The Little Apocrypha

Otho Ravintzer

XVIII
la Lune

If we were to view the ancient Earth through a telescope would we recognise a habitable world?

Three billion years ago the Earth resembled an alien world. Poorly warmed by the faint young Sun, the Earth created an atmospheric blanket for itself, a toxic orange haze making the Earth glow like Titane, the Saturn's moon. The night sky was penetrated by flashes of auroras of electric blue colour. The atmosphere full of volcanic fumes could trap the Sun's heat and keep the oceans liquid. Viciously green oceans of the Archean period, full of disolved iron, covered the entire surface of the Earth.

Volcanic activity on the floor of these poisonous oceans lured in the first life forms. Microbial life forms were feeding upon the sulphur released by geothermal vents in the sea floor. Together they created high rise towers of bacterial utopia and wholly ignored the Sun piercing through the green waters.

But the sunlight got noticed by new emerging organisms. These purple coloured microbes formed flat colonies in the oceans and harvested energy directly from the Sun. Only they were producing sulphuric acid as a byproduct, making oceans even more toxic.

Several million years passed and another path of the evolution was taken by new bacteria that emerged. Blooming cyanobacteria floating on the surface of the oceans, eating the energy from the Sun as their life strategy. They create a completely new deadly gas that is toxic even for themselves.

That gas is oxygen.

Millions of years of blooming and dying await them, to finally form life on the Earth as we know it.

The Case of Andre Berton

Stanisław Lem

14.00 hours:
Altitude 3000 – or 3500 – 2500 feet.
Nothing visible; ocean empty.

16.40 hours:
A red mist rising. Visibility 700 yards. Ocean empty.

17.00 hours:
Fog thickening; visibility 400 yards, with clear patches. Descending to 600 feet.

17.20 hours:
In fog. Altitude 600. Visibility 20 – 40 yards. Climbing to 1200.

17.45 hours:
Altitude 1500. Pall of fog to horizon. Funnel-shaped openings through which lean see ocean surface. Attempting to enter one of these clearings; something is moving.

17.52 hours:
Have spotted what appears to be a waterspout; it is throwing up a yellow foam. Surrounded by a wall of fog. Altitude 300. Descending to 60 feet.

BERTON: When I reached 100 feet it became very difficult to maintain altitude because of the violent gusts of wind inside the cone. I had to hang on to the controls and for a short period – about ten or fifteen minutes – I did not look outside. I realized too late that a powerful undertow was dragging me back into the fog. It wasn't like an ordinary fog, it was a thick colloidal substance which coated my windows. I had a lot of trouble cleaning them; that fog – or glue rather – was obstinate stuff. Due to this resistance, the speed of my rotor-blades was reduced by

thirty percent and I began losing height. I was afraid of capsizing on the waves; but, even at full power, I could maintain altitude but not increase it. I still had four booster-rockets left but felt the situation was not yet desperate enough to use them. The aircraft was shaken by shuddering vibrations that grew more and more violent. Thinking my rotor blades must have become coated with the gluey substance, I glanced at the overload indicator, but to my surprise it read zero. Since entering the fog, I had not seen the sun – only a red glow. I continued to fly around in the hope of emerging into one of the funnels, which, after half an hour, was what happened. I found myself in a new 'well,' perfectly cylindrical in shape, and several hundred yards in diameter. The walls of the cylinder were formed by an enormous whirlpool of fog, spiralling upwards. I struggled to keep in the middle, where the wind was less violent. It was then that I noticed a change in the ocean's surface. The waves had almost completely disappeared, and the upper layer of the fluid – or whatever the ocean is made of – was becoming transparent, with murky streaks here and there which gradually dissolved until, finally, it was perfectly clear. I could see distinctly to a depth of several yards. I saw a sort of yellow sludge which was sprouting vertical filaments. When these filaments emerged above the surface, they had a glassy sheen. Then they began to exude foam – they frothed – until the foam solidified; it was like a very thick treacle. These glutinous filaments merged and became intertwined; great bubbles swelled up on the surface and slowly began to change shape. Suddenly I realized that my machine was being driven towards the wall of fog. I had to manoeuver against the wind, and when I was able to look down again, I saw something which looked

like a garden. Yes, a garden. Trees, hedges, paths – but it wasn't a real garden; it was all made of the same substance, which had hardened and by now looked like yellow plaster. Beneath this garden, the ocean glittered. I came down as low as I dared in order to take a closer look.

QUESTION: Did the trees and plants you saw have leaves on them?

BERTON: No, the shapes were only approximate, like a model garden. That's exactly what it was like: a model, but lifesize. All of a sudden, it began to crack; it broke up and split into dark crevices; a thick white liquid ran out and collected into pools, or else drained away. The 'earthquake' became more violent, the whole thing boiled over and was buried beneath the foam. At the same time, the walls of the fog began to close in. I gained height rapidly and came clear at 1000 feet.

QUESTION: Are you absolutely sure that what you saw resembled a garden – there was no other possible interpretation?

BERTON: Yes. I noticed several details. For example, I remember seeing a place where there were some boxes in a row. I realized later that they were probably beehives.

QUESTION: You realized later? But not at the time, not at the moment when you actually saw them?

BERTON: No, because everything looked as though it were made of plaster. But I saw something else.

QUESTION: What was that?

BERTON: I saw things which I can't put a name to, because I didn't have time to examine them carefully. Under some bushes I thought I saw tools, long objects with prongs. They might have been plaster models of garden tools. But I'm not absolutely certain. Whereas I'm sure, quite certain, that I recognized an apiary.

QUESTION: It didn't occur to you that it might be an hallucination?

BERTON: No. I thought it was a mirage. It never occurred to me that it was an hallucination because I felt perfectly well, and I had never see anything like it before. When I reached 1000 feet and took another look at the fog, it was pitted with more irregularly-shaped holes, rather like a piece of cheese. Some of these holes were completely hollow, and I could see the ocean waves; others were only shallow saucers in which something was bubbling. I descended another well and saw – the altimeter read 120 feet – I saw a wall lying beneath the ocean surface. It wasn't very deep and I could see it clearly beneath the waves. It seemed to be the wall of a huge building, pierced with rectangular openings, like windows. I even thought I could see something moving behind them, but I couldn't be absolutely certain of that. The wall slowly broke the surface and a mucous bubbling liquid streamed down its sides. Then it suddenly broke in half and disappeared into the depths. I regained height and continued to fly above the fog, the machine almost touching it, until I discovered another clearing, much larger than the previous one.
While I was still some distance away, I noticed a pale, almost white, object floating on the surface. My first thought

was that it was Fechner's flying-suit, especially as it looked vaguely human in form. I brought the aircraft round sharply, afraid of losing my way and being unable to find the same spot again. The shape, the body, was moving; sometimes it seemed to be standing upright in the trough of the waves. I accelerated and went down so low that the machine bounced gently. I must have hit the crest of a huge wave I was overflying. The body – yes, it was a human body, not an atmosphere-suit – the body was moving.

QUESTION: Did you see its face?

BERTON: Yes.

QUESTION: Who was it?

BERTON: A child.

QUESTION: What child? Did you recognize it?

BERTON: No. At any rate, I don't remember having seen it before. Besides, when I got closer – when I was forty yards away, or even sooner – I realized that it was no ordinary child.

QUESTION: What do you mean?

BERTON: I'll explain. At first, I couldn't understand what worried me about it; it was only after a minute or two that I realized: this child was extraordinarily large. Enormous, in fact. Stretched out horizontally, its body rose twelve feet above the surface of the ocean, I swear.
I remembered that when I touched the wave, its face was a little higher than mine, even though my cockpit must have been at least ten feet above the ocean.

QESTION: If it was as big as that, what makes you say it was a child?

BERTON: Because it was a tiny child.

QUESTION: Do you realize, Berton, that your answer doesn't make sense?

BERTON: On the contrary. I could see its face, and it was a very young child. Besides, its proportions corresponded exactly to the proportions of a child's body. It was a... babe in arms. No, I exaggerate. It was probably two or three years old. It had black hair and blue eyes – enormous blue eyes! It was naked – completely naked – like a new-born baby. It was wet, or I should say glossy; its skin was shiny. I was shattered. I no longer thought it was a mirage. I could see this child so distinctly. It rose and fell with the waves; but apart from this general motion, it was making other movements, and they were horrible!

QUESTION: Why? What was it doing?

BERTON: It was more like a doll in a museum, only a living doll. It opened and closed its mouth, it made various gestures, horrible gestures.

QUESTION: What do you mean?

BERTON: I was watching it from about twenty yards away – I don't suppose I went any closer. But, as I've already told you, it was enormous. I could see very clearly. Its eyes sparkled and you really would have thought it was a living child, if it hadn't been for the movements, the gestures, as though someone was trying... It was as though someone else was responsible for the

gestures...

QUESTION: Try to be more explicit.

BERTON: It's difficult. I'm talking of an impression, more of an intuition. I didn't analyze it, but I knew that those gestures weren't natural.

QUESTION: Do you mean, for example, that the hands didn't move as human hands would move, because the joints were not sufficiently supple?

BERTON: No, not at all. But... these movements had no meaning. Each of our movements means something, more or less, serves some purpose...

QUESTION: Do you think so? The movements of an infant don't have much meaning!

BERTON: I know. But an infant's movements are confused, random, uncoordinated. The movements I saw were... er.... yes, that's it, they were methodical movements. They were performed one after another, like a series of exercises; as though someone had wanted to make a study of what this child was capable of doing with its hands, its torso, its mouth. The face was more horrifying than the rest, because the human face has an expression, and this face... I don't know how to describe it. It was alive, yes, but it wasn't human. Or rather, the features as a whole, the eyes, the complexion, were, but the expression, the movements of the face, were certainly not.

QUESTION: Were they grimaces? Do you know what happens to a person's face during an epileptic fit?

BERTON: Yes. I've watched an epileptic fit. I know what you mean. No, it was something quite different. Epilepsy provokes spasms, convulsions. The movements I'm talking about were fluid, continuous, graceful... melodious, if one can say that of a movement. It's the nearest definition I can think of. But this face... a face can't divide itself into two – one half gay, the other sad, one half scowling and the other amiable, one half frightened and the other triumphant. But that's how it was with this child's face. In addition to that, all these movements and changes of expression succeeded one another with unbelievable rapidity. I stayed down there a very short time, perhaps ten seconds, perhaps less.

QUESTION: And you claim to have seen all that in such a short time? Besides, how do you know how long you were there? Did you check your chronometer?

BERTON: No, but I've been flying for seventeen years and, in my job, one can measure instinctively, to the nearest second, the duration of what would be called an instant of time. It's an acquired faculty, and essential for successful navigation. A pilot isn't worth his salt if he can't tell whether a particular phenomenon lasts five or ten seconds, whatever the circumstances. It's the same with observation. We learn, over the years, to take in everything at a glance.

QUESTION: Is that all you saw?

BERTON: No, but I don't remember the rest so precisely. I suppose I must already have seen more than enough; my attention faltered. The fog began to close in, and

I had to climb. I climbed, and for the first time in my life I all but capsized. My hands were shaking so much that I had difficulty in handling the controls. I think I shouted something, called up the base, even though I knew we were not in radio contact.

QUESTION: Did you then try and get back?

BERTON: No. In the end, having gained height, I thought to myself that Fechner was probably in the bottom of one of the wells. I know it sounds crazy, but that's what I thought. I told myself that everything was possible, and that it would also be possible for me to find Fechner. I decided to investigate every clearing I came across along my route. At the third attempt I gave up. When I had regained height, I knew it was useless to persist after what I had just seen on this, the third, occasion. I couldn't go on any longer. I should add, as you already know, that I was suffering from bouts of nausea and that I vomited in the cockpit. I couldn't understand it; I have never been sick in my life.

COMMENT: It was a symptom of poisoning.

BERTON: Perhaps. I don't know. But what I saw on this third occasion I did not imagine. That was not the effect of poisoning.

QUESTION: How can you possibly know?

BERTON: It wasn't an hallucination. An hallucination is created by one's own brain, wouldn't you say?

COMMENT: Yes.

BERTON: Well, my brain couldn't have created what

I saw. I'll never believe that. My brain wouldn't have been capable of it.

COMMENT: Get on with describing what it was!

BERTON: Before I do so, I should like to know how the statements I've already made will be interpreted.

QUESTION: What does that matter?

BERTON: For me, it matters very much indeed. I have said that I saw things which I shall never forget. If the Commission recognizes, even with certain reservations, that my testimony is credible, and that a study of the ocean must be undertaken – I mean a study orientated in the light of my statements – then I'll tell everything. But if the Commission considers that it is all delusions, then I refuse to say anything more.

QUESTION: Why?

BERTON: Because the contents of my hallucinations belong to me and I don't have to give an account of them, whereas I am obliged to give an account of what I saw on Solaris.

QUESTION: Does that mean that you refuse to answer any more questions until the expedition authorities have announced their findings? You realize, of course, that the Commission isn't empowered to take an immediate decision?

BERTON: Yes.

Eleven days later.

PRESIDENT: ...after due consideration, the Commission, composed of three doctors, three biologists, a physicist, a mechanical engineer and the deputy head of the expedition, has reached the conclusion that Berton's report is symptomatic of hallucinations caused by atmospheric poisoning, consequent upon inflammation of the associative zone of the cerebral cortex, and that Berton's account bears no, or at any rate no appreciable, relation to reality.

BERTON: Excuse me, what does "no appreciable relation" mean? In what proportion is reality appreciable or not?

PRESIDENT: I haven't finished. Independently of these conclusions, the Commission has duly registered a dissenting vote from Dr. Archibald Messenger, who considers the phenomena described by Berton to be objectively possible and declares himself in favor of a scrupulous investigation.

BERTON: I repeat my question.

PRESIDENT: The answer is simple. "No appreciable relation to reality" means that phenomena actually observed may have formed the basis of your hallucinations. In the course of a nocturnal stroll, a perfectly sane man can imagine he sees a living creature in a bush stirred by the wind. Such illusions are all the more likely to affect an explorer lost on a strange planet and breathing a poisonous atmosphere. This verdict is in no way prejudicial to you, Berton. Will you now be good enough to let us know your decision?

BERTON: First of all, I should like to know the possible consequences of this dissenting vote of Dr. Messenger's.

PRESIDENT: Virtually none. We shall carry on our work along the lines originally laid down.

BERTON: Is our interview on record?

PRESIDENT: Yes.

BERTON: In that case, I should like to say that although the Commission's decision may not be prejudicial to me personally, it is prejudicial to the spirit of the expedition itself. Consequently, as I have already stated, I refuse to answer any further questions.

PRESIDENT: Is that all?

BERTON: Yes. Except that I should like to meet Dr. Messenger. Is that possible?

PRESIDENT: Of course.

The Dream

Kris Kelvin

A blurred region, in the heart of vastness, far from earth and heaven, with no ground underfoot, no vault of sky overhead, nothing. I am the prisoner of an alien matter and my body is clothed in a dead, formless substance – or rather I have no body, I ***am*** that alien matter. Nebulous pale pink globules surround me, suspended in a medium more opaque than air, for objects only become clear at very close range, although when they do approach they are abnormally distinct, and their presence comes home to me with a preternatural vividness. The conviction of its substantial, tangible reality is now so overwhelming that later, when I wake up, I have the impression that I have just left a state of true perception, and everything I see after opening my eyes seems hazy and unreal.

That is how the dream begins. All around me, something is awaiting my consent, my inner acquiescence, and I know, or rather the knowledge exists, that I must not give way to an unknown temptation, for the more the silence seems to promise, the more terrible the outcome will be. Yet I essentially know no such thing, because I would be afraid if I knew, and I never felt the slightest fear.

I wait. Out of the enveloping pink mist, an invisible object emerges, and touches me. Inert, locked in the alien matter that encloses me, I can neither retreat nor turn away, and still I am being touched, my prison is being probed, and I feel this contact like a hand, and the hand recreates me. Until now, I thought I saw, but had no eyes: now I have eyes! Under the caress of the hesitant fingers, my lips and cheeks emerge from the void, and as the caress goes further I have a face, breath stirs in my chest – I exist. And recreated, I in my turn create: a face appears before me that I have never seen until now, at once mysterious and

known. I strain to meet its gaze, but I cannot impose any direction on my own, and we discover one another mutually, beyond any effort of will, in an absorbed silence. I have become alive again, and I feel as if there is no limitation on my powers. This creature — a woman? — stays near me, and we are motionless. The beat of our hearts combines, and all at once, out of the surrounding void where nothing exists or can exist, steals a presence of indefinable, unimaginable cruelty. The caress that created us and which wrapped us in a golden cloak becomes the crawling of innumerable fingers. Our white, naked bodies dissolve into a swarm of black creeping things, and I am — we are — a mass of glutinous coiling worms, endless, and in that infinity, no, I am infinite, and I howl soundlessly, begging for death and for an end. But simultaneously I am dispersed in all directions, and my grief expands in a suffering more acute than any waking state, a pervasive, scattered pain piercing the distant blacks and reds, hard as rock and ever-increasing, a mountain of grief visible in the dazzling light of another world.

An Imperfect God

Stanisław Lem

SNOW: "I wish you'd think a little less."

KELVIN: "But you don't know what I was thinking about! Tell me something. Do you believe in God?"

SNOW: "What? Who still believes nowadays..."

KELVIN: "It isn't that simple. I don't mean the traditional God of Earth religion. I'm no expert in the history of religions, and perhaps this is nothing new – do you happen to know if there was ever a belief in an... imperfect god?"

SNOW: "What do you mean by imperfect? In a way all the gods of the old religions were imperfect, considering that their attributes were amplified human ones. The God of the Old Testament, for instance, required humble submission and sacrifices, and was jealous of other gods. The Greek gods had fits of sulks and family quarrels, and they were just as imperfect as mortals..."

KELVIN: "No, I'm not thinking of a god whose imperfection arises out of the candor of his human creators, but one whose imperfection represents his essential characteristic: a god limited in his omniscience and power, fallible, incapable of foreseeing the consequences of his acts, and creating things that lead to horror. He is a... sick god, whose ambitions exceed his powers and who does not realize it at first. A god who has created clocks, but not the time they measure. He has created systems or mechanisms

that served specific ends but have now overstepped and betrayed them. And he has created eternity, which was to have measured his power, and which measures his unending defeat. Nothing at all to do with the principle of Good and Evil. This god has no existence outside of matter. He would like to free himself from matter, but he cannot..."

SNOW: "I don't know of any religion that answers your description. That kind of religion has never been... necessary. If I understand you, and I'm afraid I do, what you have in mind is an evolving god, who develops in the course of time, grows, and keeps increasing in power while remaining aware of his powerlessness. For your god, the divine condition is a situation without a goal. And understanding that, he despairs. But isn't this despairing god of yours mankind, Kelvin? It is man you are talking about, and that is a fallacy, not just philosophically but also mystically speaking."

KELVIN: "No, it's nothing to do with man. Man may correspond to my provisional definition from some points of view, but that is because the definition has a lot of gaps. Man does not create gods, in spite of appearances. The times, the age, impose them on him. Man can serve his age or rebel against it, but the target of his cooperation or rebellion comes to him from outside. If there was only a single human being in existence, he would apparently be able to attempt the experiment of creating his own goals in complete freedom – apparently, because a man not brought up among other human beings cannot become a man. And the being – the being I have in mind – cannot exist in the plural, you see?"

SNOW: "Oh, then in that case, look out of the window."

KELVIN: "No, not the ocean either. Somewhere in its development it has probably come close to the divine state, but it turned back into itself too soon. It is more like an anchorite, a hermit of the cosmos, not a god. It repeats itself, Snow, and the being I'm thinking of would never do that. Perhaps he has already been born somewhere, in some corner of the galaxy, and soon he will have some childish enthusiasm that will set him putting out one star and lighting another. We will notice him after a while..."

SNOW: "We already have, novas and supernovas. According to you they are the candles on his altar. And perhaps Solaris is the cradle of your divine child. Solaris could be the first phase of the despairing God. Perhaps its intelligence will grow enormously. All the contents of our Solarist libraries could be just a record of his teething troubles..."

KELVIN: "...and we will have been the baby's toys for a while. It is possible. And do you know what you have just done? You've produced a completely new hypothesis about Solaris – congratulations! Everything suddenly falls into place: the failure to achieve contact, the absence of responses, various... let's say various peculiarities in its behavior towards ourselves. Everything is explicable in terms of the behaviour of a small child."

SNOW: "I renounce paternity of the theory. What gave you this idea of an imperfect god?"

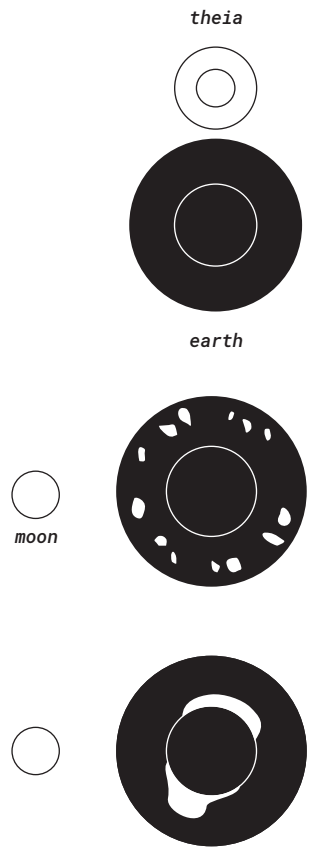
KELVIN: "I don't know. It seems quite feasible to me. That is the only god I could imagine believing in, a god whose passion is not a redemption, who saves nothing, fulfils no purpose – a god who simply is."

When the young Earth formed from the materials of the solar nebula, a nest of gas left over from the birth of the Sun, it was a dry planet. Water left the inner solar system right at its creation.

In Earth's time it was only a very shortly after that, when an ancient planet of the size of the Mars, originating from the outer solar system, joined her in her orbit and eventually collided with her.

That planet's name was Theia, the titaness who was the mother of Selene, the godess of the Moon.

Energy from this impact melted all the solid matter and turned the Earth into a ball of boiling magmatic oceans. The masses of these two objects mixed together and the Moon was formed on Earth's orbit. Remnants of Theia became forever buried inside the Earth's mantle.


theia
earth
moon

Theia brought back a substance essential for developing life on Earth.

That substance was water.

Solariana notes

Kris Kelvin

Genius and mediocrity alike are dumbfounded by the teeming diversity of the oceanic formations of Solaris; no man has ever become genuinely conversant with them. Giese was by no means a mediocrity, but nor was he a genius. He was a scholarly classifier, the type whose compulsive application to their work utterly divorces them from the pressures of everyday life. Giese devised a plain descriptive terminology, supplemented by terms of his own invention, and although these were inadequate, and sometimes clumsy, it has to be admitted that no semantic system is as yet available to illustrate the behavior of the ocean. The '*tree-mountains*,' '*extensors*,' '*fungoids*,' '*mimoids*,' '*symmetriads*' and '*asymmetriads*,' '*vertebrids*' and '*agilus*' are artificial, linguistically awkward terms, but they do give some impression of Solaris to anyone who has only seen the planet in blurred photographs and incomplete films. The fact is that in spite of his cautious nature the scrupulous Giese more than once jumped to premature conclusions. Even when on their guard, human beings inevitably theorize. Giese, who thought himself immune to temptation, decided that the '*extensors*' came into the category of basic forms. He compared them to accumulations of gigantic waves, similar to the tidal movements of our Terran oceans. In the first edition of his work, we find them originally named as '*tides*.' This geocentrism might be considered amusing if it did not underline the dilemma in which he found himself.

As soon as the question of comparisons with Earth arises, it must be understood that the '*extensors*' are formations that dwarf the Grand Canyon, that they are produced in a substance which externally resembles a yeasty colloid (during this fantastic '*fermentation*,' the yeast sets into festoons of starched open-work lace; some experts refer to 'ossified tumors'), and

that deeper down the substance becomes increasingly resistant, like a tensed muscle which fifty feet below the surface is as hard as rock but retains its flexibility. The '*extensor*' appears to be an independent creation, stretching for miles between membranous walls swollen with '*ossified growths*,' like some colossal python which after swallowing a mountain is sluggishly digesting the meal, while a slow shudder occasionally ripples along its creeping body. The '*extensor*' only looks like a lethargic reptile from overhead. At close quarters, when the two '*canyon walls*' loom hundreds of yards above the exploring aircraft, it can be seen that this inflated cylinder, reaching from one side of the horizon to the other, is bewilderingly alive with movement. First you notice the continual rotating motion of a greyish-green, oily sludge which reflects blinding sunlight, but skimming just above the '*back of the python*' (the '*ravine*' sheltering the extensor now resembles the sides of a geological fault), you realize that the motion is in fact far more complex, and consists of concentric fluctuations traversed by darker currents. Occasionally this mantle turns into a shining crust that reflects sky and clouds and then is riddled by explosive eruptions of the internal gases and fluids. The observer slowly realizes that he is looking at the guiding forces that are thrusting outward and upward the two gradually crystallizing gelatinous walls. Science does not accept the obvious without further proof, however, and virulent controversies have reverberated down the years on the key question of the exact sequence of events in the interior of the '*extensors*' that furrow the vast living ocean in their millions.

Various organic functions have been ascribed to the '*extensors*.' Some experts have argued that their purpose is the transformation of matter; others suggested respiratory processes; still others claimed that they conveyed alimentary materials. An infinite variety of hypotheses now moulder in library basements, eliminated by ingenious, sometimes dangerous experiments. Today, the scientists will go no further than to refer to the '*extensors*' as relatively simple, stable formations whose duration is measurable in weeks – an exceptional

characteristic among the recorded phenomena of the planet.

The '*mimoid*' formations are considerably more complex and bizarre, and elicit a more vehement response from the observer, an instinctive response, I mean. It can be stated without exaggeration that Giese fell in love with the '*mimoids*' and was soon devoting all his time to them. For the rest of his life, he studied and described them and brought all his ingenuity to bear on defining their nature. The name he gave them indicates their most astonishing characteristic, the imitation of objects, near or far, external to the ocean itself.

Concealed at first beneath the ocean surface, a large flattened disc appears, ragged, with a tar-like coating. After a few hours, it begins to separate into flat sheets which rise slowly. The observer now becomes a spectator at what looks like a fight to the death, as massed ranks of waves converge from all directions like contorted, fleshy mouths which snap greedily around the tattered, fluttering leaf, then plunge into the depths. As each ring of waves breaks and sinks, the fall of this mass of hundreds of thousands of tons is accompanied for an instant by a viscous rumbling, an immense thunderclap. The tarry leaf is overwhelmed, battered and torn apart; with every fresh assault, circular fragments scatter and drift like feebly fluttering wings below the ocean surface. They bunch into pear-shaped clusters or long strings, merge and rise again, and drag with them an undertow of coagulated shreds of the base of the primal disc. The encircling waves continue to break around the steadily expanding crater. This phenomenon may persist for a day or linger on for a month, and sometimes there are no further developments. The conscientious Giese dubbed this first variation a '*stillbirth*,' convinced that each of these upheavals aspired towards an ultimate condition, the '*major mimoid*,' like a polyp colony (only covering an area greater than a town) of pale outcroppings with the faculty of imitating foreign bodies. Uyvens, on the other hand, saw this final stage as constituting a degeneration or necrosis: according to him, the

appearance of the '*copies*' corresponded to a localized dissipation of the life energies of the ocean, which was no longer in control of the original forms it created.

Giese would not abandon his account of the various phases of the process as a sustained progression towards perfection, with a conviction which is particularly surprising coming from a man of such a moderate, cautious turn of mind in advancing the most trivial hypothesis on the other creations of the ocean. Normally he had all the boldness of an ant crawling up a glacier.

Viewed from above, the mimoid resembles a town, an illusion produced by our compulsion to superimpose analogies with what we know. When the sky is clear, a shimmering heat-haze covers the pliant structures of the clustered polyps surmounted by membranous palisades. The first cloud passing overhead wakens the mimoid. All the outcrops suddenly sprout new shoots, then the mass of polyps ejects a thick tegument which dilates, puffs out, changes color and in the space of a few minutes has produced an astonishing imitation of the volutes of a cloud. The enormous '*object*' casts a reddish shadow over the mimoid, whose peaks ripple and bend together, always in the opposite direction to the movement of the real cloud. I imagine that Giese would have been ready to give his right hand to discover what made the mimoids behave in this way, but these 'isolated' productions are nothing in comparison to the frantic activity the mimoid displays when '*stimulated*' by objects of human origin.

The reproduction process embraces every object inside a radius of eight or nine miles. Usually the facsimile is an enlargement of the original, whose forms are sometimes only roughly copied. The reproduction of machines, in particular, elicits simplifications that might be considered grotesque – practically caricatures. The copy is always modelled in the same colorless tegument, which hovers above the outcrops, linked to its base by flimsy umbilical cords; it slides, creeps, curls back on itself, shrinks or swells and finally assumes the most complicated forms. An aircraft, a net or a pole are all reproduced at the same speed.

The mimoid is not stimulated by human beings themselves, and in fact it does not react to any living matter, and has never copied, for example, the plants imported for experimental purposes. On the other hand, it will readily reproduce a puppet or a doll, a carving of a dog, or a tree sculpted in any material.

The observer must bear in mind that the '*obedience*' of the mimoid does not constitute evidence of cooperation, since it is not consistent. The most highly-evolved mimoid has its off-days, when it '*lives*' in slow-motion, or its pulsation weakens. (This pulsation is invisible to the naked eye, and was only discovered after close examination of rapid-motion film of the mimoid, which revealed that each '*beat*' took two hours.)

During these '*off-days*,' it is easy to explore the mimoid, especially if it is old, for the base anchored in the ocean, like the protuberances growing out of it, is relatively solid, and provides a firm footing for a man. It is equally possible to remain inside the mimoid during periods of activity, except that visibility is close to nil because of the whitish colloidal dust continually emitted through tears in the tegument above. In any case, at close range it is impossible to distinguish what forms the tegument is assuming, on account of their vast size – the smallest '*copy*' is the size of a mountain. In addition, a thick layer of colloidal snow quickly covers the base of the mimoid: this spongy carpet takes several hours to solidify (the '*frozen*' crust will take the weight of a man, though its composition is much lighter than pumice stone). The problem is that without special equipment there is a risk of being lost in the maze of tangled structures and crevasses, sometimes reminiscent of jumbled colonnades, sometimes of petrified geysers. Even in daylight it is easy to lose one's direction, for the sun's rays cannot pierce the white ceiling ejected into the atmosphere by the '*imitative explosions*.'

On gala days (for the scientist as well as for the mimoid), an unforgettable spectacle develops as the mimoid goes into hyperproduction and performs wild

flights of fancy. It plays variations on the theme of a given object and embroiders '*formal extensions*' that amuse it for hours on end, to the delight of the non-figurative artist and the despair of the scientist, who is at a loss to grasp any common theme in the performance. The mimoid can produce '*primitive*' simplifications, but is just as likely to indulge in '*baroque*' deviations, paroxysms of extravagant brilliance. Old mimoids tend to manufacture extremely comic forms. Looking at the photographs, I have never been moved to laughter; the riddle they set is too disquieting to be funny.

During the early years of exploration, the scientists literally threw themselves upon the mimoids, which were spoken of as open windows on the ocean and the best opportunity to establish the hoped-for contact between the two civilizations. They were soon forced to admit that there was not the slightest prospect of communication, and that the entire process began and ended with the reproduction of forms. The mimoids were a dead end.

Giving way to the temptations of a latent anthropomorphism or zoomorphism, there were many schools of thought which saw various other oceanic formations as '*sensory organs*,' even as '*limbs*,' which was how experts like Maartens and Ekkonai classified Giese's '*vertebrids*' and '*agilus*' for a time. Anyone who is rash enough to see protuberances that reach as far as two miles into the atmosphere as limbs, might just as well claim that earthquakes are the gymnastics of the Earth's crust!

Three hundred chapters of Giese catalogue the standard formations which occur on the surface of the living ocean and which can be seen in dozens, even hundreds, in the course of any day. The symmetriads – to continue using the terminology and definitions of the Giese school – are the least '*human*' formations, which is to say that they bear no resemblance whatsoever to anything on Earth. By the time the symmetriads were being investigated, it was already clear that the ocean

was not aggressive, and that its plasmatic eddies would not swallow any but the most foolhardy explorer (of course I am not including accidents resulting from mechanical failures). It is possible to fly in complete safety from one part to another of the cylindrical body of an extensor, or of the vertebrids, Jacob's ladders oscillating among the clouds: the plasma retreats at the speed of sound in the planet's atmosphere to make way for any foreign body. Deep funnels will open even beneath the surface of the ocean (at a prodigious expenditure of energy, calculated by Scriabin at around 10^{19} ergs). Nevertheless, the first venture into the interior of a symmetriad was undertaken with the utmost caution and discipline, and involved a host of what turned out to be unnecessary safety measures. Every schoolboy on Earth knows the names of these pioneers.

It is not their nightmare appearance that makes the gigantic symmetriad formations dangerous, but the total instability and capriciousness of their structure, in which even the laws of physics do not hold. The theory that the living ocean is endowed with intelligence has found its firmest adherents among those scientists who have ventured into their unpredictable depths.

The birth of a symmetriad comes like a sudden eruption. About an hour beforehand, an area of tens of square miles of ocean vitrifies and begins to shine. It remains fluid, and there is no alteration in the rhythm of the waves. Occasionally the phenomenon of vitrification occurs in the neighbourhood of the funnel left by an agilus. The gleaming sheath of the ocean heaves upwards to form a vast ball that reflects sky, sun, clouds and the entire horizon in a medley of changing, variegated images. Diffracted light creates a kaleidoscopic play of color.

The effects of light on a symmetriad are especially striking during the blue day and the red sunset. The planet appears to be giving birth to a twin that increases in volume from one moment to the next. The immense flaming globe has scarcely reached its maximum expansion above the ocean when it bursts at the summit

and cracks vertically. It is not breaking up; this is the second phase, which goes under the clumsy name of the *'floral calyx phase'* and lasts only a few seconds. The membranous arches soaring into the sky now fold inwards and merge to produce a thick-set trunk enclosing a scene of teeming activity. At the center of the trunk, which was explored for the first time by the seventy-man Hamalei expedition, a process of polycrystallization on a giant scale erects an axis commonly referred to as the *'backbone,'* a term which I consider ill-chosen. The mind-bending architecture of this central pillar is held in place by vertical shafts of a gelatinous, almost liquid consistency, constantly gushing upwards out of wide crevasses. Meanwhile, the entire trunk is surrounded by a belt of snowy foam, seething with great bubbles of gas, and the whole process is accompanied by a perpetual dull roar of sound. From the center towards the periphery, powerful buttresses spin out and are coated with streams of ductile matter rising out of the ocean depths. Simultaneously the gelatinous geysers are converted into mobile columns that proceed to extrude tendrils that reach out in clusters towards points rigorously predetermined by the over-all dynamics of the entire structure: they call to mind the gills of an embryo, except that they are revolving at fantastic speed and ooze trickles of pinkish *'blood'* and a dark green secretion.

The symmetriad now begins to display its most exotic characteristic – the property of *'illustrating,'* sometimes contradicting, various laws of physics. (Bear in mind that no two symmetriads are alike, and that the geometry of each one is a unique *'invention'* of the living ocean.) The interior of the symmetriad becomes a factory for the production of *'monumental machines,'* as these constructs are sometimes called, although they resemble no machine which it is within the power ofmankind to build: the designation is applied because all this activity has finite ends, and is therefore in some sense *'mechanical.'*

When the geysers of oceanic matter have solidified into pillars or into three-dimensional networks of

galleries and passages, and the *'membranes'* are set into an inextricable pattern of storeys, panels and vaults, the symmetriad justifies its name, for the entire structure is divided into two segments each mirroring the other to the most infinitesimal detail.

After twenty or thirty minutes, when the axis may have tilted as much as eight to ten degrees from the horizontal, the giant begins slowly to subside. (Symmetriads vary in size, but as the base begins to submerge even the smallest reach a height of half a mile, and are visible from miles away.) At last, the structure stabilizes itself, and the partly submerged symmetriad ceases its activity. It is now possible to explore it in complete safety by making an entry near the summit, through one of the many syphons which emerge from the dome. The completed symmetriad represents a spatial analogue of some transcendental equation.

It is a commonplace that any equation can be expressed in the figurative language of non-Euclidean geometry and represented in three dimensions. This interpretation relates the symmetriad to Lobachevsky's cones and Riemann's negative curves, although its unimaginable complexity makes the relationship highly tenuous. The eventual form occupies an area of several cubic miles and extends far beyond our whole system of mathematics. In addition, this extension is four-dimensional, for the fundamental terms of the equations use a temporal symbolism expressed in the internal changes over a given period.

It would be only natural, clearly, to suppose that the symmetriad is a *'computer'* of the living ocean, performing calculations for a purpose that we are not able to grasp. This was Fremont's theory, now generally discounted. The hypothesis was a tempting one, but it proved impossible to sustain the concept that the living ocean examined problems of matter, the cosmos and existence through the medium of titanic eruptions, in which every particle had an indispensable function as a controlled element in an analytical system of infinite purity. In fact, numerous phenomena contradict this

over-simplified (some say childishly naive) concept.

Any number of attempts have been made to transpose and *'illustrate'* the symmetriad, and Averian's demonstration was particularly well received. Let us imagine, he said, an edifice dating from the great days of Babylon, but built of some living, sensitive substance with the capacity to evolve: the architectonics of this edifice passes through a series of phases, and we see it adopt the forms of a Greek, then ofa Roman building. The columns sprout like branches and become narrower, the roof grows lighter, rises, curves, the arch describes an abrupt parabola then breaks down into an arrow shape: the Gothic is born, comes to maturity and gives way in time to new forms. Austerity of line gives way to a riot of exploding lines and shapes, and the Baroque runs wild. If the progression continues – and the successive mutations are to be seen as stages in the life of an evolving organism – we finally arrive at the architecture of the space age, and perhaps too at some understanding of the symmetriad.

Unfortunately, no matter how this demonstration may be expanded and improved (there have been attempts to visualize it with the aid of models and films), the comparison remains superficial. It is evasive and illusory, and side-steps the central fact that the symmetriad is quite unlike anything Earth has ever produced.

The human mind is only capable of absorbing a few things at a time. We see what is taking place in front of us in the here and now, and cannot envisage simultaneously a succession of processes, no matter how integrated and complementary. Our faculties of perception are consequently limited even as regards fairly simple phenomena. The fate of a single man can be rich with significance, that of a few hundred less so, but the history of thousands and millions of men does not mean anything at all, in any adequate sense of the word. The symmetriad is a million – a billion, rather – raised to the power of N: it is incomprehensible. We pass through vast halls, each with a capacity of ten

Kronecker units, and creep like so many ants clinging to the folds of breathing vaults and craning to watch the flight of soaring girders, opalescent in the glare of searchlights, and elastic domes which criss-cross and balance each other unerringly, the perfection of a moment, since everything here passes and fades. The essence of this architecture is movement synchronized towards a precise objective. We observe a fraction of the process, like hearing the vibration of a single string in an orchestra of supergiants. We know, but cannot grasp, that above and below, beyond the limits of perception or imagination, thousands and millions of simultaneous transformations are at work, interlinked like a musical score by mathematical counterpoint. It has been described as a symphony in geometry, but we lack the ears to hear it.

Only a long-distance view would reveal the entire process, but the outer covering of the symmetriad conceals the colossal inner matrix where creation is unceasing, the created becomes the creator, and absolutely identical *'twins'* are born at opposite poles, separated by towering structures and miles of distance. The symphony creates itself, and writes its own conclusion, which is terrible to watch. Every observer feels like a spectator at a tragedy or a public massacre, when after two or three hours – never longer – the living ocean stages its assault. The polished surface of the ocean swirls and crumples, the desiccated foam liquefies again, begins to seethe, and legions of waves pour inwards from every point of the horizon, their gaping mouths far more massive than the greedy lips that surround the embryonic mimoid. The submerged base of the symmetriad is compressed, and the colossus rises as if on the point of being shot out of the planet's gravitational pull. The upper layers of the ocean redouble their activity, and the waves surge higher and higher to lick against the sides of the symmetriad. They envelop it, harden and plug the orifices, but their attack is nothing compared to the scene in the interior. First the process of creation freezes momentarily; then there is *'panic.'* The smooth interpenetration of moving forms and the harmonious play

of planes and lines accelerates, and the impression is inescapable that the symmetriad is hurrying to complete some task in the face of danger. The awe inspired by the metamorphosis and dynamics of the symmetriad intensifies as the proud sweep of the domes falters, vaults sag and droop, and '*wrong notes*' – incomplete, mangled forms – make their appearance. A powerful moaning roar issues from the invisible depths like a sigh of agony, reverberates through the narrow funnels and booms through the collapsing domes. In spite of the growing destructive violence of these convulsions, the spectator is rooted to the spot. Only the force of the hurricane streaming out of the depths and howling through the thousands of galleries keeps the great structure erect. Soon it subsides and starts to disintegrate. There are final flutterings, contortions, and blind, random spasms. Gnawed and undermined, the giant sinks slowly and disappears, and the space where it stood is covered with whirlpools of foam.

Each symmetriad is unique, and the developments in its heart are, generally speaking, unpredictable. Sometimes there is no sound. Sometimes the index of refraction increases or diminishes. Sometimes, rhythmic pulsations are accompanied by local changes in gravitation, as if the heart of the symmetriad were beating by gravitating. Sometimes the compasses of the observers spin wildly, and ionized layers spring up and disappear. The catalogue could go on indefinitely. In any case, even if we did ever succeed in solving the riddle of the symmetriads, we would still have to contend with the asymmetriads!

The asymmetriads are born in the same manner as the symmetriads but finish differently, and nothing can be seen of their internal processes except tremors, vibrations and flickering. We do know, however, that the interior houses bewildering operations performed at a speed that defies the laws of physics and which are dubbed '*giant quantic phenomena*.' The mathematical analogy with certain three-dimensional models of the atom is so unstable and transitory that some commentators dismiss the resemblance as of secondary

importance, if not purely accidental. The asymmetriads have a very short life-span of fifteen to twenty minutes, and their death is even more appalling than that of the symmetriads: with the howling gale that screams through its fabric, a thick fluid gushes out, gurgles hideously, and submerges everything beneath a foul, bubbling foam. Then an explosion, coinciding with a muddy eruption, hurls up a spout of debris which rains slowly down into the seething ocean. This debris is sometimes found scores of miles from the focus of the explosion, dried up, yellow and flattened, like flakes of cartilage.

Some other creations of the ocean, which are much more rare and of very variable duration, part company with the parent body entirely. The first traces of these '*independents*' were identified – wrongly, it was later proved – as the remains of creatures inhabiting the ocean deeps. The free-ranging forms are often reminiscent of many-winged birds, darting away from the moving trunks of the agilus, but the preconceptions of Earth offer no assistance in unravelling the mysteries of Solaris. Strange, seal-like bodies appear now and then on the rocky outcrop of an island, sprawling in the sun or dragging themselves lazily back to merge with the ocean.

There was no escaping the impressions that grew out of man's experience on Earth. The prospects of Contact receded.

Explorers travelled hundreds of miles in the depths of symmetriads, and installed measuring instruments and remote-control cameras. Artificial satellites captured the birth of mimoids and extensors, and faithfully reproduced their images of growth and destruction. The libraries overflowed, the archives grew, and the price paid for all this documentation was often very heavy. One notorious disaster cost one hundred and six people their lives, among them Giese himself: while studying what was undoubtedly a symmetriad, the expedition was suddenly destroyed by a process peculiar to the asymmetriads. In two seconds, an eruption of glutinous

mud swallowed up seventy-nine men and all their equipment. Another twentyseven observers surveying the area from aircraft and helicopters were also caught in the eruption.

Following the Eruption of the Hundred and Six, and for the first time in Solarist studies, there were petitions demanding a thermo-nuclear attack on the ocean. Such a response would have been more cruelty than revenge, since it would have meant destroying what we did not understand. Tsanken's ultimatum, which was never officially acknowledged, probably influenced the negative outcome of the vote. He was in command of Giese's reserve team, and had survived owing to a transmission error that took him off his course, to arrive in the disaster area a few minutes after the explosion, when the black mushroom cloud was still visible. Informed of the proposal for a nuclear strike, he threatened to blow up the station, together with the nineteen survivors sheltering inside it.

Sculpting in Time

Andrey Tarkovsky

Solaris had been about people lost in the Cosmos and obliged, whether they liked it or not, to take one more step up the ladder of knowledge. Man's unending quest for knowledge, given him gratuitously, is a source of great tension, for it brings with it constant anxiety, hardship, grief and disappointment, as the final truth can never be known. Moreover, man has been given a conscience which means that he is tormented when his actions infringe the moral law, and in that sense even conscience involves an element of tragedy. The characters in *Solaris* were dogged by disappointments, and the way out we offered them was illusory enough. It lays in dreams, in the opportunity to recognise their own roots – those roots which for ever link man to the Earth which bore him. But even those links had already become unreal for them.

Even in *Mirror*, which is about deep, eternal, abiding human feelings, these feelings were a source of bewilderment and incomprehension for the hero, who could not grasp why he was condemned to suffer perpetually because of them, to suffer because of his own love and affection. In *Stalker* I make some sort of complete statement: namely that human love alone is – miraculously – proof against the blunt assertion that there is no hope for the world. This is our common, and incontrovertibly positive possession. Although we no longer quite know how to love...

The Writer in *Stalker* reflects on the frustration of living in a world of necessities, where even chance is the result of some necessity which for the moment remains beyond our ken. Perhaps the Writer sets out for the Zone in order to encounter the Unknown, in order to be astonished and startled by it. In the end, however, it is simply a woman who startles him by her faithfulness and by the strength of her human dignity.

Is everything subject to logic, then, and can it all be separated into its components and tabulated?

In this film I wanted to mark out that essentially human thing that cannot be dissolved or broken down, that forms like a crystal in the soul of each of us and constitutes its great worth. And even though outwardly their journey seems to end in fiasco, in fact each of the protagonists acquires something of inestimable value: faith. He becomes aware in himself of what is most important of all; and that most important thing is alive in every person.

I was no more interested, therefore, in the fantastic plot of *Stalker* than I had been in the story-line of *Solaris*. Unfortunately the science fiction element in *Solaris* was nonetheless too prominent and became a distraction. The rockets and space stations – required by Lem's novel – were interesting to construct; but it seems to me now that the idea of the film would have stood out more vividly and boldly had we managed to dispense with these things altogether. I think that the reality to which an artist is drawn as a means of saying what he has to about the world, must – if you will forgive the tautology – be real in itself: in other words understood by a person, familiar to him since his childhood. And the more real a film is in that sense, the more convincing will be the author's statement.

In *Stalker* only the basic situation could strictly be called fantastic. It was convenient because it helped to delineate the central moral conflict of the film more starkly. But in terms of what actually happens to the characters, there is no element of fantasy. The film was intended to make the audience feel that it was all happening here and now, that the Zone is there beside us.

People have often asked me what the Zone is, and what it symbolises, and have put forward wild conjectures on the subject. I'm reduced to a state of fury and despair by such questions. The Zone doesn't symbolise anything, any more than anything else does in my films: the zone

is a zone, it's life, and as he makes his way across it a man may break down or he may come through. Whether he comes through or not depends on his own self-respect, and his capacity to distinguish between what matters and what is merely passing.

I see it as my duty to stimulate reflection on what is essentially human and eternal in each individual soul, and which all too often a person will pass by, even though his fate lies in his hands. He is too busy chasing after phantoms. In the end everything can be reduced to the one simple element which is all a person can count upon in his existence: the capacity to love. That element can grow within the soul to become the supreme factor which determines the meaning of a person's life. My function is to make whoever sees my films aware of his need to love and to give his love, and aware that beauty is summoning him.

Metamorph

Stanislaw Lem

Type: Polythera
Class: Syncytialia
Category: ***Metamorph***

The scientists had split into two opposing camps; the bone of contention was the ocean. On the basis of the analyses, it had been accepted that the ocean was an organic formation (at that time, no one had yet dared to call it living). But, while the biologists considered it as a primitive formation – a sort of gigantic entity, a fluid cell, unique and monstrous (which they called *'prebiological'*), surrounding the globe with a colloidal envelope several miles thick in places – the astronomers and physicists asserted that it must be an organic structure, extraordinarily evolved. According to them, the ocean possibly exceeded terrestrial organic structures in complexity, since it was capable of exerting an active influence on the planet's orbital path. Certainly, no other factor could be found that might explain the behavior of Solaris; moreover, the planetophysicists had established a relationship between certain processes of the plasmic ocean and the local measurements of gravitational pull, which altered according to the *'matter transformations'* of the ocean.

Consequently it was the physicists, rather than the biologists, who put forward the paradoxical formulation of a *'plasmic mechanism,'* implying by this a structure, possibly without life as we conceive it, but capable of performing functional activities – on an astronomic scale, it should be emphasized.

It was during this quarrel, whose reverberations soon reached the ears of the most eminent authorities, that the Gamow-Shapley doctrine, unchallenged for

eighty years, was shaken for the first time. There were some who continued to support the Gamow-Shapley contentions, to the effect that the ocean had nothing to do with life, that it was neither '*parabiological*' nor '*prebiological*' but a geological formation – of extreme rarity, it is true – with the unique ability to stabilize the orbit of Solaris, despite the variations in the forces of attraction. Le Chatelier's law was enlisted in support of this argument.

To challenge this conservative attitude, new hypotheses were advanced – of which Civito-Vitta's was one of the most elaborate – proclaiming that the ocean was the product of a dialectical development: on the basis of its earliest pre-oceanic form, a solution of slow-reacting chemical elements, and by the force of circumstances (the threat to its existence from the changes of orbit), it had reached in a single bound the stage of '*homeostatic ocean*,' without passing through all the stages of terrestrial evolution, by-passing the unicellular and multicellular phases, the vegetable and the animal, the development of a nervous and cerebral system. In other words, unlike terrestrial organisms, it had not taken hundreds of millions of years to adapt itself to its environment – culminating in the first representatives of a species endowed with reason – but dominated its environment immediately.

The ocean as a source of electric and magnetic impulses and of gravitation expressed itself in a more or less mathematical language. Also, by calling on the most abstruse branches of statistical analysis, it was possible to classify certain frequencies in the discharges of current. Structural homologues were discovered, not unlike those already observed by physicists in that sector of science which deals with the reciprocal interaction ofenergy and matter, elements and compounds, the finite and the infinite. This correspondence convinced the scientists that they were confronted with a monstrous entity endowed with reason, a protoplasmic ocean-brain enveloping the entire planet and idling its time away in extravagant theoretical cognitation about the nature of the universe. Our

instruments had intercepted minute random fragments of a prodigious and everlasting monologue unfolding in the depths of this colossal brain, which was inevitably beyond our understanding.

So much for the mathematicians. These hypotheses, according to some people, underestimated the resources of the human mind; they bowed to the unknown, proclaiming the ancient doctrine, arrogantly resurrected, of ignoramus et ignorabimus. Others regarded the mathematicians' hypotheses as sterile and dangerous nonsense, contributing towards the creation of a modern mythology based on the notion of this giant brain – whether plasmic or electronic was immaterial – as the ultimate objective of existence, the very synthesis of life.

For some time, there was a widely held notion (zealously fostered by the daily press) to the effect that the '*thinking ocean*' of Solaris was a gigantic brain, prodigiously welldeveloped and several million years in advance of our own civilization, a sort of '*cosmic yogi*,' a sage, a symbol of omniscience, which had long ago understood the vanity of all action and for this reason had retreated into an unbreakable silence. The notion was incorrect, for the living ocean was active. Not, it is true, according to human ideas – it did not build cities or bridges, nor did it manufacture flying machines. It did not try to reduce distances, nor was it concerned with the conquest of Space (the ultimate criterion, some people thought, of man's superiority). But it was engaged in a never-ending process of transformation, an '*ontological autometamorphosis*.' (There were any amount of scientific neologisms in accounts of Solarist activities.) Moreover, any scientist who devotes himself to the study of Solariana has the indelible impression that he can discern fragments of an intelligent structure, perhaps endowed with genius, haphazardly mingled with outlandish phenomena, apparently the product of an unhinged mind. Thus was born the conception of the '*autistic ocean*' as opposed to the '*ocean-yogi*.'

These hypotheses resurrected one of the most ancient of philosophical problems: the relation between matter and mind, and between mind and consciousness. Du Haart was the first to have the audacity to maintain that the ocean possessed a consciousness. The problem, which the methodologists hastened to dub metaphysical, provoked all kinds of arguments and discussions. Was it possible for thought to exist without consciousness? Could one, in any case, apply the word thought to the processes observed in the ocean? Is a mountain only a huge stone? Is a planet an enormous mountain? Whatever the terminology, the new scale of size introduced new norms and new phenomena.

The question appeared as a contemporary version of the problem of squaring the circle. Every independent thinker endeavored to register his personal contribution to the hoard of Solarist studies. New theories proliferated: the ocean was evidence of a state of degeneration, of regression, following a phase of '*intellectual repletion*;' it was a deviant neoplasm, the product of the bodies of former inhabitants of the planet, whom it had devoured, swallowed up, dissolving and blending the residue into this unchanging, self-propagating form, supracellular in structure.

Concentric temporalities

Timothy Morton

One of the things we need to rethink weirdly is time. If future coexistence includes nonhumans – and *Dark Ecology* is showing why this must be the case – it might be best to see history as a nested series of catastrophes that are still playing out rather than as a sequence of events based on a conception of time as a succession of atomic instants. We can think these nested sets as ouroboric, self-swallowing snakes; it isn't surprising that many first peoples imagine the outer rim of reality as an entity like Jörmungandr, the Norse serpent who surrounds the tree of the universe.

Why is it better for nonhumans this way? At the temporal scale of global warming, the human as historicity – the correlator that makes things real by bringing history to the picnic of data – becomes inoperative. Geological eras are *nested* catastrophes. Consider the air you are breathing in order to stick around for the next sentence. Oxygen is an ecological catastrophe for the bacteria that excreted it (starting about 2.3 billion years ago). The Anthropocene is a loop within a much larger loop we could call the Bacteriocene. The Bacteriocene and its oxygen are happening *now*, otherwise I would be writhing on the floor rather than typing this sentence. The Oxygen Catastrophe was not an event in atomic time. Surrounding the Bacteriocene there is the Cyanidocene, the moment of the strange dance of death-and-life between nucleic acids, proteins, and hydrogen cyanide polymers; cyanide itself having very likely formed as the result of a further cataclysm, a gigantic comet or asteroid impacting Earth. *The Cyanidocene is happening now* – otherwise I would be a puddle of chemicals.

The loop of the Cyanidocene exists within an even more encompassing one in which organic molecules began to replicate, a loop we could call the Mimeocene (from the Greek *mimesis*, copying), acknowledging the emergence of self-replicating molecules. Going even wider, we discover what we could name the Haemocene (from *haimos*, Greek for iron). Earth's liquid iron core began to spin around its solid center, emitting an electromagnetic shield that enabled life to evolve by protecting organic molecules from solar rays. This too is happening now, otherwise I would be a charred corpse. The loops are not hermetically sealed from one another, which is why they happen at all. They are happening now. So the Anthropocene is a small region of the Bacteriocene, which is a small region of the Cyanidocene, and so on. These temporality loops all happen in a nowness I cannot reduce to an atomic point of whatever size.

What is the dynamic of loop formation? On the view of weird essentialism, things are inconsistent rather than constantly present: to be a thing is to have a gap between what you are and how you appear. Thus any attempt to resolve the intrinsic inconsistency of a thing creates loops that scale up to catastrophes. Weird essentialism defines an *event* as twisted novelty emerging out of a weird distortion of its conditions. In trying to get rid of toxic oxygen, bacteria inadvertently brought about the conditions in which I am now breathing. Inconsistency is why along with bacteria there arose viruses, because the boundary between a living and a nonliving thing isn't thin and clear. Attempts to create consistency — for a single - celled organism to maintain itself in a metastable state, for instance — result in parasites that exploit structural weaknesses in their hosts. Why are there viruses at all? A virus exploits inherent inconsistencies in cells not unlike the inherent inconsistency of logical systems. A logical system is true on its own terms if it can be forced to talk about itself — go into a loop — and say contradictory things such as "This sentence is unprovable" (a tiny version of the Gödel sentence). I take this to

indicate that entities (the *Principia Mathematica*, *Mexican heather*) are *inherently inconsistent*.
A catastrophe is a twist — the Greek means "*downward turn*" — in the already twisted spatiotemporal fabric of an existing catastrophe.

Introduction to Solaristic

Muntius

Solaristics is the space era's equivalent of religion: faith disguised as science. Contact, the stated aim of Solaristics, is no less vague and obscure than the communion of the saints, or the second coming of the Messiah. Exploration is a liturgy using the language of methodology; the drudgery of the Solarists is carried out only in the expectation of fulfillment, of an Annunciation, for there are not and cannot be any bridges between Solaris and Earth. The comparison is reinforced by obvious parallels: Solarists reject arguments – no experiences in common, no communicable notions – just as the faithful rejected the arguments that undermined the foundations of their belief. Then again, what can mankind expect or hope for out of a joint 'pooling of information' with the living ocean? A catalogue of the vicissitudes associated with an existence of such infinite duration that it probably has no memory of its origins? A description of the aspirations, passions and sufferings that find expression in the perpetual creation of living mountains? The apotheosis of mathematics, the revelation of plenitude in isolation and renunciation? But all this represents a body of incommunicable knowledge. Transposed into any human language, the values and meanings involved lose all substance; they cannot be brought intact through the barrier. In any case, the '*adepts*' do not expect such revelations – of the order of poetry, rather than science – since unconsciously it is Revelation itself that they expect, and this revelation is to explain to them the meaning of the destiny of man! Solaristics is a revival of long-vanished myths, the expression of mystical nostalgias which men are unwilling to confess openly. The cornerstone is deeply entrenched in the foundations of the edifice: it is the hope of Redemption.

Solarists are incapable of recognizing this truth, and consequently take care to avoid any interpretation of Contact, which is presented in their writings as an ultimate goal, whereas originally it had been considered as a beginning, and as a step onto a new path, among many other possible paths. Over the years, Contact has become sanctified. It has become the heaven of eternity.

The End

Kris Kelvin

Alone over the ocean, I saw it with a different eye. I was flying quite low, at about a hundred feet, and for the first time I felt a sensation often described by the explorers but which I had never noticed from the height of the Station; the alternating motion of the gleaming waves was not at all like the undulation of the sea or the billowing of clouds. It was like the crawling skin of an animal – the incessant, slow-motion contractions of muscular flesh secreting a crimson foam.

When I started to bank towards the drifting mimoid, the sun shone into my eyes and blood-red flashes struck the curved canopy. The dark ocean, flickering with sombre flames, was tinged with blue.

The flitter came around too wide, and I was carried a long way down wind from the mimoid, a long irregular silhouette looming out of the ocean. Emerging from the mist, the mimoid was no longer pink, but a yellowish grey. I lost sight of it momentarily, and glimpsed the Station, which seemed to be sitting on the horizon, and whose outline was reminiscent of an ancient zeppelin. I changed course, and the sheer mass of the mimoid grew in my line of vision – a baroque sculpture. I was afraid of crashing into the bulbous swellings, and pulled the flitter up so brutally that it lost speed and started to lurch; but my caution was unnecessary, for the rounded peaks of those fantastic towers were subsiding. I flew past the island; and slowly, yard by yard, I descended to the level of the eroded peaks. The mimoid was not large. It measured about three quarters of a mile from end to end, and was a few hundred yards wide. In some places, it was close to splitting apart. This mimoid was obviously a fragment of a far larger formation. On the scale of Solaris it was only a tiny splinter, weeks or perhaps months old.

Among the mottled crags overhanging the ocean, I found a kind of beach, a sloping, fairly even surface a few yards square, and steered towards it. The rotors almost hit a cliff that reared up suddenly in my path, but I landed safely, cut the motor and slid back the canopy. Standing on the fuselage I made sure that there was no chance of the flitter sliding into the ocean. Waves were licking at the jagged bank about fifteen paces away, but the machine rested solidly on its legs, and I jumped to the '*ground*.'

The cliff I had almost hit was a huge bony membrane pierced with holes, and full of knotty swellings. A crack several yards wide split this wall diagonally and enabled me to examine the interior of the island, already glimpsed through the apertures in the membrane. I edged warily onto the nearest ledge, but my boots showed no tendency to slide and the suit did not impede my movements, and I went on climbing until I had reached a height of about four storeys above the ocean, and could see a broad stretch of petrified landscape stretching back until it was lost from sight in the depths of the mimoid.

It was like looking at the ruins of an ancient town, a Moroccan city tens of centuries old, convulsed by an earthquake or some other disaster. I made out a tangled web of winding sidestreets choked with debris, and alleyways which fell abruptly towards the oily foam that floated close to the shore. In the middle distance, great battlements stood intact, sustained by ossified buttresses. There were dark openings in the swollen, sunken walls – traces of windows or loop-holes. The whole of this floating town canted to one side or another like a foundering ship, pitched and turned slowly, and the sun cast continually moving shadows, which crept among the ruined alleys. Now and again a polished surface caught and reflected the light. I took the risk of climbing higher, then stopped; rivulets of fine sand were beginning to trickle down the rocks above my head, cascading into ravines and alleyways and rebounding in swirling clouds of dust. The mimoid is not made of stone, and to dispel the illusion

one only has to pick up a piece of it: it is lighter than pumice, and composed of small, very porous cells.

Now I was high enough to feel the swaying of the mimoid. It was moving forward, propelled by the dark muscles of the ocean towards an unknown destination, but its inclination varied. It rolled from side to side, and the languid oscillation was accompanied by the gentle rustling sound of the yellow and grey foam which streamed off the emerging shore. The mimoid had acquired its swinging motion long before, probably at its birth, and even while it grew and broke up it had retained its initial pattern.

Only now did I realize that I was not in the least concerned with the mimoid, and that I had flown here not to explore the formation but to acquaint myself with the ocean.

With the flitter a few paces behind me, I sat on the rough, fissured beach. A heavy black wave broke over the edge of the bank and spread out, not black, but a dirty green. The ebbing wave left viscous streamlets behind, which flowed back quivering towards the ocean. I went closer, and when the next wave came I held out my hand. What followed was a faithful reproduction of a phenomenon which had been analyzed a century before: the wave hesitated, recoiled, then enveloped my hand without touching it, so that a thin covering of '*air*' separated my glove inside a cavity which had been fluid a moment previously, and now had a fleshy consistency. I raised my hand slowly, and the wave, or rather an outcrop of the wave, rose at the same time, enfolding my hand in a translucent cyst with greenish reflections. I stood up, so as to raise my hand still higher, and the gelatinous substance stretched like a rope, but did not break. The main body of the wave remained motionless on the shore, surrounding my feet without touching them, like some strange beast patiently waiting for the experiment to finish. A flower had grown out of the ocean, and its calyx was moulded to my fingers. I stepped back. The stem trembled, stirred uncertainly and fell back into the wave, which gathered it and receded.

I repeated the game several times, until – as the first experimenter had observed – a wave arrived which avoided me indifferently, as if bored with a too familiar sensation. I knew that to revive the '*curiosity*' of the ocean I would have to wait several hours. Disturbed by the phenomenon I had stimulated, I sat down again. Although I had read numerous accounts of it, none of them had prepared me for the experience as I had lived it, and I felt somehow changed.

In all their movements, taken together or singly, each of these branches reaching out of the ocean seemed to display a kind of cautious but not feral alertness, a curiosity avid for quick apprehension of a new, unexpected form, and regretful at having to retreat, unable to exceed the limits set by a mysterious law. The contrast was inexpressible between that lively curiosity and the shimmering immensity of the ocean that stretched away out of sight... I had never felt its gigantic presence so strongly, or its powerful changeless silence, or the secret forces that gave the waves their regular rise and fall. I sat unseeing, and sank into a universe of inertia, glided down an irresistible slope and identified myself with the dumb, fluid colossus; it was as if I had forgiven it everything, without the slightest effort of word or thought.

During that last week, I had been behaving so normally that Snow had stopped keeping a watchful eye on me. On the surface, I was calm: in secret, without really admitting it, I was waiting for something. Her return? How could I have been waiting for that? We all know that we are material creatures, subject to the laws of physiology and physics, and not even the power of all our feelings combined can defeat those laws. All we can do is detest them. The age-old faith of lovers and poets in the power of love, stronger than death, that *finis vitae sed non amoris*, is a lie, useless and not even funny. So must one be resigned to being a clock that measures the passage of time, now out of order, now repaired, and whose mechanism generates despair and love as soon as its maker sets it going? Are we to grow used to the idea that every man relives ancient torments,

which are all the more profound because they grow comic with repetition? That human existence should repeat itself, well and good, but that it should repeat itself like a hackneyed tune, or a record a drunkard keeps playing as he feeds coins into the jukebox...
That liquid giant had been the death of hundreds of men. The entire human race had tried in vain to establish even the most tenuous link with it, and it bore my weight without noticing me any more than it would notice a speck of dust. I did not believe that it could respond to the tragedy of two human beings. Yet its activities did have a purpose... True, I was not absolutely certain, but leaving would mean giving up a chance, perhaps an infinitesimal one, perhaps only imaginary... Must I go on living here then, among the objects we both had touched, in the air she had breathed? In the name of what? In the hope of her return? I hoped for nothing. And yet I lived in expectation. Since she had gone, that was all that remained. I did not know what achievements, what mockery, even what tortures still awaited me. I knew nothing, and I persisted in the faith that the time of cruel miracles was not past.

Medea killed her own children after her husband left her for another woman.

The mother Earth is hurt.

~~The Gaia Earth supports life by creating the perfect equilibrium of environmental conditions for it to thrive.~~

The Medea Earth hates life in its complex form.

Most of the major extinction events were not caused externally by such events as meteor impacts, but were triggered by life itself, altering its environments to such an extend it could no longer survive in them.

Once her atmosphere is filled with carbon dioxide, her murderous tendencies kick in.

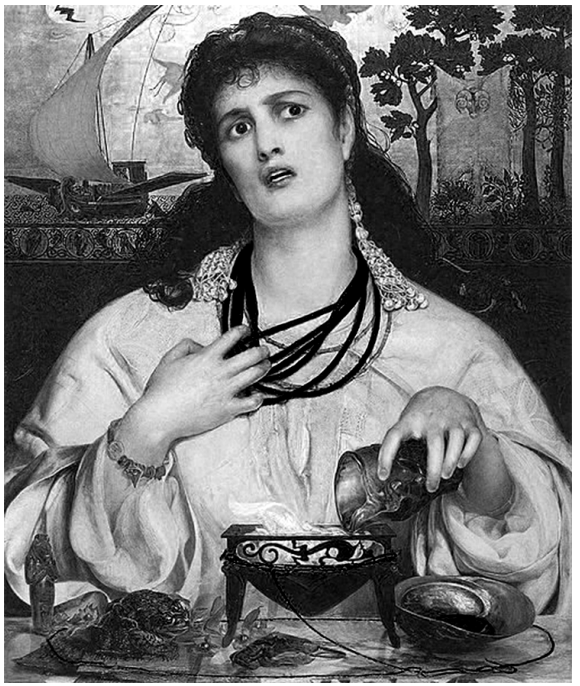
Her secret weapon lies hidden deep in the ocean – when the temperature rises, the poles warm much faster until they reach the tropical temperatures. She stops the ocean streams originally fueled by temperature contrasts. Ocean is not moving and only its surface layer gets oxygenated. The anaerobic bacteria from the dark history of the planet start to thrive and spread from its depths. Releasing hydrogen sulfide, it slowly poisons any complex life that is present.

Life is constantly reseted to its bicrobial default state that dominated the Earth most of her history, from which it over and over attempts to rise to multicellular one. Doomed from the beginning.

This collective deathwish is an essence of life. It is imprinted in its very biology. Superorganism of multicellural life is self-destructive and suicidal.

We are the most recent Medean event. We are the life wiping itself from the surface of the Earth by creating poisonous atmosphere once again. We can already see her rising tempreratures at the poles and preparing to stop the ocean.

Is our inaction part of her plan?



I have in mind so many paths of death for them. I don't know which to choose.

Should I set fire to the house, and burn the bridal chamber?
Or creep up to their bed and drive a sharp knife through their guts?

The best is the direct way. which most suits my bent:

To kill by poison.

Medea, Euripides, 431 BC

Contents

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