Irene Vallejo

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Book and Flesh. An insight into reading through the body

When I was a young student, I was notorious for being inordinately shy. And I will never forget the words my drama teacher would repeat again and again: "Just use the obstacle to your advantage". By that he meant: if you fall down or begin to stutter, just turn it into part of the performance. Make some comment on your own awkwardness, laugh at yourself, or you can simply play the scene while lying flat on your back. Create and surprise by working from your limitations. Now this is not actually a *captatio benevolentiae*, a plea for your goodwill, nor is it talk on self-improvement. This is my way of explaining the overwhelming emotions I feel here in this magnificent church at being invited to give this lecture today. I would like to express my gratitude to Arjen Dijkstra and the Van Der Leeuw Lecture Committee of the University of Gröningen.

In addition, talking about obstacles lets me illustrate the wisdom humankind used when we invented books. To understand this, let us travel with our imagination back in time to a world before writing and books. The words were fleeting, nothing but sounds coming out of human mouths: oral societies lived under the threat of forgetfulness. They needed to preserve their laws and legends, their beliefs, their technical knowledge: a heritage of words, a legacy of air. If they did not achieve that, every generation would have to begin, painstakingly, all over again. They could only depend on their minds; on what they were able to remember. In fragile human memory they found their only hope of continuity. They trained themselves to have prodigious memories; they were athletes of recollection, fighting against their own limitations. We know that the ancient *aedos* – the traveling bards performing epics and legends– were able to recite by heart a repertoire of poems, each containing several thousand verses. But there is a limit to the amount of knowledge that one can recall and transmit to someone else.

That is when they began to use the obstacle to their advantage: they recognized that memory is fragile, perishable, wavering and fickle. It is a protective nest, but a temporary one. They knew that certain objects could serve as allies to memory, and even outlive us. There had to be a way to leave a physical, tangible trace of what was floating around in our minds. Little by little, our ancestors started creating notations of language, like a verbal music score, which they entrusted to the materials of everyday life: stone, clay, bark, metals, wood, plants, leather. In short, they put that fragility to work in favor of prolonging and transmitting our best ideas and greatest stories. Books were born as a way of making us whole, as a work of art: the transformation of the obstacle into a thing of beauty.

According to the most recent theories, the art of writing had a practical origin: property lists. These hypotheses assert that our ancestors learned numbers ahead of letters. Writing was introduced to solve the problems of wealthy proprietors and palace administrators who needed to keep records, since it was difficult to do their accounting orally. We began with written inventories and only later developed written inventions. The first things noted down were simple diagrams –an ox head, a tree, a jar of oil, a small man–. With these sketches, ancient landowners took inventories of their flocks, their forests, their storehouses, and their slaves. In an era

of increasing complexity, they kept a record of who their debtors and creditors were. The transcription of legends and stories would come later. Humans, then, are economic and symbolic beings.

But the Roman encyclopaedist Pliny the Elder told a less prosaic, more poignant and captivating story. A young woman discovered that by making marks we can possess the trace of a fleeting moment. She was in love with a man who was soon to set off on a journey. Back then, it was dangerous to brave those lonely roads, through woods where bandits lay in wait, and no one said farewell without a lump in their throat. During their last night together, by candlelight, the girl traced the shadow of her beloved on the room's wall. The first mark was an act of rebellion against absence and oblivion. That is how writing began: a looming separation, the first twinge of homesickness, an outline on a wall, love in rebellion against impermanence. An attempt to trap shadows. Writing as drawing and as the promise of salvation from an ephemeral destiny.

Pliny refers to a legend that may actually contain a distant memory of the creative process we intend to look into. Learning to preserve the gifts of a fleeting oracy was undoubtedly a difficult task: like grasping the wind, like trying to caress the skin of water, like tattooing smoke. Our ancestors had the astonishing idea of drawing their thoughts, just the way the first painter trapped the outline of her beloved, to preserve a memory once it leaves the mouth. Letters never left their past as simple diagrams behind. Even today, our texts are landscapes where, unbeknownst to us, we paint the ocean's waves, where dangerous animals lie in wait and eyes gaze at us without blinking. Our "D" at first represented a door, "M" the movement of water, "N" was a snake, and "O" an eye.

Writing became a thing to grasp, a tool of certainty: our dyke holding back obliteration, calumny, amnesia. The act of writing names can trap and perpetuate the rushing flow of our sensations and our discoveries: it anchors us in a calm bay surrounded by chaos. The human brain was never hardwired for this odd, ever so subtle task. Rather, it was the plasticity of our mental structures that allowed us to invent ourselves, to create ourselves afresh, to become something else.

The prodigious tool of reading draws on a wealth of knowledge from the life of hunter-gatherers. It comes from the heart of nature itself: from the high heavens, and from paths through the forest. Early humans were able to read the signs of nature: to identify an animal on a far horizon, recognize a bird as it glides through the buffeting wind, interpret signs from the landscape and trace of other living things on the land. Our ancestors turned the sunrise and sunset, the eclipses, the phases of the moon and the position of the stars into tools of celestial guidance. That is how the constellations were born, as a map of light in the midst of darkness, as a lodestone of stories. The stars served as a guide to sailors and merchants on their travels across the sea or the desert, by imagining configurations that could group stars together and by creating tales and legends about what those shapes meant, they charted their routes.

Untamed nature is a text that can be read by those who know the language. In a manner of speaking, we were already reading before we could read. The history of reading began as walk along the paths of time and the frontier of the dawn. Sky, earth, and nature were our first pages. Perhaps that is why we have set down those tiny traces of our memory on them: books of bone, clay, stone, papyrus, animal hide, paper, light. Today the pages of our books open like snow covered landscapes that invite us to follow parallel lines grouped haphazardly. Thanks to those black footprints we can follow the trail of thought and the dreams of the person who wrote it. We travel in those footsteps.

No one is born a reader, we become one. But the most surprising thing may be that such diverse cultures, independently, were able to create different writing systems in different places and times: from Mesopotamia to China, from Egypt to Peru, humankind invented a fascinating array of formulas to convert our ideas into a

lasting, physical text. In each of these initial cases, the creators of writing had to teach themselves and their brains what it was to read. They were simultaneously both master and disciple. Moreover, as neurologists can confirm, we were never the same afterwards. Reading modified our capacity to think, thereby transforming the intellectual evolution of our species and laying the foundation for an extraordinary, dizzying historical progress. In a few millennia, we have experienced the greatest explosion of creativity, invention, and discovery of our species.

There is no turning back when it comes to reading. If a sequence of words appears before our eyes, we cannot help but read it. Try it and see for yourselves. Learning to read and write changes the brain, and in a curious way. Neuroscience is only just now beginning to glimpse the extraordinary cerebral complexity in reading and how the act of reading embodies, like nothing else, the brain's almost miraculous capacity to transcend its original abilities.

Speaking is something that is in our genes, we already have those pathways wired into us when we are born. As explained by the scientist Linda Carter, all you have to do is put a baby around people who are talking and sooner or later they will start to do it too, it's natural. But reading is not. You could put a baby in a library, surrounded by books, from the day it's born, and it would never start spontaneously reading. It has to be taught. And this is the reason speech has been with us for at least 100,000 years, time for natural selection to actually get it wired into our brains. But reading probably only started about 5,000 years ago, and until about 100 years ago, most people did not do it at all. So rather than being able to use pre-wired pathways, every time, every person who learns to read has to do it afresh. We open a book and a voice speaks. A world, more or less strange or welcoming, emerges. And we see it.

'I am an open book', 'I can read you like a book', we say. Various scientific studies show that, indeed, the regular practice of reading helps to improve social cognition – that is, to read other people with greater insight. Not in a literal sense, but in a deeper one. *Jane Eyre* was never intended to teach you that if you fancy a wealthy married man, you just have to wait for his castle to burn down, for his wife to die in that fire, and for him to go blind. No indeed. What you are actually exploring is something more subtle: the interplay of diverse perspectives and interests that shape the world. Reading is the closest thing to stepping into other people's minds.

The depictions by the Maya scribes referred to Ux Yop, the god who lives within the codices and embodies the soul of a book. Here emerges living, divine energy that pulsates through its characters. This concept takes me back to ancient Egypt and its libraries. The sources refer to them as 'Houses of Life', where sacred texts were copied, interpreted, and protected. The most specific details we have of an Egyptian library come from the Greek traveller Hecataeus of Abdera, who managed to get a guided tour of the Temple of Amon at Thebes. He describes his walk through the labyrinth of halls, courtyards, alleys, and rooms. He claims to have seen the sacred library in a covered gallery, and on it the words «The Place of the Cure of the Soul» Books were called «the souls of Ra». Two civilisations that created written texts spoke of the soul of books. That explains the profound horror we feel when they are destroyed. While in Egyptian and Mayan cultures books are inhabited by souls, our culture has established a symbolic equivalence between our bodies and books. I would like to delve into this idea of fleshy bookishness.

Christianity forged the ancient ritual idea that eating a book means assimilating, digesting, and making the words it contains one's own. Turning them into one's own flesh and a source of inspiration. Devouring books is not just a metaphor for a voracious appetite for reading, but for the possession of knowledge and eloquence. There are several instances of bibliophagy in the Bible. In Ezekiel chapter three verse three: *'And He said to me, "Son of man, feed your belly, and fill your stomach with this scroll that I give you." So I ate, and it was in my mouth like honey in sweetness. Then He said to me: "Son of man, go and enter the house of Israel, and speak my words." '*

In medieval Jewish society, a solemn ceremony marked the moment when a child started learning to read, when books made him part of a collective memory and a shared past. During the feast of Pentecost, the teacher showed the child a board where passages from the Hebrew scriptures were written. The teacher read aloud and the student repeated. Then honey was spread on the board and the initiate licked it off, so that the words would seep symbolically into his body. Letters were also written on peeled hard-boiled eggs and on cakes. Back in ancient Rome some teachers began to make educational toys for their pupils, and as a prize for their first faltering steps at reading, gave them cakes and cookies in the shape of the letters they learned. The alphabet became sweet and salty, was chewed and absorbed. It began to form part of the self. How could the alphabet, which deciphers the world and reveals our thoughts, not be magical?

A book is undoubtedly the single object most akin to a human being. A treasure chest of voices; a voyager, a tenacious survivor, the least inanimate of all inert objects. Through it, we can access the ideas of the greatest minds of all time, and the memory of the past. To paraphrase Heine, whoever harms books will end up harming people. And as the library scientist Fernando Báez states in *A Universal History of the Destruction of Books*: "*Books and libraries are the trenches of memory. They are ambushes against impunity, against dogmatism, against manipulation, against disinformation, and that must be why they have troubled and continue to trouble the powerful so much, so that they destroy or ruin them, or worse still, make them inaccessible*."

Literary historian Leah Price explains that the proximity between bodies and books was a common feature of everyday life in the 19th century. In a long chain of recycling, items of clothing were turned into writing material. Conversely, printed paper was reused to line the insides of cupboards and cake tins; to make ringlets and curl hair; it became wrapping paper for storing cheese, meat, or fish and chips. Paper bags did not become common until the eighteen sixties. Pages from books were also used as toilet paper.

On the eve of the twentieth century, the British bibliophile William Blades bought what was left of a valuable book saved from a scatological shipwreck. Blades tells that in 1887, a gentleman friend of his rented some rooms in Brighton. In the lavatory, he found some papers for wiping himself. He placed them on his bare knees and before using them for their hygienic purpose, scanned the text written in Gothic letters. He had a feeling that he had discovered something. In his excitement, he quickly saw to his bodily matters and the trifle of washing his hands and went out to ask if there were any more pages where those had come from. The landlady sold him the remaining unbound pages and told him that her father, who loved antiques, had at one time possessed a trunk full of books. After his death, she kept them until she tired of them taking up space. Imagining them to be worthless, she used them as bathroom supplies, where the final wreckage of the inherited library was about to drown. The book they had in their hands turned out to be one of the rarest and most unusual books from the press of Wynkyn de Worde, a work titled *gesta Romanorum*, in which Shakespeare had found inspiration for his plays. The bibliographic treasures that supplied the lavatories on a daily basis in that English guesthouse can only be imagined. According to Leah Price, because of its connection to the beginning and end of the food cycle, paper was visibly linked to vital functions of the human body. Even today, many readers still favour the toilet as their throne. Luckily though, these days books usually emerge unscathed from the bathroom.

In his *Epigrams,* the Roman poet Marcial, back in the 1st century, jokes about the fate of discarded books, excluded from the summit: *morituri te salutant*. He reveals that many have ended up as wrappers for food or destined for other less than solemn uses. His work is dotted with humorous images of literary failure: scrolls turned into togas for tuna, tunics for olives, and hoods for cheese. Martial may have feared his own entry into that underworld of literature that went into the kitchen to die among leftover scales and the stench of rancid fish. Centuries later, when one of her

novels was rejected for the ninth time, Charlotte Brontë was worried about sending further manuscripts to publishers, fearing they might end up lining barrels of butter or pieces of travel luggage.

Sentimental types used to guard personal keepsakes inside books, such as locks of hair from a loved one. Mary Shelley went much further: she preserved her husband's heart in a large-format copy of his elegy *Adonais*. Percy Shelley drowned in 1822 when his sailboat was wrecked in Italy. His body did not wash ashore until several days later, and the health authorities insisted that, due to its advanced state of decomposition, the body could not be removed unless it was cremated. His friends, including Lord Byron, cremated him there on the beach at Viareggio. In a melodramatic gesture, they rescued his heart from the flames. Mary took it with her, charred and pressed, when she returned to England, wrapped in a page torn from a book and hidden between the covers.

In the 1820s, the dissection of corpses was a frequent topic in the newspapers. Faced with a corpse shortage, a thriving market in the trafficking of cadavers had sprung up because, by law, only the bodies of executed prisoners could be dissected. A man named William Burke was sentenced to hang in 1829 for multiple murders he had committed just to sell corpses that were fit for dissection. As a gruesome warning to others, they made a pocket-sized book from Burke's skin. In this chillingly cruel manner, a human being was transformed into a book. From very remote times, in contrast, there has been a way to convert us into living breathing books: Tattoos, words written on flesh.

Moving on from the historical aspect, I would now like to address something equally physical: the point where reading intersects health. The renowned neurologist Oliver Sacks, when asked how he would define a healthy, normal person, paused for a moment, then replied that perhaps it was someone capable of telling their own story. They know where they come from (they have an origin, a past, an organised memory), they know where they are now (their identity), and they are pretty sure they know where they are going (they have plans, with death at the end). They are situated within the course of a narrative; a story in themselves, and it is one they can tell. If this individual-story relationship is severed for psychological or mental reasons, then the narrative breaks down, the story goes haywire, and the person drifts aimlessly. They no longer know who they are or what they are meant to be doing. They cling to artificial substitutes. We all sketch out novels to recount our passage through the world. Better still: we are those novels. 'I' is my way of seeing and conceiving the sum total of my experiences. Being unable to tell one's story, to identify oneself, or to situate oneself normally within the flow of time means losing one's bearings and becoming cut off from others. Our health suffers if our inner narratives are shipwrecked.

We are beings who thirst for words. For words that explain, that bring relief, that dispel fear, and that soothe. Doctors in ancient Greece recognised that they needed rhetorical skill and the gift of persuasion. If they lacked those skills, they would consult with patients accompanied by a specialist in such arts. The sophist Gorgias of Leontini (Sicily), Socrates' interlocutor in a Platonic dialogue, recounted that he used to accompany his brother, a doctor, on his rounds, and help persuade those patients who refused to drink a potion, or who were reluctant to undergo surgery. Doctors of the ancient Hippocratic school attached extraordinary value to the ability to question the patient and to hear them. The Hippocratic Corpus emphasises a doctor's mastery of the art of tender treatment. It seems their Egyptian counterparts had a reputation for rudeness. Herodotus tells us that Greek doctors championed the remedy of gentleness. This is also why the medical profession was deeply associated with reading and humanism.

A Roman doctor from the 2nd century AD named Antyllus went even further, going so far as to claim that memorising books was good for one's health. He put forward an oddly amusing theory on the subject. Those who made the effort to memorise a story, some verses or a dialogue, he said, found it easier to eliminate

harmful fluids from their bodies. Reading aloud or reciting long texts helps to expel these harmful substances smoothly through breathing.

As we follow a long story, we read with our entire body in a delicate ballet of mental skills. Reading does take good care of us. A 2009 study by researchers at the University of Sussex found that reading for as little as six minutes reduced stress by as much as 68 per cent. The researchers also found that reading reduced stress more effectively and more quickly than other methods, such as listening to music or going for a walk. Researchers believe that the concentration required to read a gripping book helps distract the brain from anxious thoughts, which reduces heart rate and muscle tension caused by stress. Reading also stimulates creativity, which engages the brain's prefrontal cortex – the area that houses the 'anxiety brake', an important part of the brain that shuts off the emergency response. Dr David Lewis, a cognitive neuropsychologist who conducted the study, said: «It really doesn't matter what book you read, by losing yourself in a thoroughly engrossing book you can escape from the worries and stresses of the everyday world and spend a while exploring the domain of the author's imagination.»

Neurologists are discovering that it is also one of the best possible exercises for keeping the brain and mental faculties in good shape. When we read, we weave together threads of our perception, memory and reasoning, and this mental interweaving halts cognitive decline. As the eye traces and deciphers the letters, behind the veil of the eyes, the brain is electrified and flooded with activity. Psychologists recommend reading for the rehabilitation of cognitive impairment and as a preventative measure against Alzheimer's and other neurodegenerative diseases. Books provide a gymnasium for the mind at any age, and for that reason alone it would be advisable to include them in education from earliest childhood and to continue reading throughout one's life. Reading is the bubbling of our neurons, a luminous *Big Bang* within the confines of our mind.

A group of researchers of Rush University Medical Center in Chicago concluded that reading, writing and learning a new language can lower your risk of dementia by almost 40%. According to the World Health Organization, by 2050 the number of people with dementia will more than triple. It poses a significant and rapidly growing threat to future health and social care systems in all communities, countries and continents. "Public investments that expand access to enriching environments, like libraries and early education programs designed to spark a lifelong love of learning, may help prevent, reduce or delay the incidence of dementia". The study author Andrea Zammit said the discovery suggested cognitive health in later life was "strongly influenced" by lifelong exposure to intellectually stimulating environments.

To conclude, I would like to mention how reading can help in the healing of trauma. Anthropologist Michèle Petit has studied the value of reading in times of collective challenge. Reading has been a valuable tool for rebuilding in regions afflicted by violence, economic crises, migratory exoduses, and natural disasters. Petit analysed countless literacy initiatives in prisons, troubled neighbourhoods, and programs for the rehabilitation of former guerrilla children and homeless adolescents. The result is always revealing: participants in these reading experiences "discovered in books the possibility of striking up a relationship with the world that was not based solely on predation, dominance, or utility." The poet Federico García Lorca gave a speech in 1931 at the opening of the first public library ever to exist in his village in Granada, Fuente Vaqueros, where his mother had been a teacher. He said: 'Often a village sleeps like the water in a pond on a windless day, and a book – or a few books – can stir it up, unsettle it, and show it new horizons of self-improvement and harmony'.

Strengthening books and care systems, in turn, strengthens democracies. Neuroscience has shown that those who think more flexibly and imaginatively tend to be more cognitively resilient in the face of extreme and violent ideologies and inner turmoil. We have ideas, but at the same time, ideas also possess us. Rigidity

drives us to be more fearful of uncertainty and to feel threatened. It is not so much a question of what we think, but of how we think.

History shows how fear often ends up undermining the same values that fearmongers were seeking to safeguard. Curiosity acts as an antidote to that fear. Over the last decade, neuroscience has delved deeper into this line of research. It has identified the anterior cingulate cortex as the mental control centre that determines which stimuli frighten us and which one spark our desire to know more. It monitors the sensation of surprise, decides whether we should be afraid or be fascinated, and then coordinates with other regions of the brain to execute the appropriate response. Of course, fear is useful and protects us from risks, but it can also paralyse us. Researchers point out that it is particularly beneficial to maintain curiosity during times of stress. In this way, we counterbalance anxiety, feel less threatened, and can continue to gather information and to think more clearly. The curiosity ends where despair begins. Reading guides us towards territories of discovery, surprise, and encounter. In literature, is it not true that we hear voices of danger, adventure, temptation, pain, terrifying beauty, or death - without actually suffering any of the consequences? And knowing that our 'book-vessel' is bring us home to port safely? We experience the risks and emotions without paying the price.

Our brain is not good at telling the difference – so recent is this development – between those experiences we have read about and those we have lived through. It behaves like Don Quixote, who found it hard to distinguish the real from the imaginary, windmills from giants. That is why reading, like play, allows us to explore other possibilities; it is a magnificent simulation, an unrivalled school, akin to recreating a wide range of situations in our minds, almost as if we had been the protagonists ourselves. A group of researchers found, using magnetic resonance imaging scans, that reading words associated with actions involving the foot, hand or mouth (such as kick, pick, lick) activated motor areas adjacent to or overlapping with those activated by performing actions with the hand, foot or mouth. Another study concluded that reading a novel causes measurable long-term changes in the brain. Connections grew stronger whilst reading the story and remained elevated after finishing the novel. One possible explanation for these increases in connectivity is that reading fiction triggers neural activity associated with bodily sensations. This is known as the 'embodied semantics' theory.

Nurturing cognitive flexibility and imagination does not necessarily make us better people, but it does foster harmony and a sense of community. Reading, art, knowledge, and study can encourage this flexibility. A family that nurtures imagination through fantasy, stories, play, and music - helps alleviate fear and clears the path for thought. That is an immense gift that stories, poems, songs, and theatre offer to these confusing, turbulent times.

When we speak about books, we reflect on ourselves. Their pages hold our ideas. Books contain the most valuable repository of our memory and our debates; fragile approaches to beauty, a multitude of quests – they constitute the definitive record of our fears, passions, and discoveries. Moreover, they encapsulate the history of the democratisation of knowledge. We must remember this: humanity put a colossal amount of effort into inventing them. And for centuries, they were a privilege accessible only to a very few; a luxury, a status symbol, property of an exclusive elite of the lucky and the powerful. Thanks to the multiplier effect of the printing press, the astonishing expansion of literacy, the development of state schools, the emergence of municipal and rural libraries, and to the proliferation of bookshops, books are now welcoming objects, receiving us with open pages regardless of our family or social background. It is a monumental collective achievement, forged over millennia, which we must celebrate and preserve. Reading has never been the norm, but a determined minority has kept this habit alive, so that today it continues to help us in all the ways I have tried to describe. Caring for what is fragile makes us strong.