

MICROME GAS
PHILOSOPHICAL HISTORY

BY
VOLTAIRE

PUBLISHER'S PREFACE

Voltaire's lengthy correspondences do not contain anything that might indicate the period in which *Micromegas* was published. The engraved title of the edition that I believe to be the original displays no date. Abbot Trublet, in his *Biography of Fontenelle*, does not hesitate to say that *Micromegas* is directed against Fontenelle; but does not speak of the date of publication. I have therefore retained that given by the Kehl editions: 1752. However there is an edition carrying the date of 1700. Is this date authentic? I would not make this claim; far from it. I have therefore followed the Kehl editions, in which *Micromegas* is preceded by this warning:

This novel can be seen as an imitation of Gulliver's Travels. It contains many allusions. The dwarf of Saturn is Mr. Fontenelle. Despite his gentleness, his carefulness, his philosophy, all of which should endear him to Mr. Voltaire, he is linked with the enemies of this great man, and appears to share, if not in their hate, at least in their preemptive censures.

He was deeply hurt by the role he played in this novel, and perhaps even more so due to the justness, though severe, of the critique; the strong praise given elsewhere in the novel only lends more weight to the rebukes.

The words that end this work do not soften the wounds, and the good that is said of the secretary of the academy of Paris does not console Mr. Fontenelle for the ridicule that is permitted to befall the one at the academy of Saturn.

The notes without signature, and those indicated by letters, are written by Voltaire.

The notes signed with a K have been written by the Kehl publishers, Mr. Condorcet and Mr. Decroix.

It is impossible to rigorously distinguish between the additions made by these two.

The additions that I have given to the notes of Voltaire or to the notes of the Kehl publishers, are separated from the others by a —, and are, as they are mine, signed by the initial of my name.

BEUCHOT

October 4, 1829.

CHAPTER 1. VOYAGE OF AN INHABITANT OF THE SIRIUS STAR TO THE PLANET SATURN

On one of the planets that orbits the star named Sirius there lived a spirited young man, who I had the honor of meeting on the last voyage he made to our little ant hill. He was called Micromegas¹, a fitting name for anyone so great. He was eight leagues tall, or 24,000 geometric paces of five feet each.

Certain geometers², always of use to the public, will immediately take up their pens, and will find that since Mr. Micromegas, inhabitant of the country of Sirius, is 24,000 paces tall, which is equivalent to 20,000 feet, and since we citizens of the earth are hardly five feet tall, and our sphere 9,000 leagues around; they will find, I say, that it is absolutely necessary that the sphere that produced him was 21,600,000 times greater in circumference than our little Earth. Nothing in nature is simpler or more orderly. The sovereign states of Germany or Italy, which one can traverse in a half hour, compared to the empires of Turkey, Moscow, or China, are only feeble reflections of the prodigious differences that nature has placed in all beings.

His excellency's size being as great as I have said, all our sculptors and all our painters will agree without protest that his belt would have been 50,000 feet around, which gives him very good proportions.³ His nose taking up one third of his attractive face, and his attractive face taking up one seventh of his attractive body, it must be admitted that the nose of the Sirian is 6,333 feet plus a fraction; which is manifest.

As for his mind, it is one of the most cultivated that we have. He knows many things. He invented some of them. He was not even 250 years old when he studied, as is customary, at the most celebrated⁴ colleges of his planet, where he managed to figure out by pure willpower more than 50 of

¹ From *micros*, small, and from *megas*, large. B.

² This is how the text reads in the first editions. Others, in place of "geometers," put "algebraists." B.

³ I restore this sentence in accordance with the first editions. B.

⁴ In place of "the most celebrated" that one finds in the first edition, subsequent editions read "some jesuit." B.

Euclid's propositions. That makes 18 more than Blaise Pascal, who, after having figured out 32 while screwing around, according to his sister's reports, later became a fairly mediocre geometer⁵ and a very bad metaphysician. Towards his 450th year, near the end of his infancy, he dissected many small insects no more than 100 feet in diameter, which would evade ordinary microscopes. He wrote a very curious book about this, and it gave him some income. The mufti of his country, an extremely ignorant worrywart, found some suspicious, rash⁶, disagreeable, and heretical propositions in the book, smelled heresy, and pursued it vigorously; it was a matter of finding out whether the substantial form of the fleas of Sirius were of the same nature as those of the snails. Micromegas gave a spirited defense; he brought in some women to testify in his favor; the trial lasted 220 years. Finally the mufti had the book condemned by jurisconsults who had not read it, and the author was ordered not to appear in court for 800 years⁷.

He was thereby dealt the minor affliction of being banished from a court that consisted of nothing but harassment and pettiness. He wrote an amusing song at the expense of the mufti, which the latter hardly noticed; and he took to voyaging from planet to planet in order to develop his heart and mind⁸, as the saying goes. Those that travel only by stage coach or sedan will probably be surprised learn of the carriage of this vessel; for we, on our little pile of mud, can only conceive of that to which we are accustomed. Our voyager was very familiar with the laws of gravity and with all the other attractive and repulsive forces. He utilized them so well that, whether with the help of a ray of sunlight or some comet, he jumped from globe to globe like a bird vaulting itself from branch to branch. He quickly spanned the Milky Way, and I am obliged to report that he never saw, throughout the stars it is made up of, the beautiful empyrean sky that the

⁵ Pascal became a very great geometer, not in the same class as those that contributed to the progress of science with great discoveries, like Descartes, Newton, but certainly ranked among the geometers, whose works display a genius of the first order. K.

⁶ The edition that I believe to be original reads: "rash, smelling heresy." The present text is dated 1756. B.

⁷ Mr. Voltaire had been persecuted by the theatin Boyer for having stated in his *Letters on the English* that our souls develop at the same time as our organs, just like the souls of animals. K.

⁸ See my note, page 110. B. [this note, in *Zadig*, says: "This line is mostly written at the expense of Rollin, who often employs these expressions in his *Treatise on Studies*. Voltaire returns to it often: see, in the present volume, chapter I of *Micromegas*, and in volume XXXIV, chapter XI of *The Man of Forty Crowns*, chapter IX of *The White Bull* and volume XI, the second verse of song VIII of *The Young Virgin*. B."]

vicar Derham⁹ boasts of having seen at the other end of his telescope. I do not claim that Mr. Derham has poor eyesight, God forbid! But Micromegas was on site, which makes him a reliable witness, and I do not want to contradict anyone. Micromegas, after having toured around, arrived at the planet Saturn. As accustomed as he was to seeing new things, he could not, upon seeing the smallness of the planet and its inhabitants, stop himself from smiling with the superiority that occasionally escapes the wisest of us. For in the end Saturn is hardly nine times bigger than Earth, and the citizens of this country are dwarfs, no more than a thousand fathoms tall, or somewhere around there. He and his men poked fun at them at first, like Italian musicians laughing at the music of Lully when he comes to France. But, as the Sirian had a good heart, he understood very quickly that a thinking being is not necessarily ridiculous just because he is only 6,000 feet tall. He got to know the Saturnians after their shock wore off. He built a strong friendship with the secretary of the academy of Saturn, a spirited man who had not invented anything, to tell the truth, but who understood the inventions of others very well, and who wrote some passable verses and carried out some complicated calculations. I will report here, for the reader's satisfaction, a singular conversation that Micromegas had with the secretary one day.

⁹ English savant, author of *Astro-Theology*, and several other works that seek to prove the existence of God through detailing the wonders of nature: unfortunately he and his imitators are often mistaken in their explanation of these wonders; they rave about the wisdom that is revealed in a phenomenon, but one soon discovers that the phenomenon is completely different than they supposed; so it is only their own fabrications that give them this impression of wisdom. This fault, common to all works of its type, discredited them. One knows too far in advance that the author will end up admiring whatever he has chosen to discuss.

CHAPTER 2. CONVERSATION BETWEEN THE INHABITANT OF SIRIUS AND THAT OF SATURN

After his excellency laid himself down to rest the secretary approached him.

"You have to admit," said Micromegas, "that nature is extremely varied."

"Yes," said the Saturnian, "nature is like a flower bed wherein the flowers—"

"Ugh!" said the other, "leave off with flower beds."

The secretary began again. "Nature is like an assembly of blonde and brown-haired girls whose jewels—"

"What am I supposed to do with your brown-haired girls?" said the other.

"Then she is like a gallery of paintings whose features—"

"Certainly not!" said the voyager. "I say again that nature is like nature. Why bother looking for comparisons?"

"To please you," replied the Secretary.

"I do not want to be pleased," answered the voyager. "I want to be taught. Tell me how many senses the men of your planet have."

"We only have 72," said the academic, "and we always complain about it. Our imagination surpasses our needs. We find that with our 72 senses, our ring, our five moons, we are too restricted; and in spite of all our curiosity and the fairly large number of passions that result from our 72 senses, we have plenty of time to get bored."

"I believe it," said Micromegas, "for on our planet we have almost 1,000 senses; and yet we still have a kind of vague feeling, a sort of worry, that warns us that there are even more perfect beings. I have traveled a bit; and I have seen mortals that surpass us, some far superior. But I have not seen any that desire only what they truly need, and who need only what they

indulge in. Maybe someday I will happen upon a country that lacks nothing; but so far no one has given me any word of a place like that."

The Saturnian and the Sirian proceeded to wear themselves out in speculating; but after a lot of very ingenious and very dubious reasoning, it was necessary to return to the facts.

"How long do you live?" said the Sirian.

"Oh! For a very short time," replied the small man from Saturn.

"Same with us," said the Sirian. "we always complain about it. It must be a universal law of nature."

"Alas! We only live through 500 revolutions around the sun," said the Saturnian. (This translates to about 15,000 years, by our standards.) "You can see yourself that this is to die almost at the moment one is born; our existence is a point, our lifespan an instant, our planet an atom. Hardly do we begin to learn a little when death arrives, before we get any experience. As for me, I do not dare make any plans. I see myself as a drop of water in an immense ocean. I am ashamed, most of all before you, of how ridiculously I figure in this world."

Micromegas replied, "If you were not a philosopher, I would fear burdening you by telling you that our lifespan is 700 times longer than yours; but you know very well when it is necessary to return your body to the elements, and reanimate nature in another form, which we call death. When this moment of metamorphosis comes, to have lived an eternity or to have lived a day amounts to precisely the same thing. I have been to countries where they live a thousand times longer than we do, and they also die. But people everywhere have the good sense to know their role and to thank the Author of nature. He has scattered across this universe a profusion of varieties with a kind of admirable uniformity. For example, all the thinking beings are different, and all resemble one another in the gift of thought and desire. Matter is extended everywhere, but has different properties on each planet. How many diverse properties do you count in yours?"

"If you mean those properties," said the Saturnian, "without which we believe that the planet could not subsist as it is, we count 300 of them, like extension, impenetrability, mobility, gravity, divisibility, and the rest."

"Apparently," replied the voyager, "this small number suffices for what the Creator had in store for your dwelling. I admire his wisdom in everything; I see differences everywhere, but also proportion. Your planet is small, your inhabitants are as well. You have few sensations; your matter has few properties; all this is the work of Providence. What color is your sun upon examination?"

"A very yellowish white," said the Saturnian. "And when we divide one of its rays, we find that it contains seven colors."

"Our sun strains at red," said the Sirian, "and we have 39 primary colors. There is no one sun, among those that I have gotten close to that resembles it, just as there is no one face among you that is identical to the others."

After numerous questions of this nature, he learned how many essentially different substances are found on Saturn. He learned that there were only about thirty, like God, space, matter, the beings with extension that sense, the beings with extension that sense and think, the thinking beings that have no extension; those that are penetrable, those that are not, and the rest. The Sirian, whose home contained 300 and who had discovered 3,000 of them in his voyages, prodigiously surprised the philosopher of Saturn. Finally, after having told each other a little of what they knew and a lot of what they did not know, after having reasoned over the course of a revolution around the sun, they resolved to go on a small philosophical voyage together.

CHAPTER 3. VOYAGE OF THE TWO INHABITANTS OF SIRIUS AND SATURN

Our two philosophers were just ready to take off into Saturn's atmosphere with a very nice provision of mathematical instrument when the ruler of Saturn, who had heard news of the departure, came in tears to remonstrate. She was a pretty, petite brunette who was only 660 fathoms tall, but who compensated for this small size with many other charms.

"Cruelty!" she cried, "after resisting you for 1,500 years, just when I was beginning to come around, when I'd spent hardly a hundred¹⁰ years in your arms, you leave me to go on a voyage with a giant from another world; go, you're only curious, you've never been in love: if you were a true Saturnian, you would be faithful. Where are you running off to? What do you want? Our five moons are less errant than you, our ring less inconsistent. It's over, I will never love anyone ever again."

The philosopher embraced her, cried with her, philosopher that he was; and the woman, after swooning, went off to console herself with the help of one of the dandies of the country.

Our two explorers left all the same; they alighted first on the ring, which they found to be fairly flat, as conjectured by an illustrious inhabitant of our little sphere¹¹; from there they went easily from moon to moon. A comet passed by the last; they flew onto it with their servants and their instruments. When they had traveled about one hundred fifty million leagues, they met with the satellites of Jupiter. They stopped at Jupiter and stayed for a week, during which time they learned some very wonderful secrets that would have been forthcoming in print if not for the inquisition, which found some of the propositions to be a little harsh. But I have read the manuscript in the library of the illustrious archbishop of...., who with a generosity and goodness that is impossible to praise allowed me to see his

¹⁰ The 1773 edition is the first that reads "a hundred"; all the earlier editions read: "two hundred." B.

¹¹ Huygens. See volume XXVI, page 398. B.

books. I promised him a long article in the first edition of *Moréri*, and I will not forget his children, who give such a great hope of perpetuating the race of their illustrious father.

But let us now return to our travelers. Upon leaving Jupiter they traversed a space of around one hundred million leagues and approached the planet Mars, which, as we know, is five times smaller than our own; they swung by two moons that cater to this planet but have escaped the notice of our astronomers. I know very well that Father Castel will write, perhaps even agreeably enough, against the existence of these two moons; but I rely on those who reason by analogy. These good philosophers know how unlikely it would be for Mars, so far from the sun, to have gotten by with less than two moons. Whatever the case may be, our explorers found it so small that they feared not being able to land on it, and they passed it by like two travelers disdainful of a bad village cabaret, pressing on towards a neighboring city. But the Sirian and his companion soon regretted it. They traveled a long time without finding anything. Finally they perceived a small candle, it was earth; this was a pitiful sight to those who had just left Jupiter. Nevertheless, from fear of further regret, they resolved to touch down. Carried by the tail of a comet, and finding an aurora borealis at the ready, they started towards it, and arrived at Earth on the northern coast of the Baltic sea, July 5, 1737, new style.

CHAPTER 4. WHAT HAPPENED ON PLANET EARTH

After resting for some time they ate two mountains for lunch, which their crew fixed up pretty nicely. Then they decided to get to know the small country they were in. They went first from north to south. The usual stride of the Sirian and his crew was around 30,000 feet. The dwarf from Saturn, who clocked in at no more than a thousand fathoms, trailed behind, breathing heavily. He had to make twelve steps each time the other took a stride; imagine (if it is alright to make such a comparison) a very small lapdog following a captain of the guards of the Prussian king.

Since our strangers moved fairly rapidly, they circumnavigated the globe in 36 hours. The sun, in truth, or rather the Earth, makes a similar voyage in a day; but you have to imagine that the going is much easier when one turns on one's axis instead of walking on one's feet. So there they were, back where they started, after having seen the nearly imperceptible pond we call *the Mediterranean*, and the other little pool that, under the name *Ocean*, encircles the molehill. The dwarf never got in over his knees, and the other hardly wet his heels. On their way they did all they could to see whether the planet was inhabited or not. They crouched, laid down, felt around everywhere; but their eyes and their hands were not proportionate to the little beings that crawl here, they could not feel in the least any sensation that might lead them to suspect that we and our associates, the other inhabitants of this planet, have the honor of existing.

The dwarf, who was a bit hasty sometimes, decided straightaway that the planet was uninhabited. His first reason was that he had not seen anyone. Micromegas politely indicated that this logic was rather flawed: "For," said he, "you do not see with your little eyes certain stars of the 50th magnitude that I can perceive very distinctly. Do you conclude that these stars do not exist?"

"But," said the dwarf, "I felt around a lot."

"But," answered the other, "you have pretty weak senses."

"But," replied the dwarf, "this planet is poorly constructed. It is so irregular and has such a ridiculous shape! Everything here seems to be in chaos: you see these little rivulets, none of which run in a straight line, these pools of water that are neither round, nor square, nor oval, nor regular by any measure; all these little pointy specks scattered across the earth that grate on my feet? (This was in reference to mountains.) Look at its shape again, how it is flat at the poles, how it clumsily revolves around the sun in a way that necessarily eliminates the climates of the poles? To tell the truth, what really makes me think it is uninhabited is that it seems that no one of good sense would want to stay."

"Well," said Micromegas, "maybe the inhabitants of this planet are not of good sense! But in the end it looks like this may be for a reason. Everything appears irregular to you here, you say, because everything on Saturn and Jupiter is drawn in straight lines. This might be the¹² reason that you are a bit puzzled here. Have I not told you that I have continually noticed variety in my travels?"

The Saturnian responded to all these points. The dispute might never have finished if it were not for Micromegas who, getting worked up, had the good luck to break the thread of his diamond necklace. The diamonds fell; they were pretty little carats of fairly irregular size, of which the largest weighed four hundred pounds and the smallest fifty. The dwarf recaptured some of them; bending down for a better look, he perceived that these diamonds were cut with the help of an excellent microscope. So he took out a small microscope of 160 feet in diameter and put it up to his eye; and Micromegas took up one of 2,005 feet in diameter. They were excellent; but neither one of them could see anything right away and had to adjust them. Finally the Saturnian saw something elusive that moved in the shallow waters of the Baltic sea; it was a whale. He carefully picked it up with his little finger and, resting it on the nail of his thumb, showed it to the Sirian, who began laughing for a second time at the ludicrously small scale of the things on our planet. The Saturnian, persuaded that our world was inhabited, figured very quickly that it was inhabited only by whales; and as he was very good at reasoning, he was determined to infer the origin and

¹² All the editions that precede those of Kehl read: "It might be for this" B.

evolution of such a small atom; whether it had ideas, a will, liberty. Micromegas was confused. He examined the animal very patiently and found no reason to believe that a soul was lodged in it. The two voyagers were therefore inclined to believe that there is no spirit in our home, when with the help of the microscope they perceived something as large as a whale floating on the Baltic Sea. We know that a flock of philosophers was at this time returning from the Arctic Circle, where they had made some observations, which no one had dared make up to then. The gazettes claimed that their vessel ran aground on the coast of Bothnia, and that they were having a lot of difficulty setting things straight; but the world never shows its cards. I am going to tell how it really happened, artlessly and without bias; which is no small thing for an historian.

CHAPTER 5. EXPERIMENTS AND REASONINGS OF THE TWO VOYAGERS

Micromegas slowly reached his hand towards the place where the object had appeared, extended two fingers, and withdrew them for fear of being mistaken, then opened and closed them, and skillfully seized the vessel that carried these fellows, putting it on his fingernail without pressing it too hard for fear of crushing it.

"Here is a very different animal from the first," said the dwarf from Saturn.

The Sirian put the so-called animal in the palm of his hand. The passengers and the crew, who believed themselves to have been lifted up by a hurricane, and who thought they were on some sort of boulder, scurried around; the sailors took the barrels of wine, threw them overboard onto Micromegas hand, and followed after. The geometers took their quadrants, their sextants, two Lapland girls¹³, and descended onto the Sirian's fingers. They made so much fuss that he finally felt something move, tickling his fingers. It was a steel-tipped baton being pressed into his index finger. He judged, by this tickling, that it had been ejected from some small animal that he was holding; but he did not suspect anything else at first. The microscope, which could barely distinguish a whale from a boat, could not capture anything as elusive as a man. I do not claim to outrage anyone's vanity, but I am obliged to ask that important men make an observation here. Taking the size of a man to be about five feet, the figure we strike on Earth is like that struck by an animal of about six hundred thousandths¹⁴ the height of a flea on a ball five feet around. Imagine something that can hold the Earth in its hands, and which has organs in proportion to ours—and it may very well be that there are such things—conceive, I beg of you, what these things would think of the battles that allow a vanquisher to take a village only to lose it later.

¹³ See the notes to the speech in verse, "On Moderation" (Volume XII), and those of "Russia to Paris" (Volume XIV). K.

¹⁴ The edition that I take to be original reads "sixty thousandths." B.

I do not doubt that if ever some captain of some troop of imposing grenadiers reads this work he will increase the size of the hats of his troops by at least two imposing feet. But I warn him that it will have been done in vain; that he and his will never grow any larger than infinitely small.

What marvelous skill it must have taken for our philosopher from Sirius to perceive the atoms I have just spoken of. When Leuwenhoek and Hartsoëker tinkered with the first or thought they saw the grains that make us up, they did not by any means make such an astonishing discovery. What pleasure Micromegas felt at seeing these little machines move, at examining all their scurrying, at following them in their enterprises! how he cried out! with what joy he placed one of his microscopes in the hands of his traveling companion!

"I see them," they said at the same time, "look how they are carrying loads, stooping, getting up again." They spoke like that, hands trembling from the pleasure of seeing such new objects, and from fear of losing them. The Saturnian, passing from an excess of incredulity to an excess of credulity, thought he saw them mating.

"Ah!" he said. "I have caught nature in the act"¹⁵. But he was fooled by appearances, which happens only too often, whether one is using a microscope or not.

¹⁵ *j'ai pris la nature sur le fait*. A happy, good-natured turn of phrase expressed by Fontenelle upon making some observations of natural history. K.

CHAPTER 6. WHAT HAPPENED TO THEM AMONG MEN

Micromegas, a much better observer than his dwarf, clearly saw that the atoms were speaking to each other, and pointed this out to his companion, who, ashamed of being mistaken about them reproducing, did not want to believe that such a species could communicate. He had the gift of language as well as the Sirian. He could not hear the atoms talk, and he supposed that they did not speak. Moreover, how could these impossibly small beings have vocal organs, and what would they have to say? To speak, one must think, more or less; but if they think, they must therefore have the equivalent of a soul. But to attribute the equivalent of a soul to this species seemed absurd to him.

"But," said the Sirian, "you believed right away that they made love. Do you believe that one can make love without thinking and without uttering one word, or at least without making oneself heard? Do you suppose as well that it is more difficult to produce an argument than an infant? Both appear to be great mysteries to me."

"I do not dare believe or deny it," said the dwarf. "I have no more opinions. We must try to examine these insects and reason after."

"That is very well said," echoed Micromegas, and he briskly took out a pair of scissors with which he cut his fingernails, and from the parings of his thumbnail he improvised a kind of speaking-trumpet, like a vast funnel, and put the end up to his ear. The circumference of the funnel enveloped the vessel and the entire crew. The weakest voice entered into the circular fibers of the nails in such a way that, thanks to his industriousness, the philosopher above could hear the drone of our insects below perfectly. In a small number of hours he was able to distinguish words, and finally to understand French. The dwarf managed to do the same, though with more difficulty. The voyagers' surprise redoubled each second. They heard the mites speak fairly intelligently. This performance of nature's seemed

inexplicable to them. You may well believe that the Sirian and the dwarf burned with impatience to converse with the atoms. The dwarf feared that his thunderous voice, and assuredly Micromegas, would deafen the mites without being understood. They had to diminish its force. They placed toothpicks in their mouths, whose tapered ends fell around the ship. The Sirian put the dwarf on his knees and the ship with its crew on a fingernail. He lowered his head and spoke softly. Finally, relying on these precautions and many others, he began his speech like so:

"Invisible insects, that the hand of the Creator has caused to spring up in the abyss of the infinitely small, I thank him for allowing me to uncover these seemingly impenetrable secrets. Perhaps those at my court would not deign to give you audience, but I mistrust no one, and I offer you my protection."

If anyone has ever been surprised, it was the people who heard these words. They could not figure out where they were coming from. The chaplain of the vessel recited the exorcism prayers, the sailors swore, and the philosophers of the vessel constructed systems; but no matter what systems they came up with, they could not figure out who was talking. The dwarf from Saturn, who had a softer voice than Micromegas, told them in a few words what species they were dealing with. He told them about the voyage from Saturn, brought them up to speed on what Mr. Micromegas was, and after lamenting how small they were, asked them if they had always been in this miserable state so near nothingness, what they were doing on a globe that appeared to belong to whales, whether they were happy, if they reproduced, if they had a soul, and a hundred other questions of this nature.

A reasoner among the troop, more daring than the others, and shocked that someone might doubt his soul, observed the interlocutor with sight-vanes pointed at a quarter circle from two different stations, and at the third spoke thusly: "You believe then, Sir, that because you are a thousand fathoms tall from head to toe, that you are a—"

"A thousand fathoms!" cried the dwarf. "Good heavens! How could he know my height? A thousand fathoms! You cannot mistake him for a flea. This

atom just measured me! He is a surveyor, he knows my size; and I, who can only see him through a microscope, I still do not know his!"

"Yes, I measured you," said the physician, "and I will measure your large companion as well." The proposition was accepted, his excellency laid down flat; for were he to stay upright his head would have been among the clouds. Our philosophers planted a great shaft on him, in a place that doctor Swift would have named, but that I will restrain myself from calling by its name, out of respect for the ladies. Next, by a series of triangles linked together, they concluded that what they saw was in effect a young man of 120,000 feet¹⁶.

So Micromegas delivered these words: "I see more than ever that one must not judge anything by its apparent size. Oh God! you who have given intelligence to substance that appears contemptible. The infinitely small costs you as little as the infinitely large; and if it is possible that there are such small beings as these, there may just as well be a spirit bigger than those of the superb animals that I have seen in the heavens, whose feet alone would cover this planet."

One of the philosophers responded that he could certainly imagine that there are intelligent beings much smaller than man. He recounted, not every fabulous thing Virgil says about bees, but what Swammerdam discovered, and what Réaumur has anatomized. He explained finally that there are animals that are to bees what bees are to man, what the Sirian himself was for the vast animals he had spoken of, and what these large animals are to other substances before which they looked like atoms. Little by little the conversation became interesting, and Micromegas spoke thusly:

¹⁶ The edition I believe to be original reads, "a beautiful young ... of 120,000 feet." B.

CHAPTER 7. CONVERSATION WITH THE MEN

"Oh intelligent atoms, in which the Eternal Being desired to make manifest his skill and his power, you must, no doubt, taste pure joys on your planet; for having so little matter, and appearing to be entirely spirit, you must live out your life thinking and loving, the veritable life of the mind. Nowhere have I seen true bliss, but it is here, without a doubt."

At this all the philosophers shook their heads, and one of them, more frank than the others, avowed that if one excepts a small number of inhabitants held in poor regard, all the rest are an assembly of mad, vicious, and wretched people. "We have more substance than is necessary," he said, "to do evil, if evil comes from substance; and too much spirit, if evil comes from spirit. Did you know, for example, that as I am speaking with you¹⁷, there are 100,000 madmen of our species wearing hats, killing 100,000 other animals wearing turbans, or being massacred by them, and that we have used almost surface of the Earth for this purpose since time immemorial?"

The Sirian shuddered, and asked the reason for these horrible quarrels between such puny animals.

"It is a matter," said the philosopher, "of some piles of mud as big as your heel¹⁸. It is not that any of these millions of men that slit each other's throats care about this pile of mud. It is only a matter of determining if it should belong to a certain man who we call 'Sultan,' or to another who we call, for whatever reason, 'Czar.' Neither one has ever seen nor will ever see the little piece of Earth, and almost none of these animals that mutually kill themselves have ever seen the animal for which they kill."

"Oh! Cruel fate!" cried the Sirian with indignation, "who could conceive of this excess of maniacal rage! It makes me want to take three steps and crush this whole anthill of ridiculous assassins."

¹⁷ We saw, at the end of chapter III, that the story occurs in 1737. Voltaire is referring to the war between the Turks and the Russians, from 1736 to 1739. B.

¹⁸ Crimea, which all the same was not reunited with Russia until 1783. B.

"Do not waste your time," someone responded, "they are working towards ruin quickly enough. Know that after ten years only one hundredth of these scoundrels will be here. Know that even if they have not drawn swords, hunger, fatigue, or intemperance will overtake them. Furthermore, it is not they that should be punished, it is those sedentary barbarians who from the depths of their offices order, while they are digesting their last meal, the massacre of a million men, and who subsequently give solemn thanks to God."

The voyager was moved with pity for the small human race, where he was discovering such surprising contrasts.

"Since you are amongst the small number of wise men," he told these sirs, "and since apparently you do not kill anyone for money, tell me, I beg of you, what occupies your time."

"We dissect flies," said the philosopher, "we measure lines, we gather figures; we agree with each other on two or three points that we do not understand."

It suddenly took the Sirian and the Saturnian's fancy to question these thinking atoms, to learn what it was they agreed on.

"What do you measure," said the Saturnian, "from the Dog Star to the great star of the Gemini?"

They responded all at once, "thirty-two and a half degrees."

"What do you measure from here to the moon?"

"60 radii of the Earth even."

"How much does your air weigh?"

He thought he had caught them¹⁹, but they all told him that air weighed around 900 times less than an identical volume of the purest water, and 19,000 times less than a gold ducat. The little dwarf from Saturn, surprised at their responses, was tempted to accuse of witchcraft the same people he had refused a soul fifteen minutes earlier.

¹⁹ The edition I believe to be original reads "put them off" in place of "caught them."

Finally Micromegas said to them, "Since you know what is exterior to you so well, you must know what is interior even better. Tell me what your soul is, and how you form ideas." The philosophers spoke all at once as before, but they were of different views. The oldest cited Aristotle, another pronounced the name of Descartes; this one here, Malebranche; another Leibnitz; another Locke. An old peripatetic spoke up with confidence: "The soul is an entelechy, and a reason gives it the power to be what it is." This is what Aristotle expressly declares, page 633 of the Louvre edition. He cited the passage²⁰.

"I do not understand Greek very well," said the giant.

"Neither do I," said the philosophical mite.

"Why then," the Sirian retorted, "are you citing some man named Aristotle in the Greek?"

"Because," replied the savant, "one should always cite what one does not understand at all in the language one understands the least."

The Cartesian took the floor and said: "The soul is a pure spirit that has received in the belly of its mother all metaphysical ideas, and which, leaving that place, is obliged to go to school, and to learn all over again what it already knew, and will not know again."

"It is not worth the trouble," responded the animal with the height of eight leagues, "for your soul to be so knowledgeable in its mother's stomach, only to be so ignorant when you have hair on your chin. But what do you understand by the mind?"

"You are asking me?" said the reasoner. "I have no idea. We say that it is not matter—"

"But do you at least know what matter is?"

²⁰ Here is the passage such as it is transcribed in the edition dated 1750: "Entele'xeia' tis esi kai' lo'gos toû dy'namin e'xontos toude' ei'nai."

This passage of Aristotle, *On the Soul*, book II, chapter II, is translated thusly by Casaubon: *Anima quaedam perfectio et actus ac ratio est quod potentiam habet ut ejusmodi sit.* B.

"Certainly," replied the man. "For example this stone is grey, has such and such a form, has three dimensions, is heavy and divisible."

"Well!" said the Sirian, "this thing that appears to you to be divisible, heavy, and grey, will you tell me what it is? You see some attributes, but behind those, are you familiar with that?"

"No," said the other.

"—So you do not know what matter is."

So Micromegas, addressing another sage that he held on a thumb, asked what his soul was, and what it did.

"Nothing at all," said the Malebranchist philosopher²¹. "God does everything for me. I see everything in him, I do everything in him; it is he who does everything that I get mixed up in."

"It would be just as well not to exist," retorted the sage of Sirius. "And you, my friend," he said to a Leibnitzian who was there, "what is your soul?"

"It is," answered the Leibnitzian, "the hand of a clock that tells the time while my body rings out. Or, if you like, it is my soul that rings out while my body tells the time, or my soul is the mirror of the universe, and my body is the border of the mirror. All that is clear."

A small partisan of Locke was nearby, and when he was finally given the floor: "I do not know," said he, "how I think, but I know that I have only ever thought through my senses. That there are immaterial and intelligent substances I do not doubt, but that it is impossible for God to communicate thought to matter I doubt very much. I revere the eternal power. It is not my place to limit it. I affirm nothing, and content myself with believing that many more things are possible than one would think."

The animal from Sirius smiled. He did not find this the least bit sage, while the dwarf from Saturn would have kissed the sectarian of Locke were it not for the extreme disproportion. But there was, unfortunately, a little animalcule in a square hat who interrupted all the other animalcule

²¹ See the opusculum entitled "All in God" in *Miscellaneous* (1796).

philosophers. He said that he knew the secret: that everything would be found in the *Summa* of Saint Thomas. He looked the two celestial inhabitants up and down. He argued that their people, their worlds, their suns, their stars, had all been made uniquely for mankind. At this speech, our two voyagers nearly fell over with that inextinguishable laughter which, according to Homer²², is shared with the gods. Their shoulders and their stomachs heaved up and down, and in these convulsions the vessel that the Sirian had on his nail fell into one of the Saturnian's trouser pockets. These two good men searched for it a long time, found it finally, and tidied it up neatly. The Sirian resumed his discussion with the little mites. He spoke to them with great kindness, although in the depths of his heart he was a little angry that the infinitely small had an almost infinitely great pride. He promised to make them a beautiful philosophical book²³, written very small for their usage, and said that in this book they would see the point of everything. Indeed, he gave them this book before leaving. It was taken to the academy of science in Paris, but when the ancient²⁴ secretary opened it, he saw nothing but blank pages. "Ah!" he said, "I suspected as much."

²² Illiad, I, 599. B.

²³ The edition that I believe to be original, and the one dated 1750, reads, "philosophical book, that would teach them of admirable things, and show them the goodness of things."

²⁴ Although this scene occurs in 1737, as one saw in pages 177 to 188, one could assign the epithet of "old" to Fontenelle, who was 80 at that point, and who died 20 years later. In 1740 he resigned from his position as perpetual secretary.