

*Science and
spirituality
an alliance starting
from
the big bang*

Traveller, there are no paths, paths are created by walking.

Antonio Machado

**Science and
spirituality:
an alliance starting
from
the big bang**

a life journey

Johan Germonpré

English text correction: Boudewijn Verhelst and Paul Bentley

Cover design 'Big bang': Nele Germonpré

Dutch edition 2022

English edition 2023 ISBN 9789464857795

Original title: wetenschap en spiritualiteit: een verbond vanaf de oerknal (1st and 2nd print 2022, 3th print 2023)

Content

Foreword	10
Chapter 1: A quest I became aware of in Pakistan	12
1. Introduction	12
2. Objective observation and reasoning are the basis of natural sciences	21
3. But 'seeing objectively' is not enough	29
Chapter 2 : The amazing story of the great world religions	33
Chapter 3: The natural sciences show us a wonderful predictable world	42
1. The unimaginable largeness of the universe	44
2. The unimaginable smallness of the atom	50
Chapter 4: The mystery of the theory of relativity	63
1. The fabulous relationship between mass and energy	63
2. A persistent illusion about time	65
Chapter 5: The shock of quantum mechanics	71
Chapter 6: What are the consequences of relativity theory and quantum mechanics for classical science?	78
1. Is classical science wrong then?	89
2. Is something living a large object?	80
3. The miracle of the living	82
Chapter 7: How is it possible that 'lifeless' matter ever produced 'life'?	87
1. Evolution of matter starts nearly 14 billion years ago with the big bang	87

2. 3.5 billion years ago: crossing the threshold of life	96
3. 1.5 billion years ago: the revolution of the cell	100
Chapter 8: The cell conquers the planet.	111
1. What is DNA and how does it work?	111
2. What are mutations?	114
3. Are mutations accidental or at least partially steered?	116
4. Can we really prove this steering?	118
Chapter 9: The rebellious expansion of the biosphere.	121
1. Simple but ground breaking : 600,000 years ago, multicellularity emerged	121
2. Two layers of cells around a cavity. Now the first evolutionary laws reveal themselves to us	123
3. The cool evolution from the cavity animal stage	128
4. The rebellious ingenuity of invertebrates	131
Chapter 10: Vertebrates keep all options open and so become a mega-success	135
1. Fishes show that everything is already potentially present for the whole group	135
2. Amphibians hesitate to come on land	140
3. Reptiles conquer the land	144
4. Birds make the impossible happen	145
5. Among mammals evolution explodes	149
Chapter 11: The emergence of thought is a new evolution boiling point	151
Chapter 12: Man's evolution walks strange paths	162
1. The first people	163
2. Homo sapiens	167
3. The great world civilisations	171

Chapter 13: The laws of evolution show us the way to a wonderful future for the earth and man: confluence of thought	179
1. Technical possibilities connect us externally	179
2. The real change happens internally	187
3. Great challenges are taking the world into an acceleration of consciousness growth	202
Chapter 14: The future of consciousness	212
1. People and their consciousness merge	
2. The future	219
Chapter 15: String theories or M-theory: more dimensions, in search of the supra-personal	226
1. Near-death experiences	226
2. String theories and M-theory	235
3. Contact with the collective consciousness	239
4. Contact with other life in the universe	253
Afterword	255
Word of thanks	259
Glossary	262
Geological timeline	265
Bibliography	266
Contact	268

**You can see photos on my website
www.scienceandspirituality:**



To my wife Christine,
For my children and grandchildren,
and because it's necessary for the earth.

Our spirituality is a unity and interconnectedness with everything that lives and breathes, even with everything that does not. (Aborigines)

What is the purpose of all that? Evolution of consciousness in the small (our own lives) and the big (the cosmos).

This book is intended for everyone, including those who are not scientifically educated!

If you browse through this book quickly, you get the impression that it is scientifically very difficult. But it isn't.

Chapters 1 and 2 are a general introduction.

In *Chapter 3*, we discover through classical natural science that the large universe and the tiny atom are built in a very similar way.

This is followed in *chapters 4 and 5* by the two new theories (relativity theory and quantum mechanics) who put all the foregoing in a new light.

Simple summaries follow under the title 'briefly summarised' after chapters 3, 4, 5, 6, 7, 11 and 12. So don't worry if you do not understand everything immediately. These summaries are sufficient to continue reading the book.

You can also just go through those summaries after the first two chapters and browse a bit and read some travel dialogues as your first exploration of this book.

In *Chapter 6*, we notice that a living creature does not just behave according to classical laws of nature. Life cannot exist without the 'bizarre' quantum mechanics.

Chapter 7 shows that consciousness is present in everything and guides the entire evolution of the universe and the earth.

In *Chapter 8*, you will read how the passing on of life over many generations occurs through the very stable DNA. Exceptional changes in that DNA (mutations) are not just a coincidence.

Now that we understand the engine of evolution a bit, we review in *chapters 9 and 10* (very briefly) the evolution of the animal kingdom. Six laws of evolution appear.

The miracle of human 'thought' is a logical step in the evolutionary process of consciousness. *Chapter 11* demonstrates this and then gives a concise summary of the six laws of evolution.

In *chapter 12*, we also discover those 6 laws of evolution in the history of mankind and then finally in *chapters 13, 14 and 15* we see a wonderful future for mankind through those laws.

Try to read the scientific pieces with your full attention and pick up what is possible. Repeat until you fully understand everything, find more explanations on the internet because then you don't have to accept the context from me. Everything you see for yourself sets you free.

Many interesting topics I only briefly touch upon.... Each of them often deserves a separate study. I hope to titillate your curiosity!

The scientific explanations are sometimes somewhat simplified in order not to go into details when irrelevant to the whole.

Enjoy reading!

Chapter 1

A quest I became aware of in Pakistan

1. Introduction

2 August 2006, Peshawar, northern Pakistan

We are travelling for one year. Christine, my wife, and I. We drive from home, in Belgium, with our car through Turkey and Iran to Pakistan. Eventually, we end up in Peshawar.

While our car is stuck in a flock of sheep, we are approached by an elderly shepherd:

- *Which religion do you have?*
- *I have no religion...*
- *Are you a communist?*
- *No, I don't have a religion.*
- *You don't believe in God?*
- *I don't believe in the God of religions.*
- *So who made this world?*
- *Science can explain this much better than religion!*
- *Everyone can see that God made the world...*

I look into the old man's deep brown eyes. The sun forms a mystical aura around his figure. The deep grooves in his face

and around his eyes show a hard and difficult life, but his eyes are pools of softness and compassion. He wants to convince me of nothing, because he 'knows' from his heart. Time suddenly stands still for a moment. Something vibrates inside, down to below my ribs... Words, explanations...? A smile. It touches me deeply. He knows, feels... something I don't know. His views are not theories to him, but they are facts with as much meaning as the reality around him.

In that unimaginable bustle and heat, reality quickly takes over. Honking, we drive on towards the city centre. The seed has been planted...

15 years later, 12 May 2021 Cebreiro, Spain

I am walking on the Camino Francès, towards Santiago de Compostella*.(*=glossary at the back) The first corona lockdown is just over and it feels good to be back on the Camino.

In July 1993, 28 years ago, I came on the Camino for the first time. With my eldest son, a sporty bike ride. Actually, I thought with my 14-year-old teenager France was far enough. But after strong insistence (and a 14-year-old adolescent knows what insistence is!) I gave in to cycle on in Spain after all. It went like this:

A neighbour had warmed Koenraad to the Camino. On a sunny day, we cycle to Zevenkerken Abbey in Bruges,

looking for info on the bike ride to be made. We ring the bell.

- Hello, is the Father, responsible for the 'Camino de Santiago', present?

- Oh well, I don't know...

- Hey dad, that looks nice here. You can go and stand whenever and wherever you want. It would be something for me....

After some waiting, the priest appears.

- So you want to go on a pilgrimage to Santiago?

- Well, let's say...

- Hoh, how nice! You know, you will pass 'cruz de ferro'.

- And what is 'cruz de ferro'?

- You are supposed to bring a stone with you on your journey. That stone symbolises your sins and shortcomings. If you find that you carry a lot of sins with you in life, you can carry a big stone... And at the top of the last mountain range before Santiago, it's time to leave those shortcomings behind and throw the stone you brought at that stone heap. You can't believe how huge some of the stones are! Tens of kilometres around you will not find a single stone...

(I immediately think of a very small stone to carry that far by bike. Hum. Later, when we pass 'Cruz de Ferro', the stone heap was much smaller than in my imagination. There were also stones not that far away.)

- *Yes, but we would not be cycling in Spain, but in France. The 'Camino' runs there too, doesn't it?*

The priest looks at the sky and pretends to study a spot on the ceiling very intensely:

- *Yes, but the Spanish part is much more beautiful...!*

Koenraad nods his head off his neck behind the Father's back: *'I've been saying it all along!!!'*

I give in, we leave Saint-Jean-Pied-de-Port, France....

Two months later, we drove in about 9 days from Saint-Jean-Pied-de-Port (French Pyrenees) to Santiago de Compostella. Nice weather, it went well, everything a father could wish for with his eldest son. Nothing special you would think. But on 8 July 1993, the last evening of our trip, I note:

It's already 9.30 p.m. We're tired. It has been quite a journey. The city lies ahead of us, seen from the Monte do Gozo. The towers sparkle in the evening sun. Along the narrow, worn-out pilgrims' streets, we drive up the last hill in the city centre. As we rumble our racing bikes on those medieval flat stones, a very intense feeling flows through me: I feel connected to the joys and sorrows of the many thousands of pilgrims before me. Tears spring into my eyes. Everything is wonderful and beautiful. We pass under the last bridge to the cathedral. I see Christine and fall into her arms, sobbing. From happiness. Only later do I realise: this is not only a bike route! There's more to this, but you can't put that 'more' into words....

In November 2000 (7 years later), I found myself back on the route by 'coincidence'.

After the summer holidays, I would just go back to work. But the machine sputtered. Things were no longer spontaneous. That first week of September I stood in front of the classroom with a cardboard head and thought: Is this all? Is this life now? Do I have to keep this up for another 20 years? And then crawl into my coffin several years later?

I watched the sun set on the beach of Zeebrugge and knew that my old life was also going down. The next morning, I resigned at school and decided to look for another job.

I had countless questions and really didn't know what to do with my life. Another job? Move abroad? But what if my family doesn't follow me?

A few days later, while working in our vegetable garden, during that difficult, chaotic period, that moment on the Camino in 1993 with my eldest son came back to my mind. My heart began to beat faster: *'THERE I might find an answer...!'*

A week later, I left Saint-Jean-Pied-de-Port again, in the twilight with a rising November sun. But this time alone. And on foot. With my tent, to be alone with my heavy heart in nature.

And I was indeed given an answer. By the most beautiful thing in that nature: man. By one single conversation on the way to the heights of Cebreiro.

- *Today my eldest son died 2 years ago, he had an accident while trekking in the mountains.*

- *How terrible...*

- *Yes, and he had a very difficult life too. I can't talk to my husband about it because everything is so painful. That makes it extra heavy to carry...*

- *I understand that.*

- *His life has been chaotic and turbulent at times. His walk of life was controversial to the people around us in Le Puy, where I live. But in recent years, he had found peace.*

I listen to the boy's life story. But hello!... The mother is not telling her son's life but mine! And right away with the solution. It hits like a bomb. I know immediately that it's correct: by changing external things, you don't change anything. You don't become happier. You think you have solved the difficulties by changing your job, partner, country, but everything remains the same. The real change, the real journey happens inside....

So a few months later, I resumed my work with renewed vigour. I still get goosebumps thinking about it.

So now, on 12 May 2021, I am on my way again to the heights of Cebreiro in the same place on the Camino Francès. Thanks to the corona pandemic, the route is an oasis of peace. It is May in 'hot Spain', but last night it was freezing. It is snowing and storming. The wind whistles around my ears and a kilo of mud hangs from each shoe.

That dear old man in Peshawar comes back to my mind now.

In that chaotic bustle, I did not realise at the time that this would be a turning point for me. Those few sentences, and especially the feeling they released, never left me again. They have been the start of a quest beyond the scientist I had mainly been until then. And if I had looked and listened better around me, I could have seen that my wife had been on that same quest for a long time, but I didn't understand it then.

Meanwhile, I read a similar experience in **Carl Jung's autobiography** in conversation with the chief of the Pueblo Indians:

'I was amazed to see how the Indian's facial expression changes as soon as he talks about his religious ideas. In everyday life, he shows considerable self-control and dignity. On the other hand, when he talks about things that touch his mysteries, he is seized by a surprising emotion that he can't hide. He said, pointing to the sun: Is he who goes there not our father? How can you say anything else? How can there be another God? Nothing can exist without the sun. I (Carl Jung) asked him if he did not think that the sun is a fiery ball formed by an invisible God. My question did not even arouse surprise, let alone reluctance. He didn't even think my question was stupid. It left him completely cold. The only answer I got was: The sun is God. Everyone can see that. '

Later, I came to understand that the man from Peshawar and also the Indian have an inner certainty. They don't want to convince anyone.

Looking back, I see very clearly how frequent deep contact with people outside our own European culture has changed me. Deep contact is sometimes easier with strangers than with acquaintances.

Although I have remained a scientist.

Over the years, a total vision has emerged. That vision is not finished. It is in constant motion, evolution.

I have always resisted the urge to write everything down. Other people are smarter than me and making something tangible like sculpture is more my thing. I hate computers... But here, on the Camino, on the road to Cebreiro, I feel I have to do this. I start jotting down random ideas as I walk. I'll elaborate on it later. So this book will always be connected to the spiritual route of the Camino.

It is the report of a spiritual journey within myself. A quest to connect modern science, humanism and the major world religions. I will try to show that they share the same qualities and deficiencies. Science and humanism also have all the characteristics of a religion. I will come back to that later. Not to destroy something, but to bring a story of connection: they essentially mean the same thing, only the details are different: 'God and man are equal...' (at least if you take the theory of relativity and quantum mechanics among the natural sciences). I think of Simone Weil: 'Every religion has a core of truth in which love of fellow human beings and goodness is central'. This is also

true for sciences, although the technological execution of new inventions often falls far short here.

Religion, humanism and science are essentially deep and honest searches for truth.

Niels Bohr, founder of quantum mechanics: 'The opposite of a correct observation is a wrong observation. But the opposite of a profound truth may well be another profound truth. '

The face of the old man in Peshawar slides before my gaze again and I think of another quote by Simone Weil: 'The absolute goodness of God reveals itself in the face of the other'.

2. Objective observation and reasoning are the basis of the natural sciences

August 6, 2006, Pechawar, Pakistan (see photo 1 on www.scienceandspirituality.be, qr-code p7)

We take a motor rickshaw to the old city centre. It's impressive. A man shows us around in a beautiful mosque with caravanserai, where we talk to students. He tells us about the ancient Silk Road, and takes us into some small alleys. Another man tells us how he builds musical instruments... In a bazaar like this, you keep coming across real craftsmanship. It's nice how people tell this with love, even though they know you don't need a bicycle or a musical instrument.

Until... we end up in a mosque where only I am allowed in. I am harassed by a student who asks me:

- *Do you notice the difference here between people who strictly observe the Quran like us, and the others?*
- *No, I wouldn't know, but I do notice a lot of difference in the treatment of men and women: my wife is not allowed in here!*
- *That's so not to distract the man.*
- *Why? Allah didn't create women?*
- *Yes, she may be there, but she must not arouse desire, which is why she must be veiled.*
- *Why? Surely Allah also created sexuality? Didn't he do*

*well then? Was man perhaps better made differently?
Then couldn't he have created it that way? Or change it?
Can't he do everything?*

End of conversation. I detect great doubt in the student's eyes.

A second student is more persistent. I reproduce a small part of the long conversation:

- You are rich, but not happy. You have no peace in your heart.

- For you, I am rich, but not in Belgium. I have peace in my heart because I was able to follow my vocation. This is being a teacher and a father.

- You only live for a short time. 60 or 70 years. What do you do then, when you come before Allah?

- Or maybe tomorrow, who knows...? I'm not lying awake at night because of that. We'll see then. It's now that counts!

- Then you will weep, think of me and regret that you didn't convert to Islam!

- I don't believe it. Science can show that many ideas of the Bible and the Koran are outdated.

- Just as a mother prefers to see her own children, Allah prefers to see a Muslim.

- Why does Allah send earthquakes here, and not at our place?

- There are not enough real Muslims.

- Then Allah is not righteous because your kind of religion just depends on your place of birth....

The conversation goes on for quite some time, and I think once more how important it is in educating to form people who really think. You can open the mind through science or literature so that you don't just find everything is 'normal'.

I go outside and see Christine in a heated discussion with a group of men. One man thinks she does not even belong in the courtyard but this is too much for her:

'I'm walking here with a veil on my head, I'm not allowed to enter anywhere and it's not good still! What do you think?? I'm staying here whether you like it or not!!! I STAY!!!'

The biggest problem with beliefs and disinformation is the lack of curiosity for truth starting from observation.

Albert Einstein: 'I have no special talent. I am merely curious.'

February 26, 2019, Varanasi, India

I get into a conversation with a group of students on the banks of the Ganges while hearing the latest European Spanish-language summer hit from their smartphone. I hum along softly as I pass.

- *Do you know this song?*
- *Yes, it's European, and that's where I live.*
- *Where exactly?*
- *In Belgium.*
- *Oh, there are good footballers there!*
- *What are you doing by the Ganges?*

- *We are studying at university here. We would love to come to Europe or America to study, though. Most of all, we would love to live there for a while, taste that freedom, but our parents don't want us to. The West is too depraved...*

- *Oh yeah, what do you mean?*

- *Well, it seems (according to our parents) that a man can have sex with anyone there, but then he also doesn't know exactly who his children are. And that you are divorced in five minutes....*

- *Then you are not well informed after all. Just about everyone wants a stable, long-term relationship. Especially if you have children together. And you can indeed get divorced in my country. But that is always a very painful process, an emergency solution with a lot of sadness... But what's the point of staying together as two enemies? When it really doesn't work anymore?*

- *Yes, it is the truth but our parents are afraid of that. They want to marry us off. We don't want that anymore. Still, sometimes I find it decadent in your place! Recently I saw on television that Europeans have two taps in the kitchen: one for water and one for beer!*

- *I don't know anyone who has this.*

- *Yes, we noticed a whole pipe network with beer, underground!*

- *Oh but now I understand! This is about the production of 'Brugse Zot'. To be a Bruges beer, it has to be produced in*

the city centre. Via a pipeline it then flows to the bottling plant outside the city....

- We have a good laugh....

You have to look critically for what is objectively true and try to eliminate bias. Therefore, you also have to be open to opposing views. Religious people who contest natural science assume a perfectly ordered universe. They want to get rid of everything that doesn't fit their narrative. Take evolutionary theory, for example. This sweeping under the carpet of anything that doesn't fit what you take to be true is the biggest problem in analysing information for any of us, including scientists.

We can try to change this in ourselves by first distinguishing between 'proven, objective truths'. You can't ask questions about that. Another (big) part of science is hypothesis. In the sciences, sweeping under the carpet what doesn't fit deeply held hypotheses is as prevalent as in religions!

For example: The theory of evolution has been proven many times through fossils, by embryology and dating methods. So it is a false discussion to be for or against evolution. It is simply there. How humans evolved from Africa precisely is a hypothesis, so, not proven. And you can also doubt whether Darwin's theory is complete. Maybe we don't know all the factors that determine evolution? The latter in particular is super-sensitive in scientific circles. I'll come back to that in detail when I talk about the new information quantum mechanics gives us in relation to evolution.

In this context, a quote from **Etienne Vermeersch** (Belgian philosopher):

'God cannot be infinitely powerful and infinitely good and merciful at the same time, otherwise the world would be a bit nicer. '

This is correct. You cannot doubt this, because if God were omnipotent, He could instantly make man's nature a little more peaceful. Either He is not infinitely merciful, and thinks the misery on earth is good. Either He is merciful, but cannot change man. Then God is not omnipotent. From this 'correct' reasoning, Vermeersch concludes that there can be no God. This has also been my decision for many years.

Carl Jung, as a scientist, gives a completely different answer: 'Our conception of god, our image of god, is not correct. But I have become certain in the course of my life that the Divine exists. '

So truth really does exist, although objective observation and reasoning are extremely difficult. For everyone. Even in science. Because we are biased or perceive incorrectly. Take our image of the earth. Surely we 'see' that the sun revolves around the earth? We 'see' that the earth is flat, don't we?

But we are not looking precisely! On a clear day, you can 'see' very clearly that the belly of a 'far' container ship is below the horizon if you stand on the North Sea beach. The curvature of

the earth lies in front of it. On top of a dune, you can then see that ship completely because you look out above the curvature.

In 300 BC, **Aristotle** already suspected that the earth was spherical because travellers travelling south see the southern constellations higher above the horizon. Because stars are very far away, which he suspected even then, this is only possible if the horizon in more southern regions makes an angle with the horizon in more northern regions, i.e. if the surface of the earth is curved. So the surface of the earth is not flat!

An even easier observation is that during the partial phase of a lunar eclipse the shadow edge of the earth on the moon is always round, regardless of how high the moon is above the horizon. Only a sphere casts a round shadow in any direction, while a round, flat disk casts an elliptical shadow in most directions.

Despite these observations, doubts remained due to the bias of the Biblical worldview. Until September 1522: the only remaining boat of F. Magellan's expedition docked in Spain after a full voyage around the world... It was proven.

So in this book, I will try to 'see objectively', starting from science. What is the purpose of this world, of our lives? What is the future of the earth?

In particular, evolutionary theory forms the starting point. And for a special reason: if we understand our past and get to know