

Endonomadology

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The louder it is the softer my voice becomes... Maybe I should talk like a human being.

This word isn't very well known. Maybe I use it like this:

I was told that the real way to Greek...physics from within should be esophysics but esoterics is already a dangerous way of looking at science, and so endophysics is a little bit less troubling if used as a new notion. But why should one think that a field as esoteric as physics would need a new name? And what is the difference between endophysics and physics? And what has this to do with reality? Maybe physics itself is something that most people wouldn't think has much to do with reality.

The second word was monads. Monads means lonely beings. <Monas> in Greek is monastery, is people who live alone in a cloister, and monadology is a word first coined, I guess, by Giordano Bruno, and maybe I mention him briefly. Bruno is interesting. He is the teacher of Galileus, which is not very well known, and he was burned on the stake in 1600 in Rome 17th February, because he had a too modern theory of the cosmos. He is the inventor of modern cosmology and he is the first who thought that there are many earths, many suns in the universe – the whole universe was unlimited. And he was the first person to speak out against the big bang. That was one of the reasons he was murdered. And it's quite nice – no that was a joke of course – that's too much physics. We suddenly entered physics. and we should think at this conference of interfaces, I was told. I should put this back. And I wondered whether I shouldn't start out with René Descartes – maybe I should forget about this, and we...

If I am standing I can talk better – thank you.

I am having at this moment an interface type experience. I am standing here and you are here, and something is inbetween us, which I try to, which could be the interface. Thinking about interfaces is not something people are very used to, because we all live always only in an interface. and if one is very careful, I mean the first who thought really deeply about this, was René Descartes, whom I mentioned. The interface, the reality we find ourselves in, is so that – I am trying to find the right entry into my talk – if it becomes a talk today... I am switching back one more time, if you allow me to do that.

If I use the microphone in my hand, my mind is mostly used up, but you can understand me better, so that's necessary – thank you very much.



Calderon de la Barca in Spain wrote a theatre piece in 1628, if I am informed correctly, called Life is a Dream. And in that piece he talks about a young son of a king who spends part of his life in a prison, and part of it as the coming king in the main town of his country and he is given a narcotic, probably alcohol, and is taken violently into the other place into the prison or back into the honourable situation, and he is told that each time when he comes back into the other place, that what he has been experiencing in the last period was a dream. And the idea is, that you cannot distinguish between life and a dream. And this idea, that life is really a dream and I don't know who in history really invented the idea, but in France René Descartes had the same idea a few years before Calderon. And Cartesianism, if you wish, is a theory of an interface. And the interface idea is even older in history but, one could go back to Buddha even and Buddhism has similar ideas, but Descartes is closer to our hearts. And Descartes was the first to completely address himself... I am not sure if it's the first...

Why do I talk about all this? It has to do with the prison-like situation. Maybe the previous talk had some connotations also about the modern world and the computer revolution on the one hand; but on the other hand everybody is without guidance at the moment how the future will look like. And there are many young people in the world who are somehow not finding a representation in the present and in the future. And there is a dying continent called Europe and there are other continents who are thriving, but somehow the balance of power on the planet does not reflect the relationship between the minority of old people of white colour on the planet who are in power and the majority of people who are young and not taken seriously.

In physics we have this problem of quantum mechanics. There is also a crisis: we have this political crisis which I just mentioned, and in physics a crisis of science, that science lost contact with (rationality) with rationalism in 1927, when Nils Bohr discovered the complementarity principle, as he called it, and Wolfgang Pauli invented the idea of primary chance. And I was lucky that for some time I could work in chaos, and chaos is a theory which deals with chance on a basis which is rational. And the weather is a very well known example of chaos theory applied, where everybody knows that it is impossible to make an exact forecast of the weather half a year from now. And everybody agrees, that it is easy to understand, because you would have to know too many details of the atmosphere at one moment in time to calculate the future movements of the winds and so on. So the wind blows where it wants to.



This can be reconciled with rationalism, because this is just a matter of complexity. And everybody realises that. The fact, that we cannot control the weather, we cannot control the future of the weather is a rational implication of the things we know. But Wolfgang Pauli claimed that the primary chance that you find in a quantum experiment, when you have a geiger counter, who either makes a click or not, dependent on whether a certain radioactive source is shooting a particle through it or not, this click of the geiger counter is completely unpredictable. And this unpredictability was claimed to be a primary chance in the sense that there is no causal deterministic understandable explanation of why this happens. Since 1927 when this theory got elaborated, quantum mechanics has acquired this status of being a theory which predicts only probabilities, primary probabilities but not the events themselves. And this in a sense means the end of the scientific programme as it was invented by René Descartes, who had thought that it might be possible to find a rational description of the world as in the realm of science, and if you wish he invented science this way. He invented the idea, that the whole world might be a rational place. And the whole world might be a place that is open to humanism.

The fact that Cartesianism died in 1927 is not very well known, but there is something like a voting with the feet that the young people are doing, because the attractivity of science has very much declined since this has happened. And there is even one person in Germany called Manfred (or Karl?) von Mayen, who wrote a book that there is a direct connection between the Weimarer republic and this discovery of quantum mechanics on the one hand and the historical development in Germany, where scientists could not oppose the new irrationalism in the government. And if you wish, or maybe one could expect, that there is a connection between believing in rationalism, in the way that Descartes, the science Descartes invented and humanism in the sense of personal responsibility of people finding themselves important enough to intervene with big mistakes that society is making, which might again be the case today. So it might be worth to try to reawaken rationalism in a situation of crisis. But this is not what I wanted to address.

How could someone like Descartes come up with a deeper view, that everybody living since Descartes has accepted more or less? So he is one of the few people in history whose thinking has kind of enslaved the thinking of everybody else who lived since his time. And this is such very interesting. But it's also interesting that only about 10 per cent of his thinking has enslaved the world. And the rest of his thinking which might be even more important, did not find the acceptance or is not even known. For example, he is known as the inventor of dualism that mind and matter were distinct.

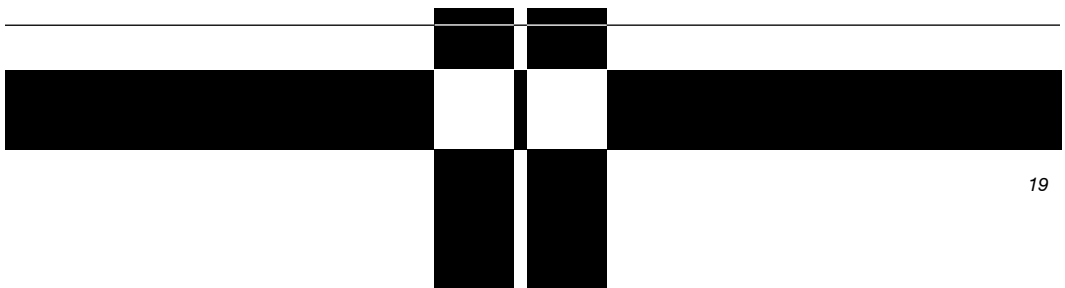
But actually if you look closer at his work, it turns out he was a monist. He did not believe in this distinction between materialism and mind, that people attribute to him. But why than was he so influential and what was his basic insight? And I think that basic insight of his was this interface insight – it's even deeper – why could he conceive of the interface... Because: a personal interpretation of the way he thought: he faced the fact that life... He was 23 years old when he had his basic insight – maybe I start there: that was his famous dream, that he had during one night of the winter 1619 November 11th, he was an officer who returns from an official duty. There was an election of an emperor in, I guess, in Frankfurt and he returned to his quarters, and he was snowed in in a town very close to Ulm, in southern Germany, where Einstein was later born. And in that night he had a dream living alone in a farmhouse, that had been given to him as an officer. And this dream was reported by a friend of his later.

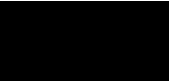


And the dream had quite interesting elements. The dream is quite well known. At first, he was near a cemetery and a wind came and he was turned around several times by the strong wind. And then later in the dream he found that one of his legs was no longer working. So he was lame in one leg. This apparently is a recollection in the dream of a story in the bible, where someone who has been fighting with heaven had a lame leg. Jacob was his name. Later in the dream, the dream brought him a book close to his bed, where he was lying, and he didn't know whether he was awake or dreaming, and he was very much interested in the book that had come through the window on the table beside his bed, and it was the book of all possible knowledge. Later, Gödel wondered whether it is possible to have a book of all possible knowledge. And this book contained a chapter. It was written in the form of theatre plays. And this one play was especially interesting to him. It had the title *Quod vitae sectabo itae*. He was dreaming in Latin, so that's one of the few Latin phrases that have been invented by a dreaming mind. What path of life am I to take or to cut? Which way should I take in my life? This was his basic problem at his young age. He started to look into this chapter, but suddenly the wind took the book again out of his room and after a while it returned and when he feverishly looked it up again, this particular chapter was missing.

And in the morning when his fellow officers came in, he didn't know whether in the future he would be forced to hallucinate. He knew he had been hallucinating in the night, and he wouldn't be able to distinguish between living in a hallucination or not, which is a quite dangerous situation, when you don't know how to rationally respond to the world. And this problem of facing the possibility of being a lunatic forced him to come to terms with this nightly dream, and he developed a strategy how to hide from the others the fact that he couldn't distinguish between dream and reality. And he found out a method. He saw, that when the light was shining in the day – usually it's quite easy to be sure that you don't dream – because something that happened in the nightly dream is absent usually daily – unless you are drunk maybe – namely that something which had been there was no longer there and then reappeared and was changed. This is called material consistency.

This is a modern word but he could have used it. This consistency of the world that Descartes was hoping to find in the morning, in the daylight, he saw, could save him. But then on second thoughts he realised, that this is no real criterium, because it might turn out that living reality within which we find ourselves might not be consistent either. Just like it happened in the dream. And so, in order to be sure that he could rely on reality, he would need to check on this consistency hypothesis. And this consistency hypothesis turned out to be quite difficult to implement in reality. And after ten days he found that he still had not found an example of inconsistency in the world, but maybe there is somewhere such an example. And after a while, after a year or so, he realised he might need many more months or years to study reality to disentangle this question. And after 10, 20 or 30 years he realised that this might take many centuries until people know whether this hypothesis of his, that the world might be consistent, is falsified or not. And as I already told you, in 1927, physicists decided the answer is no. There is an end to consistency in physics. The Cartesian hypothesis that the world might be consistent had gone. At least this is still the opinion of the majority of people in physics. And if you believe in science being important, this is quite a cutting event – cutting type event in history – that science abandoned the very idea which stood at its beginnings.





WHY IS IT SO IMPORTANT TO STICK TO THIS IDEA OF CONSISTENCY?

The interface – I mean – you realise: Descartes had been a dreamer. In the dream he had found something that was worrying to him – so if you wish – he started out without any preassumptions. He started out from his experience, and he wanted to come to grips with this experience. As you sometimes do when you are very young, when you are a child, or sometimes when you grow older, eventually you find that most of the things that people think are very important, are not that important, because they are overwriting questions like this one. And the real question that Descartes found himself confronted with, was that he had been captured by a power, that was not under his own control, during that night. And he wondered whether this fact, that dream and reality were almost indistinguishable to him, was not something really very important to face. And what he saw is, that all he has to cling to is the substance of a dream, of subjective experience, of consciousness. But consciousness is not a main subject of physics, usually, of daily type science and business. So he was very much alone. Almost no one else in European history has looked at consciousness before him. The very notion of consciousness is alien to western thinking. In Buddhism or in Japan people always when they come back from work in the evening, they shed their European clothes, they take on their kimono, and they realise now again, that there is nothing but consciousness and the daily work is much less important than being aware of this reality which is only consciousness.

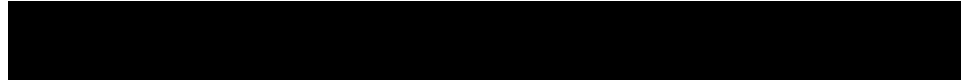
But in Descartes' case: you know the phrase *cogito ergo sum* that he coined. *Cogito* means: I am thinking therefore I am, but *cogito* is not just thinking – it is having consciousness. *Cognitive* science comes from this word, so cognition is the real substance. And cognition, if you wish, is an interface.

We are living in the interface of consciousness. But consciousness is more than an interface. It's all we have. There is no other reality than consciousness. We cannot escape from consciousness. Some people would say, if you are dead you escape from consciousness, but that's of course not true. Because to realise that you are dead, you would have to be conscious. The prison of consciousness is so tight, that even death is no escape, offers no escape. And it is a situation of very great cruelty. And the cruelty of existence was faced by young René Descartes during that night, and he came up with this interface idea.

First we started talking a little bit about what interface is, then we started talking about consciousness – now I try to come back. Consciousness was the whole. We have nothing but consciousness. But then we try to make sense of this prison of consciousness, the prison of young Calderon. Of Calderon's young king. The son of the king.

The idea of the prison is the most important _____

_____ *changing tape* _____



The world of reality might have these steel fibres woven into it, which make the world as calculable as it is in a computer or on the Internet. This steel fibre idea he used, he needed this idea.

AND YOU MIGHT SAY: WHY?

WHY DID HE CLING TO CAUSALITY?

WHY DID HE WANT THIS RELATION OF CONSISTENCY?

WHY DID HE CLAIM THAT THE WORLD IS CONSISTENT?

WHY DID HE FOUND SCIENCE BY HAVING THIS IDEA?

BECAUSE: _____

We come back here to this prison, to this sadism type question: if the world is consistent, why did he want the world to be consistent? Not just not to be found out with his hallucinations, but for another reason: we just saw that the world is nothing but a dream. It's just psychic substance. But on the other hand, if within this big colourful reality, the numbers that this fibre system of relations, he called it analytical geometry.

BECAUSE IF THE WORLD IS CONSISTENT, AND I AM THE ONE WHO IS DREAMING THIS WORLD AS WE SAW, THEN I CAN USE THE RELATIONS THAT I FIND, AND ON THE BASIS OF THESE RELATIONS CAN BUILD A MODEL OF THE WORLD, I CAN UNDERSTAND THE WORLD. THE WORLD BECOMES A MACHINE. AND THIS MACHINE THEORY OF DESCARTES ENABLED HIM TO LOOK AT THE WORLD AS A MACHINE, TO LOOK AT OTHER PEOPLE AS MACHINES. EVERYTHING IN THE WORLD WOULD BECOME A MACHINE. EVEN THOUGH ITS SUBSTANCE IS NOTHING BUT DREAM SUBSTANCE, IT'S CONSCIOUSNESS, COLOURS, EVERYTHING, EMOTIONS. _____

He found a way to apply mathematics to these relations, to the shadows that go through the dream with all its other features. If these shadows are consistent as he hoped they would be in the morning when his fellow officers came in, then he could rely on the relations of the world. And if there were no inconsistencies, he would know he wouldn't be in danger.

This idea of consistency gave him an infinite power. Because if the world is consistent, and I am the one who is dreaming this world as we saw, then I can use the relations that I find, and on the basis of these relations can build a model of the world, I can understand the world. The world becomes a machine. And this machine theory of Descartes enabled him to look at the world as a machine, to look at other people as machines. Everything in the world would become

a machine. Even though its substance is nothing but dream substance, it's consciousness, colours, everything, emotions. But as far as the relations that is shadowy part of the world which is least conspicuous and the most lowly element of it, according to the old Greeks, they called it the Hades. The Hades was the only thing that was serving after this, according to their mythology. But everything, their relations were the same, the shadows were the same. But it was no use to live in this underworld, in the Hades, because even the king of the Hades would rather be the lowliest peasant on the earth, the slave who was been driven by the slave owner to pull the earth open, like someone, like an animal.

I don't know the English word for – the plough – yes the plough that you are pulling... So he rather wanted to be a slave on earth, than the king of the underworld, because the relations are worth nothing. It's just shadows. But then exactly on these shadows Descartes concentrated. He saw that these relations are the key. Why? Because if the world is consistent relationally, then it's a machine world and then the other human beings that you meet during daily life also are nothing but machines. Then you could in principle build a computer, build an artificial human being, artificial persons. Or at any rate, even if the computer had not been invented yet, where you could build a lower-level universe to which you are the boss in the same sense as he felt there was a boss above him. Even before that, with respect to the other people in your world – to you – you can claim that they are machines. You are outside them in the same way as the vertical exteriority, that imposed the dream of consciousness on you, is outside to you. So this is again a sadistic situation. _____

THERE WAS A PUPIL OF DESCARTES A HUNDRED YEARS LATER, CALLED THE MARQUIS DE SADE WHO TOOK THIS ELEMENT OUT OF CARTESIANISM, AND WROTE VERY CRUEL BOOKS – I DIDN'T READ THEM – BUT A FRIEND OF MINE DID AND TOLD ME THE GIST: AND SO ONE OF THE SENTENCES IS THAT THIS YOUNG LADY: HE TELLS HER THAT IT'S HER OWN BUSINESS, IF SHE LOVES HIM. IT HAS NOTHING TO DO WITH HIM. IT'S NONE OF HIS BUSINESS TO BE LOVED BY HER. IT'S JUST HER OWN PLEASURE. AND THIS CRUELTY, IT WAS MADE POSSIBLE BY DESCARTES' THINKING. IF HE IS THE ONLY SENSING SOUL AND EVERYBODY ELSE IS NOTHING BUT CLAY IN HIS HANDS. SO IT'S A SLAVERY TYPE SITUATION. SO THE SAME SLAVERY TYPE SITUATION THAT HE FELT HIMSELF TO BE IN, SUDDENLY HE IS ABLE TO GIVE TO THE NEXT LEVEL (SO TO SPEAK) SUDDENLY THE OTHERS BECOME SLAVES IN HIS OWN – THEY ARE DEPENDENT ON HIS FAIRNESS OR NOT – AND HE CAN MISTREAT THEM AS MACHINES OR HE CAN TREAT THEM AS MACHINES WITHOUT MISTREATING THEM. LIKE A SAMURAI WHO HAD HIS PEASANTS, WHO DEPENDED ON HIS VOICE. AND A SAMURAI COULD KILL HIS PEASANTS. I THINK IT HAS NEVER HAPPENED, LIKE A ZEN MASTER WHO ALSO CAN KILL HIS PUPILS, BUT IT NEVER HAPPENED. BUT THIS EXTERIORITY THAT THERE IS AN INFINITE DISTANCE SUDDENLY THAT WAS CREATED BY DESCARTES' IDEA OF THE WORLD BEING A MACHINE. AND WE ALL LIVE IN THIS STRANGE VIEW, THAT THE WORLD OF SCIENCE, THE WORLD AS A MACHINE MIGHT BE A CONSISTENT MACHINE. _____

So you might say: oh we are lucky that quantum mechanics allowed us to escape from this machine-type thinking picture of the world. But then, that would be a great pity, because this realisation of Descartes, that the others are machines maybe as long as consistency is not falsified, is just a hypothesis, gives him an infinite power over the others. It's just the same situation of slavery that he had found himself in, that he suddenly realises the others are relative to him.

So science is (this strange modern Cartesian science) – is the strange idea, that the individual is infinitely important, because in his consciousness all the others are just figments that can be treated well or not because he is outside. So it's an infinite power of horizontal exteriority that Descartes discovered compared to the vertical exteriority which he was not able to accept. So it's the idea of fairness, that he discovered; the idea, that if you are infinitely powerful you can be fair or not fair. And if you are fair, if you don't misuse the infinite power that you have by being outside the others who depend on you, then suddenly you are even. Because then this dream-giving instance, that it is riding on your back, would be put to shame if you do not misuse the infinite power of exteriority of modern rationalism. And so this modern rationalism, modern science, this whole thing is an interface theory. But this modern rationalism enabled Descartes to humanise the world and it would be a great pity if it couldn't be reconstructed.

I just might end or finish this with just a few sentences on applications. This interface theory that I proposed to you, is called endophysics. You are a lone monad or nomad which is almost the same thing in the world. But if you take it seriously, Descartes claimed, that his science would eventually allow you to become immortal. It would be even much more powerful than science has ever been up till now. Then there was this crisis in physics where suddenly quantum mechanics showed that there was a limit to this rationalism. But if you believe in Cartesianism, if you believe that the world is rational, then you find a way out again and you find an explanation, why these interface phenomena in quantum mechanics happen exactly the way they do. There is an outside view which allows you to understand why you cannot explain the click in the geiger counter. Why this is suddenly something metaphysical which broke into physics. And this is this theory of endophysics where you explain quantum phenomena as something to be expected if you are a part of the world. This would take me too long to explain in detail. But maybe this new way of doing science as endophysics allows you to do it, leads to new predictions, that give you a new handle on the world. Peter Weibel and I called this world change technology. Technology which does not change something within the world as all technologies have done so far, but which changes the whole world. Because you are starting to manipulate the very interface which contains the whole world. If it is true, that the world is an interface reality. If it is true, that rationalism can be regained by taking into account the fact that you are with your own body part of the world and then only the difference between you and the rest of the world is accessible to you. Then part of the world would become infected by the fact that you are an element of the world. And if you really faced this strange situation, you are in in the world, you could start to manipulate this interface. And so even this... as Descartes claimed would eventually be overcome by this type of thinking.

I am sure I have not been able to completely get through what I wanted to say, but maybe you got a little bit of the idea. Thank you very much for allowing me to talk so long.

■ Question: _____

When you were talking about externality, the vertical and also the horizontal, I was thinking about the vertical in terms of this whole slavery thing and prison: this all sounds terrible – maybe it's kind of related to religion and things like that – but if it was coming from behind or below, then maybe it would be a whole different set of feelings.

I was also then thinking about why don't we just forget about the three dimensions altogether? It just seems a little glitch in the whole system.

■ Answer: _____

You brought up this very important question of religion, of whether this whole thing is not a way of rejuvenating fundamentalism. Maybe. If you wish, this is philosophy, I mean Descartes is a philosopher, usually it is misunderstood maybe. This is this old shamanistic type of it. It's the whole: art and science together are elements of shamanism. A shaman is someone who is not working for his living but he is paid, given a living by those who are working. And he is paying back by making ceremonies, by producing pieces of art, by judging others, by becoming a judge and by doing science, by working miracles, by being a medical doctor. And shamanism comes out of this fraction of society who doesn't work but tries to be valuable nonetheless. And religion is usually – this what I talked about is usually understood as religion. Misunderstood. But religion itself is an element of this type of thinking. But it's very strange that someone like Descartes could bridge these two. He came from the school of Loyola – in Spain originally – he went to the school led by Jesuit priests (La Flèche) and I was told that Loyola had invented the technique of what he called exercises. Exercises are really experiments, but experiments with your own existence. He became a monk, he gave away all his money and then he wanted to go to Palestine for religious reasons. He made a bet. He went to a captain on a ship, which was going out to Palestine and told the captain he should take him along.

And the captain of course said: what are you paying me?

And Loyola said: you see I am a monk, I am begging, I cannot give you any money. So why should I take you along?

Loyola said: because then you will arrive.

And he went to three captains of ships and the third captain took him with him, and you can ask three times which ship of the three arrived in Palestine.

So this was the kind of thinking that Descartes was brought up in, making a bet with heaven.

That is a religious type of thinking. But I think Descartes managed to go back to the older level of shamanism where religion and science are still one. I think he is more modern than that.

But thank you very much for this question.

■ Question: _____

(I wanted to ask a question. I think it wasn't really clear.)

You were speaking of the horrors of the modern world. But then also it is common kind of knowledge that it is Descartes who actually brought to life what is known as the modern world and western civilisation and is kind of responsible for the state of the world we are at now.

So I was wondering how is it that you say that it's a pity we are leaving now behind the rationalism and the humanism, because they are also the sources of what we have now. How can this save or help if it was the reason in the first place?

■ Answer: _____

Wonderful. Yes. Descartes. He is responsible for the whole mess. And why should we return to his old recipes?

I don't think he is responsible for the whole mess. This rationalism enabled of course colonialism – if you wish – and the bomb eventually. So the youth – young people – do hate science I am afraid, because of the bomb. Very slowly it's sinking in. If Raissa Gorbatschowa hadn't saved the world from communism – the wife of Gorbachev – then we would still have this danger of nuclear war – extinguishing man kind, human kind – and this could be the direct consequence of Cartesian rationalism, and maybe Raissa Gorbatschowa realised – she overcame this danger – but I have a very high concern for her, because of what she did. But we need someone like her again today, who would find a way to realise Lampsacus[■] on the Internet – I mean this hometown of humankind on the Internet – where every person on the planet has the right to live and has a voice and has an address, an identity and gets all the informational needs answered free of charge. Which would be easy to do with modern technology. And all the people in Europe who have nothing to do because there is not enough work, we are told, they could work in Lampsacus, they could work providing the necessary information, that everybody could learn everything he would need for his own survival and could learn anything to become teachers of the world. That would be the role of dying old Europe, to give a gift to humanity, the gift would just cost ten billion dollars, that's the cost of Lampsacus, and you only need one billion per year, and it would give a lot of working places on the planet where people could work for others. And this would be the real modern Cartesianism.

It's very easy if you realise how important you are. What infinite power you have. Then you can do something. and this is really Descartes' idea. And the machine idea – the rationality idea – was only to make sure, that one is really that important. Because not enough Cartesianism has been picked by the world so far, I think. That would be my answer.

Thank you very much.

■ For further details of Lampsacus please refer to:
http://www.wissensnavigator.com/download/encouraging_lampsacus.pdf and:
<http://opencongress.omweb.org/modules/wakka/rossler>

