

## Chapter XXXIV The Warrior Planet

“On landing on this new world, the first impression received by our mind is not very different from the impression that the spectacles of nature impose upon us. We find ourselves transported to a world strangely analogous to ours. The edges of its seas receive, as they do here, the eternal plaint of the waves that break and die on the shore—for there, as here, the breath of the wind wrinkles the face of the waters and gives birth to waves that follow one another and fall back. If the sky is pure and the atmosphere calm, the mirror of the waters reflects, as it does here, the dazzling sun and the luminous sky.

“The European villager who, cast up by the wave of emigration on the shores of Australia, wakes up one fine day in the midst of an unknown country where the soil, the trees, the animals, the seasons and the courses of the Sun and the Moon are very different in appearance from what he has previously seen in his native land, is no less surprised and lost than we are on arriving in the planet Mars. To be transported from the Earth to Mars is simply to change latitude.”<sup>1</sup>

Thus, with regard to the planet on which our voyagers were landing, the celebrated propagator of astronomical science expresses himself—and Gontran, analyzing his own sensations, could not help recognizing how concordant they were with the thoughts contained in the passage from *Les Continents célestes* reproduced above.

It was night when a sign from the Martian who appeared to be the captain of the vessel invited them to come out of the gondola, and the entire landscape surrounding the Terrans was immersed in profound darkness. Here and there, however, thicker shadows stood out, confused but intriguing by virtue of their mass or their height. Our voyagers’ eyes strained in vain to pierce the obscurity. The only thing of which they were truly conscious was a sheet of water that extended to their feet, making soft sounds like those of the minuscule waves of our Mediterranean impelled by a spring breeze. In the water, as in a burnished silver mirror, the sky was reflected, with its myriad sparkling stars. One might have thought it a silken cloth sprinkled with gold.

Instinctively, our friends looked up.

“But the sky hasn’t changed!” Gontran exclaimed. “There are the same stars, the same constellations...that one sees from the Paris Observatory.”

Ossipoff turned to him enthusiastically, retorting: “The same stars, perhaps...but the same planets?” By the tone in which these few words were pronounced, the young comte scented an ambush, and prudently uttered a little dry cough to attract Fricoulet’s attention—but the engineer was much too busy studying the maneuvering of the balloon to think about his friend, so the latter’s embarrassment increased.

With his nose in the air and his gaze fixed on the starry vault, Gontran slowly pivoted on his heels, summoning to his aid all the gods with whom mythology had been pleased to populate the sidereal immensity. The gods were doubtless asleep, though, for no inspiration came to the unfortunate ex-diplomat. Suddenly, though, a voice as light as a breath whispered behind him: “Over there, on your right...Jupiter, then Saturn...and then on the other side...the Earth.”

Meanwhile, astonished by the incomprehensible silence, Ossipoff uttered a “Well?” replete with suspicion.

As if gripped by a dream, Flammermont shivered. He passed his hand over his forehead, redirected his gaze to the old man and said, in a vibrant voice: “Excuse me, Monsieur...but the sight of my native planet evoked memories that took entire possession of my mind.”

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<sup>1</sup> This quotation is an abridged version of the first paragraph of Chapter II of *Les Terres du ciel*, pp.20-21.

“Only memories?” asked Selena.

“Naughty!” he replied, taking her hand and kissing it affectionately. “Not only memories, but hopes too...since it’s there alone that our happiness will become complete....”

Ossipoff coughed lightly, for he was always rather embarrassed when Gontran made allusion to his problematic marriage to Selena. Then, to change the subject, he pointed toward the brilliant star. “In truth,” he said, “would one not swear that one were looking at Venus? It’s the same soft light...the same situation....”

“We probably play the same role for Mars?”

“If, by that, you mean that the Earth is the Martian evening star, you’re right.”

“Evening?” said Jonathan Farenheit. “Do you think that star you’re admiring is an evening star?” And, without waiting for a reply, he held up his chronometer. “It’s half past one in New York,” he said, after a momentary pause.

“Six o’clock in St. Petersburg,” added Selena

“Five o’clock in Paris,” said Gontran, in his turn.

“With the result that it’s four o’clock in the morning here,” concluded Mikhail Ossipoff. “You’re right, Mr. Farenheit.”

“Isn’t that the Earth, then?” stammered Gontran.

“What’s problematic about that? Isn’t Venus both an evening and morning star for us? It precedes the dawn and follows the dusk...it depends....”

“Yes,” Gontran repeated, mechanically. “It depends....”

“Depends on what?” Farenheit asked him.

The young comte found himself suddenly embarrassed, all the more so because Mikhail Ossipoff was staring at him. Instinctively, he leaned backwards to put his ear within rang of Selena’s lips. Then, straightening up, he replied: “It depends on the seasons, of course, my dear Mr. Farenheit. We’ve been leading such a singular life for so long that I scarcely know what month it is.”

“It’s May,” replied Ossipoff. “May the eighth. Yesterday, the Earth was at its greatest occidental elongation, thirty-seven degrees and thirty-seven minutes, and it will remain the morning star until October.”

*Oof!* thought Flammermont, uttering a slight sigh. *That’s the Q.E.D. of the problem. This oral exam is interminable.*

Fricoulet arrived at that moment. “My friends,” he said, “we’ll get under way, if you’re ready.”

“Where to?” the Terrans immediately asked, with one voice.

“To the City of Light, as the planet’s capital is called.”

“And is your City of Light far from here?” asked Farenheit, already alarmed by the prospect of making use of his legs.

“If I’ve understood Aotaha’s summary explanations....” Fricoulet began.

Gontran interrupted him. “Who’s Aotaha?” he asked.

“A very friendly and learned Martian whose acquaintance I have made, and who seems to fulfill the role, on this planet, of Grand-Master of the University.”

Flammermont could not help emitting a short burst of mocking laughter. “If you’ve understood, you say; do these people talk, then, as one does on the Boulevard Montparnasse?”

“Pooh!” said the engineer, with a moue of disdain. “It’s a long time since the Martians left syntax and everything connected with it behind; time being, for them, the most precious thing in the world, they’ve sought a linguistic system permitting the expression of thought as rapidly as it springs to mind.”

“A sort of stenographic language?”

“Precisely; the five vowels serve as the basis for this very simple system, in such a way that, according to the tone in which they are pronounced, they express some thought or another.”<sup>2</sup>

“But that gives them a very restricted vocabulary,” Mademoiselle Ossipoff objected. “Remember that the voice only has two and a half octaves—which gives, by its division into semitones, a total of thirty different sounds. These people would only have very imperfect means to express their thoughts.”

The engineer smiled. “You can’t be unaware, Mademoiselle,” he replied, “that it’s vibration that forms sounds; thus, the deepest note of the human voice corresponds to 160 vibrations, while the most elevated is 2048. Well, in going from 160 to 2048, the sound is modified by each added vibration, which gives 1888 different sounds. You see that the Martian language is richer than you think.”

“What you say is quite accurate,” Flammermont riposted. “Unfortunately, the human ear is unable to grasp such subtle nuances.”

“The human ear, agreed—but these people’s ears are subject, from birth, to an education that even permits them, after a certain number of years, to achieve a truly marvelous perception. Young Martians are taught to distinguish the vibrations that compose a sound just as we learn to discover the subtle beauties contained in a text by Virgil, Homer or any other ancient author.”

“But we have grammars, dictionaries and a whole host of instruments....”

“Just as they do....” The engineer took a rather singular apparatus out of his coat; it resembled a helmet ornamented on each side by two appendages similar to the funnels of hunting-horns. “This,” he said, “is what infants of the most tender age carry; these shell-like items, made of a metal that has the property of vibrating with extreme facility, are fitted over the ears and transmit the vibrations stored within them to the eardrums. As the child grows, the size of the shells diminishes, to disappear entirely when education is complete.

With an easily-imaginable curiosity, the Terrans studied the bizarre instrument, which each of them tried out in turn.

“Myself,” said Gontran, rather ironically, “I find that it distorts speech.”

“Because we don’t make use, as these people do, of monosyllables to render our thoughts; the vibrations of each of our speech-acts are confused with one another.”

“Ending up as an incomprehensible cacophony,” said Fahrenheit.

“And you already understand what they’re saying?” asked Selena, ready to fall at the engineer’s feet in admiration.

“Oh!” the latter replied. “You have too high an opinion of my intelligence—which is to say that the excellent Aotaha, with a patience beyond all praise, has enabled me to make use with him a sort of pidgin, by pronouncing certain monosyllables and then showing me the object to which he is referring. I only know the ABC of the Martian language; as for the theory I’ve just outlined, I deduced it from what I could understand of Aotaha’s language.”

“Well, old chap,” said Flammermont, “from this day forward I nominate you as my private interpreter...for I’ve never had a liking for vocalization exercises, having always had a tin ear.”

“To get back to your City of Light,” said the American, “you were saying....”

“That the city is located at the extremity of the continent Kepler, on the 195<sup>th</sup> degree of longitude.”

The American uttered a dull groan. “That’s all very well—but first, where are we?”

“Not far from the Lake of the Sun, on the continent that Schiaparelli baptized with the name Thaumasia.”

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<sup>2</sup> The reader might wonder how “Aotaha” and the other Martian names subsequently recorded in the text are derived from this system; Fricoulet is however, rather economical with his explanations.

“Which is to say,” added Ossipoff, “on the 90<sup>th</sup> degree of longitude. We have, therefore, about 105 degrees to travel...which is 6,800 kilometers.”

“I’ll never do that on foot,” Fahrenheit complained.

“Who said anything about that?” asked Fricoulet. “We have a vehicle ready, and if you’d care to follow me....”

Marching on the engineer’s heels, the Terrans moved back toward the place where the national balloon had set them down. To their great surprise, they saw the gondola in which they had made the crossing from Phobos to Mars standing on rails of some sort. The enormous cylinder that had surmounted it had disappeared, however, along with the propeller and the rudder. As it now was, it had the exact appearance of a gigantic shell—or, rather, a monumental Lebel rifle bullet.<sup>3</sup> Its tip was directed toward a metallic mass about ten meters high and as many wide, which had suddenly extended from the ground to an extent of thirty or forty meters.

“Devil take me!” said Fahrenheit, who had approached the monstrous apparatus and was examining it closely. “It’s highly reminiscent of the breech of a cannon.”

As he finished these words, a sort of electric bell rang and the object that the American had just compared to the breech of a cannon opened up, displaying a profound cavity sparkling with light. Taken by surprise at first, the Terrans took a step backwards.

“What’s that?” murmured Selena, in a fearful voice.

“Nothing very frightening, Mademoiselle,” replied the engineer.

“What, then?”

“I’ve told you about the inestimable value that time has in the Martians’ eyes. You’ll not be astonished to learn, therefore, that all their efforts tend to shorten distances—which is to say, to travel the said distances as rapidly as possible.”

“Don’t their wings enable them to do that?” objected Fahrenheit.

“Just so—but because their muscular force isn’t much greater than ours, relatively speaking, they can’t accomplish much more in flying long distances than we Terrans could by walking. They have therefore been obliged to invent systems of locomotion...and this is one of them, which will transport us to the City of Light.”

“That doesn’t explain....” said Selena.

“Listen,” said Fricoulet. “You know the pneumatic system that transports dispatches enclosed in little vessels resembling rifle bullets through a network of underground tubes? What you see here is a system of locomotion based on the same principle....”

Mademoiselle Selena’s slightly anxious face cleared as if by magic; without waiting any longer, she leapt on to the platform of the gondola with a single bound and disappeared inside.

Less than two minutes had elapsed since Fricoulet, who was bringing up the rear, had rejoined his companions, when a dull noise was audible outside.

“That’s the doors of the tube closing again,” the engineer replied, to the mute interrogation in Selena’s eyes.

For a few moments, a profound silence reigned in the cabin; each of them, absorbed in personal reflections, was silent.

Fahrenheit was the first to speak. “One thing that astonishes me, my dear Monsieur Ossipoff,” he said, “is that this world, which the Creator has endowed with two satellites, should be worse lit by night than the Earth, which has but one.”

“One thing that astonishes me more,” retorted the old scientist, with a smile full of condescension, “is your astonishment. Two reasons, in fact, prevent Mars from receiving a very bright light from its satellites. The first is the distance that separates Mars from the Sun,

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<sup>3</sup> The Lebel Model 1886 rifle, introduced in that year, had a distinctive “boat-tailed” bullet. The narrative voice is probably entitled to make the comparison for the benefit of its 1889 readers, even though the scene is set in 1884.

which appears to the planet only in the form of a circle 21 millimeters in diameter, whereas its disk, seen from Earth, is between 31 and 32 millimeters...an appreciable difference, you'll agree."

"I agree to that, but you'll also agree that the difference might be counterbalanced by the proximity of the satellites to the planet they ought to illuminate. While the Moon orbits the Earth at 90,000 leagues, Phobos traces its orbit at 6,000 kilometers and Deimos at 20,000...that's also appreciable."

Ossipoff nodded his head. "Undoubtedly!" he said. "But you're forgetting one thing, which is that even at 6,000 kilometers, the disk of Phobos is no larger than seven minutes, and that of Deimos only two minutes; that of the Moon is thirty-one—which is to say, three and fifteen times larger...."

"And in conclusion from these figures," Fricoulet said, in his turn, "do you know how much difference of light-intensity those differences of distance give? As the light received from the Sun varies according to the position of Mars, the result is that the brightness of Deimos is between 1/400 and 1/675 of our moonlight and that of Phobos between 1/45 and 1/67. Is that clear?"

"Clearer than the light of the Martian satellites," Fahrenheit replied, laughing, "but if they don't serve as illumination, what are they useful for?"

"Regulating clocks and longitudes with remarkable precision, thanks to the rapidity of their rotation," Gontran replied, half in jest and half seriously.

Fricoulet wagged a finger at him. "That's not yours," he whispered in his ear.

"Not mine!" replied the young comte, almost offended.

"You memorized *Les Continents célestes* with such great ardor that you've ended up appropriating its contents and, without being conscious of it, offering us the theories of your illustrious namesake as your own...."

"That's quite possible," muttered Flammermont.

"Now then!" cried the American, suddenly. "Will we be leaving soon?" He consulted his chronometer and added: "It's nearly twenty minutes since we got in, and we haven't budged."

"There's every chance that we've arrived," replied Fricoulet, seeing the door open and Aotaha beckoning to him from the threshold.

There was a rapid and animated dialogue between the Terran and the Martian, mingled with expressive gestures on the part of the latter and curt monosyllables pronounced with bizarre intonations on the part of the former.

Afterwards, the engineer came back to his companions. "I guessed right," he said. "We've arrived."

"Arrived where?" asked Gontran. "At the City of Light?"

"No, we've only traveled 400 kilometers and we're on the shore of the Lake of the Sun."

"Or Terby Sea," Ossipoff rectified.

The America's amazement was profound. "But that's magical," he stammered. "We didn't experience any shock on departure or arrival...even better, we heard neither the rolling of wheels or the friction of the vehicle's walls against those of the tube."

"There's a very simple explanation for that," replied the engineer, smiling. "First, the vehicle has no wheels; second, its walls have no point of contact with those of the tube in which it circulates."

"That's a fairy tale!" exclaimed Flammermont, involuntarily. "You want us to believe that our vehicle is suspended in the middle of the tube without touching it at any point?"

"I don't want you to believe it—I affirm it."

“What about the wind?” added Flammermont. “What do you do about that? If things were as you say, the compressed air propelling the vehicle would pass into empty space and there’d be a considerable loss of force.”

The engineer shrugged his shoulders and replied: “Your argument lacks common sense; even so, when I have a minute to spare, I’ll refute it. For the moment, we have to disembark.”

As he spoke, he went to stand underneath the aperture pierced in the cabin’s ceiling and, with a slight thrust of his feet, leapt outside. At that moment, the Sun appeared over the horizon, and its golden darts split the somber mantle of the night, causing a liquid immensity whose surface was rippled by a slight breeze to sparkle before the Terrans’ marveling eyes.

“The Lake of the Sun!” exclaimed Mikhail Ossipoff, in a ringing voice. With his elbows on the rampart, he sank into ecstatic contemplation.

Meanwhile, with a curiosity not exempt from suspicion, his companions examined a host of individuals similar to Aotaha, who were surrounding the vehicle, pressing together, jostling one another and pointing at the strange beings gathered on the footbridge, with forceful gestures and exclamations.

“Great God!” moaned Selena. “Just as long as they don’t come any closer.”

“Don’t be afraid, Mademoiselle,” said Fricoulet. “Curiosity alone impels them.”

“It’s singular,” Gontran murmured, “that the extreme civilization you claim for this advanced Martian race doesn’t render them more beautiful than they are.”

“And why do you expect this world to be different from our own? To take but one example, compare our ancestors, the ancient Frankish warriors, with the coxcombs that we are.”

“So you say,” Gontran retorted, jokingly. “Speak for yourself.”

“Assuredly,” said Selena, “I don’t find Monsieur de Flammermont to be as much of a coxcomb as you might think....”

The engineer shrugged his shoulders casually. “Just put a heap of weapons into his arms, and chain-mail from the Middle Ages on his torso, and you’ll see how freely and easily he carries himself.”

“What are you getting at?” asked Flammermont, in a bittersweet voice, not very pleased at being subjected to ridicule in the presence of his fiancée.

“I’m trying to make you understand that the more a race advances in civilization, the more it atrophies...the brain monopolizes vigor, to the detriment of the rest of the body.”

At that moment, Ossipoff released a cry of terror. A host of those strange creatures had suddenly risen from the ground, spiraling in the air above and around the group formed by the Terrans. One might have taken them for a flock of immense birds, whose wings beat the air almost silently.

At a gesture from Aotaha, all that ceased, as if by magic. Folding their wings, their curiosity doubtless satisfied, the Martians drew away.

“Our guide is signaling to us to follow him,” said Fricoulet, touching Ossipoff on the shoulder.

The latter raised his head and saw Aotaha—who, deploying his wings, flew rapidly down to the ground.

“Follow him!” muttered the old scientist, his mind still full of the dreams he had been entertaining. “That’s easy to say—but how?”

“By the same route!” retorted Gontran. Tensing his leg, the young man jumped over the side and landed lightly beside the Martian. One by one, his companions did likewise.

Moored to the shore, a singularly-shaped boat was bobbing. It attracted the attention of the Terrans, especially Fricoulet, who ran to it in a few strides. “Hey!” he exclaimed, summoning his companions with cries and forceful gestures. “Hey! It’s Raoul Pictet’s apparatus!”

“What do you mean by that?” asked Ossipoff.

“I mean an apparatus equipped at the rear, like this one, with a vast plane surface forming a keel, permitting the boat to glide over the surface like a sleigh over ice.”

“A boat on skates, then!” said Gontran.

“Very nearly.”

“And what results from that?” asked Fahrenheit.

“Considerable speed—something like forty or fifty knots.”

“That’s prodigious.”

“I don’t know whether it’s prodigious,” Gontran said, in his turn, “but it’s a very graceful navigation apparatus, at any rate.”

And he was certainly right; the bow, highly elevated above the waves, was curved in the fashion of the gondolas plying the Venetian lagoons; the rounded stern rested on the vast triangular platform spread out over the liquid sheet like a gigantic peacock’s tail. On the poop and along a third of its length stood a cockpit pieced by portholes, and a floor had been built on to that cockpit at prow level, forming a second deck—which was itself covered by a light roof designed to protect the passengers from the ardor of the sun. In the posterior section of this deck, enclosed by the boat itself and partly resting on the cabin on the lower floor, was a launch, which a simple spring could dispatch into the water in a matter of seconds.

Once the Terrans had taken their places aboard this strange vessel, Aotaha gave a signal. Driven by a propeller set beneath the launch in the middle of the platform, the boat drew away from the shore. As Fricoulet had explained, it skimmed the crests of the waves like a seabird, with incredible velocity, without any pitching. In less than an hour, the coast disappeared over the horizon.

“At this rate,” murmured Ossipoff, who had unfolded one of Schiaparelli’s maps, “we’ll have crossed the entire width of the ocean before nightfall.”

“Do you know that the width in question is 600 kilometers?” Flammermont asked.

“If you’ll take the trouble to make the calculation,” the old scientist retorted, “you’ll see that I’m not exaggerating.”

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All day they glided over the waves without any incident breaking the monotony of the voyage. Ossipoff, whose eyes never quit the map, declared that they must be approaching the equator, not far from Schiaparelli’s Nodus Gordii.

The Sun, almost at its zenith, directed its rays vertically, and the heat was fearsome. Suddenly, there seemed to be an extraordinary animation aboard. The Martian crew, grouped on the deck, were arguing enthusiastically and pointing into the distance as a point invisible to the Terrans, but which the Martians, with their acuity of vision, could make out clearly.

“An accident, no doubt,” grumbled Fahrenheit. “You’ll find that we’ll be obliged to continue the journey on foot.”

“We’d have to begin by continuing it by swimming,” Gontran retorted.

“I don’t know,” Ossipoff murmured, shaking his head, “but all that fuss doesn’t augur anything good.”

Fricoulet, who had gone to find Aotaha at the very first moment, came back with a grave expression, seemingly annoyed. On catching sight of him, Gontran exclaimed, jokingly: “Here he is, his misfortunes written on his brow/He has the face and the manner of the first to fall.”<sup>4</sup>

“Given that my misfortunes are yours too,” complained the engineer, “I think it’s ungracious of you to mock.”

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<sup>4</sup> Gontran is quoting from Jean-François Regnard’s comedy *Le joueur* [The Gambler] (1696); the dialogue in which it features was often reprinted in collections of homilies, thus becoming familiar to many readers who never saw the play.

“Really? What’s happened?”

“We can’t go any further.”

There was a general exclamation. “No further!” said Ossipoff. “Now then, what sort of joke is this?”

“It’s not a joke—the canal is closed.”

“The canal!” cried Farenheit. “What canal are you talking about?”

“The one we’re on, of course.”

“This is a canal?” exclaimed the American, indicating with a sweep of his hand the sheet of water that extended as far as the eye could see in every direction.”

“Yes, a canal... a simple canal five hundred kilometers long.”

Farenheit stood still, his eyes wide and his mouth wide open, so profound was his amazement.

Gontran, no less astonished, hid his amazement beneath an apparent indifference.

“Admit, my dear Mr. Farenheit,” said the engineer, clapping the American on the shoulder amicably, that Suez and Panama are child’s play by comparison with this canal.”

“But you can’t persuade me that this ocean—for I persist in giving it that name—was hollowed out by the hand of man!”

“It’s necessary, though, that I make you believe it, since it’s the truth. Besides, you’ll be able to convince yourself with your own eyes before long. They’re in the process of hollowing out one at right angles to it, and that’s why we can’t go on.”

Ossipoff had abandoned his companions and gone up to the bridge in order to be the first to establish, with his own eyes, the truth about the famous Martian canals—one of the largest question marks posed by the scientists of the entire world.

For an hour, the old man waited, his chest constricted, his heart beating rapidly and his eyes obstinately staring into space.

Finally, in the far distance, a vague line appeared, which gradually became distinct, grew, lengthened, and finished up barring the uniformly blue horizon, with a slight tint of yellow ocher. It was the eastern bank of the canal, where the boat was not long delayed in landing.

“Well?” asked Farenheit. “What are we going to do now?”

“We’re going to continue the journey,” Gontran replied.

“Like these folk, no doubt,” said the American, ironically, pointing to the Martians, who were taking flight on every side.

“Certainly not—*pedibus cum jambis*,” riposted the young comte, who was greatly amused by Farenheit’s reluctance to make use of his natural means of locomotion.

Ossipoff intervened. “Before anything else,” he said, “I want to see the works of the canal that’s being dug at present.”

“Another detour that will delay us,” grumbled the American.

Without reacting to this manifestation of bad temper, the Terrans set off walking, under the guidance of Aotaha, who fluttered alongside them. Suddenly, they perceived a veritable swarm of living beings tearing formidable masses of earth from the ground, which they were loading on to balloons similar to the one that had searched for the Terrans on Phobos. Enormous machines were running silently, each activated by some sort of thermoelectric pile that transformed solar radiation into electrical energy. As far as the eye could see, they perceived the same swarm, occupied in digging a trench several kilometers wide across the Martian continent.

“A strange notion, to cut their planet up like this,” muttered Farenheit.

Meanwhile, Fricoulet was listening in amazement—which grew with every passing second—to the explanations that Aotaha gave him in his laconic language.

“It appears that they’re carrying out this gigantic task in anticipation of an imminent war,” the engineer said, responding to the American’s explanation.

“A war?” cried Ossipoff. “A war, did you say? That scourge, which I considered as the fatal consequence of the state of barbarism into which we are plunged! That terrible, hideous, abominable scourge exists in these lands—which, I thought, had reached the summit of progress and civilization!” And the old man, prey to a strange discouragement, let his head fall into his hands.

In his capacity as an engineer, Fricoulet was prodigiously interested by the works that were being carried out in front of him—before his eyes, so to speak. Suddenly, a question crossed his mind, which he formulated immediately.

“What do you do with all the displaced earth?” he asked the Martian.

“You see those balloons,” replied Aotaha. “As soon as they are loaded they depart for Phobos. Phobos was once one of the asteroids that exist between Mars and Jupiter; it was a rock measuring no more than half a league in diameter. When it was captured by our attraction, we thought of utilizing it by establishing a dump there for the waste generated by the digging of the canals.”

“Something like a rubbish-tip for the dirt and refuse of a great city,” murmured Gontran, for whom his friend had translated the Martian’s reply. “But if they go on like that indefinitely, the entire planet will end up being transported to its satellite.”

Fricoulet laughed. “Fortunately,” he said, “the apogee of these great works has passed.”

“How do you know?” asked Flammermont, skeptically.

“Schiaparelli found out for me,” the engineer replied. “His studies, during the last conjunction on Mars, revealed to him that the number of canals remained stationary and that...”

His sentence was cut short by an exclamation from Ossipoff. “I deeply regret,” the old man said, rubbing his hands together, “that Fedor Sharp is not here. When I think that one day, at the Institute of Sciences, he bored us for several hours in order to prove to us that the Martian canals were nothing but a sort of land-register of collective farms on a globe ‘that has attained the era of harmony!’” He paused, rubbing his hands energetically, and added. “What a long face he would have if he knew the bellicose purpose of these works, so peaceful in nature—according to him!” Then, after a second pause, gripped once again by humanitarian ideas, he murmured, bitterly: “So they still make war on Mars!”

Fricoulet, to whom Aotaha had just furnished a long explanation, turned to the old man. “It’s not, as you might think, a residuum of barbarism,” he told him, “but a fatal, inevitable product of civilization exaggerated to the degree that it has attained on this world.”

“That’s a paradox, or I don’t know one,” said Gontran.

“I share Monsieur de Flammermont’s opinion,” said Fahrenheit, in his turn.

“Before pronouncing judgment,” said Ossipoff, sententiously, “it’s necessary to know the facts.”

Then, repeating what their guide had said, the engineer explained that war, on the world of Mars, was necessary and indispensable, made by common agreement between the populations of the planet. Several centuries before, at a conference held by delegates of all the Martian nations, the abolition of war had been decided; an international tribunal had been appointed, charged with judging, as a last resort, all the differences that might arise in future between fraternal populations. For a long succession of centuries, the decisions of this tribunal having legal force, the world of Mars lived in unalterable peace and devoted all its efforts to the perfection of arts and sciences, especially sciences, which were solely capable of permitting humanity to reveal the secrets of nature.

Unfortunately, thanks to the progress accomplished in all things, medicine became so powerful that all diseases—all the scourges that had once inflicted terrible but necessary

ravages upon the planet—became impotent. There was no need even to combat them; they ere prevented. That led to a terrible excess of population. The continents, which began by being too small to nourish all their inhabitants, ended up having an insufficient surface even to contain them. Maritime cities and aerial agglomerations were created; artificial aliments were invented by extracting the nutritive principles indispensable to the renewal of Martian strength from air, water and minerals. Soon, all these expedients became insufficient, and the disasters once produced by war were nothing compared to those that famine engendered.

Then, as had happened several centuries previously, all the nations of the Martian globe sent delegates to a conference in the City of Light; they decided unanimously to re-establish war. As people had been habituated for a long time to consider one another as brothers, however, and, on the other hand, civilization had expelled from the souls of sovereigns all the sentiments that had formerly caused some to take up arms against others, the conference decided to regulate war. It was, in consequence, established that, four times a century, two nations designated in advance by an international assembly would pit themselves against one another, in such a way as to bring the Martian population back to a figure in rapport with the continental surface.<sup>5</sup>

“That’s why,” Fricoulet said, concluding his story, “every fifty years, after having fixed the number of victims by means a census, the two nations designated by lot are put into a closed field designated for that purpose, and slaughter one another for the good of humankind.”

“That’s horrible!” said Selena.

“I don’t agree with you,” the engineer replied. “In these humanitarian wars there are neither victors nor vanquished; the lure of glory doesn’t enter into it at all, but only the desire to live—and once the number of victims is achieved, they live in peace, cultivating the arts and sciences until the conference decision brings them face to face again.”

“At least, in that fashion,” Gontran said in his turn, “those who fight die without ulterior motives, without fear of leaving their home and family at the mercy of a pitiless conqueror.”

“Very true,” muttered Farenheit, “except that I don’t see what the story has to do with the canal.”

“The canal is quite simply designed to transport the combatants designated by the supreme tribunal to the battlefield.”

A gleam appeared in Flammermont’s eye. “So there’s going to be a war here quite soon?” he said.

“Next month, according to what our guide told me.”

“We’ll be here, eh, Mr. Farenheit!” cried the young comte.

“By God!” growled the Americam clenching his fists. “It reminds me of the War of Secession!”

While talking, the Terrans had started walking in the direction of Holion, an important city where, their guide said, they would find a means of locomotion to transport them to the City of Light.

“Do you see?” Ossipoff suddenly said to Gontran, showing him the map he was holding. “The canal that brought us this far was the Oreus. A few degrees further to the left is the Pyriphlegeton, and we’ll cut across the equator in order to descend towards the land of Amazonia.”

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<sup>5</sup> The modern reader might think it strange that the highly advanced Martians never thought of birth-control as a humane alternative to mass slaughter (just as modern readers are sometimes surprised that Thomas Robert Malthus, who originated the argument extrapolated here, never mentioned it). The fact is that in both Protestant England in the 1790s and Catholic France in the 1880s, birth control—though widely practiced in both nations—was literally unmentionable in print, especially in a book intended to be read by children as well as adults. Insane and absurd mass murder, by contrast, was perfectly acceptable.

"I don't know whether we'll cut across the equator," Fahrenheit muttered between clenched teeth, "but I do know we're cutting across fields and that my legs are exhausted."

They were crossing an immense field, which was not verdant but the color of rust. There were occasional clumps of small trees with orange flowers, bearing clusters of pink or scarlet fruits. The plants that covered the ground with a soft carpet were all red, and their large leaves spread out in marvelously graceful plumes.

"Hey!" Fricoulet murmured in Gontran's ear, as he pointed at this singular vegetation. "Do you understand now why the Martian atmosphere seems red to terrestrial astronomers?" Then, turning to the American, who was whining incessantly, he said: "What's the matter, my dear Mr. Fahrenheit?"

"I...I...need a road. My feet can't do any more."

Fricoulet laughed. "A road!" he said. "We could, I think, travel all over Mars without finding a single one, given that, for people traveling by water and by air, the ground has no utility from the viewpoint of locomotion."

"I declare," said the American, stopping on the edge of a wide ditch that had to be crossed in a single bound, "that I'm stopping here, even if I have to sleep under the stars."

Ossipoff looked at Selena, who, although she was not complaining, was giving evidence of great fatigue. "Ask the guide," he said to Fricoulet, "whether it would be inconvenient for us to spend the night here. We'll resume the march tomorrow morning."

Aotaha, for whom the engineer translated the old man's question, uttered a few guttural sounds, then deployed his wings and flew off into the sky, which dusk was already darkening.

"Now then!" said Fahrenheit. "Is he abandoning us?"

"No, he's going to enquire about a means of locomotion, and will return at dawn." As he spoke, the engineer took out the flask of nutritive liquid with which he was equipped—cautious man that he was—and passed it to Selena. "The honor is yours, Mademoiselle," he said.

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