARMS

## WITHOUT HOLDING BACK



**Margaret Esiri,**  
Neuropathologist

The formula that people used to repeat when I was young was that you only really need two things in life: love and work. Both require an enormous amount of commitment and determination, and you need to put a lot into them. [...] You can't be constantly thinking about whether you're spending too much time on one or the other. [...] **You've got to throw yourself into both of those. And that's what I've got the most satisfaction from.**



**Juan José Gómez Cadenas,**  
Physicist

So these three things (cynicism, materialism and defeat) conspire against you to become less touched by wonder; you become dormant. There's no universal solution to that except **fighting back**.[...] Professionally, one way to fight back is that you don't let yourself be hidden into a corner. You refuse to be the boss of the group that just seeks funding and writes papers [...]. You try to stay close to Earth. Probably in life it is the same, **you take seriously the gifts that life gives you.**

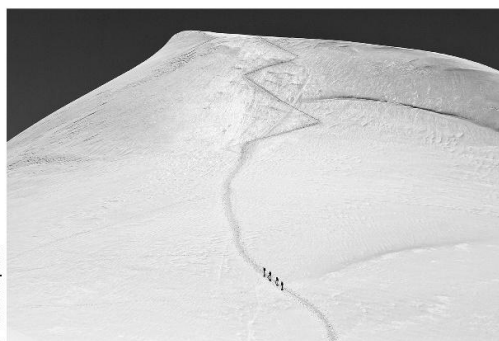
## A PASSION FOR REALITY



**Margaret Esiri,**  
Neuropathologist

I realised the **importance of having an open mind**, realising that the ideas that you've generated early in your career, shouldn't lead you to be thinking rigidly. You might be thinking something and then suddenly you've got to rethink. You've got to be ready for that.

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**Mauro Ceroni,**  
Neurologist

The most beautiful things do not come from your mind. So, **the most beautiful things that happened in my life came from reality. Unexpectedly. Unforeseen.** You really need to have a lot of passion, a lot of ideas, and a lot of projects. But also, to **stand in front of reality with your eyes wide open**, attentive to all aspects and circumstances. In that way, life unfolds in a very beautiful way. I never could have imagined my life and the beautiful things that happened—and still happen—even now that I'm retired.

## MENTORS FOR THE JOURNEY



**Juan José Gómez Cadenas,**  
Physicist

**For a scientist it is crucial to find teachers and role models**, particularly when you are young. Not only do you learn from these people, you copy them, you get inspired by them. I ran into people that show such a level of generosity, you feel you need to give all these gifts back, you must give back some of what you have received. In a way this has marked my entire career. I was someone who was gifted with this generosity, this guidance. Later in life I tried to do the same and in doing the same you have a very creative and productive interaction with students, you get used to working with young people and to value them. So you don't disconnect yourself from your younger self.



**Mauro Ceroni,**  
Neurologist

Everyone who is really searching for something in life, who's engaged with reality, you feel them as your companion in the sense that they help you be yourself. [...] I can walk better if I'm with other people who share the same kind of passion, the same kind of drive.

**Everyone else who is truly engaged with your reality is your companion.**

## WONDER, HUMILITY, AND GRATITUDE

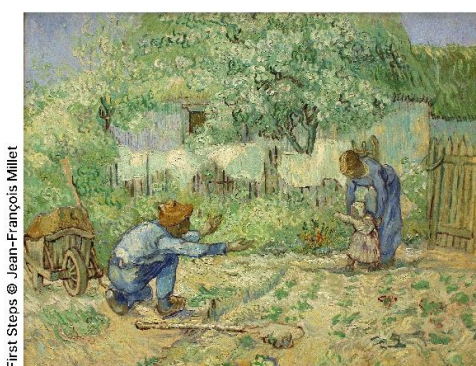
Catherine L'Ecuyer,  
The Wonder Approach to Learning

Before the already known, a child may wonder again and again, **because to wonder consists in “never taking anything for granted”, even that which is already known.** So regardless of whether a thing is already known, the **wondering attitude is to consider this thing “as if for the first time”, as well as “as if for the last time”.** This metaphysical manner of thinking is typical of a person that realizes that the world is, but also, that could not have been at all. We are—the world is—contingent. If we cease to exist, the world still exists... We participate in something greater than us, the world that surrounds us. **Wonder is precisely what allows us to be conscious of the surrounding reality, through humility and gratitude.**



Juan José Gómez Cadenas,  
Physicist

Every time more and more, there is some tendency to give up, calcify yourself, forget about everything that was worth it the first time. I think this places in many aspects a wonder in life, in the simple things in life: the fact that wine is tasteful, paella is great or the fact that drinking tea in the afternoon is a gift.



First Steps © Jean-François Millet

## A WONDER THAT KEEPS YOU YOUNG



Juan José Gómez Cadenas,  
Physicist

You wake up. Right, what do I do today? Oh well, **a miracle happened today, and yesterday.** My children are here! I'm the father of my children! **How come?!** If you keep this sense of wonder, which is the same as when you look at nature and the neutrinos oscillating... the two things are very close! It didn't need to be like that! So, how come? How on Earth have I been blessed with these children? This sense of wonder drives you to behave in a different way. I tend to smile more than other people. The wonder of my children, wife, friends... all these things. It didn't need to be like that, and because you have that, you're compelled to look around. Basically, **what keeps you young is the combination of curiosity, wonder, and being truly thankful for whatever has given you all these gifts.**

## A WIDER HORIZON



Javier Bernacer,  
Neuroscientist

The main reason why I went to interdisciplinary research is because **I was interested in going back to the big questions.** These are questions such as: what is the brain for? What is the connection between mental activity and brain activity? Why do people behave the way they do? [...] I talk to young researchers; and they tell me that at the beginning they were interested in neuroscience because they were interested in these big questions. But then, even by the second year of their PhD, they have forgotten about them. They tell me: “I would like to go back to these big questions!” We are channeled to see reality in just one way. But when you have this interdisciplinary training, you can see reality in a very different way, in a holistic way, and then you can find answers to these questions.



# A COMPREHENSIBLE MYSTERY



Starry Night Over the Rhone © Vincent Van Gogh



Juan José  
Gómez Cadenas,  
Physicist

The universe is predictable. It's not only predictable; it's mysteriously predictable. You get the sense of, 'What is going on here?!'

And this is wonder.



Juan José Gómez Cadenas,  
Physicist

When you see this for the first time, you realise that the universe is both far more comprehensible and, at the same time, more mysterious than you had previously thought. In my opinion, this is the moment you wake up as a scientist—when you feel this sense of surprise.

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Albert Einstein,  
What I believe

The most beautiful and profound emotion we can experience is the **feeling of mystery**. It is the **seed of all true art and all true science**. A man to whom this feeling is unfamiliar, who has lost the faculty of wonder and the ability to stand in awe before creation, is as good as dead—or at least blind [...]. **It is enough for man to try to comprehend just a little of these mysteries each day, never giving up, never losing this sacred curiosity.**

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From a testimony attributed to Enrico Fermi by M. Micheli,  
Enrico Fermi e Luigi Fantappiè. Ricordi personali

One evening, or rather one night, as I was waiting for sleep which was late in coming, I sat down in a field, listening to the quiet conversation of some farmers nearby. They spoke of very simple things, though none of which was coarse or frivolous as happens in other social classes. Our farmers rarely speak and when they do it is to say something necessary, sensible, and at times, wise. Eventually they became silent, as if the serene and solemn majesty of the night, moonless but teeming with stars, had cast down a mysterious enchantment upon those simple souls. **Rupturing the silence, but not the spell, the rustic voice of a burly, rough farmer, who was lying stretched out on the grass, his eyes fixed on the stars, exclaimed, almost as if he were obeying a profound inspiration, "How beautiful! And yet some say God doesn't exist."** [...]

That Umbrian farmer did not even know how to read. But in his heart, safeguarded by an honest and hard-working life, there was a small corner in which the light of God descended with a power not much inferior to that of the prophets and perhaps greater than that of philosophers.