Philosophy Study, Mar.-Apr. 2025, Vol. 15, No. 2, 91-100
doi: 10.17265/2159-5313/2025.02.005

Gravity Falls and Why the Fish Doesn't Think: Nondeterministic Spacetime Ethics and a New Multiverse Aeon

Nicolas Vantis
Independent Scholar, Brest, France

Based on the Many Worlds Interpretation, I describe reality as a multilayer spacetime, where parallel layers play the role of alternative timelines. I link physics to ethics, arguing that one's moral choices shape one's course in the multiverse. I consider one's ethical decisions as decoherence events, leading to movement between alternative timelines, lighter (higher) or heavier (lower) realities. Sometimes in one's curvilinear path in spacetime, one can even experience falling toward lower layers, slipping through wormholes. This theory supports free will and the simulation hypothesis. With this background, I explore the idea that a new theory of gravity might open new possibilities to shape matter and change our worldview through the invention of new technology, transforming information into waves and then into solid matter, paving the way for a new Multiverse Aeon for humanity.

Keywords: philosophy of physics, determinism, ethics, gravity, relativistic spacetime, Many Worlds Interpretation

Driving Away From Home

It was a rainy afternoon in late October 2018, as I was driving away from home (Brest, France) for the weekend, cruising smoothly on a deserted highway in the north of Brittany, on my way to the medieval town of Dinan. The French use the word "crachin" ("spitting") to describe this awkward weather phenomenon (at least for me, who had lived my life in a shiny environment with rare torrential downpours). It is as if the sky is steadily spitting you out. This is how it also felt deep inside me.

I had every reason to be happy. I had just found a decent permanent teaching job after years of struggle. I was to teach mathematics on a respectful vocational campus. Sure, it wasn't higher education or a research position. At least I would teach for a living, the only job I was ever good at. But it felt like a Pyrrhic victory: as if I had left something behind that I was grasping to find out, as if I had lost a hidden opportunity of the Universe to invent something new: it was gravity.

Suddenly, on a hunch, I turned right and took an exit towards an unknown place, following a road sign that promised the existence of a lake that I was spontaneously drawn to. I drove smoothly to the lake and parked nearby. We got out of the car to discover an enchanting scenery, a tranquil pond tucked away at the edge of a gentle forest. The trees surrounded the little lake, and the imperceptible light rain caressed it gently. Even the spitting sky no longer mattered. We sat on a wooden table by the lake, enjoying the gentle breeze. We gradually calmed down, synchronizing our bodies with our surroundings. Nothing bad could happen to us if we stayed by the lake. An idea grew in me. I finished my lunch, and I approached the lakeside. I started throwing little stones into the water, carefully watching the ripples I created. Soon I moved to the next level, making complex wave

Nicolas Vantis, Ph.D., lecturer, IFAC Sup'IFAC Campus and Brest Business School, Brest, France.

interference patterns appear on the top of the lake by throwing two stones simultaneously.

"Everything is a wave phenomenon," I said to myself. "And it all comes to gravity". I was exploring the notion of spacetime, but I didn't know it.

Everything Everywhere All at Once

We experience space as three-dimensional, with a fourth invisible dimension, time. We grow so much accustomed to this phenomenological aspect of everyday life, that we firmly believe it is real:

> […] the human intellect feels at home among inanimate objects, more especially among solids, where our action finds its fulcrum and our industry its tools; that our concepts have been formed on the model of solids; that our logic is, preeminently, the logic of solids; that, consequently, our intellect triumphs in geometry, wherein is revealed the kinship of logical thought with the unorganized matter, and where the intellect has only to follow its natural movement, after the lightest possible contact with experience, to go from discovery to discovery, sure that experience is following behind it and will justify it invariably. (Bergson, [1911] 1944, pp. 19-20)

In truth, space does not exist separately from time. They are entangled with each other in Einstein's relativity theory (Walker, 2014, pp. 1118-119). They form a flat spacetime, like the surface of the lake I was distorting. How can we visualize, contrary to our senses a flat spacetime?

The path to take is to follow the light. First, light has a constant speed of 300,000 km per second. Everywhere in the universe where light travels, it cannot exceed this speed. Light speeds don't add up. If you switch on the headlights while driving your car, light speed will remain invariable, it is not increased by the car's speed (Hewitt, 2015, p. 662). It is a universal constant.

Next, you should understand the relationship between light, time, and space. Suppose a bus departs from a town clock (Hewitt, 2015, p. 667). Some seconds later, the clock rings at noon. A passenger on the departing bus stares at the town clock. He notices that it's noon. However, it is a tiny fraction of time past noon. It took some time for the light to carry the clock's image to the passenger's eyes (as sound takes time to travel). For a person besides the town clock, it is already a bit later than twelve sharp. This time difference is infinitesimal but real, not an optical illusion. It increases, depending on the speed of the bus. Time dilates for a moving observer. How come light speed is a constant? As time ticks slower, space shrinks (Hewitt, 2015, p. 676, see Figure 35.22-23), so that the speed of light (ratio of space by time) remains stable, equal to 300,000 km per second.

The last step to getting to spacetime is gravity. Light bends due to gravity (light is composed of particles, called photons, subject to forces) in the vicinity of a star or planet (Hewitt, 2015, p. 690, see also Figure 36.7). Light beams are not always straight. On Earth, they follow the geodesic lines, the shortest path between two points on any curved surface. Take for example the path of a boat on the ocean. From the sailor's point of view, it is straight. If you trace it on the globe, it is curvilinear.

Light bends on Earth, following the curvature of spacetime. Space and time are woven together in an infinite surface with embedded the four dimensions. Near a massive object, spacetime curves because of its gravity. We live in Earth's cavity, a curved region of spacetime (like on a rubber sheet stretched by the weight of a heavy ball, see Walker, 2014, Figure 13-19, p. 375). We believe that we live in a three-dimensional space with a clock ticking, of human history and our even more limited lifespan. It is an illusion. We inhabit spacetime with no universal time. This renders us two-dimensional; you might think. Where is time hidden in flat spacetime?

A thin layer of time holds the other three dimensions wrapped flat together, the three spatial dimensions combined with time to create a four-dimensional continuum, a "worldline" (Minkowski, [1907-1908] 2012, p.

40). Each point on a worldline corresponds to an event, defined by its coordinates in space and time. As we walk through life and make choices (it is choices that direct our path, as I shall explain further), we trace our curvilinear path in this diagram with the horizontal axis of space and the vertical axis of time (Minkowski, [1907-1908] 2012, p. 44). A human lifespan in earthly reality is experienced as living inside a cube with length, width, and height, and a ticking clock. Every moment of your life looks like a snapshot in a time bubble embedded in this cube, a block of time. To add the new dimension (time), picture every new moment as a new cube splitting from the older one, parallel to the original block (Ramsay, 2019, p. 15). You can visualize four-dimensional spacetime as parallel blocks connected to infinity.

Spacetime is like "a big transparent block with all the snapshots embedded within it and flattened out" (Ramsay, 2019, p. 15). Your path looks like a chronophotograph with successive snapshots (Ramsay, 2019, p. 16), from the cradle to the grave, like Shakespeare's "Seven Ages of Man" ([1599] 2019, Act II, Scene VII, pp. 139-166): a curvilinear worldline in the spacetime continuum in which all the stages happen at once. At least, this is what it would resemble if one could see it from outside the spacetime we live in (upwards or downwards). What I am doing now is retrieving this specific blurry lake snapshot block from my path.

But there's more to it.

Imagine multiple levels of spacetime separate from each other, like infinite parallel layers or timelines.[1] Quantum transitions create them, every cause propagates its effects through the universe, splitting our local world in myriads of copies of itself (De Witt, 1973, pp. 178-179). You play a part in them. Every time you make a choice, you change a layer, like in a video game. Vintage platform games come into my mind, like the ones I used to play as a boy, reinforcing the intriguing theory that we live in a simulation (Bostrom, 2003; Campbell, Houman, Savageau, & Watkinson, 2017, test this hypothesis through an experiment). On every level, everything looks the same but somehow something is different. The further you move up or down from the starting layer of your life, the broader the changes become (sometimes, key events can provoke global shifts). At higher levels, things have less gravity (symbolically speaking, the difference is infinitesimal), and you lead a happier life. At lower levels, things are heavier, and so are you, of heavier spirits, eyebrows furrowed with worry, facing your insignificant and unsolvable human problems and misery. You meet the same people on each level, but guess what? They are not the same. They do not share your destiny. They are different versions of themselves, as people also multiply with the world, those in a particular branch would experience only what happens in that branch (Bell, [1988] 1993, pp. 192-193). We all evolve according to Quantum Darwinism (Zurek, 2009), information disseminated in the environment leading to the appearance of successive and illusionary classical states, creating our three dimensional cube-clock ticking life experience.

How can you find truth in this hypothesis? How does one's mind slip from an ordered three-dimensional unchanging space to a multi-layered universe of all possibilities? Let's take this quantum leap.

We should reconsider the light and tell a story that begins in 1801. Thomas Young, an English scientist (1773-1829) inquired about the nature of light (MacLachlan, 1989, pp. 220-222). He devised the experiment of letting light pass through a pinhole and hit a wall. If light consisted of particles, one would expect to see a circle in the size of the hole appear on the wall. Instead, light beams created wave diffraction patterns on the wall: homocentric rings or fringes, dark and bright around a bright center. This was experimental proof that light

[1] Ramsay (2019) proposes parallel layers of spacetime as different timelines in his "Timeless Multiverse Model" (p. 26) to which I am indebted for this article. Kaku (1994, p. 255) uses the analogy of emerging soap bubbles suspended in air.

behaves as a wave. Since light is made of photons, it has a wave-particle duality. In 1961, the double-slit experiment (with two holes and wave interference patterns forming) was carried out with electrons. The result was the same. Matter has wave properties, even our bodies have infinitesimal wavelengths (Al-Khalili, 2004, p. 45).

We thought that electrons were matter particles oscillating around the nucleus of an atom in the well-known classical Bohr atomic model (see Hewitt, 2015, Figure 11.1, p. 210). Electrons behave more like standing waves around their orbits. Circular orbits of electrons resemble strings. Every string is associated with a circular orbit of the Bohr model and has its own frequency of a standing wave (wave crests and troughs move through its circumference). Due to the constructive interference between the crests and troughs, electron orbits (better described as orbitals) exhibit stable patterns. This theory was proposed by the French physicist Louis De Broglie in his PhD thesis in 1924 (Al-Khalili, 2004, pp. 47-51; MacLachlan, 1989, pp. 255-256).

Due to the dualism between standing wave and matter, an electron can be at any possible state at any time (a superposition of many possible states) until it is observed. For an electron to be observed, it must interact with a photon whose wavelength corresponds to its momentum and energy (the higher the energy, the shorter the wavelength, and vice versa). When the electron is hit by the photon, it absorbs the photon's energy and thus changes its path and position, giving you a blurred image. If you bombard the electron with photons of longer wavelength that do not match its energy, then the photons will sweep past the electron almost undisturbed, and you will also get a blurred image. This uncertainty in measurements (and the resulting undefined state of the electron) led Werner Heisenberg to propose the indeterminacy principle (MacLachlan, 1989, pp. 255-257; Al-Khalili, 2004, pp. 68-69, 72-75). To cope with this problem, Erwin Shrödinger was the first to propose a wavefunction relating the location of an electron to its energy (Walker, 2014, pp. 1170-1172).

What happens when an electron is observed? One explanation is that its wavefunction undergoes a process known as "collapse" (Ghao, 2018), a transition of a quantum system from a superposition of possible states to a single, sharply defined, and definite state. We are treating the subatomic level, where elementary particles are observed to be in this quantum state of uncertainty until measurement, with no implications for our reality.

However, another PhD thesis paved the way for extending the physicist's mind to broader possibilities of universal significance: Hugh Everett III's 1957 PhD thesis (Barrett & Byrne, 2012, pp. 55-202) successfully defended the novel and intriguing idea that the entire universe could be in a quantum state. He argued for a universal wavefunction. This theory paved the way for the Many Worlds Interpretation (MWI) of Quantum Physics (Deutsch, 1997): Not only could the entire universe be in a quantum state, but possibly its wavefunction never collapses to a single outcome, it leads to branching of the universe, an "einselection" ("environment-induced superselection", Zurek, 2003). Each outcome of a quantum measurement is realized in a separate branch of the universal wavefunction, in a multiverse of parallel universes.

Let's use the famous Schrödinger's cat thought experiment (Al-Khalili, 2004, pp. 115-120) to explain this fascinating interpretation. After all, Erwin Schrödinger had also advocated publicly (in a colloquium in 1952) that the wavefunction equation does not describe different alternatives till it collapses, but that all these alternatives happen simultaneously (Bitpol, 1995, p. 19).

A cat, a vial of poison, and a radioactive source are placed in a sealed box. When an internal radiation monitor (e.g. a Geiger counter) detects radioactivity (i.e. a single atom decaying), the vial is broken and the poison is released, killing the cat. Before we open the box, we cannot know whether the cat is alive or dead. The MWI suggests that the cat is both alive and dead but in different universes! There is a universe in which the cat

is alive and another in which the cat is dead. These universes do not interact with each other. They are separate, non-communicating branches of reality (Gribbin, 2019, p. 43). It is possible that the entire universe evolves according to a universal wavefunction and that each outcome is associated with a distinct branching world, one of the parallel layers of spacetime I described earlier. This theory is conceivable as a synthesis of spacetime within the framework of general relativity and relativistic gravity (spacetime curving due to the presence of the Earth) and the MWI, through the existence of infinite realities and timelines in a Timeless Multiverse (Ramsay, 2019, p. 34-37).

Simply put, the Earth bends spacetime with its gravity, creating our three-dimensional reality and our linear time illusion, while there are infinite parallel layers of quantum possibilities.

If this were true, if reality is a multi-layered spacetime, a multiverse of interwoven timelines, then our lives are endless journeys from one level to another: There are moments when we can jump to a higher level, and we fall to a lower level. Why (and how) can we change levels?

We should now consider quantum decoherence. It explains the difference between the phenomena in the quantum realm and the real world. It occurs when quantum units interact with their environment and become entangled with it. Then waves of infinite possibilities become particles. Superpositions evolve into different, seemingly classical states. This explains why we cannot observe quantum superpositions in macroscopic reality (Zurek, 2003).

Maybe humans react as electrons, interacting with the environment at certain moments, becoming entangled with it and changing layers. I am describing the moments you make choices, acting as an observer of your own life (when you are at a crossroad in life, and decide where you shall live, with whom you shall be, what you shall do, whether you should accept an offer, when you face moral conflicts, etc.). During these moments, there is temporary interference between the timelines. Sometimes, you even have a quick glimpse of the multiple superpositions of your wavefunction. By making choices, you contribute to your entanglement. Your wavefunction does not collapse. You jump to a different timeline. You swift instantly to a new layer of spacetime. Some choices change your past, and branch you to a different older version of yourself. You only experience their effects in the future, since you perceive time as linear and unidirectional.

Gravity Falls—Enter the Void

My quantum decoherence moments had turned out badly. I had made poor choices, and I had paid the price. I had been falling incessantly for years. By the lake, I realized that I finally was in a stable, somewhat normal state. I was able to grasp what had been happening. It was a shocking discovery.

Sometimes the changes in your timeline are brutal and you experience them like gravity falls. Unaware of the danger, you move slowly along your path from one decoherence moment to the next. Suddenly, you slip into a ripple in spacetime and find yourself in free fall. You go through a traversable wormhole that connects different universes like the ones Steven Hawking theorized (Kaku, 1994, p. 254, see also Figure 12.2, p. 256). You panic as you lose the ground beneath your feet. You cannot estimate when you will stop falling and at which level you will finally land. You are moving towards heavier and sadder versions of yourself, and it is almost impossible to stop. Gravity takes over in your life. Is it an accelerated or inertial motion?

On the (good old) Spherical Earth of Newtonian mechanics, free fall is an accelerated motion (Hewitt, 2015, pp. 46-47). The Earth attracts the body with a force equal to the product of the mass of the body times the mass of the Earth, times the universal gravitational constant G. The intensity of this force decreases with the square of

the distance between the center of the Earth and of the body. This force is exerted at the center of gravity of the body. The same force is also exerted at the center of the Earth according to Newton's third law of motion (for every action there is an equal reaction), but it is too weak to affect Earth's motion. According to Newton's second law of motion, this force also equals the mass of the object times the gravitational acceleration g (approx. 9.8 m/s^2). We can also explain this accelerated motion with Newton's first law of motion, the law of inertia, according to which a body is at rest or moving at constant speed in a straight line and will remain so unless a force is acted upon it. Then an opposite inertial force develops to cancel out the accelerating force. There is no opposing force when you fall. You are subject to gravitational force and its acceleration.

Some years later, while studying Newtonian physics, searching for an explanation of gravity, I formulated the hypothesis that free fall is an inertial motion. It seemed to me that in free fall, the body tends to maintain its vertical inertia, just like when a car stops suddenly and you are pushed forward horizontally. I understand now that I was searching for the meaning of my fall. As I said, I consider that I slipped into a wormhole and began to fall into parallel, lower timelines and universes. I could not possibly consider classical mechanics. I had to think of free fall as a phenomenon occurring in flat spacetime.

To generalize his findings in special relativity, Einstein formulated the equivalence principle (Hewitt, 2015, pp. 687-689). It can be explained by a thought experiment. A person is in a closed cabin in space falling toward the Earth with increasing speed. Now consider that the cabin is moving upwards with equal acceleration. There would be no way for the person in the cabin to know whether he's being pulled towards the Earth or rises upwards into space. In both cases, he would not feel his weight. Acceleration by gravity is no different from acceleration by any other force in the universe. Einstein postulates that gravity is an inertial force. Free fall is an inertial motion, which confirms the inertia I experienced for years with all my futile attempts to stop falling. From the falling person's point of view, this weightlessness is not reassuring. It is a brief entrance into the Void.

That's what I went through for years, until that moment at the lake. I landed in Brest after two and a half years of voluntary exile on Ushant, a small island in the North Atlantic. I had given up my academic career and my life in my country to become a foreigner, a migrant, an outcast, a stranger in a strange land for the rest of my life, in eternally haunted Brittany, where the air spits you and people are happy enough to talk about it. An endless free fall. A gravity fall.

Koyaanisqatsi

"What is the matter?" my wife asked me, interrupting my lake experiment and my deep thoughts. I had a vague idea of what had gotten into me. At the time I didn't have the background I just developed. Now, after years of research, I realize that on that rainy afternoon by the lake, watching the waves, I had a faint inkling that we live in a flat spacetime and that I had entered a bad timeline. Till then, I couldn't find anything wrong with my choices: I had always done what was difficult and what felt right. It was the ethical parameter of my situation that worried me the most, the realization that perhaps there is no Aristotelian entelechy.

After studying Aristotle, his logic, his method, and his worldview, I was convinced of the existence of a teleological universe. It was a message scattered through a variety of his works and conveyed through the powerful and meaningful term entelechy. Entelechy is often translated as "actuality", which does not do justice to the valuable etymology of the Greek word ("containing a purpose"). A being attains entelechy when shapeless matter passes from "potentiality" (a marble rock that has the potential to become a statue) to reality or "actuality" (the marble becomes the actual statue). The being takes on the form acquired by its creator and perfects itself by

fulfilling the end, the purpose of its existence (Aristotle, [350 BCE] 2006, Θ.6, 1048b, pp. 7-8). I have always believed (hoped) that life is ruled by entelechy: a road to perfection through the achievement of deeper ends, a difficult challenge for someone who tries consciously to develop a good, balanced character, and to attain the highest virtue of all, contemplative wisdom (Aristotle, [350 BCE] 2009, X.7 1177a, p. 194, X.8, 1178b: 8-9, p. 197). This was the path (I thought) I had taken.

When I ended up in Brest, I realized I was in a terrible mess. I considered the choices that had led me there. I had given up on academia, disappointed by the lack of objectivity. Revolting against dire political circumstances, I became an independent publisher to defend my values and ideas. I had to leave my country because it was going to ruins (as if it hadn't enough, it's called Greece). I had fled with my family to Ushant in an attempt to find much-needed answers to philosophical, scientific, and existential problems. I didn't; I only got a glimpse of what they could have been. Then I left the island, or I could even say that the island woke up one day, lifted its rocky shoulder, and got rid of me. I landed in Brest, the nearby coastal town. I found myself unemployed at forty, a hopeless immigrant in an austere city where the people who had jobs knew each other or at least knew the village where the other came from. I put aside any intellectual endeavor and began to pave my way to the most bearable normality I could think of in the face of terrible circumstances. After years of struggle, I got a decent job. I had managed to get my family on the right track. I should be happy.

I wasn't. I felt that there was no entelechy in my life anymore: I was living in an unjust, irrational, and meaningless chaos that I would never be able to sort out. I didn't consciously realize that my serious and urgent problem was that I had landed on a wrong timeline and would possibly stay there till the end of my life. It took me years of study to understand what I was experiencing that day by the lake and to restore Aristotle in his rightful place. *I* was responsible for eliminating entelechy from my life.

Aristotle establishes ethics as the development of virtues to attain happiness ("eudaimonia"), moral and intellectual virtues. He pledges for moderation in moral virtues (Aristotle, [350 BCE] 2009, 1106a14-b28, pp. 29-30). I had devoted my life to wisdom (intuitive reason combined with scientific knowledge, Aristotle, [350 BCE] 2009, 1141a18-21, p. 108) but had neglected practical wisdom and the necessary balance in moral virtues. Obsessed as I was to find answers to my theoretical and existential problems, I transgressed the principles of good ethical conduct. Facing demanding challenges, I showed courage, to the point that I became reckless of excessive fearlessness, I had proven foolhardy. While going through dire circumstances, I never stopped being wasteful of immoderate generosity: I helped people who never paid me back (Vantis, 2024, pp. 85-86), I thought that being generous and easing other people's path was the difficult choice (it wasn't), something like karma healing. And I was guilty of over-ambitiousness. I did an ambitious PhD, believing I could change science. Then, I convinced myself I could save my country as a publisher. When I failed, I exiled myself on a remote island to solve life's riddles. Even now, considering my life's wrecks, I was ready to set unattainable goals again. At least I had borne with dignity my misfortunes, like Aristotle wanted for virtuous people (Aristotle, [350 BCE] 2009, X.1 1110a: 1-6, p. 17).

Then another moral issue troubled me. My choices were courageous responses to circumstances independent of my will. Were I to blame for a life I hadn't chosen? Why wasn't my path an easy one? I remembered a verse by William Blake (from the poem "Auguries of Innocence" [1803, 1863] 1979). I first read it at 18 and dismissed it as false. At 50, it strikes me as lifelike:

"Every night and every morn

Some to misery are born.

Every morn and every night
Some are born to sweet delight.
Some are born to sweet delight,
Some are born to endless night."

I had resolved my ethical issues. I was living in koyaanisqatsi: a life out of balance. I was still there. Little did I know that the faint idea I had about how to get out of this mess would only prolong this imbalance.

The Fish Doesn't Think

"You know, I'm thinking about what to do with my life," I said to my wife, as if providing for a family and struggling for a better future weren't enough.

"And what's that?"

"I'm convinced that everything around us, you, me, this place, is just like the surface of the lake. Everything is a wave phenomenon."

"I don't understand."

"We think that we live in a material three-dimensional world, right? But that's a false premise. If I could describe life as it is, it's as if we all live in a bottomless ocean. Our bodies are temporary water patterns. Waves and currents pass through us constantly. We feel none of it. Every cell of your body is made of water belonging to the ocean. When you die, you free yourself from your temporary form. Your pattern dissolves. The drops go back to the ocean."

"Interesting theory. But I don't understand what that has to do with what you can do with your life."

"Hang on, here comes the interesting part. If everything is a wave pattern, there must be ways to create anything out of waves. First, you ought to master scientifically this new reality. You need to come up with the right theory. Then you should prove it mathematically and describe it with equations. If successful, you can move on to the experimental phase. And then you will be able to invent a new kind of technology".

"What is that?"

"The best way to describe it is to combine two words that don't normally go together: spiritual technology. A technology that intertwines matter and waves, the material and the immaterial, the seen and the unseen. And so, you become a master of space."

"What do you mean?"

"For example, if you want to create an apple, you have to enter into your computer the necessary information about what an apple is, its shape and substance, its nutritional value and its cellular components, etc. You will get the characteristics of the resulting wave pattern. Then you must pass that information to a device that creates wave patterns and supply enough energy. And then the apple will be created. It will be real. It will not cease to exist when you stop emitting the wave. You can even give birth to a completely new environment in this way: for example, a forest in a deserted, polluted area. Change the world radically!"

"Are you sure you're not talking about a religion? This reminds me of *Genesis.*"

"No! This will be a new science. Do you remember the biblical story where Jesus multiplied bread and fish to feed five thousand people (Matthew, 14:13-21)? We take it symbolically, but I am convinced it can be done. That's what I'm talking about. I'll call it the Fish Project!"

"Is such a technology possible, even in theory?"

"I don't know. But I'm willing to find out."

Because the Fish Knows

Apart from the moment by the lake, what marked me that weekend in Dinan was the concept of resonance. We strolled through its narrow alleys. Tiny stone houses leaned towards them. Built with centuries-old stone and wood, with flowers and plants hanging from their walls, they blended harmoniously in their surroundings. They murmured gently the life stories of the family lines that had lived in them for centuries. Never in my life had I enjoyed buildings so much. Those charming and inviting earthly dwellings reminded me strongly of the organic architecture of Frank Lloyd Wright ([1954] 1982).

On Saturday evening, as the sun was setting, we came across a street musician. He was dressed as a medieval wizard. He wore a bizarre mask that reminded me of Edgar Allan Poe's "The Masque of the Red Death" ([1842] 2023). He was playing his handpan in the middle of the town's central square. His appearance was fascinating enough, but his music was even more captivating. The sound he produced echoed across the square. It gently reflected in the stone walls and filled spacetime with sound waves. It passed through my body, radiating warmth and reassurance. I felt as if I had fallen out of time, like at the lake. I took it as a sign of simultaneity, a vision from both the past and the future.

As the sun set and the light rain resumed, I convinced myself that the Fish Project was achievable (if not for me, at least for people in the future). It was as natural as music to my ears to invent such technology. Unlocking the secrets of the universe was just a matter of finding the right frequency. It was worth a shot.

Everything

Thus I was convinced that the right thing to do was to embark on yet another impossible mission, playing the role of a one-man research institute in my spare time. I embraced explaining gravity alone, engaging in yet another overambitious task. Maybe I was reacting against the sudden and unconscious realization of life's absurdity: I embraced the idea that the struggle itself towards the heights is enough to fill a man's heart, imagining (once more) Sisyphus happy (Camus, [1942] (2018), p. 123). When we returned home, despite my busy work schedule and demanding family life, I started working on this project. I needed to acquire a sufficient background in physics (I had taken courses at polytechnic school some twenty-five years earlier, and that was all). I also had to refresh my advanced math. I needed to create a solid philosophical and historical framework. I had to develop a methodology, an experiment protocol... The list was endless. My only point of reference was my vision of the lake and my idea of the Fish Project. I knew nothing of what you just read (and much more I discovered along the way that isn't published here). At least I knew where to start.

Civilization One.

References

Al-Khalili, J. (2004). *Quantum. A guide for the perplexed*. Quezon City: Phoenix Publishing House.

Aristotle. [350 BCE] (2006). *Metaphysics book Θ*. (S. Makin, trans.). Cambridge: Oxford University Press.

Aristotle. [350 BCE] (2009). *The Nicomachean ethics*. (D. Cross, trans.). Oxford: Oxford University Press.

Barrett, J. A., & Byrne, P. (Eds.). (2012). *The Everett interpretation of quantum mechanics. Collected works 1955-1980 with commentary*. Princeton & Oxford: Oxford University Press.

Bell, J. [1988] (1993). *Speakable and unspeakable in quantum mechanics: Collected papers in quantum mechanics*. Cambridge: Cambridge University Press.

Bergson, H. [1911] (1944). *Creative evolution*. (A. Mitchell, trans.). New York: Random House (The Modern Library).

Bible Gateway. (2001). English standard version bible. Retrieved from https://esv.literalword.com/

Bitpol, M. (Ed.) (1995). *Ernest Shrödinger: The interpretation of quantum mechanics. Dublin Seminars (1949-1955) and other*

unpublished essays. Connecticut: Ox Bow Press.

Blake, W. [1803, 1863] (1979). Auguries of innocence. In A. Otriker (ed.), *The complete poems*. London: Penguin Books.

Bostrom, N. (2003). Are you living in a computer simulation? *Philosophical Quarterly, 53*(211), 243-255. doi:10.1111/1467-9213.00309

Campbell, T., Houman, O, Savageau, J., & Watkinson, D. (2017). On testing the simulation theory. *International Journal of Quantum Foundations, 3*, 78-99.

Camus, A. [1942] (2018). *The myth of Sisyphus*. (J. O'Brien, trans.). New York: Vintage Books.

De Witt, B. S. (1973). The many worlds interpretation of quantum mechanics. In B. S. De Witt & N. Graham (eds.), *The many worlds interpretation of quantum mechanics* (pp.167-218). New Jersey: Princeton University Press.

Deutsch, D. (1997). *The fabric of reality. The science of parallel universes—And its implications*. London: Penguin Books.

Ghao, S. (2018). *Collapse of the wave function: Models, ontology, origin, and implications.* Oxford: Cambridge University Press.

Gribbin, J. (2019). *Six impossible things: The mystery of the quantum world*. Boston: The MIT Press.

Hewitt, P. G. (2015). *Conceptual physics* (12th ed.). Boston: Pearson.

Kaku, M. (1994). *Hyperspace. A scientific odyssey through Parallel Universes, Time warps and the tenth dimension*. Cambridge: Oxford University Press.

MacLachlan, J. (1989). *Children of Prometheus. A history of science and technology*. Toronto: Wall and Thomson.

Minkowski, H. [1907-1908] (2012). *Space and time. Minkowski papers on relativity*. V. Petkov. (Ed.), F. Lewertoff & V. Petkov (Trans.). Montreal: Minkowski Institute Press.

Poe, E. A. [1842] (2023). *The mask of the red death*. London: Penguin Classics.

Ramsey, R. (2019). *The engineering of coincidence: A scientific explanation of magic*. Amazon: Kindle Edition.

Shakespeare, W. [1599] (2019). *As you like it* (Folger Shakespeare Library). New York: Simon & Schuster.

Vantis, N. (2024). From sustainability to gravity. The research path of an engineer. *Philosophy Study, 14*(2), 81-90. doi:10.17265/2159-5313/2024.02.005

Walker, J. (2014). *Halliday & Resnick fundamental of physics* (10th ed.) New York: Wiley.

Wright, F. L. [1954] 1982. *The natural house*. New York: New American Library.

Zurek, W. H. (2003). Decoherence, einselection, and the quantum origins of the classical. *Reviews of Modern Physics, 75*, 715. doi:10.1103/RevModPhys.75.715

Zurek, W. H. (2009). Quantum Darwinism. *Nature Physics, 5*(3), 181-188. doi:10.1038/nphys1194