

A walk towards Reality

Chapter 1. A letter to somewhere



Somewhere in the Plant, the 11th of August 2153

Oriane,

My Love, where are you? Walking along the endless stems of the Plant, lost, like me? Every day I'm covering kilometres and kilometres in that labyrinth, steering at each corner, filled with your image in my mind and hoping to see you turning out at any moment...

Last night I dreamed of our meeting again. I was touching your hand. YOUR hand! The only one I want to touch anymore. Your skin was so soft, so tender, so real. At last I could feel it, smell it, kiss it for good. At last I could explore the infinite presence of your body...

When is the last time we saw each other in the Space? One month, two months ago? Days are so similar out of the Space. Every day this endless corridor and every night another cell, identical to the last one, anonymous, impersonal, empty.

So many times I wanted to connect again, thinking that you might be doing so. How crazy have we been! We could have located each other before and we would be already together today! Or at least we could have got some information, some indications...

Well, that was our choice, the supreme decision, the one that was going to show the power of our Love: disconnect from the Space to reconnect in the world. That was our sentence! How many times did we repeat it? I remember when you first got the idea. At that time I thought you were joking. Now for sure it's not a joke anymore and the reality of it appears even harder than we were expecting. The question is still wide open and the answer as empty as I miss you: HOW ???

How to reconnect ourselves? How to find the link, the path that leads to the other without depending on the Space? We know it is possible, we believe that we can do it, otherwise, we wouldn't be doing this crazy challenge. I trust you, I trust me, I trust our Love. For so long we have had this growing intuition that another way exists to find ourselves. But I feel lost. So many years spent in the Space, so many years spent to fill its consciousness with our experiences. But what do we know about consciousness? What do we know about the world? What do we know about reality? Not the "Virtual Reality" how they used to call it in the past, but the Reality, with the big "R". Sure, the Space is part of it but there must be another part, invisible, where we can find the answer...

Oriane, I needed to talk to you. And look! That's what I'm doing!

I found this piece of paper and I started to write to you. Yes, a letter with a real pencil! But, I tell you, it's bloody difficult. I'm thinking of the movements, like I used to do in the Space, but my hand is hesitating and merely responding. My progression is very slow but that doesn't matter. As I'm going along I feel you closer and closer. I'm wondering. Do you think this is an open door to the connection we are searching for?

What an irony! I'm writing a letter to you and post offices don't exist any more. Moreover I don't even know where to send it! But I don't care. I'm talking to you and that's the main thing. I feel that my words are going somewhere by themselves. By some mysterious force they find the hidden path that leads to you.

And you, do you hear them?

Do you feel in some indefinite form that I'm talking to you?

* * *

Jonathan stopped to write. He leaned back in his chair and started to meditate on that last sentence.

Chapter 2. The task force



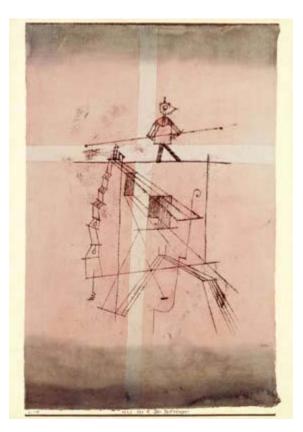
Jonathan was belonging to the second generation born in the Plant. The concept of this new civilisation appeared in the second half of the 21st century in response to the catastrophic situation in which the world had turned.

During the first part of the century the ecological and sociological conditions got worse and worse around the world. Pollution, deforestation, the expansion of deserts, extensive agriculture and overpopulation ruined the whole planet until it reached the point of no return. The world was out of resources. The last drop of petrol was burned in 2059 and the following world crisis was worse than anyone had imagined. Millions and millions of people lost their jobs, destabilising and ruining all the states. Even worse, the explosion of a thermonuclear reactor in 2065 created an ecological catastrophe without precedent. 65% of the ozone layer was destroyed. Dangerous radiation started to burn the surface of the globe causing huge damage to the vegetation and cultures. Agriculture couldn't feed the planet anymore and the consequent rising inflation accelerated even more the degradation of the social situation. The world had turned into a struggle for survival. The next year, in 2066, the governments of all the great powers decided to join their ultimate forces and collaborate in the search of a global solution. They created a task force who's responsibility was immense: save humanity from the apocalypse it was moving towards...

For the first time in history, the most eminent philosophers, sociologists, artists and scientists were invited at the same table as politicians and industrialists. It was no more possible to speak about a simple face-lift. The whole structure and base of the society were brought into question. What was the meaning of working when almost half of the population had no jobs? What was the point of accumulating material goods when there was no food? Did capitalism still make sense? Had capitalism ever brought any form of real happiness? What where the real needs of human beings? What was freedom?

The task force also discussed a lot about the actual state of scientific knowledge. During the previous decades, with the imminent end of petrol resources, scientists of all around the world actively sought for an alternative solution to the production of energy. Amongst that research, one of them led in the 40's to the discovery of a new energy state. This actually never solved the practical problem of finding new resources but on the other hand it created a true intellectual breakthrough that brought a brand new understanding of the universe and the mechanism of evolution. This fact deeply influenced the work of the task force and had major importance in the definition of the new civilisation.

Chapter 3. S-Space and the Return Force



Einstein had shown that energy is matter or that matter is energy, how we prefer (E=mc²), but he didn't tell us that energy could also be something else! For a very long time the scientific community was confronted with a big problem: the amount of matter counted in the universe was not equal to the quantity of energy liberated by the Big Bang. And the difference was not small, a ratio of about 1:2. Either there was the double of matter as estimated, or the Big Bang was twice less powerful than calculated, or they were missing some point. And yes, what a point! After years and years of controversy, brilliant quantum physicist Eugene Formaris finally cleared this enigma. In 2042 he discovered that energy was also existing in a totally immaterial state that he called the "S-State". In this non-physical state energy exists but in a totally invisible and non measurable form, at least not with conventional detection methods. Moreover energy in this state creates a space without physical dimension. So time and distances don't exist in this "parallel" space that Eugene Formaris logically called the S-Space. Practically, this means that this space is at the same time everywhere and nowhere! In other words, if we "enter" in the S-Space from anywhere in the universe, even the two extremes, we constantly reach the same single "point", that is a point without physical dimension but that contains half of the energy of the universe...

Eugene Formaris didn't name the S-State and the S-Space so by pure coincidence. In fact he had the strong intuition that he was actually discovering the existence of the spiritual space. And it's true that the behaviour of the S-Space was strangely recalling the old Christian concept of ubiquity: God is everywhere. Yes, why not putting God in the S-Space? For sure there was more room for him in that one than in the super rational physical space! That's why, soon a lot of people also recognised in this discovery the scientific proof of the spiritual dimension. Nevertheless Formaris preferred to keep the terms of S-State and S-Space in order to avoid controversy and give people the liberty of interpretation.

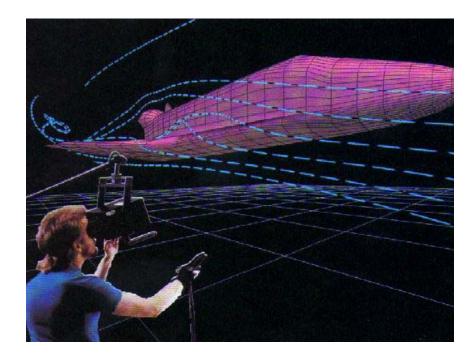
Another common thought provoked by this discovery was that it would open the door to instant travelling through the universe. This perspective of course sounded very exciting but further research showed that the transition between the physical state and the S-State was almost impossible. A huge energy barrier separates them both so converting matter into S-State would require an amount of energy almost equivalent to the Big Bang. Only photons, under some specific conditions, can pass from one world to the other. No chance to put a space ship through the S-Space!

Nevertheless those speculations opened the way to an even more significant discovery. In 2045 a group of researchers proved that an attractive force exists permanently between the material state and the S-State. They called it the Return Force (RF). In other words, the two spaces are mutually attracted by that force but they can't merge because of the energy barrier mentioned above. That's why the Return Force is constantly "working" to bring back the universe in its original state, that is a state where the density of energy is so high that the matter and the S-State can "jump" over the barrier and recombine together. In the physical space this "work" manifests itself by the presence of gravity. This omnipresent field is therefore a consequence of the Return Force, its manifestation in the physical dimension. Gravity opposes itself to the physical expansion of the universe in order to bring back all the matter projected by the Big Bang into a single point. The inertia of that expansion is so huge that this process might take another few billion years. But then at last the two spaces and the two energies will be one again. And this will also be the end of our universe: the Big Crunch.

From that point of view the whole story of the universe could be summarised as a big waiting of many billions of years between the Big Bang and the Big Crunch. Not very exciting, is it? Fortunately for us Nature found an amazing shortcut to recombine the matter and the S-State in a much quicker way:

Life!

Chapter 4. Evolution and Cyberspace



Darwin explained with a lot of detail the mechanism of evolution but it never explained its motor. He explained the "how" but not the "why". Evolution must respond to a *necessity*, otherwise it has no sense. The reason proposed by Darwin was the necessity for species to adapt themselves to environmental restrictions (limitations of natural resources) and to environmental changes. This is true but from that point of view the development of the human being was in no case a necessity! Moreover, life and evolution are in complete contradiction with one of the fundamental laws of thermodynamic, the law of entropy. This is the "law of chaos" or the "law of least effort". It tells that any physical system will always search a point of equilibrium that corresponds to the maximal internal chaos! For sure we wouldn't be very far in the evolution process if nothing else had ever existed to oppose itself to chaos and bring some more organisation in it...

That's why the discovery of the Return Force created a true intellectual revolution. For the first time since the work of Darwin, evolution had a clear origin, motor, and direction:

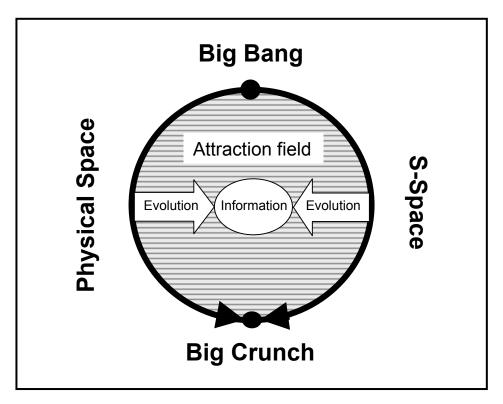
The evolution towards S-Space.

Life and all the consecutive evolution had been an *alternative* path in the attempt to join the material space and S-Space, a shortcut that found its way inside the attraction field created by the Return Force. The transformation of inanimate matter into life and further more into thinking and consciousness was a necessity. The whole evolution was a necessity. The necessity to organise matter into *information*.

Information is the most immaterial state of matter and therefore the closest to S-State. It is a subtle *organisation* of matter, a state that has the essence of S-State but still requires a material support. Information is not a fusion between matter and S-State, it is an interpenetration of those two energies. Neurones and intelligence are examples but microprocessors and computer programs are just other ones created this time by man himself. This means that it is exactly the same force that has driven both the evolution of animal species and the one of technical objects. The development of all techniques and technologies must be understood as a prolongation of the evolution, its *projection* in the inanimate world. Along with science, philosophy and spirituality, they are all part of the global evolution that goes from the primary development of species to the latest one of consciousness.

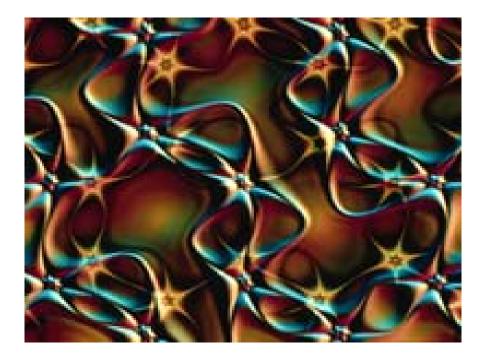
After the discovery of the Return Force and the understanding of the obvious evolution towards information and immateriality, people logically started to believe that Virtual Reality and Cyberspace was the natural continuation of the development of humanity. Since the apparition of Internet at the end of the previous century those concepts never stopped to progress. So, conceptually, what was now the difference between S-Space and the virtual space formed by all interconnected computers? Not that much, indeed. Both were appearing like an infinite room in which one can access from anywhere in the world, an endless dimension with no time and distances.

For sure, technology was coming closer and closer to S-Space and the understanding of people was coherent according to their state of knowledge. But was Cyberspace, the kingdom of pure information, going to be the true future of our humanity?



The effect of the Return Force

Chapter 5. The Plant



The first goal of the intergovernmental task force had been to assess the actual situation. In brief, here are their first conclusions:

- In a world where evolution is clearly going towards immateriality, the race for accumulating money and material goods is not relevant anymore.
- Capitalism showed its limits and can no longer give a satisfactory solution to the actual world crisis.
- The role of work must be reconsidered fundamentally.
- There must be a right for food and home independent of social or working conditions.
- All possible technological resources must be considered.
- Humanity has lacked collective consciousness and must find a new model.

This last question soon became the centre of discussions. After a lot of controversy they finally agreed on the following points:

- Work will only have sense if it brings collective consciousness.
- Virtual Space must become the space for collective consciousness.
- Hybrids biotechnologies can be the answer for the supply of energy.
- Water plants or similar can be the solution for nutrition.
- The new society will be nomadic and follow the model of dolphins.

The concept of the Plant was almost born.

It's important to notice that at this time artificial life had already made a lot of progress. Since pioneering work of people like Yoichiro Kawaguchi or Karl Sims, in the end of the 20th century, artificial life had left the world of computer simulations to meet the realm of biology a long time ago. Artificial life had been indeed the point of convergence of many other researches. For instance, Nature also inspired the cellular networks developed by Daniel Mange. Each "cell" (a simple microprocessor with a basic set of instructions) could duplicate itself, develop and connect with other cells to finally form a network capable of much more complex operations like learning specific tasks or self-reparation. However, those "cells" were still evolving on a silicon substrate and other researches intended to go even further by connecting living cells to silicon chips. With those new interfaces it became possible, for instance, to give back motor functions to paralysed persons. But maybe the most important breakthrough was the invention of bio-processors: living cells with DNA microprocessors. This was an outcome of advanced genetic engineering that achieved to reprogram the DNA sequence of a cell so that it could also perform basic arithmetical functions. That's why bio-computers were already common stuff in 2066: networks of bio-processors or, in other words, artificial brains.

The Task Force tried to synthesise all current knowledge and ideals to build the concept of the Plant. The project was finally entirely defined in 2067, after one year of ardent discussions. Here is a summary of the main points.

- The new society will be living in a huge living structure called "The Plant". Inspired by sea plants this structure will provide everything that mankind needs: energy (photosynthesis), food, protection (remember the destruction of the ozone layer) and communication.
- The Plant will be using artificial life technologies but brought to a much larger scale so that it can contain inhabitants. Leafs will form personal living spaces, like individual cells, and stems will be pedestrian ways, like corridors, that connect all of them.
- The Plant will be at the same time a huge artificial brain formed by the DNA processors of all the microscopic living cells. This means that the Plant will not only provide a physical space but also an infinite virtual space.
- This virtual space will be the consciousness of the Plant and the collective consciousness of the new civilisation.
- Work will be abandoned and replaced by the notion of experience. People will live to increase their own consciousness and the collective one through their experiences in the virtual space.
- Living and experiencing in the Space (the virtual space) will be realised through an avatar connected via a brain interface. This interface will allow a total immersion and a total integration with the avatar. This one will be controlled by thoughts and all the stimuli perceived in the Space (sound, images, taste, contact, odour, pain, etc.) will be fed back to the brain.
- People will receive a talisman at their birth containing a genetic code that will allow their identification and their connection to the Space from any cell of the Plant.
- The new society will be nomadic and there will be no attributed cell. However, one will be able to configure a cell at his convenience and recall that profile when moving to another cell. As anything one could possess will stay in the Space, people will be able to come and go as they want, following their mood, their feelings or other persons met in the Plant.

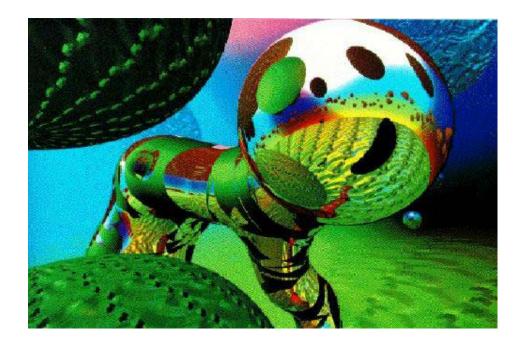
- The displacements will be done by feet. Other transport means would consume too much energy and fast physical transports have no sense any more because the Space will anyway offer instant virtual transportation. Also, as people will spend most of their time in the Space, displacements by feet will be a good compensation to the lack of physical activities.
- The sap of the Plant will be a highly nutritive substance providing unlimited food for the inhabitants.

In brief, the deal was simple: the people were going to feed the consciousness of the Plant with their experiences and the Plant was going to feed them with its sap.

* * *

10 years were necessary to build the first prototype of the Plant and a another 10 years for all the "seeds" spread around the 5 continents to be grown enough to accommodate people. Then the big immigration started. The living conditions on Earth had become so bad in the meantime that even the most reticent persons ended by accepting to leave everything, houses and goods, to move in the Plant.

By the end of 21st century there were no more people on the surface of our planet...



Chapter 6. The Dreamland



Somewhere in the Plant, the 11th of August 2154

Oriane,

My so dear Oriane, one year has now passed since I wrote to you for the first time. How many letters have I written since that time? And how many others will I write until we meet? But that doesn't matter. Time indeed isn't such an issue. Strangely I'm no longer in a hurry to find you. I'm confident, that's all. We can't go faster than destiny. We will meet when it is the right time for me, the right time for you, the right time for us. No rush. I know that we need that time to construct ourselves. I was searching for you and now I find myself! And the more I'm discovering now, the more I will be able to give to you later. Our love is demanding but I'm sure that our sacrifices will be rewarded...

I'm continuing my journey through the Plant. Or should I say my initiatory path. I walk less than in the past. As I'm developing more intuition, my progression is getting less wild and random. I spend more time talking with people in the public areas. Sometimes I even stay a few days at a place. Some weeks ago I had an incredible meeting with an old man. I told him our story and he told me that a long time ago there were people in Australia that could communicate mentally! They also had a sort of virtual space called the Dreamland. They were having all sorts of experiences in that world which they were connecting using some spiritual methods. However it was more like an augmented reality. The goal was still the experience in the physical world and the Dreamland was

like a permanent contact to get complementary information. The combination of the two was giving them enhanced experiences. What an insight! I couldn't believe it. And this happened thousands of years ago, without a single piece of technology...

I had to get more information about those people. I needed to know more about them. So, I must confess to you, I connected myself again to the Space. But I promise you that I didn't cheat. I didn't ask the Plant to know where you were! (By the way, I'm wondering, do you think it can know where we are even if we are not connected?) But let's go back to the subject. I inquired the memory of the Plant and I must tell you that the story of those people, the Australian Aborigines, is truly astonishing. You can't imagine how this civilisation was spiritually developed. They reached a level of spiritual sophistication that is probably as high as our level of technological sophistication. The interesting point is that they were nomads, like us, so they were also completely detached about materiality. But here is the big difference. For them immateriality was meaning spirituality and for us it means virtuality! Like two different ways to evolve towards the same direction, S-Space. But which one goes the closest? Don't you think that virtuality is just a superfluous interface that stops us from reaching the main thing? Well, I don't say that the Space is necessarily a bad thing. Look, I needed some crucial information and I could get them within a second. No, the real problem is that things are out of balance here because we don't know what we are searching for in the Space!

This is indeed the main question: what are we searching for in the Space?

Now I strongly believe that S-Space *is* the spiritual space. And I'm convinced that the whole development of technology, which finally led to our Space, was just a *projection* in the matter of our subconscious need of spirituality. We were too shy, too bold or too intellectual to accept this internal call. Or we were too excited to feel how much power we could have on matter. We wanted to be like God. But God transformed the matter into life and consciousness to bring us closer to him, closer to his Love. Us, we transformed the matter without knowing where we were going. By the end we found an excuse, S-Space, but we actually did nothing else than continuing to project our own image in the matter. Pure self-centredness! And still the same lack of humility and spirituality...

Oh, Oriane, I'm so glad that we decided to leave the Space to find ourselves differently. It's amazing how our intuition was right. Yes, another way exists to meet each other. Today this way is clear: it is the Dreamland, the Spiritual Space. And it is alive. It's not only a "point" with no time and distances. It's an infinite world with its own dimensions that we must discover and experiment. It can help us to find many answers, to find the faith and the wisdom. It will guide our steps as we are walking towards each other. And if we both find the door of this space with our hearts, then there will be really no time and distance between us. Then we will be Connected...

I LOVE YOU

Jonathan

Epilogue

Technique and Civilization:

A quest for the truth

Evolution has only one goal, the reunion of the physical space with S-Space, which is achieved through the slow transformation of plain matter into information. However, this marriage cannot be done anyhow! It must respect a few conditions, in particular those imposed by a process called "information selection". This one occurs at every level of the evolution towards S-Space and is in fact the actual mechanism behind the famous "natural selection". This process is underlying all the development of humanity, from the evolution of biological species to the development of human societies, from the invention of the wheel to the latest progresses of science and technology. It could be described simply like this. Amongst the multiplication and the variation of possibilities, the selected solution is the one that contains the most *coherent* information according to a given context. It is not necessary the best solution in the absolute but it is the most accurate in a certain technical, social or natural environment. It is the most acceptable solution according to the *perceived reality* of a situation.

This means that the process of evolution has indeed three steps:

- 1. The Return Force creates an attraction field that tends to increase the quantity and quality of information, the degree of complexity and coherence contained in the living or non-living matter.
- 2. Random variations around a certain state of information (due to the law of entropy that opposes itself to the Return Force by producing more chaos) or human's imagination multiply the number of possibilities.
- 3. A process of selection filters the information to keep preferably the most coherent one according to a given state of knowledge, consciousness, natural environment or any other restricting context.

A coherent information achieves a higher degree of interpenetration with S-State and that's the reason why it is selected. This principle has a major importance in the mechanism of evolution. It is the condition that determines how matter must be organised to be able to combine itself with S-State. Their original separation created a huge potential field and since then it decreases every time a step is accomplished towards their reunification. It is in fact the same phenomenon that occurs with the gravitation field (which also results from the Return Force, as we have seen). An object that can freely move towards the ground will be stable when it reaches a point of minimum potential energy. This will not be an absolute minimum, but the lowest point accessible under those particular circumstances. In the case of a river this would be done gradually, step by step, following the lowest curves of the ground until to reach the faraway ocean. This image suits perfectly to the process of evolution. Every selection, every increase of the information's coherence, every step down of the river is a temporary choice that depends of the possibilities and restrictions of the local context. New discoveries, random variations or modifications of the external conditions will soon or later brake this relative equilibrium and open ways that will lead even closer to S-Space.

Thus, life and technique - its later projection in the inanimated world by human being - are joining the physical space and S-Space by allowing the transformation of plain matter into a more immaterial state, information. But not any information is acceptable! A process of selection is necessary to keep only the most coherent one. This "quest for the truth" is the only way to find a path that converges and possibly leads closer to S-State. At the highest level this is achieved through the opening and widening of consciousness. That's why, to complete the evolution towards S-Space, matter has indeed to become

A TRUE IMAGE OF THE REALITY.



Photographic credits

Chapter 1:	Yoichiro Kawaguchi, Cellular, ACM SIGGRAPH, 1996.
Chapter 2:	Peter Gabriel, EVE, 1996.
Chapter 3:	Paul Klee, The Equilibrist.
Chapter 4:	Unknown, Virtual Reality. Personal drawing, The evolution towards information.
Chapter 5:	Karl Sims, Neurones, in Primordial Dance, 1991. Yoichiro Kawaguchi, Ocean, 1986.
Chapter 6:	Yoshiyuki Abe

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