

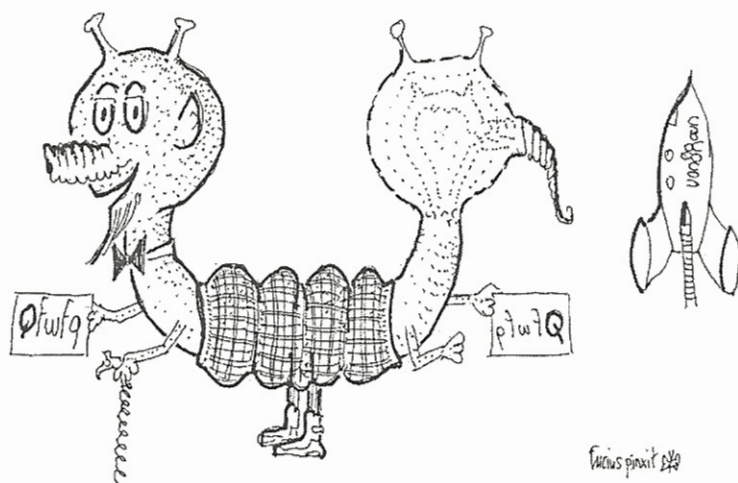
Chapter 1

Prologue

(Somewhat Outlandish)

In the end, I met Mr. Qfwfq. The legendary character in Italo Calvino's *The Cosmicomics* really exists and early yesterday morning he landed on my desk. Just to show off, to demonstrate what he is able to do, he arrived on board a miniature spaceship, the *Von Braun*, streamlined in 1950s style, which went through walls with no difficulty nor noise. I immediately saw, and valued, the fact that the spaceship was a way of appearing chosen as a gracious tribute to us poor Terrestrials.

With an elegant landing in the middle of my messy papers, that did not move because the spaceship of course did not exist, from a tiny door out came gracefully a diminutive green man who introduced himself.



Qfwfq (picture by Lucio Chiappetti)

Mr. Qfwfq, besides having a fascinating palindromic name, is very nice, delivers himself in an elegant telepathic language, understood all through our Galaxy, and has this to his credit that he knows all the answers. He of course also knew I was thinking about what remains to be discovered (for us poor Terrestrials, I mean, certainly not for himself, a Galactic). So he offered to help me, by making use of a method of his own.

“To begin with”, says he, “forsake any hope of guessing on any forecast. What you now think remains to be discovered will have nothing to share with what in the end you Terrestrials will discover. As my Galactic generals know (and your Terrestrial ones too), the best plans, worked out with great care the night before (the battle), are good to be thrown away ten minutes after the battle begins: usually the enemy is different from what is expected”.

“And since for us scientists our enemy is the unknown, good God, I have really no hope. . .”, I say.

“Yes”, says Qfwfq, “but if plans are useless, planning, the activity of planning, is essential. Thus you must train yourself to foresee”.

Dumbfound look on my face: “How?”

“Easy” says Qfwfq. “I’ll teach you, with maieutic method. To begin with, you must imagine that I know all the answers, at least compared with you (that’s not hard. . .). But you must accept that I cannot give you solutions; this would be against GEP, the Galactic Evolution Postulate: each species of so-called intelligent beings must fend for itself. For the time being you Terrestrials are disastrous; we’ll see if you can improve”.

“Yes, but how? Since you’re not giving me answers”.

“I’ll help you to work out the correct answers in your little Terrestrial head”. Thus saying Qfwfq took to stroking his big round green head with its aerials. “Which means I will help you to get clearer ideas for your plans on what to look for in the future. Or rather, from time to time I’ll send you a telepathic anonymous idea without your realizing it. In the end, you messy Terrestrial shall never know if you are writing the book yourself, or if on the contrary it’s me speaking through you”.

“Good God, thank you, but it makes me uneasy; we Terrestrials had similar traumatic experiences in the past. With truths disclosed and voices from inside you never know if you’ll end up at the stake or on the altar. And besides, how would I know they were the right questions?”

“This is another question I cannot answer. But after some 50 more orbits of your planet, at a date you would call 2062, I’ll jump on a comet, the one you call Halley, that will pass again by you. By then you will not be there any longer, the handful of molecules you are made of will have mixed up with all the others, but please tell this story to some younger handful of molecules, available at the time. And anyhow, as they say, keep an open mind”.

And puff! The same way he had arrived Mr. Qfwfq disappeared without my perceiving the fact.

I immediately felt very lonely, but also, I shall say it, very much stimulated in my Terrestrial pride. Here, I told myself, one must not make a blunder. One must show

these wise guys with a great big green head, balancing themselves on those funny little legs, that if we go about it, we Terrestrials too. . .

Let's get started, then. We shall try to meditate on what is still to be discovered, that is on the most important things we do not know, taking our hint, at least in part, from the questions to be asked to an alien that knows all the answers.

The issue of which questions to ask an alien is not trivial, especially if one supposes the alien to know all the answers and thus to be able to give understandable answers to us poor humans. That's not all: the answers should also be easily recognizable as correct or at least justifiable. Each one of us is convinced he or she have the most interesting, most useful and most intelligent questions. Carl Sagan used to say that we should perhaps run a prize competition for the best questions to an alien. Waiting for it to be announced, here is my particular choice of questions for Mr. Qfwfq. On the Web site <http://www.giovannibignami.it/> every reader can practice thinking up his own. Of course Mr. Qfwfq never answered me or I would already have won a couple of Nobel Prizes.

Ten questions to be asked to an alien, or, what I asked Mr. Qfwfq:

1. Where do you come from and how did you get here?
2. What is your life like? How is it different from ours and therefore do you know what is life? I know, I could take a hair of yours and analyse it, but you have none on that lovely big head of yours. Or I could take a drop of your spit, assuming you spit, but it is simpler if you tell me yourself how you are made, please.
3. How can you make telepathy work so well? Is there a "universal" language? What is for you a language?
4. For us, but I hope for you too, physics and all other sciences give a description of the world. Does a "theory of everything" really exist, a universal paradigm for physics or maybe for all sciences, I mean something that can describe in a uniform and univocal way all the forces and thus all the phenomena in nature?
5. Dear Qfwfq, you must bear with me. Mendeleev ruined us, we have a mania for well-ordered tables that explain with growing complexity the order in Nature; and we would like to know if there is something (anything) of the sort that could help us understand, by organizing them, the charges and masses of all the "elementary" particles of matter, at least those of which we are made ourselves, such as quarks and leptons. For the time being we only have barren and disorganized numbers.
6. Listen, do you know if antiprotons fall to the ground? We have not yet been able to prove it, although of course everybody believes it. For sure if the principle of "strong" equivalence holds, then gravity is only attractive, and antimatter too should be attracted by matter. It is a sort of revealed truth and we all must believe it, but in the end seeing an antiproton actually falling would be such a sight. . .
7. Does the Darwinian theory of evolution exist with you too and does it work? Is it a part of your famous GEP? Does it make sense to render Darwin's theory so general as to include the evolution of matter before life is formed, by going

back to that stock which is certainly common also between me as a man and you, Mr. Qfwfq, that is the Big Bang?

8. By the way, how did Big Bang crop up? Was it made by God?
9. With us, mathematicians have been stuck for the past century and a half on “Riemann’s conjecture”, but they cannot make head or tail with it: they do not know yet how to make prime numbers. Do you know what prime numbers are? Can you teach me a trick to calculate them?
10. Do you die too? What does dying mean? What does living mean?