



A Parade for Isabella of Castile

If we spoke a different language, we would perceive a somewhat different world.

—Ludwig Wittgenstein

The rich tend to mistake their bank accounts for self-worth. The famous, their number of fans. The beautiful, their daily approaches from strangers. The muscular, their body mass. The orderly, their punctuality. The intelligent, the number of their quips. Such a variety of scales—and one thing in common: they all use a scale that favors them. Indeed, many find it easier to measure themselves by the number of problems they don't have to solve, rather than the number of problems solved.

As for me, it's been my feeling for quite some time that it isn't money, fans, or muscles that make us human. When I searched for a more appropriate measure of life—eager to weigh human life by its own intrinsic value—I sought its core. And, in my view, there is nothing more intrinsic to human nature—and, therefore, no better (more general, more natural, more elementary) measure of human quality—than one's progress along the axis of awareness (exploration, understanding).

This is not a heady academic phrase. I have myself embarked on this existential adventure, guiding my cognition toward its most essential and basic subject, the self—literally, that is. When you turned back to Europe, I headed forward, toward the unseen end of existence. This is the diary of the days that followed, conveyed in the simplest language I could muster. If there were an ideal dialect beneath these pages, it would feel rugged and unpolished as *kutani-yaki* pottery. Hardened by fire, brittle.



When the West runs into philosophical difficulties, it likes to hop on a plane to Delhi, take a bus to an ashram, and get its grey matter washed white with koans. It's become something of a beaten path. "Forget words," says its signpost. "Wisdom leaves through dialogue but comes by silence."

Some pilgrims return smirking, confiding that the East is largely a fraud. They sink back to the paradoxes of the West, this time consoled by the knowledge that there is no escape.

Others, by their own accounts—and I actually trust them—do glimpse a different order of the world. Typically, they return suffering speech blackouts. They respond to questions with an array of sighs, knowing smiles, vague allusions to “epiphany,” incoherent parables, and a general paralysis of explanatory skill. Such is the curse of the Eastern path: where one enters without words, one must also leave without them.

The Western path, on the other hand, is the path of the word. This is the path I have striven to follow, for I am a Westerner to the core. The printing press, the dialogue, and the skeptical attack are as much a part of my method of advance as the repeatable experiment.



When Christopher Columbus returned from his grand voyage to the West, he did not bring back a map of the new landmass, nor a geographical survey outlining its mineral riches, nor a business plan for the settlement of that land. He did not present a census of the indigenous people, nor a military strategy for their conquest.

What he brought was a carnival of curiosity: brightly colored parrots. Bananas and pineapples. Ten half-naked pagans. Cotton. Aloe and fandangles. Upon landing, he mounted a parade in the palace of Queen Isabella of Castile and she, impressed, perhaps astounded, sent further ships to explore the new territory.

This diary is that parade for Isabella.



An academic, a creature of thoughts, nowadays writes like someone trapped in the trenches. His defense preempts all attacks. He blocks all routes a skeptic might take, making his writing heavy, closed, fearful. The academic writes an apology for the travesty of thought.

A love letter, on the other hand, is cast like a spear. Swift and sinful. Let this diary be such a love letter.



It is very important that what I have to say is not lost in metaphor. I do admit to having pondered wrapping my coarse words in a story. On my walks in the wide Himalayan valleys, far from the villagers, I heard myself weaving sermons that filled the air and echoed back from the mountaintops. Do not doubt that I could have forged them into a cult. But to me, such veils would not be a display of skill, they would be displays of cowardice.



Let me start where we left off—on the day you left Japan. After two years, you'd finally had enough Japanese sediment. You were ready to return to Europe. Return home, despite having no home. And I told myself that while you were a traveler, I'd gradually awakened the adventurer within. I had to finish Faustomat and see where that would take me. Without limits. Without you. For once, I felt ready to live the life of Marquis. I admit it.

So you hugged me at Narita International Airport and really didn't want to cry—and you managed. I slipped the cosmic order stamp into your pocket and walked through the glass doors to the escalators. I returned to our apartment, which was now missing all of your things. I found the stamp back in my pocket when I reached for my keys. You always were a step ahead.

It took me precisely six days to get tired of Japan. You had managed to take all the colors with you. In the following months I grew somber and translucent, but on the sixth of April (much later than expected), Faustomat was finished.

Of course I never got that digital archive from Cambridge. I don't think it ever existed, but that's irrelevant. Turns out it's not that hard to find other databases online—some public, some stolen. I had British and American police investigation archives, used clandestinely by debt-collecting companies: life stories told in cars and mortgages, benefit claims and bankruptcies, church affiliations and criminal records. I had medical records, lifestyle profiling, and voting histories. All this is terrifyingly easy to get. I released the final version of Faustomat onto the cloud, set up alerts to frantically

text me when the code hit on the mother of all fractal correlations, and forgot about it.

That was the time when I started reading anything I could get my hands on. I switched from Kant's philosophy to Marlowe's *Doctor Faustus*, logical paradoxes, fractal modelling, supersymmetric quantum mechanics, Bohm's holographic universe, information theory, Elliott's market waves, the rise and fall of Eastern empires, and the Japanese art of composition. I devoured data like I was trying to compete with Faustomat. We were both crawling through the internet, desperately craving grand symmetries. And the topics were not chosen consciously. My wandering thoughts simply followed the scent of paradox.

Months passed, and I eventually found myself near those dark places that had made me piss my pants in front of Gorgonuy and swallow the *kharakhoi* that knocked me out for two days. But I believed that I wouldn't fall into the same hole again. Since I couldn't rely on anyone but myself, I carefully controlled my level of exhaustion, tamed my obsessive mind with yoga, and dared to go further every week. I wasn't going to give up this time. I knew myself enough to see that there was some kind of mountain pass towards which my life was inevitably rising. Faustomat now seemed like a bonsai of a grander vision, my real Great Work. So one day, I packed up and travelled to the Tōhoku region. I found a B&B on the shore and moved in without a check-out date.

(I'd like to write that this was the first I'd heard of Tōhoku, but that's not true. I heard about it for the first time from my eighty-year-old self, when Gorgonuy was drawing my portrait. The night the fire broke out in Pembroke. I never told you [or anyone else] what happened but I will when we meet. You won't believe me.)

My room had a wooden floor, a foldable mattress, and two bowls—one for water, one for food. That was all and it was enough. The owners sometimes offered a suggestion on where to go for a walk along the sea. In the midst of nature, I made it clear to myself that the only alternative to resolving those old riddles was brain damage. I packed my skull with paradoxes and let it broil like a pressure cooker. It was another six weeks before it blew up.

I walked along the beach boulders in a trance for hours on end, asking the question to which all others led: what enables this boulder, such a distinct object from myself, to be not only out there but in my eyes, in my mind too? What is it, I asked, pressing two pebbles together in my fist, that allows me to feel through the separation of subject and object? What's granting me the privilege of an observer? What strange ability, belonging neither to me nor to the sea?

I stood on the beach and the waves broke under my feet. A few islands dotted the horizon and above them hung a single, enormous cloud the color of a hushed fire. I closed my eyes and pierced holes into my blind spot, so many holes that the rays of late afternoon light finally found their way in. A word (fragile, cautious, new-born) floated through and hesitantly touched my consciousness. I mumbled it, took a few more steps—and, capitulating to a place that bears reflections of all corners of the world, I laughed, cried, and sang that most obvious of words. Waist-deep in waves, I saw my face in the sea, laughing at the sky, and I choked on happiness.

“I see,” I repeated between laughter and tears.

Today, I can give that moment a name. The experience bore a remarkable likeness to what others describe as enlightenment. For several long hours, I was one with all around me; I saw the world from a shockingly fresh perspective. To my utter, stunned surprise, the thoughts that led me there, those powder-dry bits of thought I'd kept collecting for years, had reached a critical mass. In a sudden and violent ignition, a chain reaction was unleashed, melting and amalgamating the fragments into a stream of fascinating insights. The self-induced psychedelic round-the-world flight illuminated mental landscapes and dimensions I was for the first time invited to gaze upon. They had always been there—it was only my eyes that opened that day. I had reached the alchemical union of opposites and completed my Grand Work. I finally understood the link between statistics and mysticism: *ordo ab chaos*. And I became one with the strange loop of the ouroboros. (I am aware of Gorgonuy's clues and have not a single comment on their significance in the direction of my life. I am neither grateful nor resentful toward him. It happened, period.)

Some would call it transcendence, but I smile at that word. Transcendence is an arrow pointing in the wrong direction: a signpost “East” pointing to the West. Why, there is nothing to transcend.

Others would give that moment a much humbler name: a breakthrough. I later realized that this same experience may be triggered by other means. Meditation, yoga, psychedelics, a deep appreciation of nature, a shock that shakes one’s beliefs to the bone and beyond. It is understandable that the path through which one reaches this place is also the path by which one typically departs it. So, for better or worse, it was words that carried me along the Western path, and words were what I took back. That afternoon was only the beginning of another year of research. For the second time now, I am organizing the bouquet of ideas that bloomed from that flash of inspiration.

With the benefit of hindsight, though, I like to call the event a change of perspective. A new mental model. If I say it just for you: when you change the model, you get a different painter.



Here in Darjeeling, people gather in one hut in the evenings. They cook, weave, draw mandalas for tourists, and share stories. It’s almost as sublime as it sounds. I enjoy listening as they talk of gods and beasts, of Milarepa, Buddha, and King Ashoka, the same story many times over.

Once, they asked if I would like to tell a story too. I was shy—I don’t know any stories. I was a mathematician, I protested. And they said, “Tell us a story about mathematics, then.”

Blushing, I began telling them about Leonardo of Pisa, the son of an Italian customs officer of the name Bonaccio, and one of my few heroes. Back in the 12th century, growing up in an Italian merchant family based in a trading post in Algeria was a rather unique experience—Leonardo would be one of a mere handful of people of his time in whose mind collided two great civilizations. Fifty years before Marco Polo, three centuries before Columbus.

Back then, it was the Arab world that considered itself heir to Ancient Greece. In the first millennium, when Christian dogma ravished

the remains of the Roman Empire, priests and their useful idiots burned whatever books they could lay their hands on. For every text was either in opposition to the Bible, hence heretical, or in accord with it, hence redundant. When the Christians destroyed the Great Library of Alexandria and blamed it on the Arabs, Hellenic knowledge was in fact preserved thanks to Arabic merchants. During the worst memocide in human history, they smuggled scripts and books to the more benevolent kingdoms of the Middle East. And it was the Arab world, carrying the ancient legacy of the sciences, that young Leonardo encountered as a child.

With his father, he would trade with both the Italians and the Arabs—with the Italians, using Roman numerals and the abacus; with the Arabs, using their Indian method with altogether different numeral symbols, the elegant decimal place value notation, and the fascinating *al-khwarizmis of al-jabr*, the algorithms of algebra. Being a merchant, he also learned two strikingly different ways of recording trade. And he studied with the best Arab mathematicians of the time.

At the age of 32, he wrote down his findings in *Liber Abaci* (The Book of Calculating), a unique encyclopedia of 13th century mathematics. Leonardo signed the book “filius Bonacci,” or, in short, Fibonacci. Today, he is widely credited for one curious sequence of numbers, the Fibonacci sequence, which was explained, among other things, in the manuscript’s six hundred pages. Surprisingly, nobody celebrates his greater feat: the introduction of Arabic numerals to Europe, which he accomplished in the same prodigious volume. But what is truly criminal is the failure to acknowledge his most impressive legacy: Western capitalism.

Liber Abaci was not a well-known book in Fibonacci’s lifetime. In his zeal, youth, and naivety, he crammed it with the sum total of his mathematical insights. As a consequence, few people read it. It was too thick and too dense to gain popularity. Then, twenty years later, he wrote another book—almost a booklet—a brief and simple guide for merchants, explaining the basics of Arab trade records. In the simplest terms, he explained Arabic numerals as well as their curious habit of recording each transaction not once but twice. The booklet became an instant hit. Tradesmen appreciated how much easier it was

to add and multiply with place-value notation, compared with the dominant Roman numerals. (Try adding DXVIII and MCDIX without converting to Arabic!) This innovation amounted to nothing but a change of representation, a shift from one kind of symbols to another, but it profoundly transformed the economy of Europe. Numeracy spread like wildfire—by the middle of 14th century, numeracy in Europe rose from 1% of the population to 30%. And that was the perfect entrée for the second topic of Fibonacci’s booklet, no less insightful.

Meet Giacomo, a humble, hardworking shoemaker in 13th-century Florence. He has some leather—enough for, say, six pairs of shoes. He also has ten finished pairs and his lifetime savings of four gold florins. When he sells a few pairs of shoes, he buys more leather; but never more than what his gold coins can afford.

There’s a knock on his door. Fibonacci’s booklet enters. Giacomo has it read to him, and, gradually, a new understanding seeps in. He learns to record purchases and sales in such a way that those shoes—finished and unfinished, his stock—are now more than simply a number of pairs. By using this clever technique, known today as double-entry bookkeeping, Giacomo now knows the *value* of his stock. When it’s time to purchase leather again, instead of counting his gold coins, he can show his partners what value is locked in his stock. He can value assets in cash terms. He can now take on debt from a moneylender against this value. Thus, the business loan is invented, debt becomes a commodity, capitalism is born. Giacomo can now produce goods on a promise, rather than barter, and the value of the economy increases by the value of future production. Giacomo gets richer, so does his moneylender, and so do others.

“Wait,” you might say, “did accounting really bring about capitalism, rather than the other way round?” Oh yes. The original, poor Giacomo sees his shoes as just that, shoes. The things you put on feet so feet don’t bloody freeze. He sees his gold florins as just what they are: metal coins. Those things that you exchange for other things. And these two different types of things, shoes and gold, like apples and pears, do not get added together. They get counted in isolation. It is double-entry bookkeeping that gives both a common denominator: value. For each and every transaction, one record shows where

value came from, the other, where it has gone. Value flows between different forms, from gold to leather to shoes to gold, and does not vanish as the forms do.

And let's stay precise. Accounting did not create this value. It allowed value to be *recognized*. It brought an alternate view of the shoemaker's shop, a novel way to see goods, a new representation, less tangible, more abstract. The solid shoes could now be seen as equivalent to future sales, to future gold, to capital. And gold underwent the same alchemical metamorphosis: by acknowledging the value of debt (equivalent again to future gold), debt was commoditized, and it became easy to take it on as well as issue it. Thus, money was liberated from gold. And the consequences were nothing but stunning.

In the 14th century, the first European financial powerhouse to adopt, perfect, and exploit double-entry bookkeeping was the Medici bank. The Medici family came to understand the power of commoditized debt and its unique property, financial leverage. Quickly gaining enormous wealth compared to everyone else, it was them—their money and their patronage—that allowed for the advent of the Italian Renaissance in Florence and the return of independent, radical thought to Europe. I would argue that it is quite sensible to attribute the subsequent rise of Western civilization to that original harbinger of light, Leonardo Fibonacci. Or, to the light he brought: a subtle change of perspective.

You have no idea how much they liked the story and how often they wanted me to repeat it. I alternated weekly between Diderot and Fibonacci and the villagers sat as quietly as church mice. It was the same dark irony as teaching English in Japan. Sometimes, it's more important to entertain than to be understood, but I'm still fighting with it.



Bloody love letter be damned to flaming hell. I'm starting from scratch again. Last time, my writing being nearly finished, a stealthy evening brought back the memory that I exchanged love for a small stack of black leather-bound journals. Yes, ma'am, a loved being for

a love letter. A furious solitude beset me and I ripped the pages out of the stupid notebook, threw them in the fire one after the other, and watched them burn to ash.

And now I'm sitting by the gas lamp writing again. Not because I feel like I have something to say to humanity and not because it's so much fun, either. I hate it. It's twisting my brain. But I could never explain to you what happened—and why—in person. So let's see how far I get this time.



Even when we were together, I had a bunch to say about obviousness. Like when the Japanese would slurp their soup so loud we could hear it outside the restaurant. When they apologetically kicked you out of the spa because of your tattoo. Or their horror every time I stepped on the *tatami* in shoes. I don't even want to remember the one time I was teaching in-house and walked around the entire evening in their bathroom slippers. There was a pink note on them next time, saying *only for the bathroom*. They were too embarrassed to tell me outright so that I wouldn't lose face in front of them. You know how often we spoke of their, or our, obviousness. Trivialities, compared to what broke loose in my mind after Tōhoku.

Through the obvious, one may climb up level after level, like on a ladder. Every next level is invisible, as long as one sees only *one*: one understanding of shoes, one understanding of gold. That is the understanding that settles in the mind spontaneously like sediment. There's only *one*, therefore it's obvious. Then comes Leonardo and he wants to explain a new perception of shoes, and the mind must perform a difficult step—remove the concept from obviousness. That's why Leonardo demonstrates how it is possible to see shoes as a number, and whoever reads his book eventually bursts out laughing with the recognition that there are at least two kinds of shoes—one of them solid, the other abstract. He can compare. He sees how it would be possible to propose a third view of shoes. But above the two or three representations, there is now something that is again *one*, for whose name he has to search lengthily to climb higher on the ladder of abstraction.

And now, what happened to my mind in Tōhoku. Once a change of representation has been performed on some single, far-reaching idea, it follows that this method of enrichment, of multiplication, can be performed on every last one of them. On *all* ideas. On ideas about ideas. The method can be applied to the method itself. In every thinkable direction, an infinity of directions bursts forth. Wherever there was obvious simplicity, a deep fractal rainbow blooms and in it another one, two, a billion. Damn! Having just learned to multiply viewpoints, the mind gapes into the newly unfolded dimension—an endless, mesmerizing complication of thought—never to return to the original ignorance! Pull my ears and call me a donkey. In every imaginable direction, infinity stretches like disembodied fractal bowels. (It is not the shift from one representation of the world to another that is so disorienting. It is the shocking systematic realization that such a shift is possible.) Fully aware that the whole of infinite possibilities of all ideas is a little tough to embrace, the self launches into this most marvelous leap into the Sun ... within.

This love letter, this parade for Isabella, is a diary of that jump—or rather a fall, as I did not take it intentionally but out of my inability to avoid it. Already years ago, I believe, back in Cambridge, I had held enough data for the paradoxes to emerge. But the mental demand of the transformation was too high, as was my schoolboy panic. This second time, in the months after I suffered enlightenment—I kid you not—my brain bled. Day and night, from January to fall, mind and body in tortures mutual, I found myself once again forced to devote all available strength to the unending and uncontrolled rapture that raged in the ravines of my brain. In this explosion of abstract thought, this metamorphosis of the whole of thought into an alternate crystalline structure, this inflation of a linear universe into a fractal flower, my fear of madness again shook my hands. But this time, I had the Tōhoku vision to hold onto. This time I understood with an elementary clarity that, at the end of the rabbit hole, there was another mind.

The one writing to you today.