

“Muscular strength may break a shield and even destroy life, but only the invisible power of love can open the human heart. I shall make love my greatest weapon, and none whom I encounter will be able to defend against its force.”

OG MANDINO

“To all those who seek in knowledge not only answers, but doorways, paths leading to the unknown, to the mystery that dwells both within and beyond us. May you find within these pages the strength to question, the courage to change, and the wisdom to keep growing. To my father, who never truly left. Though the distance between us is invisible, I feel you in every heartbeat of my thoughts, in every discovery. Your absence is a constant presence, a light guiding my steps towards what we always longed to understand.”

HEARTBEATS OF CONSCIOUSNESS

Title of the work: *Heartbeats of Consciousness*

Author: José Ángel Moreno Cabezuelo.

Cover design and AI-generated artwork using Freepik tools (www.freepik.com): Núria Penín Navascués.

Production: Hilos de Azul Ediciones.

Edition: First edition.

Printed using print-on-demand technology.

Year: 2026

© Text: José Ángel Moreno Cabezuelo.

© Interior illustrations: José Manuel López García.

ISBN: 978-1-9193859-0-7

No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means (electronic, mechanical, photocopying, recording, or otherwise) without prior written permission from the copyright holders. Any infringement of these rights may constitute an offence under intellectual property law.

HEARTBEATS OF CONSCIOUSNESS

*Between Science, Mind, and Soul:
A Journey Toward Understanding the Self.*

Dr. José Ángel Moreno Cabezuelo

Table of contents

Prologue	13
I. The Awakening of Passion	15
II. Resilience Amid Shadows.....	25
III. The Wisdom of Nature and the Inner Discovery.....	31
IV. The Light within You.....	41
V. Inverted Inertia, the Power of the Invisible	49
VI. The Journey Towards Neuroplasticity	59
VII. The Inner Microcosm	65
VIII. Between Science and Being	77
IX. Harmonising Mind and Emotions.....	85
X. The Whisper of Petrichor	95
XI. The Art of Imperturbability	101
XII. Towards the Inner Forest.	111
XIII. The Power of Suggestion	119
XIV. Beyond your Genes.....	125
XV. The Awakening of Consciousness through Wu Wei.....	135
XVI. Echoes of Delphi.....	141
XVII. The Heart-Brain-Consciousness Axis (The C-Factor).....	147
XVIII. Inner Rebirth: from Adversity to Life Purpose	159
XIX. The Birth of a New Era	169
Epilogue: The Roots of the Soul.....	171
Acknowledgements	175
Bibliography	177

Prologue

For as long as I can remember, I have been fascinated by the invisible frontier that, for centuries, we have drawn between science and the arts, between reason and emotion, between the left and right hemispheres of the brain. Yet the more I have lived, the more I have realised that this frontier is an illusion, life does not divide itself into watertight compartments. Rigorous thought and creative flight, logical reasoning and the wisdom of the heart, are not opposites; they are part of the same heartbeat, of a single consciousness expressed in many forms.

Philosophy, in its purest essence, is nothing more than an attempt to understand life. And science, when it is honest, does not seek to accumulate cold data, but to unveil the beauty of the universe; its secret music. Every mathematical formula is a coded poem; every symphony, a hypothesis about the human condition.

Human beings, in their totality, cannot be reduced to numbers or isolated emotions. We are thought and passion. We are questions and silences. We are the electric synapse that connects ideas, and also the shiver provoked by a sunset. To deny one of these aspects is to deny our very nature.

This book is an invitation to reconcile those parts that were never meant to be separated, to understand that in the very act of breathing, of learning, of feeling, of creating, forces converge that science describes and art sings. Within every heartbeat of our being lies a bridge between two worlds: the visible and the invisible, the rational and the intuitive, the tangible and the eternal.

If we accept that bridge, if we walk upon it with humility and curiosity, perhaps we will discover something greater than ourselves; the miracle of being alive. And we will come to understand that consciousness is not a goal, but a constant rhythm that invites us to live, to learn, and to love.

Welcome to this journey.

Pedro Vivar

I

The Awakening of Passion

“A Journey of a thousand miles begins with a single step.”

LAO TSE

Why do I tell this story? There are moments in life when a spark of inspiration can ignite a flame within us. This story is that spark; my motivation to share what I have learned along my own path towards a fuller and more fulfilling life. It is the spark that nourishes the flame from which this story is born.

On a freezing winter morning, Paula, a young woman passionate about science, made her way forward as the snow crunched beneath her feet, weaving a white tapestry across the pavements. She was heading eagerly to her first day at university. The cold caressed her cheeks, prompting her to tighten the scarf around her neck, yet her smile revealed the warmth of her enthusiasm for learning. Her attitude reminded me of myself as I prepare to face the world each morning, the restless murmur of the city awakening, the distant blare of car horns caught in the morning traffic, and the faint shouts of children on their way to school filled the air with the soundtrack of a new beginning. Though winter announced itself with the scent of burning wood, the warmth of her anticipation for knowledge far outshone the chill of that day.

In my youth, I shared Paula's deep fascination with science, and still do, for it allows us to understand the world around us. Over time, I have discovered that the knowledge I was gathering could

also be applied to developing my own path of personal growth. And that is the question I ask myself today, the very point of departure for this book: How might we awaken the desire within ourselves to live a full and meaningful life from a scientific perspective? How can we use the knowledge that science offers us to achieve a truly fulfilling existence? This story is a journey – a path that will allow us to discover it together.

Paula, the protagonist, is about to embark on this same journey. Her experience will help to guide our way and offer us clues for beginning our own.

That morning, as dawn still painted the Spanish sky in shades of rose, Paula felt a wave of nostalgia wrap around her like a warm blanket. It came with the memory of her childhood mornings, when she prepared for school. Between the rush of getting ready and the hurried sips of coffee, her memories flowed like a film playing in her mind.

Back then, while she ate breakfast, she used to watch a cartoon series called *Once Upon a Time... Life*. Those episodes, etched into her subconscious, offered a vivid picture of how our bodies work.

She clearly remembered those sturdy, red-coloured characters, resembling the superheroes from her favourite comics, though theirs was a far nobler mission. They carried large bubbles on their backs that represented oxygen, an element essential for life, which the red blood cells, like specialised vehicles, distributed through the circulatory system, along an immense network of highways connecting the body's various tissues.

In addition to oxygen, these tireless travellers transported a range of vital substances, including nutrients such as glucose, which provides the energy required for our cellular activity, and hormones, the chemical messengers that regulate many of the body's functions. For instance, adrenaline, a hormone released in moments of stress or danger, increases heart rate, preparing the body to react swiftly, a response known as fight or flight, which you have no doubt experienced in times of alert or danger.

There were also other, smaller and more athletic characters

who represented the invisible heroes of our nervous system: the neurons.

Imagine touching a hot surface. The first signal originates from the sensory receptors in your skin, whose speciality is detecting changes in temperature. This message takes the form of an electrical signal generated in response to the thermal stimulus, which is then transmitted through the sensory neurons to the spinal cord and from there to the brain, where it is processed in specialised areas that interpret sensations.

Once the brain has interpreted this signal as “extreme heat”, a response is generated; the instinct to withdraw the hand to avoid injury. This new message originates in the motor area of the cerebral cortex, which decides the course of action. From there, the signal becomes a command that shoots through the neurons at an astonishing speed. Once delivered, they move on to the next task, repeating the same process at a rate of 120 metres per second, equivalent to an incredible 432 kilometres per hour.

Neurons act as high-speed messengers, sending electrical signals through a network of “neural highways” until they reach the muscles of your hand. Upon receiving this signal, the muscles contract, producing the reflex action of withdrawing your hand from the hot surface.

This process, from the moment you touch the surface to the instant you pull your hand away, involves a complex communication system that begins with a simple contact and ends with a coordinated motor response. The beauty of this system lies in its efficiency and speed, allowing us to react to our surroundings almost instantaneously.

In simple terms, we could say that these cells work to perceive our external world and convey its appearance to the brain. For instance, when we experience the beauty of a sunset, the spectrum of colours stretching before our eyes reaches us thanks to the neurons of the optic nerve. These cells have the remarkable ability to capture the scene, transforming light and colour into signals that travel to the brain, where they are interpreted as the solemn panorama we so deeply enjoy. Thus, the cells responsible

for vision, directly connected to the brain, allow us to see and appreciate that landscape. Thanks to our eyes, we are able to delight in such a sight, yet without the direct interconnection between these visual cells and the brain, it would be impossible to perceive and revel in the beauty of the world around us. Moreover, neurons are responsible for regulating, harmonising, and coordinating the perfect functioning of our inner world, as though it were a finely tuned orchestra, ensuring that every perception, every sensation, contributes harmoniously to the complete experience of our being.

Paula listened to her professor offering such explanations. She was like a sponge, absorbing knowledge with an insatiable hunger to learn. Her boundless curiosity and perpetual thirst for understanding were fundamental expressions of her essence, though by no means did they encompass all of her virtues.

Paula was also generous, compassionate, and sincere, a young woman who treated others with empathy and a respect worthy of admiration. Armed with these qualities and values, she found her vocation in the field of biochemistry. She wanted to take on the challenge of becoming a renowned researcher and uncover the enigmas of the human brain that still lay beyond our comprehension.

For this eager student, the brain was a true treasure chest, overflowing with secrets waiting to be discovered. Each time she opened that chest and unveiled a new wonder, her face lit up with excitement, for she knew she was one step closer to understanding the workings of the most seemingly perfect machine in the universe.

From an early age, Paula had made the most of every opportunity her environment had offered her in order to expand her knowledge. She had attended countless lectures and courses to satisfy her curiosity and keep her mind ever expanding.

Her purpose in life, the reason she rose every morning, was to become an expert in neuroscience. She felt that by beginning her studies, she had embarked on an epic odyssey that would allow her to unveil the Holy Grail of the brain. Yet, it was not the pursuit of prestige or glory that drove Paula to chase this noble goal, but a firm conviction that her work could tangibly improve

people's lives. With her intelligence, discipline, and fervent passion, Paula believed she was destined to leave her mark on the field of neuroscience and, in doing so, revolutionise our understanding of the brain forever.

Paula imagined the brain not as an inert mass, but as a bustling city where every neuron was a citizen and every synapse a bridge between islands of knowledge. In this city, the neural networks shared information with the precision of a perfectly coordinated postal system, distributing essential data to the organs and systems of the body like the couriers of an interconnected empire. She dreamed of deciphering the language of these messengers, of unravelling the secrets of their routes and connections, and thus understanding how the brain, with its web of intricate, interwoven networks, could orchestrate the symphony of our existence. This vision, rich in both potential and mystery, fuelled her passion and drove her aim to unveil the deepest secrets of neuroscience, transforming the invisible into the visible, the incomprehensible into the intelligible, and the unknown into the familiar.

While still in secondary school, Paula had the privilege of attending a lecture that would mark a turning point in her life. The talk stirred a true emotional whirlwind within her; as the expert developed his theme, a storm of ideas and sensations blew through her mind. The speaker was none other than a renowned scientist, a true master in the art of unravelling the mysteries of the human brain. The beginning of his lecture was striking. He opened his address by posing a question to the audience gathered in the hall. The scientist challenged them directly: "What is the name of the cells that make up our brain?" The answer seemed obvious, and the entire audience replied in unison: "Neurons!"

However, the researcher had an ace up his sleeve, something that would change the way Paula perceived the world. With a gentle smile, the professor revealed that the answer was only partly correct. Paula felt that she still had much to learn, that what she knew was merely the tip of the iceberg.

In reality, the distribution of the different types of cells that make up the human brain is far more balanced than previously

thought. Roughly fifty per cent of the brain is composed of neurons –the cells that enable us to perform activities such as thinking, reading, and other mental processes. The remaining fifty per cent is made up of cells that play roles of equal importance, yet are often overlooked or underestimated: glial cells.

Glial cells are essential to the brain; they are like engineers working behind the scenes of our emotional and cognitive abilities. They provide a crucial structure, like the foundations and supports of a building, keeping the brain organised and facilitating the neurons' work in transmitting signals. They not only hold the neurons physically in place but also ensure that they receive the nutrients they need and protect them from harmful elements.

Beyond providing structural support, these cells create an environment that allows electrical signals to travel through the brain with great precision, at the speed of lightning, enabling us to react swiftly to what surrounds us.

Above all, glial cells safeguard the health of neurons, clearing away waste and maintaining the chemical balance necessary for the brain to function properly.

Without their presence, it would be as if a city's traffic control system suddenly stopped working, plunging everything into chaos, where vital signals would collide and be lost.

Through their continuous protection and maintenance, glial cells are the unsung heroes that ensure our neural networks, those vast highways of information, operate flawlessly, thus guaranteeing the proper function of this vital organ.

Glial cells are like invisible hands supporting the entire system. Without them, our brain would be lost, like a ship adrift upon an ocean of thoughts and emotions.

That conference transformed Paula. She felt as though every human being was filled with hidden treasures, herself included. In that moment, she experienced a profound epiphany. She realised that, just like the brain, she too was a complex being, composed of countless different fragments that together shaped her uniqueness.

In that moment, she made the decision to unravel every corner of her being, to learn not only her virtues but also her

weaknesses and imperfections. Like the glial cells, every aspect of her identity was essential, forming the very foundation of her personal growth.

This journey of self-discovery is, in itself, a reflection of how science illuminates the path of personal development, allowing us to understand that every part of us contributes to a greater whole, just as each cell contributes to the intricate network that is the brain.

To speak of science and personal growth is to speak of how knowledge and introspection intertwine like the roots and branches of a tree. Imagine your mind as a garden, where your emotions are the plants that grow within it. The brain's chemistry acts as the irrigation system of this garden, essential for the balance and health of its plants. By understanding how the nutrients (or neurotransmitters) flow through this system and nourish our emotions, we can learn to adjust the levels of water (our brain chemistry) to encourage healthy growth and prevent stress and anxiety.

Just as in a garden, every element has its purpose; recognising the role that our emotions and thoughts play is key to managing them wisely. Just as an experienced gardener knows that he cannot control the weather, yet can improve the quality of the soil and the frequency of watering, you too, by understanding your brain's chemistry, can learn techniques to nurture emotional health. This might include practices such as meditation, exercise, and a balanced diet, all of which help to regulate your neurotransmitters, the chemical substances responsible for our emotions and our mood.

Therefore, by cultivating our mental garden with the tools that science provides, we become experts in caring for our emotions, fostering strong personal growth and achieving greater harmony within ourselves.

After the lecture, Paula expressed her gratitude to the speaker for the thirst for knowledge his words had awakened in her and for the torrent of curiosity that had been unleashed within her about the secrets of the brain. She wanted to become part of

the group of scientists who devoted their lives to unveiling them. Excited by the prospect of learning more, she asked the scientist to recommend books and courses. She felt a rush of enthusiasm whenever she thought about what was yet to come. Paula sensed that everything she would learn throughout her years of study and research would serve as powerful nourishment for her mind, feeding her inner growth exponentially. In time, the brain's secrets would be revealed to her.

Paula hurried through the classroom doors. Although the joy of attending her first introductory session bubbled within her chest, a faint unease surrounded her, caused by her late arrival after an unfortunate flat tyre on the bus. Yet, like a flash of good fortune, she arrived at the exact moment when the coordinator of the biochemistry degree began his presentation.

The speech was concise, brimming with promises about what the coming years at university would bring. With every word, Paula could feel the rush of excitement, fully aware that many of the subjects would involve hands-on immersion in the laboratory.

When she received the syllabus listing the elective subjects, Paula's eyes lit up as she discovered the options of neurochemistry and neuroscience. It came as no surprise that her preferences leaned towards those subjects, for she had always felt an irresistible fascination for the hidden symphony of chemical and electrical activity that is orchestrated within the human brain. The lecture hall was of titanic proportions, shared by a multitude of students. Given the rigorous academic selection that preceded admission to such a degree, occupying a seat in that room was an honour for every one of those present. The young woman climbed towards the upper rows, scanning the sea of heads in search of an empty seat. Yet she found only one available, in the very back row which was occupied by just one other girl, and so she sat there. The course presentation came to an end, and the coordinator continued with a brief talk on the subject of biology, his area of expertise. Without wasting a moment, he turned to the board and began sketching numerous structures that appeared to be different types of cells positioned within an outline of a human body.

When he finished, the professor turned to the students and, in a calm yet slightly lofty tone, posed a question: “Quickly!” he exclaimed. “What are we?” Silence filled the room, broken only by murmurs and uncertain replies. None, however, satisfied the professor, who continued challenging the students without success, until his attention settled on the back row, where Paula was sitting. Yet the academic addressed his question to the classmate seated beside her. The young woman replied with a confidence that contrasted sharply with the surprise of the rest of the students: “We are a society of cells,” she declared.

A heavy silence fell over the lecture hall. Even the professor seemed astonished as he fixed his gaze on the girl, weighing her response. After a brief pause, the scientist nodded, recognising that it was precisely the answer he had been looking for. With a triumphant smile, he asked her name. “Fania,” she replied.

The professor continued, his words now charged with an added touch of emotion. He explained that the human body was a practically perfect machine, functioning thanks to the many interconnected systems of which it is composed, working together in near flawless harmony to sustain life.

After this, the professor introduced the concept of DNA and used an analogy to make it easier to grasp: he described it as a barcode that defines each human being in a unique way, a kind of recipe that outlines who we are at the most fundamental level. This intricate combination of codes holds the key to the way every person thinks and behaves. To anchor his message in the students’ minds, the professor turned to a metaphor:

“Our bodies, my dear students, are like a clock; every component is essential for its harmonious functioning. If one of the parts breaks or falls out of alignment, the clock stops. The same happens within our organism: if any of the cells belonging to the various systems of which we are composed grow in a disorganised manner or make an error in performing their functions, problems can arise.”

The professor succeeded in capturing the students’ attention. They began to grasp the importance of caring for their bodies so

that every organ within them could function in an optimal manner.

Paula felt increasingly captivated by the subject; she longed to understand, in depth, the marvellous workings of the human body and its astonishing complexity.

With every word we process, for instance as you read this very book, new neural connections are forged within our brains. At this very moment, millions of cells in our bodies are multiplying and differentiating, working tirelessly to renew the organs and tissues that make up our being. It is something truly extraordinary.

When the introduction to the degree came to an end, Paula approached Fania with the intention of starting a conversation. However, her classmate seemed visibly nervous and in a hurry to leave the room.

Gathering her belongings quickly, Fania left the hall as though she were fleeing from something, or someone. Her behaviour puzzled Paula and stirred a strange unease within her. There was something undeniably unusual about Fania's attitude, which left Paula adrift in a sea of questions.