THE SCARISTS

Contemplations about a society beyond democracy

Appendix

The Mathematical Chip.

Reflections about the use of mathematical ideas in our human society.

Joost van Steenis

downwithelite@gmail.com
http://members.chello.nl/jsteenis

Beta-version

THE SCARISTS is a political discussion between two persons who live in the future. They are not satisfied with society nor with the Western society from the twentieth century. They look for new action methods to give people more influence on their life. The past society showed signs of stagnation and petrifaction though it seemed that governments acted reasonable and thoughtfully. Widespread misery proved however that leaders were not solving any problems. The leading elite only tried to improve its own position and blocked all further development of humanity.
The discussion concentrates on the possibility to get another kind of society in which people can influence their life by using their unique and special characteristics. Humans distinguish themselves from all other living beings by their intellectual capacities, their creativity and their individuality.

A better society can be reached!

Contents

1. THE SCARIST

John Linegar was nervous and asked the most obvious question.

"What is a scarist?"

Hakima looked thoughtfully at her younger companion, moved about on her chair and smoothed her short black hair with her hand.

"A scarist supports masspeople who want to have more power in order to be better armed against the power of the elite."

"What are masspeople?"

"We classify humanity in two categories, elitepeople and masspeople. Elitepeople have power, money and the possibility to give these privileges to their offspring. Masspeople have to live by the rules made by the elite. It is a very rough classification but it contains a lot of truth. The origin of Scarism lies in the far past, more than a century ago. With the coming of the computer ordinary human beings got more and more entangled in modern technology and above all in the rising amount of information. We live already a long time in the Information Age but it is still difficult to penetrate in databanks. The available information is so overwhelming that only a few people can find the proverbial needle in the haystack. But some of this information is used by the elite to dominate the life of masspeople to force them to act in a way they will never do of their free will.

“At the end of the twentieth century leaders recognised the importance of information about the private life of individuals. The data were stored in huge databanks. Nobody knew what was collected and nobody could even know if the stored information was correct. Only hackers who whirled free and unhampered through the streams of information penetrated sometimes into these bastions of secrecy. These cyber junks surfed the Internet and navigated through the databanks. They played with the computer technology and developed into guides for the dangerous sea of digital ones and zeros. They were the predecessors of the scarists who still roam about in the cyber world.

“A scarist knows how he …….. I always use he when I talk about scarists. That is a left over from the time when women had even less to say than in the present era. A scarist can look into computer systems and databanks and tell you where information can be found and how it can be used. We also give indications and even instructions which a client can transform in practical deeds. I am a reference book, a source of information, a thinking and talking manual about how someone can come closer to his goal. But the inquiring person can only accomplish something when he is active. Scarism holds the view that humans are creative, autonomous and independent and therefore can influence the course of events. Each human being possesses enough power to change to a great extent her of his life."

Hakima fell silent and shifted her position. She was always nervous with a new client. When one of the hinges of her chair gave a dismal sound she laughed silently about the sudden idea that she was more a thinker than a doer. At home one of her chairs squeaked also and she should have oiled the hinge a long-time ago but she could not bring herself to look for some oil. She preferred to tell somebody else where to find the oil and how to stop the squeaking.

"The word scarist came into being in the twentieth century. north-west Europe, at that time already one of the richest parts of the world, was a democracy. In theory this should promote the active participation of people in politics but inequality continued to exist. …….. You have to get accustomed to the fact that I sometimes jump from one subject to another and that I make connections between subjects which doesn't seem to be related but I always see connections. I think it is foolish to say that in our democracy everyone has some influence because a small privileged group earns much more than the vast majority that obviously does not have the power to distribute the means of existence in a more impartial way. Scarism came also into being because people discovered they were powerless in regard to people in high positions. All criticism was swept aside with the knockdown argument that democracy was the best and only way to regulate society. We scarists don't agree. There are better ways.

"In the Information Age human life became even more controlled by rules and laws. Many centuries ago religious leaders talked about predestination, the present planners have a comparable idea. They find that life should be regulated and that it isn't important if this order is brought about by a God that is omnipresent or by a computer that can always intrude in the life of masspeople. In both cases leaders suppress the creative possibilities of humans because man is put in a mental straitjacket. But man will free himself when the situation becomes still more unsatisfactory. Some individuals try to escape from this uncomfortable situation. Your initiative to contact me is an example of such an individual activity.

"People mostly followed the rules that were made by other people but nearly everyone sometimes rebelled by trying to get more influence on a creative way to avoid being fully subdued by the omnipotence of the state machine. The complexity of society, the growing power of the state, the unclear way in which decisions are taken and the lack of effective action methods made it difficult to rebel. Besides nearly nobody had the time, the knowledge and the possibility to study the vast array of subjects - economy, mathematics, sociology, politics and so on – which were needed to act in the right way. So the need arose for independent experts who could support the wish of small people to achieve more freedom and happiness by diminishing the power of the planners."

John raised his hands to stop the stream of words but Hakima continued without noticing Johns gesture.

"The word scarist is made from the words science and art so the whole scientific community is symbolical united in Scarism. When you want to penetrate in the heart of a society you need an all-round background of the exact as well as the non-exact science. That Scarism isn't only a scientific activity is expressed in the old slogan that Scarism scares the sitting power.

“Scarists know many things about many subjects but they aren’t specialists. They know where and how you can increase your knowledge. But a scarist isn’t a Rambo or a Batman, isn’t the ultimate saviour in distress of the pathetic and powerless little man. We prefer to be called intellectuals, people with a vast but superficial knowledge who can talk with everyone about everything. We use this knowledge to analyse the personal situation of a client in order to give a sound advice. We aren’t philosophers who only study, contemplate and sometimes criticise the world. We suggest practical ideas that can be used by the client to change his world. Philosophy is a spiritual pursuit, Scarism gives rise to new and original human activities.

“To get a better grip on your personal circumstances you need power and thus more knowledge. I can give you new knowledge and you have to act. In the beginning I tell you how to be active but later you know how to improve your situation. You become an autonomous individual who to a certain degree is independent in his thinking and acting. You become a man who knows that his life will not always be decided by people that belong to a limited and closed caste of leaders at the top of society. The world should not be divided in a small group of people at the top who have much influence and the vast masses that have nearly nothing to say. Only when the differences in power disappear a genuine human society will come into being, a society of autonomous and active people.

“A scarist is autonomous. He doesn’t accept orders and he doesn’t have the power to give orders. He doesn’t have a powerful network nor can he use subordinate and dependent helpers. He knows how he can help the powerless with his knowledge. He shows how you can take your life in your own hands. Planners mistrust us because they only allow action they can control. Activities of autonomous people aren’t appreciated. By breaking the monopoly of power masspeople become freer and more independent. The present distribution of power has always existed. We think humanity has developed so far that it can change this distribution in such a way that the massworld will merge with the eliteworld and that one new humane world arises where everyone has the same status."

John found it difficult to understand Hakima. When he had telephoned her he had hoped she could help him at once. He had asked a simple question and now he must listen to long tirades about society, about democracy about the past and so on. Hakima felt John’s unspoken thoughts and did not say anything anymore to give him the opportunity to recover. For a short spell nothing was said but then John felt the urge to break the silence.

"I am a bit confused. What do you mean by one world for everyone? Of course there are some people in space but most people live on our earth and that is the only world I know. What has this anyhow to do with my problems?"

Nearly every new client had such complaints. Scarists think you can only get positive results when you know the deeper causes of your troubles. So Hakima answered John in an experienced manner:

"Try to absorb what I tell you. Knowledge is the basis of human existence. Prehistoric humans distinguished themselves in this way from their animal ancestors. In order to

act in the right way you need knowledge. Knowledge can become power. It is very difficult to describe what power is but in a democratic society the people at the top possess most power. Scarism gives power to everyone. Nowadays lower placed people have too often a servile attitude because they are afraid to antagonise the powerful. They think they are dependent of them for the continuation of their existence. That idea is confirmed by many expressions (from the Dutch language) such as when you are born as a pence you will never become a shilling, when you are born as a dime you never become a quarter. Rubbish. Every pence can change into a shilling, every dime can even become a dollar when the discrepancies in power vanish. Then we get a society where people will follow orders because they are right and not because a powerful person has given the order. Our society is based on power and when you want to achieve something you also have to get power. But I don't want to talk too long. I will tell you only something more about the theory of the two worlds. Later I will touch your specific problems and the way how to solve them. And of course I will say something about computers and computer games."

"Computer games? Can human life be compared to a computer game? Do I have to hack computers to get information? I know something about computers but hacking is too difficult. I thought you would propose a different kind of activities."

"No, no, I don't mean that. I am only interested in the way the old adventure games were made. Gradually, in small steps, you have to solve small problems until suddenly somewhere a door opens towards a new room, a new dimension. Because humans make computer games you know there is a solution and you know you will find it when you use a logic method. But of course later games introduced chance, fuzzy logic and many more techniques. But because the makers are human, players have an advantage when they use their brains to understand how the maker must have constructed the game. Human society is not constructed and therefore more complicated. Our society was not made by a logic human being (or by a God) but grew because of the independent activities of many individuals. Because of your own activity you influence your situation and you create the possibility that your problems will be solved. But human society can't change fundamentally when only small steps are used. Sometimes big events occur that turn society upside down. You don't find this kind of events in computer games.

"More than a century ago after the Electronic Revolution at the beginning of the Information Age Scarism came into being. Technically society advanced but socially the development remained behind. Thousands of years ago China already possessed a leading class. The mandarins lived in a different world and weren't even allowed to do manual labour. They were engaged in intellectual work, science, arts, the governing of the country. The heavy burden of looking after their daily needs came on the shoulders of masspeople. They had to fill the stomachs of the mandarins with special and delicious food, to protect their bodies against harsh weather, to render their life agreeable inside as well as outside the walls of their delightful homes and to defend the class of mandarins against attacks of other people. Because of this rigid division of classes Chinese society stagnated and petrified. In the end it fell apart. China is only an example, everywhere the human world is divided in two parts that are far away from each other.

“Two worlds …….. the minority of privileged, rich and powerful people lives in the eliteworld. The planners and their family possess always more than the masses that live in the second world, the massworld. Some masspeople succeed to climb up to the eliteworld. The petrifaction at the top is slowed down by this continuous and highly needed supply of new blood. When these new people arrive at the top they will defend to the utmost the most important privilege of the top: the right to be better off than masspeople. The eliteworld doesn’t only decide about what happens in the economic field but also in the fields of science, arts or even human behaviour. But above all planners defend their own advantageous position. The two worlds are indeed apart. The elite is more individualistic, the masses act mostly as a group. The behaviour of fans of soccer clubs, often called hooligans, is typical for the massworld. Tiffosi (the Italian hooligans) act together. It is obvious why this name originated from the word typhus, the illness that in the past decimated the masses. Even in illness elite and mass differ. Stress occurs more often by masspeople who have less control over their lives than by elitepeople who are freer.

“The differences between elite and mass seem sometimes small but that is caused by the increased standard of living in our part of the world where masspeople are relatively well off. But with regard to the exercising of power nothing has changed. The elite still has many more possibilities to acquire what it wants and it has above all the possibility to transfer its wealth to its offspring. In the eliteworld lives another kind of people. Politicians, planners, higher civil servants, industrial bosses, directors of many institutes and institutions keep a big distance between themselves and the masses. They govern by paper measures. A massperson is a number in a file that is processed by a computer. But the biggest difference between mass and elite is the fact that the last always can get more money.

“Money and power are two sides of the same object. More power results in a higher salary and a higher salary results in more power. Nobody has ever advanced a solution for this dilemma. Democracy was a step forward in the organisation of our society but the differences between elite and mass didn’t disappear. In elections masses confirm the powerful position of the elite and they are forced to approve measures that in the first place benefit the top. Masses are allowed to vote and to ventilate their opinions but the elite decides if it will use these opinions. There are still wars, there is still hunger and many people still can’t afford to buy enough clothes, houses or education. For most masspeople the conditions for a decent life are still far away. Without a decent life masspeople won’t be able to reach a higher level of consciousness. Without a full stomach a human being can hardly use his brain.

“In the beginning of the twentieth century the philosopher **Thorstein Veblen** said that modern civilisation continued to be barbaric. The world seemed populated by predators who in the first place wanted to fill their own stomachs before they thought of problems of other living beings. That isn’t human. Masses are discontented but they don’t know what to do. Ever fewer people go to the ballot boxes but that doesn’t help because elections are only plays in a theatre. The roles are distributed among the elite and the number of spectators isn’t important. The many heavy state-endowed theatres of art aren’t dependent of the number of spectators. The theatre of elections also continues to exist.

“Scarism came into being because of the powerlessness of masspeople against the power of social structures. Scarism can give a solution for this problem when masses become active. The lack of power has to be terminated and the feeling that nothing helps has to disappear. Human creativity has to be exploited, the idea that it is possible to leave something to the next generation has to be re-established. In the richer parts of the world it seems that masspeople can get what they want but their life is empty. They lack any vision of a bright future and only strive for short-term benefits, they don’t know of greater goals, they have no hope nor ideas to live for. Elitepeople live in the past, the present AND the future. Masspeople miss what humans distinguish from animals, the possibility to dream about a future, the possibility to use that future in the present and the possibility to achieve this future."

Hakima shook her head and some shivers passed through her body as though she tried to free herself from these oppressing thoughts.

"Sorry, sometimes I let myself go and I tremble when I think of the possibility that humanity will die when hopes, dreams and future are passing away. Without a future human beings become pre-programmed robots without an own spirit. To stand powerless in front of that …….. not to know what you do …….. Tomorrow I will be here again to continue our talk. Same place, same time.”

Hakima stood up and was gone before John had the opportunity to say something.

2. ELITE AND MASS

John did not want to rise, he did not want to wash, he did not want to shave, he did not want to eat something. He was unhappy, he was alone with his problems. He fell again asleep and got a nightmare. He was in a disgusting room. He sat on a small stool. Behind a huge desk was an official sitting in a huge leather chair. His face was hidden behind big black spectacles but he could still see the cold and stern face emphasised by a mouth with thin white lips. On the desk was his file. Again and again he got the same answer.

"You agree with me that my living quarters are too small, but can you help me?" No.

"Is it possible to acquire a cheap house in which I can work better?" No.

"Can someone else help me?" No.

"Can I talk to your superior?" No.

"Can I look into my file?" No.

An unending series of No's on an unending series of questions. He could not break through the bureaucratic wall.

He tried to rise from his stool to have a look at his file but that was impossible. The dream seemed to have lasted for aeons but it had taken only a few seconds. He decided to stay awake because he feared that this kind of horror would return. Dreams were of course lies but in his sleep he did not want to be remembered that he was surrounded by brick walls.

He looked for his remote control and turned the TV on. He fell with his butt in the mud. The morning news praised the man who was responsible that the new metro in Amsterdam cost more than four times as much as was said in the past. Nothing was said about bribes, corruption and the outrageous high profits made by his intimate business connections. Such affairs were always covered up. At the same time a new prestigious object was proposed for which the initial costs were even higher than the cost of the metro. Proposing a new and even more dubious project covered up the lies and trickery connected with the first project. It was said that the masses could have some say in the planning but everyone knew that plans were never changed. The same people that had profited from the increased price of the old project were involved in the new project. There was some superficial critical comment but the abuses were excused and repeated. Rulers pretended to improve the living conditions on masspeople but these improvements concerned in the first place their own environment. Only when the dining table of the rich was filled to the edge some bread crumbs could fall to the ground and masspeople got some benefit but only as a side effect of the improvement of the living standard of the elite.

This kind of depressive ideas strengthened John’s disgruntled feelings. Nowhere he could get support for his problems. Not when he wanted a bigger house, nor when he tried to get into contact with people who could help him with his ideas about Creative Artificial Intelligence to explain the human way of thinking. Without much hope he turned on his electronic bulletin board. Nobody had left a message. John felt awful and lost.

"This shouldn’t be possible!!!"

His voice bawled through the chamber as John jumped from his bed. "When I stay in bed nothing will ever happen. Let I first make a file of the people I know, friends as well as vague acquaintances. Maybe someone can help me." He doubted if this action would have any result but first he washed and shaved. After having eaten some slices of bread he heated water for a cup of coffee. He poured water on the filter, walked to his desk and sat down. Now it had to happen. He was sick of being permanently hemmed in between bureaucratic walls.

He found some paper and a pencil but he was so used to work with the computer and it was so much easier to type than to write, he decided to record his thoughts on a chip and not on paper. He turned his computer on after disconnecting the apparatus from the central mother computer. That was not allowed but nobody had the right to know his private thoughts. It was improbable that a controller came around to ask why he had disconnected his computer because many people were doing the same. He hoped his program to disconnect his computer was so good that it could bypass the first superficial mechanical control by the mother computer. When this failed he always had some non-registered calculations to outwit human controllers. Most of the time it was easier to cheat humans than computers. Besides he was a known computer freak who was doing something in connection with Artificial Intelligence. He should have enough time to hide the chip when an investigation started. He sat down and typed:

Question 1: What do I want?
Question 2: What did I do until now?
Question 3: What else can I do?
Question 4: Which people do I know?
Question 5: Who can help me?

In a jiffy these questions appeared on his monitor. John looked at the words and sent the questions to the chip and then to the printer which printed the sentences in big black letters on a white piece of paper. He nailed the piece of paper to the wall. He felt already better. Of course nothing had happened and nowhere he could even see a gleam of a solution but anyhow he had done something. On top were the words What do I want. John murmured to himself: "That is easier written down than answered". He made some room between the first two questions.

Question 1: What do I want?
Answer A: A bigger house.
Secondary question A1: Why do I want a bigger house?
Answer A1: Because my house becomes too small for the archives I need to get the best result out of my work.

Secondary question A2: How much space will my archives require in the future?
Secondary question A3: In view of the answers on the questions A1 and A2, how big should my house be?
Secondary question A4: What else do I need for my work?
Secondary question A5: Is my work dependent of the available living space?
Question 2: What have I done until now?

More questions than answers. He could write an expert program that hooked in on previous questions and answers to formulate new questions. But it is better to formulate new questions without the help of a computer. When you think of a next question you regard the whole situation. Sometimes new questions will arise that are not logicly connected with the already existing questions and answers. Humans are more creative then computers, they sometimes think in a jumpy way. The computer is logic and cannot think in jumps. Expert programs are too static. Humans partly use other methods that are not connected with the idea that one and one make two. Not everything is discrete, (Boolean) logic or continuous. Maybe humans use Fuzzy Logic in their thinking. Even if an impossible answer comes forward in a seemingly logic sequence of answers humans continue to use their brains. A computer cannot contemplate about a seemingly idiot answer that one and one make three, It will reject it as impossible. It cannot think about the consequences of this seemingly wrong idea but humans can use seemingly wrong information to reach new concepts. Besides computers look at anything they can find in their memory. Humans forget things and therefore they can take new roads. They are not hindered by information that comes from the past. Instead of answering his own questions John again started to dream. Having dreams was something that fitted in his research into Creative Artificial Intelligence – CAI as he preferred to name it. He hastened to make a new category X of questions that didn't fit in the original series of questions:

Question X: Other questions.
Question X1: What is creativity.
Question X2: How do human beings think.

John looked at the list of questions and answers. With the help of function keys he recorded some catchwords: Question, Secondary Question, Answer, Secondary Answer, People to contact, Institutions to contact, Means to use, Plan of action. Yes, plan of action because only by acting you get results. Talking with and arguing against lower civil servants did not help much. Higher civil servants had possibly more adequate answers but it was nearly impossible to meet influential people. And when you met them they usually referred you to lower-placed civil servants and the whole procedure started anew. You are sent from pillar to post and than to a new pillar and a new post and another pillar and another post and ……..

"It looks as if higher-placed people regard ordinary citizens as inferior beings. That attitude can be compared with that of parents who regard their children more as non-living objects you can show off to other people than as living beings with an own will. Sacrosanct rules are made and citizens (or children) have to follow these rules. But people are autonomous beings. Their lack of knowledge is compensated by their creativity. They can only develop when they can freely use the experience and the knowledge of other people. Parents and higher-placed people often only use their knowledge and experience to maintain the existing situation. Possibly other people

could use this knowledge better but citizens nor children have the human right to know all what is important for them or what they find interesting. Parents and rulers decide where and when the lower-placed may become involved."

John daydreamed somewhat more about his irritations about people who curtailed him in his possibilities and who prevented him to develop further. Then he pulled himself together:

"Let's stop dreaming. So I can't solve any problem. I don't want to be buried under seemingly insoluble and always recurring problems. I don't want a hedonistic life in which the quest for pleasure is the first and foremost desire. Then life loses depth. I want to live a nice life in which pleasure arises from the fact that I do something, that I advance in some fields or at least that I think to advance. I find it nice to work on the idea of Creative Artificial Intelligence. Even though my investigations are the direct cause of my lack of living space. Ah, Germans have a better word for this: Lebensraum, which includes the practical living space as well as the figurative living space. But humans need problems because problems make life interesting."

John always talked aloud when he was alone. He started again to daydream about solving problems. Problem solving was not easy and it was fairly certain that during the solving of problems someone could be hurt. He made up his mind to prepare himself for a more violent situation. Something had to happen but it seemed you had to shock leaders in order to penetrate their minds or their bastions. By the way, that was a funny thought: you have to act shocking and unpleasant in order to arrive at a more pleasant situation, sometimes you have to go in the opposite direction when you want to advance in the right direction. During his contemplations about CAI John had understood that shocks were normal and necessary in human life. But problems must never dominate life in such a way he was forced to escape in daydreams, drugs or the vapours of alcohol. He knew many people who were trapped in such a false world. People should be active beings who to a great degree were capable to rule their own life.

"I must first solve the problem of a better house. I can't pay for it so a second problem is money. If I had more money I could buy a big house. So the most important problem isn't a bigger house but more money. Unbelievable, it should be human to possess those things that are necessary to live a decent life, such as enough food, a place to sleep and the possibility to make something of your life. Why am I hampered in my study of Creative Artificial Intelligence by a trivial problem as the search for a bigger house? I don't need much, a little bit more space, some better electronic machinery and access to all databanks. To search databanks for information isn't a sinecure. It is too expensive to hire experts so you have to become a specialist yourself. It limits the availability of information. Anyhow you must do most of the searching yourself. During a search new ideas will suddenly appear in your brain and sometimes you will encounter really new information.

Help is useful when you look for answers to narrowly defined questions as the question who is engaged in the development of CAI, what is achieved in this research, what do people like to achieve in the near future or which side-issues are involved in those studies. Therefore you need a lot of searching-time and so again a lot of money. I even don't have enough money to pay for the answers of a simple

question about who is active in the field of CAI. When I knew who I could make contact with some of these researchers to start a philosophical debate. Now it is nearly impossible because all research is compartmentalised and protected from intrusion by third persons. A century ago access to scientific internet sites was free but now only screened persons can get through. Internet doesn't give sufficient information. People like me who want to increase their knowledge without interference of public institutions are forced to stay alone. Individuals can exchange information but how can you find the right individual between all these superficial people?

Besides, how can you penetrate in databanks that aren't connected to the World Wide Web? It is very difficult to gain entrance to scientific webs and the military web is anyhow closed. So I arrive at another important problem, how can I get free access to all computer systems. But all these problems are subordinate to my biggest problem: What is intelligence en how can I continue my research into human as well as artificial intelligence. Above all I want an answer to my central question: What is creativity?"

3. CREATIVE ARTIFICIAL INTELLIGENCE

"This is the voicemail of the scarist Hakima. Please try again till you get me on the line. The first contact with a new client must not take place in a mechanical and impersonal way. Call me in the morning between nine and ten. Friends can leave a message, I do not answer messages from unknown people …….. piiiiiiiiiep."

John was surprised. No e-mail address, no asking for personal data. Just try again. Intriguing, especially from someone known to be an expert in computers and databanks. He gazed some time in front of him and thought about intelligence and creativity. Someday he had to formulate his problems in a more precise way, otherwise he continued to turn around in his own thoughts. He should like to meet someone with an open mind with whom he could discuss his ideas. Most people who were researching intelligence were tied up in existing paradigms. This surprised him because the current knowledge was not sufficient to explain intelligence. It seemed that most researchers preferred to work on subjects that were almost completely known, that were not controversial. Humans are social beings and by opposing the ideas of higher-placed people you risk becoming isolated. And though an active social life can also be depressing, a life in isolation is not ideal.
He remembered a conversation with his friend Peter who had mentioned the scarists. "They are also individuals", he had said. Peter had given him a telephone number. Why no e-mail address? Could it be possible that a scarist was the right person to discuss new and modern ideas concerning creativity and intelligence? Anyhow he made the call. Then he typed: Creative Artificial Intelligence.

"Shall I write a systematic essay or shall I put some loose thoughts on paper by jumping from one subject to the other? Ah, the last method is of course the best. Intelligence and thinking aren't continuous processes. The possibility to make jumps in our thinking is an important reason why humans are intelligent. Intelligence is the ability of the brain to cause ruptures, to be creative by deviating from the obvious, by refusing to extrapolate known lines into the future. You have to assume that anytime and anywhere something new and special can occur. People can add something new to a situation by using their intelligence. One of the starting points of my research is the analysis of my own brain. My first statement is that my own thoughts are intelligent.."

John tried to formulate these thoughts in a more understandable manner. Then he leaned back and obviously without thinking he stared in front of him. After some time he got some new ideas.

Does human thinking - conscious as well as unconscious - follow a logic road? A causal relation does not always connect ideas from the past and the future. The same information available to two different persons can result in two very different ideas. When you should know how a certain new idea arises from a certain amount of information it is still not possible to reconstruct the past out of the present and to construct the future out of the current knowledge. A computer is doing this but as long as the contrary is not proven I assume that processes in our brain are

fundamentally different from processes in a computer. Ideas don't arise in a mechanical or predictable way. Computers calculate all steps, in brains something different happens and an idea B does not follow in a reproducible way from a former idea A. For humans the future is vague. Sometimes a future can be realised and sometimes it remains an illusion. Humans can live with such vague processes. Chess moves are sometimes based on a vague idea of a possible checkmate. Because of this vague idea a new situation comes into being. Chess players sometimes have a plan but in the end this plan is not realised. But by pursuing the initial plan a new situation came into being that demanded another plan. And these plans are not directly related. Players who play without plans are often weaker than those who have a plan, even when that plan is sometimes very vague.

Neural computers are more like human brains but in our brain there are also non-electronic processes. Quantum computers use quantum particles that at the same time exist in two different phases. Therefore these particles contain more information than bits of ordinary computers, which only have the value one or zero. The present quantum computers can solve simple problems but this primitive stage was a century ago already reached and nothing more was ever achieved. Though scientists have studied the brain for more than a hundred years the brain is still too complex to understand. The slow chemical processes in the neuroglia are not better understood then the processes in the microtubules where quantum mechanics can play a role. The possibility that connections are being made with help of light rays, by photons, can also not be rejected. It is a known fact that the brain is more than a collection of neurons but scientists are still trying to copy the human brain by concentrating on neurons. We know that the biologic human hardware differs from the mechanical hardware of computers. So we can assume safely that the software used in a human brain is also different from the software used by mechanical computers.

Brains of different people are different. The neurones, axons, dendrites and all other small parts of the brain of two different people are never the same, even in identical twins. This could be the reason why someone is good in mathematics and someone else is good in languages. Computer bits, which some compare with human neurons, are all similar. You get only a different output when you use different software, especially when that software is based on Fuzzy Logic, which gives the possibility to use diffuse or vague programming. People do not only differ in their hardware but also in the software that can adapt itself to the special needs of a problem.

Computers can predict the future. But there are two flaws: its information is too limited and it is not sure the predicted future will indeed arrive. Every computer will deduct the same output from the same input. Different humans will never produce the same output even as their input is comparable. Humans are unique beings, computers are produced at an assembly-line. When you accept that humans also use fixed algorithms - even when you do not know which algorithms are involved - you re-introduce predestination. You revive the old religious belief that man proposes but that God disposes. That is not my point of view. I think I am an independent and original being. I cannot prove that but it arises from my positive and optimistic belief in the uniqueness of men. Nobody can prove the contrary so I do not understand why you should adhere to the negative outlook in which humans are ruled by a power they cannot influence. When life is predestined life is not interesting. Then humans

stop being independent beings. And who wants to be dependent, who wants to be a slave?

Computers divide problems into smaller parts, solve partial problems and then unite those partial solutions. This reductionist method demands a central command post necessary to unite a multitude of small partial solutions. But by making big things out of small parts you never can make jumps. Creativity and unpredictable new thoughts will not come forward and chaos will not develop. When you apply the reductionist method to the complicated brain you need homunculi, very small intelligent beings that co-ordinate the labour of many stupid digital beings that only can say yes or no. The neurons in the brain are much more complicated then a digital bit. Even when you forget that intelligent homunculi also need a brain and that the brain of the homunculi again needs much smaller homunculi, who again need a brain that needs even smaller homunculi and so on, there is no indication that our brain works in this way.

Human thinking is exceptional because it can combine a multitude of hardly related and even contradictory information. That is what we call intelligence. But nothing can be predicted because you cannot draw a straight line between two consecutive situations in a developing thought process. The unexpected, the impossibility to predict what will come and the existence of jumps in human ideas and activities are essential for creativity. Maybe humans can increase the chance that a jump will occur but they will never be able to predict the outcome of a jump. Research into Creative Artificial Intelligence may not be limited to the use of Boolean logic that is related to finite continuous processes. It has to rely on mathematical theories that have to do with fuzzy, with catastrophes, with chaos, with discontinuity and infinity.

After reading these sentences John wondered if other people could understand his tirades. It was not only necessary to reformulate what he had written but he should also have to explain how he had arrived at these thoughts. Still he saw some coherence in his ideas and he was reasonable satisfied. It was difficult to write in a simple way about complex issues. In the past he had often wrestled with the ideas of scientific writers. Suddenly he thought of **Wittgenstein**. Many of his friends were more than enthusiastic about this man. He started to type again and from one thought arose another, from the ideas of one philosopher of the past arose the name of another thinker. He decided to make these loose thoughts about humans out of the past the first chapter of a chip on which he recorded his ideas about Artificial Intelligence.

Ludwig Wittgenstein, **Werner Heisenberg**, **René Thom** and many others passed his brain. John stopped typing. Could these confused ideas open the road to something new? He hoped Hakima could understand his ideas. He had to make his notes more coherent. But is it better to contemplate about a coherent paper or about loose ideas which are only vaguely related? The last will appear more interrelated when someone does not look for logic connections but tries to jump from one idea to the next. The idea of jumps in the brain urged John to write something about expert systems of which was said that they could nearly solve all human problems.

Then John thought about the possibility to write something about the role of mathematics in creativity and about new developments in mathematics. The next day

he spent many hours behind the machine. Chaos, fuzzy logic, catastrophes and the importance of discontinuities passed his mind. After having saved these ideas on a chip he restored contact with the mother computer. More or less satisfied he looked for a beer and leaned back in his easy chair. He contemplated about the contents of the chip, the vague ideas about the working of the brain and the ideas about the use of mathematical theories outside the field of mathematics. He decided to give the chip the name Mathematical Chip. The name was pretentious but he pretended indeed something with his research into Creative Artificial Intelligence. He took some more beers, went to bed and set his alarm clock. He wanted to go up at nine because tomorrow was a beautiful day , he was going to meet the scarist.

4. INDIVIDUALISM AND CREATIVITY

John had called the scarist. A friendly voice told him she would like to meet him because she was anyhow idle. John was again surprised. Was helping someone only a nice way to pass the time? In former times rich ladies who did not need to work generously supported ill or destitute people. But there was a better reason. Because a client asked lots of time and energy a scarist had only one client. Besides, a scarist who had nothing to do when he was alone was a contradiction in itself. Many people were often bored and went to parties organised by others. Only a small percentage of the population organises something. You may wonder if humans are indeed autonomous people. It seems most people live in isolated and small groups in which the majority is non-active and only waiting to be offered some activity.

On the phone Hakima rattled away. Time and again the words majority and minority bubbled up. By the way what was exactly the meaning of the words ‘to be able to amuse yourself’? Why did planners organise festivities and meetings for masspeople? At least once a month people were practically forced to attend mass meetings. In newspapers these mostly boring meetings were applauded. Why did some planners attend these meetings? There had to be an idea behind all these activities that kept most masspeople happy, busy and quiet. Scarists were never involved in such mass happenings. They were individualists who did not need many other people to have a nice life.

John was a bit flabbergasted by the fast spoken and seemingly little coherent remarks that were fired at him. Anyhow he decided to make an appointment with this strange person. Later Hakima told him that this confused talk was one of the methods by which scarists started their contact with new clients. From the beginning clients had to get used to the fact that it was difficult to talk with scarists because you must always think about what was said. New clients had to learn that to understand Scarism in particular and life in general ideas you had to think in a jumpy and strange way. The schematic thinking children learned on school had to be broken. John was not disappointed after the first meeting.

Hakima was a woman of about fifty years old with a nice voice and ditto look. He looked already forward to the next meeting. He had given her a copy of the Mathematical Chip and she had promised to study the contents. She had complimented him because he did not have to learn the first scarist lesson. It was good to write down everything that bothered you so you could determine your position. It was not important if these thoughts were incoherent or fragmentary. It was the start of the solution of problems. Confusion, incoherence and jumps belonged to Scarism. In the second talk John made a remark about this way of thinking and after some time Hakima said:

"What you say about incoherence and human thinking in contradiction to the coherent thinking in connection with the official research in Artificial Intelligence somewhere rings a bell but I don’t know why. Let I tell you something about the

development of society in general and especially about the development of Scarism. After that it will be easier to understand the scarist way of thinking."

John interrupted Hakima: "I should like to ask you something different because you are a strange woman. Why should I trust you? Do you try to use me? How do you make a living? Are the planners using you to get more information about my ideas in order to encapsulate me? That happened before and I don't want to let that happen again."

Hakima laughed. This question came regularly forward because people who contacted scarists were often suspicious, many had had bad experiences with officials. But obviously he saw no way out. It was impossible to make clear she could be trusted. Only in the course of time a certain confidence could grow. Scarists some information about clients but have no intention to use that information. But words are difficult to control and for the time being he had to live with this distrust. Often someone walks on a road without knowing whereto the road is going. It is nonetheless human to meet unknown situations that have to be controlled. By acting you learn to be human, you develop yourself. But money governs the world and it is very normal to wonder how a scarist can make a living.

"You are right that money is a dirty word! Too often life is dominated by money. The rich have the money to buy the comfort and the power they want. They never have to think about money because they always have enough. Most humans are most of the time looking for sufficient money to stay alive though in our part of the world that pressure is temporarily reduced. You put money also at the top of your list of wishes. Who determines which person earns how much? I think everybody has to be active to make life worth living. But the quest for money may never dominate life. Humans differ from animals that are always busy to solve the problem how to get sufficient food. In our part of the world it is self-evident that food, housing, clothing and some other necessary items are assured. But we have to work hard and long for it and when you are too much occupied by earning money to meet the ends you can't take part in other activities.

"A scarist gets a minimum wage and some small benefits because he is a scarist. These benefits make life indeed more pleasant and carefree. We don't need stamps to send a letter but this favour had only in the past some value. Nowadays mail is electronic and stamps ceased to exist. We get some money for our archives. We don't have to pay for public transport and we can use the phone as much as we like. With our computers we can enter cyberspace and we can use the World Wide Web. And we have free access to all computer systems and databanks - at least as far as we know.

"Scarists don't have so many financial benefits they come even close to the wages that are earned in the world of the planners. To become a scarist is a vocation, just as in the past to become politician was a vocation, a way to create a better world. But at the end of the twentieth century professional organisers replaced idealistic politicians. High-educated people entered politics to earn money. To be a politician became a job as any other job. In the past political parties had different ideologic backgrounds but now they are interchangeable. Scarists don't want to be connected with that kind of politics.

“Scarists are responsible for their own deeds. We control ourselves. We are as independent as all humans should be because humans are the only living beings that can take autonomous decisions though they won’t always do that. It is now self-evident that humans are autonomous but for a long time the belief in an all-deciding God undermined that idea. When the belief in a God began to wane other ideas came forward which again underlined that humans were subordinated to something that was outside human control.

"One of these theories was socio-biology that arose in the last part of the twentieth century. This theory extrapolated the idea that life developed in an evolutionary process even though it was obvious that the Darwinist Theory of Evolution was unreliable and had only some value on a limited scale. Socio-biologists persisted in the idea that human behaviour was determined by the urge to reproduce. Maybe lower forms of life are regulated by such a mechanism but humans have outgrown this idea by developing an independent way of acting and thinking. Socio-biologists also rejected the idea that earthly life was primarily the result of sudden changes, of jumps in the development. They denied that because of jumps a complete new being had come into existence that qualitative as well as quantitative differed from life forms that existed before. Human life hasn’t much in common with less developed life forms. Humans are more than improved apes. Independent of the powers of Nature they can take decisions and above all they think about the future. Socio-biologists maintained that man and animal were comparable. Humans should be determined by the wish to pass their genes on to future generations. Homosexuality and altruism didn’t fit in this theory and were repudiated. And women were reduced to childbearing objects. A man had to be a macho who only had to comply with the all-dominating urge to produce as many children as possible.

"Though this archaic theory is officially abandoned it is deeply embedded in the brains of planners. Elitepeople pass indeed their money, power and positions on to their children. But the elite acts in a conscious manner while in socio-biology the passing on of genes is a Law of Nature. The elite uses the socio-biologic ideas to control masspeople. This theory is the background of the widely propagated idea that the family is the cornerstone of society. In the past this was propagated by religious orientated political parties but in the course of time it was generally accepted. Families with children are still financially favoured over single persons. You can find the socio-biologic ideas also in many laws and regulations regarding the ethical behaviour of masspeople, in the unacceptability of dissenting behaviour. Planners deny that different behaviour arises from different experiences, because people differ from each other. Planners also propagate that enough offspring must be produced because it is easy to discipline humans by laws and rules when they live in families. It is difficult to rule a mass of unique individuals.

"Man isn’t a herd-animal but an individual who has contacts with other individuals. Individuals have a certain power but groups (herds?) of people who make their individuality subordinate to the group have more power. By a network of contacts they can exert, maintain and increase their power. Scarists are individuals, they don’t belong to any herd. They can’t call on other scarists to support a common ideal, they never can order other scarists to take part in a struggle for a higher goal. Co-operation with other scarists is limited to finding hidden information for a client. A scarist is independent and has to act on his own. He looks for new ways where old

ways are insufficient. That is one of the prime characteristics of independent people who don't want to be tied up to other people and who don't want to join other people to get more power. The old slogan of trade unions that we have more power when we act in unison is wrong. We will only be really free when we act on our own and we lose our power when we delegate some of it to others. Actions that are organised and directed by a leading group restrict humans in their development. Masspeople will remain in the massworld when they continue to listen to people in the eliteworld who tell them what to do.

"Scarism accelerated at the beginning of the Information Age. At the end of the twentieth century alienation was growing. The idea of the free market forced everyone to look after his own business. The demand grew for independent and altruistic advisors that could replace market-directed advisors who only worked for money. Humans wanted help to find their way in the forest of legal and non-legal rules because they saw their power dwindle. At the same time the demand for a different kind of society came forward, for a society that wasn't dominated by democratic principles that obviously maintained big differences in power and wealth. It became self-evident that the flood of information protected in the first place people at the top. In the deep past nobility formed the top class, later we saw political, economic and financial elites – don't forget religious leaders – and now the planners have arrived. In the last ten centuries the balance of power didn't change. Masspeople got more earthly goods, the leading class grew in number and the access to the leading class became easier but the sharp differences between mass- and eliteworld remained. The worlds of the powerful and the powerless remained separated. Scarism can be the start of a transformation. And indeed sometimes people use Scarism in their struggle against planners and it is difficult for the planners to defend themselves against scarist actions. But though Scarism exists already for more than a century it is still in his infancy, it is still a phenomenon on the fringe of society. Scarism needs something new to become the world-wide movement that will replace democracy.

"More than three thousand year ago the Greek town-state of Athens introduced a kind of democracy. Literally it meant government of the people or by the people. In reality it was government over the people. That was evident in Athens because women, children, slaves and resident foreigners weren't allowed to participate though they made up ninety percent of the population. Only some men had some say. Today it isn't different, still less than ten percent of the people has any influence. Sometimes masspeople attacked the sitting power with mass demonstrations and mass uprisings but they were never allowed to govern. The masses never had any say.

"I often talk about the past but history can't prove anything and you even can wonder if people learn from past events. The Second World War took place in the middle of the twentieth century and was among other things caused by a racist nationalism. People who looked, acted or thought differently were reduced to second-rate citizens and many were killed. Man lost his individuality and became part of a family, a reincarnation of his ancestors or a part of a despicable group. In these ideas the Theory of Evolution played an important role. The German planners propagated the theory of Blut und Boden (Blood and Soil) which made the origin of a person the most important fact of his existence. This was in agreement with the elitist idea that the own group had to survive. Though many millions died in this racist and ethnic war

only a few years later the victors used the same theory to keep control over other masses. Many more people died in wars in which people who were groaning under the colonial rule fought for their freedom. Leaders often use racism and nationalism to set one part of the masses up against another part. It is the old policy of divide and rule. To get a better future we need to break with the past but democracy is opposed to such a jump. Still dramatic changes sometimes did occur and after such a break man could develop further because a new road to an unknown future was taken.

"I think history has to be thrown on the rubbish-heap because it doesn't help humanity to progress. History is always used to the benefit of the elite. Historians gave mostly a one-sided view of what happened. Facts were distorted and historians resembled novelists who wrote about awful events but who concluded their writings with a beautiful and happy end. An idyllic picture in nice surroundings was preferred over a realistic portrayal of the horrors of wars or the voracious tyranny of the leading class. Most historians belonged indeed to or were paid by the richest class. Therefore they turned the facts upside down and idealised the past to impede the development of new ideas. This was promoted by the idea that in the past all had been better and that we should return to the past and not advance towards a new but insecure future. Historians directed their attention mostly to the weal and woe of leading people. Leaders were presented as genial, powerful, strong, fair, broad-minded or generous even when they started wars in which many died, promoted religions which limited the freedom of people, amassed fortunes through corruption or caused famines that decimated the population. When sometimes a leader went too far and was removed by other leaders he was – with his millions – welcomed in other countries.

"The only things of the past that have some value are ideas of individuals who contemplated about the possibilities of another society. You have mentioned some of these thinkers on your Mathematical Chip. It is however a historical fact that the world has always been dominated by a small leading group. And religion played an important role in dominating masspeople. When the elite found it necessary it changed its belief. In the Middle Ages Protestantism drove out the centrally managed Catholicism that obstructed economic development. Society took the capitalist way in which small groups of more or less independent leaders could advance their own ideas. Individualism entered the world and a few centuries later development accelerated during the Industrial Revolution. The present democratic system says it favours the delegation of power to ordinary citizens but in reality it deceives the masses by drowning them in a thick and impervious porridge of words about equality. The real balance of power remains hidden behind the smokescreen of elections."

Hakima paused for a moment. When she wanted to talk further she saw that John looked kind of dull. "Sorry, this is for me a well-known field and I could proceed many hours. I think it is better to stop. Let's take another beer. Tell me something about your life. What did you do in the past?"

5. DEMOCRACY

The next day the weather was beautiful. Hakima and John went for a bicycle ride in the countryside. After some time Hakima resumed her talk about democracy. Though leaders still glorified democracy Hakima despised this system.

"As I told you yesterday democracy arose because of changing economic relations. The baron of **Montesquieu** who at the end of the eighteenth century associated his name with our form of democracy belonged to the elite. This Frenchman never thought about the consequences of democracy for the life of ordinary people. He peacefully wanted to solve conflicts within the top class. He was only interested in the upper layers of society. Philosophers often can't detach themselves from the social class to which they belong and they disregard consequences for third parties. **Karl Marx**, who lived nearly a century after **Montesquieu**, had the same disease. He wanted to transform the social system but neglected man as an autonomous individual. That was a serious deficiency and the Marxist doctrine gave indeed later rise to new groups of leaders who found in the Marxist theory the justification to make man even more dependent.

"So the democratic misery started with **Charles de Secondat, baron of Montesquieu**. The one-sided leadership of the past was replaced by the Trias Politica, three independent centres of power. The legislature made laws, the executive power acted with the help of these laws and the judiciary applied the laws. **Montesquieu** was inspired by the ideas of **René Descartes** who lived in the seventeenth century. Descartes advanced the idea that the only certainty is to doubt everything – cogito ergo sum, I think, therefore I am. On the other hand he explained Nature mechanistically. In his time all great scientists agreed with this view. **Galilee** alleged that the book of Nature was written in the language of mathematics, **Leibnitz** talked about a harmony determined by the wheels of a clock and **Newton** proved that earthly and heavenly objects moved because of fixed and predictable laws. Even in Christianity God created Nature in an orderly way. The idea that chaos and the unpredictability of humans could be more important than an ideal order was not yet born. **Montesquieu** didn't care for the baroque and unpredictable human but wanted to regulate human activities. He wanted an orderly society. Of course many laws existed in the past but **Montesquieu** really set the ball rolling. After World War Two in many countries planners came at the top that were influenced by the ideas of Karl **Marx**. They made many laws in an attempt to canalise all human behaviour.

"Scarists find this inhuman because it prevents that humans jump in their acting and thinking. I think you agree with this because I have read your explanation of the Theory of Catastrophes on the Mathematical Chip. Some factors, activated by humans, increase the possibility of a jump though you will never know how the situation will be after the jump. The curtailment of human thinking and acting by too many rules blocks the possibility to get another form of society. And still more laws are being made. When a problem is regulated by law exceptions lead to new regulations, to supplements, to supplements on supplements and so on until people lose their bearings because the forest of regulations becomes too dense. People get

entangled in all kinds of rules that sometimes are even conflicting. Why don't they make a more or less logic framework of regulations based on the basic rule that you aren't allowed to get personal benefits at the cost of other people. Then however planners will loose their grip on society.

"The rising number of laws had the consequence that more and more conflicts had too be solved by experts. The belief that lawyers and judges could settle all conflicts spread as an oil-stain. The idea that problems could be solved by an open discussion or by an open struggle was abandoned. This even happened despite the fact that judges mostly favoured those people that could afford the best lawyers. The existing social inequality was strengthened by the law system. It is quite logic that the first databanks concerned laws and lawsuits. The judgement of human activities became more determined by the judgement of judges who hardly came from the lower classes than by the special circumstances of the individual. It is strange that the belief that rules and laws can regulate human behaviour is still widely spread. The experience from a fairly closed part of society as sport proves that strict laws can't regulate human behaviour. Rules and laws are bypassed and offences are made because benefits are higher than possible punishments. Sport organisations are continuously forced to change their laws but still new conflicts come forward. The big society is more complicated than the sport society. There it is really impossible to make laws to regulate humans. Laws are eluded and evaded and with the help of specialized legal experts the higher strata of the population know how to benefit from the loopholes in the law. The mistake of **Wittgenstein** and all other philosophers who tried to explain the world by extrapolating events that occur in small, isolated and primitive parts is still repeated. The world can't be explained by adding up the value of small parts that can be understood fully, the world is more than the sum of the parts."

John interrupted Hakima. He was already accustomed to the fact that she talked till his head was spinning. He had to interrupt Hakima because the longer she talked the more she got stuck in details which concealed the big line of her arguments.

"That is indeed one of the reasons why I don't like the official research in Artificial Intelligence. They have analysed the brain of a sea-snail with the name Aplysia Californica, which possesses only twenty thousand nerve cells in stead of a hundred billion in mammals. It is relatively easy to determine some of the workings of this simple brain. You can learn something from such studies but by extrapolating these findings you cannot explain the working of the complex human brain! The nerve cells of another slug, the Lymnea stagnalis are so big that they can be connected with electronic chips to make a bio-electrical chip. Then you use living material but you still do not understand how the cell works. It is evident these researchers lack any notion of the consequences of the Theory of Catastrophes which says that jumps can occur. In a big system the number of possibilities explodes. The human brain is permanent learning from experiences, the brains of snails hardly have the ability to learn. Simple structures can give hints about the working of complex structures but you can use these hints only when you are permanently comparing the results on both levels of complexity. Even then extrapolation is extremely dangerous because there are many things on the complex level that can't be explained from the investigation on a lower level."

"Indeed, reductionism is wrong. **Gödel** and his incompleteness theorem tell us that the inconsistency of a system increases when the system becomes more complex. When I transfer this theorem to our society you could say that when society makes more laws to achieve more order ever more uncertainties arise which can cause a social explosion. **Karl Marx** pointed already to the fact that a growing quantity can sometimes cause a change in quality. Inconsistencies and revolutionary changes are needed to bring human society on a higher level. Change will occur when masspeople feel so confined that they will cause a social jump. But planners know of this danger and are still capable to keep control of the masses.

"Let's go back to the development of democracy. With the increasing number of laws and regulations many conflicts are decided in the court. Judges are more and more using computers to come to an ordeal and laws are explained mechanistically. But laws are never all embracing also because human lawmakers are biased in their thinking. From these incomplete laws computers sometimes draw inhuman conclusions. Why someone does something wrong is inferior to the question what someone has done. Only material facts can be found in the codes of law and judges don't include vague human behaviour especially when this is connected with the situation in a world far away from their own world. Laws aren't made to improve human life but to force humans to live according to rules. The individual is suppressed because humans have to become uniform. I praise human individuality because it prevents that humans will act and think in a uniform way.

"Uniformity. It is strange that in our part of the world where humans have enough money to be autonomous and creative, uniformity is more widespread than ever. The disease of uniformity has also spread to elitepersons. They seemed to escape uniformity because they have exclusive possibilities in the field of consumption of cars, houses, holidays, recreation or arts. They can buy all kinds of scarce goods to decorate their houses or their bodies. Original paintings, real antique, furs of rare animals, you can make a long list of goods which aren't really necessary but which are pursued by the elite. All these goods are expensive and will seldom be found in the houses of the masses. The elitist propaganda-machine maintains the fairy-tale that rare is synonymous with beautiful. But is leather of animals more beautiful than artificial leather? Are the paintings of Rembrandt or Van Gogh really so beautiful that millions of dollars are needed to possess them? Is it so delicious to bath in a bath with golden taps? Is an bottle of old wine more delicious than a young wine? And so on. But elitepersons also conform to the behaviour of the group. Creative ideas are scarce in the elite and uniformity is the rule. At the top of the world deviations are hardly accepted.

"All is determined by uniformity. It isn't allowed to say that you are against democracy, it isn't allowed to say that the Theory of Evolution is rubbish, it isn't allowed to propagate your dissenting ideas. You find uniformity in TV programs, in literature, in films, in political parties. I could fill a whole evening by summing up all places where uniformity is growing. As soon as people join a group it is expected they wear the same clothes as the rest. Male politicians always walk around in awful grey suits and women aren't better clothed. In their free time everyone wears what he likes but in their work they are obliged to bow to the prevailing standard. By thinking individualistically an individual undermines his credibility in his group. I think that someone who hides his personality behind the clothing of the group – and that can

be a politician but also someone who helps you in a shop – can't be trusted. But for most people the ordeal of an older man in a suit with vest and cuff links is of more value than the word of a younger person in a sloppy sweater.

"Not what is said is important but how it is said. Not the contents but the manners prevail. Just as the code of criminal procedure is more important than code of penal law. The appearance, the clothing, the imposed behaviour, it is a uniform by which the bearer says he hasn't an own voice but is speaking according the ideas of his group. What he is saying has been arranged elsewhere. People without any individuality are dangerous.

"Extreme nationalism and racism were some of the causes of the Second World War. New wars proved that nearly nobody had learned from this event of mass destruction. A lot of racism and nationalism is still around and 'the other' is still regarded with suspicion. Planners keep this tendency alive by putting people in niches. Words as foreigner, coloured, stranger, Chinese or Negro strengthen the aversion of anything that is slightly different. The 'own' group is the best and the rest is dubious. And nobody can choose his own niche, move to another niche, belong to more niches or to no niche at all. When people refuse to go to their designated niche they are forced to enter it. Planners use databanks to preserve this situation because information includes colour, background, past, family and many other data of all living beings.

"Uniformity was strengthened by the Inforevo. In the far past the world was so big that the same idea could spring up at different places. Novelties spread slowly over the world. Now each new finding is in a split moment everywhere. At the end of the twentieth century the Japanese tamagotchi, a virtual cuddle toy, became a rage in the whole world. It was indeed something new but imitations of this 'living egg' were hardly different from the original. One renovation is allowed but deviations aren't permitted. In the beginning of space travel Americans excelled on the electronic side while Russians could shoot very heavy objects in space. After the Soviet-Union disappeared only one method remained and space travel got choked up. The present space ships aren't much further advanced than those of a century ago. Indeed some people landed on Mars but because original ideas were suppressed the research of space outside our solar system didn't advance. In the media world petrifaction is also widespread. Computer programs with fixed schemes write soaps and human originality is excluded. The democratic idea of the power of the majority has lead to petrifaction**.** Dissenting behaviour and ideas are taboo and something new may only come forward when it is in a gradual and evolutionary manner connected to old ideas.

"Chinese and Dutch people are shopping in the same shops with the same products, which are classified in the same way. Differences are gone, standardisation is rife. Everybody has to belong to the grey masses and nobody may deviate from the general trend that identical media propagate as the ideal way of living. Small deviations and changes are sometimes allowed but big jumps are prohibited. Evolution is the rule and don't even try to think about revolution. By emphasizing small differences between groups the masses stay divided. People are only appreciated when they belong to a group. Uniformity rules inside the group. It isn't allowed to behave different, to think different, to distinguish yourself. Dissenters are

suspect and have to be eliminated. In the past political parties had different ideologic bases - in favour of the workers, in favour of the leading class, in favour of a certain religion. In the last century scores of representatives of political parties changed sides because differences disappeared and political parties became interchangeable.

"The leading class wants to maintain the situation which resembles the corporate society of the losing leaders of the Second World War. The group is all-important, the individual is nothing. The members are subordinate to the interest of the whole group. Humanity didn't draw any lessons from this war. Very soon after that war the Netherlands introduced the so-called poldermodel. This predecessor of the present corporate society promoted the consensus that was used to freeze the existing agreeable position of the elite. Inequality was kept alive. The incomes of the top were free and rising while the incomes of low-paid people were subordinate to the interest of the state. When the economy was going down, the costs were paid by the weaker part of the population, when things turned better the first benefits went to people who were already better off. Only when they had got their piece of bread some crumbs were left to people who lived near the edge of society. Differences remained and masspeople remained vulnerable. When they were sacked they came close to the border of their existence, when an eliteperson was sacked he was recompensed by a golden handshake.

"Scarism does not need a democracy. Scarists don't belong to a group but are a collection of individuals who appreciate people because of what they are, of what they do and of what they think and not of how they look like. Despite the tendency to make everything uniform sometimes something did change especially when the elite lost her grip on the situation because they were fighting other elites. About fifteen years after World War Two music got new impulses with the coming of the rock and roll with legendary names as **Elvis Presley**, the Beatles and the Rolling Stones. War is a social shock, a kind of revolution, which disturbs the power structure. Then there is room for new ideas. Twenty years later rock and roll revived but probably only because the youth from the first period had reached higher places in society and could sell their own past to the young ones. But they also blocked any renovation because novelties endangered their position. And what is true in the world of music is true of the rest of the arts, of science, of politics and of course of the way society is organised."

I don't fully agree with your last statement, Hakima. Nobody in science is still using the works of **Pythagoras** or **Galilee**. Science advances and the ideas of old scientists are only used till they are proven to be wrong. The faulty geocentric theory was replaced by the better heliocentric theory. But in music the old classical **Mozart** still exists next to the more modern rock and roll. The emphasis on old music impedes the coming into being of new tendencies. Though in science new ideas aren't really being blocked I wonder why the development in science is so slow. Even when you can prove that a new idea is better than an old one it is rejected."

"Yes, John, in science you can prove something and still renovation is taboo, in arts it is nearly impossible to prove something. There is still some renovation because of technical improvements. Not all changes in arts are the result of jumps in the brain of an artist. But new ideas don't replace the old art. You see a comparable development

in politics when people revert to already outlived ideas. Society spins around in a spiral and the heart of the old society is the same as the nucleus of the new society. Ideas that support the existence of an elite are already very old. You describe such a thing in self-reproducing fractals. A fractal can proceed endlessly, in human society the spiral will in the end extinguish because of petrifaction. This process can take centuries but in the past the Chinese, the Arabic and the Indian world went down. The most important reason is the fact that the powerful, the people who live in the eliteworld, need uniformity to hold on to their power. They want to stop jumps and only permit small unimportant changes. Then stagnation comes around. You have to promote complexity, you call it chaos**,** which according to scarists is the basis of life. I want to go back to laws and regulations that rule the present society.

"The people on the juridical side of society, such as judges, prosecutors, lawyers and judicial civil servants increased their influence. They penetrated everywhere. Juridical people look after the preservation of society. They earn huge salaries despite the fact they contribute hardly anything to the production of goods. These defenders of the existing order are parasites. Politicians of the past were to a certain height concerned about the needs of the People. Juridical educated people that replaced them look only at the law and never wonder about the needs of the masses. It is evident that in this manner society will petrify because the old foundation is never renovated.

“An unexpected consequence of the growing importance of the juridical side is the permanent shortage of scientists and technicians though they are necessary in an increasingly complex society. Ever fewer physicists, mathematicians and computer engineers leave school. Of course the elite recognizes that such an education is needed but their own offspring studies economics, law or management to earn more. At the end of the twentieth century the majority of the workers in Silicon Valley in the United States, the birthplace of the Inforevo, was born in countries as India, China or Russia. The masses followed this tendency and the prestige of science went down. In this way the elite promotes stagnation because renovation in society is in the first place dependent on progress in scientific and technical fields and not on progress in those fields which only preserve and refine the current order.

"In Islamic countries, where the Koran was treated as a Constitution, the tendency to regulate everything with laws advanced slower. Because that old book was incomplete in regard to modern developments there remained some freedom for human activities though women, half of the population, were exempt from roles in society. But in the end lawmaking also penetrated in these countries. As a consequence of the legal pressure, which was seen as unjust, many people dodged laws. Even in our times passive resistance sometimes culminates in angry mass eruptions. In other fields the negative consequences also accumulated. Society hardened and the suppressed individuality caused a rising number of scrimmages, robberies and other violent actions. This compensated somewhat the ban on human creativity and the general sense of impotence. In these activities masspeople clashed only with each other and never attacked the privileged class that tied the knots. **Montesquieu** never imagined that his idea of democracy should lead to this kind of situations. His system was made to solve conflicts inside the leading classes. Masspeople didn’t exist for him. For the elite his system has been successful because very few planners died during wars or by other violent deeds."

6. Elections

"After the Industrial Revolution of the eighteenth century society became more complex. More people were needed because of new technical inventions. The old leading class recognized that the knowledge of well educated masspeople was needed to keep society running. Some of these people were accepted in the top. At the same time the system of elections introduced a new instrument for the preservation of the domination of the masses. At the beginning only men that paid taxes were allowed to vote but in the first part of the twentieth century general elections were introduced. Elections were first only held in Western countries but after World War Two most countries joined the West. They rightly saw that masspeople only got virtual power. In reality the leading class let themselves be elected to the higher positions. Democracy wasn't anymore the idea of government by the people, not even the government by elected members of the leading class as was the idea of **Montesquieu**. All countries that held elections, even when these elections were controlled by the sitting powers, were called democratic.

"Real power remained outside Parliament. Some elected masspeople were included in the leading class and continued to be there when they lost their parliamentary seat. Leaders suppressed all mass resistance by using the argument that in a democracy masspeople could only get influence by voting. That the distribution of wealth didn't really change and that masses couldn't really decide remained out of consideration. In the course of the twenty-first century it appeared that masspeople couldn't be deceived for ever and participation in elections went down to less then 30%. It became more and more clear - though nobody knew what to do against the domination of the planners - that through elections masspeople never could exert any influence on social developments."

"I never voted and I hardly know the names of Members of Parliament or the representatives in the municipal council. I don't know anyone in town district-councils that has the pretension to bring politics closer to the citizen. These councils have no real power and they limit themselves to talking about a new cycle-track or about the possibility to get some personal benefits. It is for many would-be politicians a jumping-board to better-paid jobs in higher organs. It doesn't interest me what all these people do because I have no influence on their decisions. And the press is kneeling before these politicians who know how they can use the media for their own benefit."

"Scarists are against elections. We even think that democracy is an obstacle for the further development of humanity. It is foolish to found a social system on decisions taken by a majority. Is the majority always right? When the majority is Catholic or Muslim, when the majority doesn't want coloured people to live in their district, when the majority demands that women have to stay at home to look after husband and children …….. is it right when such ideas are imposed on everyone? Why the emphasis on the right of a majority? We propagate the right of the individual or the minority to do what he or she wants to do. This right is only limited by the consequences for third persons."

"I never thought that in a democracy everything turns around majorities. But has the majority always a well-founded opinion? In chess everyone will laugh at the idea that the majority should decide what the best move is. Nice, deviating or doubtful moves will always be rejected."

"The dictatorship of the majority should be enough reason to reject democracy but it is worse. Elections are only playthings to keep the masses quiet. Only sometimes planners take the opinion of the majority into account. They take their own decisions even when the majority doesn't support them. This is especially the case when the measures favour the own elitist minority. It is a fairy tale that you could use a referendum to force planners to do what the majority wants. At the end of the twentieth century over ninety percent of the population voted against the administrative partition of the town of Rotterdam. The partition was anyhow pushed through.

"I don't want to talk about politicians who lie and cheat to get more votes. That is inherent to the behaviour of the elite. Everywhere in society you find this dishonesty, for example in the advertising world. In a democracy forms are more important than contents. When an advertisement looks good the product is sold better. I shall never understand why more cars are sold when the only information in an advertisement is the picture of a beautiful woman. Because people at the top are not to be trusted, the rest of society is slowly going down. By imitating the elite the masses also try to get more benefit on a less honest manner. But the big scoundrels, elitepeople who elude taxes, who pollute the waters, who award themselves with too high incomes and so forth are not bothered by laws. The official reason is the fact that it is too difficult to prove harmful behaviour. A more banal reason is the fact that the culprits are part of the elite and that they have the money to hire expensive lawyers. Small fry is met by a tit-for-tat-policy with punishments that are in no way proportional to the damage they have caused.

"That only people are elected who have bowed to the will of the party elite is a more fundamental argument against elections. Most people realise this and only a few people are member of a political party. Ever fewer people are involved in the general policy or in individual decisions. At the end of the twentieth century it became difficult to find candidates for seats in district councils. Besides a lot of money is needed to become elected and new or deviating currents will never get enough votes to get some influence. The president of the United States always comes from rich families or is a figurehead of rich groups.

"The political elite decides who may take part in the democratic process. Opponents of the existing system shall never be included in this elite and can never get a seat in elected organs. In the beginning of the twentieth century **Roberto Michels** advanced his iron Law of Oligarchy: Big democratic organisations will inevitably change in organisations in which only a few people have power. Trade unions are good examples, workers have hardly any influence on what leaders do. In his time his prediction was sensational, in our time we know better: Despite beautiful words about democracy only a small minority of leaders decides. And the members of that minority are in nearly every aspect better off than the electorate. It is silly to translate democracy as the government of, by or in favour of the people. Sometimes masspeople may vote and may help to decide who will represent. The non-elected

leaders get elsewhere a well-paid job about which voters have nothing to say. Most influential positions are outside the realm of elections. The right to rule is reserved for leading groups of the big politic parties. Some leaders are known but behind the screen many important persons are never elected."

"I despise the word system because it is fixed and standardised. Indeed people sometimes may vote. When they have voted they must be silent for the next four years. So leaders aren't too often disturbed by the people's voice. An established order can't change through elections. I don't like order, I want chaos and unpredictability. The economy in our part of the world is better because we live under the reign of the chaotic weather. In the beginning of the twentieth century Henri **Poincaré** advanced the Chaos Theory but failed to interest mathematicians. When **Edward Lorenz** introduced fifty years later again chaos it remained quiet because **Lorenz** publicized his findings in a meteorologic magazine and mathematicians don't read such magazines. It is an example of the one-sidedness of scientists. To achieve a real break-through you need to connect various scientific disciplines. The Chaos Theory became later widely known because of the calculating power of the computer. The magnificent images of **Benoit Mandelbrot** popularised the theory but even he was hindered by the fact that he was more connected with economics and biology than with mathematics."

"Indeed I have read that the weather is a great example of chaos, it shows that a small change in one place can cause a big change elsewhere. The clapping of the wings of a butterfly over Brazil can cause a tempest over Norway. It isn't possible to predict the weather because total information of the existing situation is impossible. The elite wants to get an orderly society even when they know that we live in a chaotic world. The economy is a chaotic system and the ups and downs prove that the elite isn't capable to regulate economy. But they care for it that some rules do never change for example the rule that the elite has more right on earthly goods than the People. They cannot bring welfare to all people. The body is another example of chaos. Genes regulate many things in the body but only to a certain height. When we change something in the DNA to eradicate an illness, other illnesses come forward. We never can get an ideal body, we never can predict how the life of a baby will develop. We don't know enough and we will never know enough. That is chaos.

"But even when all starting-positions are exactly known chaos can occur in a sufficiently complex system. Politicians don't understand that a complex society never can be completely regulated. They are in vain trying to avoid chaos by making rules. People sometimes act incomprehensible for example when tens of thousands amass against political decisions, when they reject in a referendum elitist political ideas or when hooligans disturb sporting festivities. In this manner they challenge the faith in the possibility to determine all what happens in society. More chaos in politics, laws and regulations will benefit humanity. A second consequence of the Theory of Chaos is the fact that something can change when masspeople become active even when this activity is small. Small changes can have big effects.

"The voice of the masses is weak in times of elections but not heard at all by important decisions. Masspeople have nothing to say in questions of war, peace or the outcome of battles. Neither is there any influence on the ups and downs in the economy or the buying and selling of professional sportsmen. Masspeople are only

humble spectators. Planners take all decisions. They play games in their own world. Sometimes they lose a game but that loss is restricted because they always keep their privileged positions. The heaviest losses are suffered in the massworld. In the course of time nothing has changed. Many centuries ago besieged knights were treated chivalrous and in the meantime foot soldiers were slaughtered. Masses were forced to participate in wars against so-called evil leaders. But when many masspeople had died, the greater part of these despised hostile leaders were admitted in the circle of the victorious leaders. The nationalistic, communist or religious wars of the last centuries affirm this assumption. Nearly all fatalities fell in the mass world. The eliteworld stayed out of range and masspeople never tried to invade the eliteworld to avoid that ever again a new privileged world should come into being. Sometimes it seemed that another wind was blowing but terrorist attacks against leaders were nearly always organised by other leaders. Mass terrorism was a rare phenomenon and when it happened planners collaborated with hostile leaders to combat independent terrorists. That is democracy, conflicts between the elite- and the massworld are settled in a violent way, conflicts inside the eliteworld are solved peacefully.

"During elections the power of the masses is transferred to elected representatives. Their positions aren't dependent of the masses. Sometimes leaders are challenged by spontaneous mass outbursts but in daily life there isn't any mass influence. The masses are powerless and don't know how to get power. I still don't understand why people don't learn from past examples. By sometimes violent demonstrations, petitions, referenda, meetings where masspeople can speak with leaders and many other forms of activities masspeople still try to attract attention for their problems. But it is only asking for attention. Planners concede something when it suits them but they stick to their point when their own interest is endangered.

"The history of Ireland is an example that points to a more successful action method. In the eighteenth century Ireland was an English colony and the Irish population began a violent freedom fight. After many years this resulted in the independence of the southern part of the island. The English government continued to support the privileged Protestants in Northern Ireland and did nothing to alleviate the plight of the Catholic Irish. So these Northern Catholics restarted the violent struggle. After many violent years England withdrew from this colony. I don't fully agree with the goal of this struggle and neither with the used means but it proves that the elite only listens to the masses when their wishes are brought forward by a power that is independent of the elite.

"To minimize the danger of independent actions the elite promotes populist leaders who say they defend the interests of the masses. Sometimes they are leftists, sometimes rightist. The last category emphasizes the conservation of old values and the struggle against small criminal acts, the first category emphasizes the improvement of work and living conditions of masspeople. In reality they look after the increase of their own power. At the end of the twentieth century the boundaries between left and right vanished. The political propaganda of political parties was reduced to the appearance and the behaviour of the highest political leader. How a political message was brought forward became more important than the contents of that message. Some populist leaders even propagated to oust the old leading clique.

But when they rose to power it became evident that the new leaders replaced only some old leaders. The elite- and massworld world remained far apart.

"Populist leaders never told masspeople how they could get rid of all leaders, all actions continued to be controlled. Spontaneous mass actions and mass terrorism were harshly suppressed. Even in the case of a cruel dictator old leaders opposed any method by which bad leaders could be removed by physical violence. Because when the masses should know how they could remove unwanted leaders by physical means they could use this method later against elitepeople. Temporarily ousted leaders lived safely in other countries. The leaders called on the masses to stage demonstrations though in this kind of actions only masspeople were killed, maimed and imprisoned when these demonstrations were crushed by the armed forces. Sometimes they proposed a boycott of a dictatorial country. But these boycotts were always limited to products the masses needed. The greatest victims of such actions were the already oppressed masses. When contact with so-called evil leaders was important for the elite, for example in the field of science or culture or because luxury goods or weapons could be sold to the evil elite, nothing was boycotted.

"I could endlessly continue about the insanity of the democratic system, about the lies of planners who propagate that democracy is the most ideal system ever and about the fact that many masspeople still trust elections. The slogan Liberté, Égalité et Fraternité (Freedom, Equality and Brotherhood) is an empty word for the elite. **George Orwell** wrote the parody Animal Farm in which leaders in this animal world claimed to live in a democracy. He described democracy in one simple sentence: “All animals were equal but pigs were more equal than other animals”. That is the crux of elitist democracy. Only pigs have the right to live in the eliteworld. Other animals may be elected in leading positions and receive the right to enter this world but only pigs are born in this world. Planners in industry, high civil servants but also planners in the medical sector, educational sector or sport organisations have nothing to do with elections. Most leaders aren’t elected! And elected leaders are dependent of those powerful planners who see to it that they are again elected. Politicians are neither independent nor powerful. It is unproductive to put pressure on these stooges. They are the arms of the octopus that governs the political game. When you cut off one of the arms an octopus a new arm replaces the old one. The heart of the octopus is somewhere deep inside the body and planners who live there are not bothered by elections. These planners arrived at these safe positions because of their knowledge, the powerful machine that advanced them or the place where they were born. They have the task to take care that the eliteworld will maintain its privileged position. Mass actions will become more effective when pressure is exercised on these meritocrats then when they are directed against politicians who have hardly any say in the real state of affairs in a country.

WE SCARISTS AREN'T DEMOCRATS, WE ARE INDEPENDENT PEOPLE!"

7. NEW THOUGHTS ABOUT THE INFORMATION AGE

Hakima concluded her argumentation about democracy and elections with some strong words. She leaned back and looked at her companion. In the Western world it was a sacrilege to oppose democracy and she wondered what John was going to say. But he was so overwhelmed by her long tirade he remained silent. He did not know much about politics and Hakima's arguments appeared to be logic and true. But why did democracy continue to exist? Could it be possible that such a bad system could survive so long? He formulated a cautious question:

"Listen Hakima, You say you aren't a democrat and I can't object much to your argumentation but why does democracy still exist? Is it the only possible system? Don't explode with another sea of words, but let's cycle back so I can recover from your tirades and let us resume our talk in some café."

They cycled back to town and in a quiet café they took their first beer. Hakima did not at once resume their conversation. John's question was familiar but she also did not understand quite why democracy had such a huge following. Ages and ages the words of democratic leaders contradicted their deeds but the liars remained in power.

"It is indeed strange that hardly anybody thinks about another way to organise our society. Scarists pay little attention to this problem. We are opposed to democracy but we have only vague ideas about other possibilities. In the beginning of the twentieth century the future was still debated. **Edward Bellamy** wrote for example in "Looking backward 2000-1887" about a society without money in which - following the famous saying of **Karl Marx** - everybody produced what he could and received the money he needed. It was a fantastic fiction but **Bellamy** neglected to explain how this ideal future could be reached. The discussion about democracy mostly resembles a discussion between two farmers about which wheat has to be produced while the more profitable cultivation of sugar beets is disregarded just as people who are against democracy avoid thinking about a different organisation of our society. Democratic discussions turn around two problems: how can the leading group remain in power and which leading group is the best. In analogy to the writings of **Gaetano Mosca** who lived at the beginning of the twentieth century the discussion concentrated on how elites succeed each other.

"At the end of that century some people still thought about another society in which individuals could live without an elite that determined most of their life. They rejected democracy because it was obvious that the sovereignty of the individual remained an empty word. Scarism started from the idea that democracy was wrong and that democratic elites had to be deprived of their power. The action method gave some people the idea that they possessed some independent power because they had some success by direct attacking people who took decisions. But the group remained small also because it was not without risk to think about another social system."

Hakima took a deep breath, brought a smile to her face, drank some beer and repeated that she was no democrat. Then she resumed her argumentation.

"One of the causes of the coming into being of the scarist idea was the permanent and seemingly insoluble impotence of masspeople. Some ancient ideas were included in Scarism. In the nineteenth century **Karl Marx** once said that the liberation of the working class – his name for masspeople – could only be the work of people from that class. This idea was the basis of the people's democracy that arose in the Soviet-Union that very fast degenerated into a bad copy of our democracy, a government of an elite over the masses. The roots of the Soviet-elite lay in the small group that during the Russian Revolution assumed power by ousting the old tsarist elite. Small groups stand often at the basis of big changes. The development of the United States was for a great part the result of the efforts of the few people who were on the Mayflower that brought the first white colonists to the New World. They passed their willpower, their spirit of enterprise and their ideas on to their offspring who for a very long time remained very prominent in the American elite.

"The Marxists of the twentieth century didn't understand that masspeople must never rely on support of even a part of the elite in the struggle for their liberation. Power corrupts and as soon as the new elite feels power coursing through its veins, it will use this power to secure the position of all members of the new leading group. Nobody must be dependent on persons that only try to achieve a better position for themselves. In Marxism you find nothing about what masspeople have to do to avoid any future patronage by a new leading body. **Lenin**, the first leader of the Soviet-Union, even said that liberation only could be reached by the efforts of a vanguard, the Communist Party, that monopolized power on behalf of the masses. It is evident that that idea opened the way for the formation of a communist elite. Masses can only develop power by autonomous attacks on people at the top. But it is difficult to flatten a ball in one movement. It is easier to destroy a ball by making many small holes in the leather. So it is better to attack only some elitepeople than to clash with the whole elite. Alone or with some close friends a massperson can never attack the whole elite but he can get influence over a single eliteperson. The Marxist doctrine teaches the opposite, the whole elite has to come under pressure. In the scarist way any non-eliteperson can attack a single eliteperson that bothers him. In this activity he regains his autonomy and the contradictions between masspeople disappear because they are too busy with problems caused by the higher contradiction between elite and mass. Masspeople will perceive they get some independent power when they notice that attacked elitepeople react on their activities.

"Democracy rejects the idea that one individual may act against another individual. But what is rejected by democracy isn't necessarily incorrect. Majorities should determine what has to be done and when a majority decision is taken everybody has to accept the new rules. Individual actions don't fit in the system. But so are elitepeople shielded from mass attacks. It is evident that a majority will never dislike one eliteperson, especially when this eliteperson has a secluded position. Generals, presidents of industry, rich people, top-advisors or top civil servants aren't well-known. Their role in society remains hidden for most people and in their private life these people are nice and friendly. There they are never attacked and can afford to be gallant. But in their work they sometimes give orders that harm millions of people.

"An extreme example was **Adolf Eichmann** who during World War Two signed the orders by which millions of humans were gassed. In his private life he probably didn't hurt a fly. After the war he fled to a so-called democratic country that protected him.

But in the end he was illegally apprehended and executed. But people who pollute the environment, sell inferior goods, support racist regimes, evade taxes, leave big drug dealers undisturbed, use the police to crush demonstrations, invent or produce weapons by which many masspeople can be killed and look for more benefit for the own already privileged group can continue their harmful activities. These people, who mostly seem nice and friendly, are monsters. When their privileged position is attacked they know how to tackle the aggressors. In their private life! Then ethical objections against attacks on private persons are swept aside. Systematically they put personal pressure upon masspeople. Through actions against individual masspersons the elite hold the masses under its thumb. Ethical objections against the attack on individuals are only valid in the case of an attack on the elite. The first principle of the beautiful democratic system of **Montesquieu** is that different rules exist for the elite and for the masses."

Hakima started to get exited, so she drank the rest of her beer and clenched her fists to concentrate better. She ordered some new beers and thought she had strayed of the planned path by talking about attacks on individuals. She had only wanted to talk about the mistakes of democracy. Before you can take action you have to understand society. But it must not take too long. When you only talk nothing changes. Scarists aren't philosophers that only contemplate about the world, they are people who want to change the world.

"Majorities, minorities…….. let’s stop talking about planners who refuse to follow the wish of the majority by saying that their own idea is better for the country. It is not important. More important is the meaning of the word majority. Can you tell me which majority decides on foreign policy? Decisions of American planners are maybe in agreement with the wishes of the majority of the American people but what about people in the rest of the world? They have nothing to say about American decisions that also influence their life.

"Scarism wants to give influence to creative minorities. The silent majority shouldn’t have any influence because it lacks knowledge and it only votes out of tradition or out of a misdirected solidarity. It isn’t necessary that humans are interested in all what happens. With each item humanity is divided in an informed and active minority and the rest. Decisions shouldn’t be taken by an elitist minority but by an informed and involved mass minority. With each new problem a new minority will come forward. Decisions in a scarist society will be based on the benefit of the doubt. And people who take decisions don’t get any personal benefit. When a decision proves wrong action can be taken against those individuals who took wrong decisions. That can lead to a correction of the decisions but also to the removal of those planners who obviously are not capable to take the right decisions. In a scarist society masspeople can remove planners, in democracies planners are only removed by fellow-planners. These incapable planners then get somewhere else a high position and often take again decisions that are wrong for the masses and beneficiary for the elite.

"Minorities that are hurt by elitist measures must have a possibility to correct. Now a harmed minority can hardly convince the majority of her plight. Besides the fact that a minority lacks the financial means to reach the majority, in most cases majorities don’t take decisions. Mostly the majority is satisfied with the current situation because the special problems of a relatively small minority hardly touch them. Even when they

know that in future they will belong to another minority that is hurt by the elite. When they have problems they can't ask for help. What is the interest of motorists by low prices for public transport, of people with good houses by people who live in slums, of young and healthy people by high insurance-premiums, of men by problems of women, of whites the racist problems of blacks? But motorists can have bad houses, can be old, can be woman, can be coloured. Sometimes you belong to a majority, most of the time you belong to a minority. In a democracy a minority has to comply with many things. And the majority isn't independent, the planners keep then on a string.

"But what is a majority? Coloured people are a minority in the Netherlands. But in the whole world they belong to the coloured majority. When the majority of white people in the Netherlands decide that people who arrive from elsewhere have no right to enter this country, the majority of people who live elsewhere should have the same right to deny white Dutch people to enter their part of the world. Such reasoning seems demagogic but it is a fact that poor coloured people are refused admittance to the rich West while rich whites are allowed to enter any country. That is democracy. The elite determines which majority is important and gives most benefit to their own majority. In the democratic system planners manipulate the words minority and majority. It has nothing to do with the scarist idea of an active and informed minority.

"A massperson must always have the right to interfere when he is interested in a certain subject. When a planner oversteps his marks he may participate in any active minority. So a battle will arise between interested and involved mass minorities against elitist minorities. From this permanent struggle arises a new and better society based on equality and human activity. During this war between parts of the mass- and the eliteworld masspeople develop their autonomy and their individualism. In this struggle masspeople emancipate and a New Humane World comes into being, a world in which all people are important and have the same status.

"When I propagate Scarism it seems I favour small minorities who look for their own benefit. But the autonomous activities of mass minorities against elitist minorities open the possibility to a different future. The myth grows that masspeople can create something new when they become active. In the beginning of the twentieth century **Georges Sorel** introduced the myth as an inspiring force. He endorsed the use of violence in actions. He tried to break through the situation in which masses were not allowed to use violence. In a democracy only the elite has the right to use violence. According to **Sorel** mass violence will activate masspeople as well as elitepeople and bring both on a higher level. Now we can say that the absence of mass violence in the eliteworld is one of the most important causes of the petrifaction of the elite. **Sorel** anticipated this when he advanced violence as one of the means of action that can be used by masses. Violence mustn't be monopolized by the elite. Of course **Sorel** excluded senseless violence of for example soccer hooligans. That violence is mostly directed against fellow-masspeople. The violent activity of masspeople can force the elite to leave its ivory towers. Only then it will direct its attention to the problem of making a world that is good for all citizens. This is a myth because it isn't yet realised and because it looks it can't be achieved. By trying to realise a myth masspeople determine their own future and make the myth real. In this way they deepen the purpose of life because they are not anymore restricted to the present and are actively involved in the future."

"I know myths from Greek mythology but I never thought about the value of myths in the development of human ideas. But aren't you trying to outline a future? That seems a prophecy, a kind of religion. I don't like religions or even something what comes close to religious ideas."

"No, it has nothing to do with religion. But religious prophets knew how to use the myth of an eternal happiness in heaven after a wretched life on earth. Of course myths are sometimes irrational and incomprehensible. But a good myth has to give concrete results. A myth isn't a utopia, it isn't a dream of the future that never can be realised. It contains activating elements by which an individual gets confidence in his own possibilities. The religious myth fails because the situation on earth hardly changes. In the last century the influence of religion indeed diminished because people saw that their life didn't change through religion.

"The myth of the planners circles around the dominating word democracy. The power of this myth decreased because society is ruled by ever stricter rules and the future seems to be predestined. There seems to be no room left for autonomous activities because the elite takes all decisions. In the past when society was still moving people were sometimes influenced by the democratic myth. The resistance in World War Two was partly based on the myth that after the war everything should become better. After the war many people enthusiastically worked to rebuild the country. Later myths played an important role in the Squatters and the Provo Movement. But it were limited myths and when some limited goals were realised the Movements collapsed by lack of deeper goals.

"The scarist myth consists of a vague idea of a better future, of a society in which man takes his destiny in his own hands. The religious myth is stationary and an individual can't contribute much to the realisation of the end-goal. Such a myth is of little value. A human myth should be part of the human consciousness that is involved with future developments. But a myth will never be realised in his original form. During the struggle the scarist myth as well as masspeople change.

"John, I have to stop because I talk too much. Only a last remark. You can wonder about many details of our philosophical-practical ideas and we can endlessly discuss them. That is always done with philosophies but without any concrete result. Discussion is an excuse for the lack of practical activity. You must first become active, that is the beginning of the realisation of the possibility that masspeople can be involved in social developments on the time and the place they choose. The activity of masspeople stands central in Scarism, activity in which masspeople demand and enforce their right to have a say in decisions. Then we become independent and we can destroy the situation in which decisions about us are taken without us. The future will learn what happens when we become active but we the outcome will be unpredictable. The unexpected, the thinking of and the activity for a future separates man from animals which do not see any future.

"So I come to a last objection to democracy. The system limits life in such a manner that society gets stuck. Progress is blocked and the chance to fall deep is still present. It is too late to tackle this problem. The day after tomorrow I will talk about gradualism and pioneering jumps, about the elitist evolution and about the desirable human revolution. You need a sound background when you want to act on the basis

of the principles of Scarism. Then you will never be overwhelmed by sudden developments or be frightened because you don’t know how to proceed. Because otherwise you stop your activities and your development to full autonomy will be halted. See you the day after tomorrow, same place, same time."

Hakima disappeared before John could say anything. "OK, see you the day after tomorrow" he murmured and went to his bicycle. Cycling back home he thought about all the things Hakima had brought forward.

8. EVOLUTION AND REVOLUTION

Two days later Hakima and John met again. Hakima returned the Mathematical Chip. She had studied the contents and recorded the essential parts.

"I think I understand a little bit why Scarism doesn't have much success". Hakima said hesitating as if the words bubbled up from deep inside her. John thought about his Creative Artificial Intelligence and about the jumps necessary for intelligence. In humans jumps are abundant, in animals rare. He liked the scarist idea because it was analogous to his own way of thinking, he was on well-known grounds. He answered:

"People are afraid to jump because for ages they have been told that jumps are dangerous, that you have to be careful, that you have to move in a gradual way. Sometimes people prefer a slow death above the chance on a jump that will lead to a new life because jumps can also lead to a deeper abyss. In science most scientists prefer to vegetate in the accessible, known but hardly grassy meadows and reject the dangerous path towards other possible much richer but above all more interesting meadows."

"But John, we never found a solution for the question why masspersons hardly use the scarist method. I want go back to the evo-revo theory. How can individuals influence social development? Humans think and act often jumpy and because society consists of the interactions between humans, society shows a jumpy development. History gives ample evidence of this idea. It is said that only one murderous assault caused World War One and that a few decades later the obsession of one single individual caused World War Two. Of course the general situation was ripe for the outbreak of a war but personal deeds touched off a strange development with many jumps.

"A situation grows slowly - but many small shocks occur already - until the point is reached in which breaks are possible. We still talk about the French, the Russian and the American Revolution, the Industrial, the Computer and the Info Revolution and even the Fall of the Wall, the sudden change in which the wall vanished that divided Germany in two parts and that signified the end of the communist system in Eastern Europe. Everyone knows that these events were important steps in the progress of humanity. After each revolution the idea is suppressed that revolutions are necessary for future changes. The emphasis is put on evolution, on order, on continuity. Leaders know that some predecessors were swept away in revolutions. Therefore they prefer the slow, limited and peaceful evolution because they want to prevent that they will be ousted in the next violent revolution. Humanity can only reach new and unknown heights by a discontinuous development.

"Fundamental changes will never happen in an evolutionary way. What is up will stay above and what is down will never reach the top. In an evo-period the distance between objects can change but the sequence will remain the same. The physician

continues to earn more than the street sweeper, women remain inferior to men. Only a revolution can turn things upside down. After a revolution a certain ordering is needed to arrange things in such a way that new jumps become possible. The new ideas that came forward in the revo-time have to be worked out and humanity has to get accustomed to new elements of knowledge and new ways of thinking. After a fairly short time this process slows down and society enters a blind alley. Than you can start to think of a new jump even when not everybody has mastered the new ideas."

John interrupted Hakima. Jumps occur frequently in science and he wanted to illustrate that idea with examples from his own scientific experience.

"In science you have also evo-revo-processes. **Thomas Kuhn**, who documented revolutionary processes in science, used the word paradigm, a general accepted scientific truth. Sometimes a paradigm isn't sufficient and slowly discontent grows in academic circles. Suddenly an individual proposes a new paradigm that brings science on a higher plane. **Copernicus, Galilee** and **Einstein** are some of the great names that accelerated science by a revo-jump. Other scientists, which Kuhn called solvers of puzzles, order the chaos after such a revolution. They tackle only problems of which they are fairly sure a solution exists. During a revolution scientists see new and different things though they use the same instruments as before and though they look at the same places they looked before. But a scientist who in the past regarded an object from above now looks from a different angle at the inside of the same object. What were ducks in the scientists' world before the revolution are rabbits afterwards. Kuhn determined that 'normal' science often disregards fundamental novelties because they are contrary to its own goals. Novelties are also being suppressed outside science.

"In the last century the ducks in science came in power and scientists restricted themselves to the elaboration of already well-established ideas. **Pythagoras** rushed into the street when he found an important physical law. He didn't care that he was naked because the new law concerned the submerging of objects in liquids - his body in his bath. He screamed Eureka – I have found – but this crying out has become rare. Only gradual science remains though we have reached the outskirts of our knowledge. Without a revo-jump we can't advance anymore.

"Why has all change vanished? Kuhn described the structure of revolutions in science where results can be verified. He saw that there isn't a predictable process to determine jumps in the brains of a **Pythagoras**, a **Copernicus** or a **Mandelbrot**. Their ideas aren't the logic result of an evo-development in their branch of science. The special characteristics of these individual scientists came forward on the right time and the right place. They never worked consciously towards a jump. But in the past it was much easier to achieve a jump because science wasn't so far developed. Scientists had hardly contact with each other and weren't hindered by ideas of others. They had more freedom to take unknown courses.

"But it is strange. The theory of the Big Bang is still advocated though it is in origin a religious theory stating that a huge explosion created the universe. After this the cosmos developed in a gradual and evolutionary manner, everything seemed predictable. In the Big Bang the idea of revolution can still be seen but in the

expansion of the cosmos revolution is rejected. Around 1950 the astronomer **Fred Hoyle** coined the term Big Bang in a radio transmission to explain the immensity of the universe. Later he was disgusted by this superficial idea, which was mutilated and misused to confine scientific research. Hoyle saw the explosion as one of the possibilities of the coming into being of matter and as one of the starting points for further research but science couldn't yet know what exactly had happened. His open idea was converted into the certainty that the universe started with an explosion. In this way the belief in a God was for religious scientists not in contradiction with scientific facts. The discovery of galaxies, which were too far away and of quasars, which were too close, undermined these facts. The redshift, a kind of spatial effect of Doppler on which **Erwin Hubble** based his theory of the expanding universe, appeared dubious. Despite a multitude of scientific objections against the Big Bang, the seated scientific community blocked new ideas. That again is proof of the thesis that evo-thinking is very strong and that it has the power to protect wrong paradigms and obstruct new developments. The paradigm of the Big Bang changed in a dogma and how terrible dogmas are we know from the existence of dogmas in religions.

"The computer supports the Theory of Evolution that excludes jumps. New thoughts are snowed under by the many facts that come out of a computer. Computers can't make jumps. It is now nearly impossible to look into another direction because the computer supposedly proves that any new idea is impossible. But the computer can't judge things that aren't included in his memory. The computer can't change the existing knowledge, only humans can go outside the existing scientific framework and only humans can think of something totally new. This is in analogy with the thesis of **Gödel**. The computer can be seen as a closed mathematical system that never can determine all possibilities of a system. We need humans to go outside the system in order to influence the system he lives in."

"Evolutionary ideas are not only promoted by the omniscience of the computer", added Hakima. "In the scientific world scientific planners smother new ideas because otherwise they lose their comfortable chairs in the spacious chambers in the institutes. In the communist Soviet-Union of the twentieth century **Trophim Lysenko** propagated the idea that genetic transfer of characteristics wasn't needed for the development of living things. Genetics was declared illegal. Extrapolating on this faulty idea – we know now that human characteristics are partly determined by genetic factors – **Lysenko** advanced the theory that the environment determined change in plants. This resembles the revolting theory of **Jean-Baptiste Lamarck** who in the beginning of the nineteenth century claimed that newly acquired skills were hereditary. Sometimes the followers of **Darwin** reactivate this theory when they advance the idea that a small group of a certain species in a different living situation can give rise to the coming into being of new species.

"Because of the strict hierarchical system in the Soviet-Union, a caricature of our elitist society, his theory was everywhere applied. A different environment should change spring wheat in winter wheat. Despite the very low yield of spring wheat that was planted in the autumn, his ideas continued to be the basis of scientific education in the Soviet-Union. Even bad harvests couldn't stop the petrifaction caused by **Lysenko**. You can imagine that such a petrifaction will last much longer when the results of a certain theory are still reasonable and useful. Leaders have a special interest that a theory they support will never be rejected. That undermines their

position. Such rigid leaders were responsible for low yields because they supported wholeheartedly a wrong theory. Only after a social jump, in this case caused by the decease of **Joseph Stalin**, the highest planner in the Soviet-Union, change occurred. Petrifaction arises when a rigid organisation tries to stay in power."

9. EVOLUTION DOES NOT EXIST

"Ah, Hakima, there are many examples of petrifaction in science and of the rejection of deviating ideas. Religion inspired and supported this policy because revolutionary shocks were dangerous for the decrease of its influence. In the twentieth century the revolutionary ideas of **Immanuel Velikovsky** were rejected. He said that earthly life had developed because of revolutionary extraterrestrial shocks as rains of meteorites, the quality of the radiation of the sun and the passing by of a big celestial object which reversed the direction of the axis of the earth. **Velikovsky** published a lot of rubbish but many things were proven to be true. Anyway he was progressive because he emphasized jumps in the development of earthly life and because he combined information from different scientific disciplines.

"Evolution, the gradual development without shocks, is promoted to prevent people to look for new possibilities. Only when many individuals look for new ways new **Einsteins** will come forward or better said sleeping **Einsteins** will get the chance to advance their revo-novelties. I have always been wondering why scientists support evo-ideas because they know that in the past revolutionary jumps accelerated science. Many old ideas are however preserved. The ideas of **Einstein** are still hardly used and the old ideas of **Newton** suffice in the greater part of human life. But by walking with small steps over a passable and well-known road you can't go from **Newton** to **Einstein**. Though nobody denies that revo's helped to advance science, scientists continue to think mainly in a gradual and continuous way.

"Even **Fred Hoyle**, who was not afraid of revolutionary and strange ideas, opposed vehemently the unorthodox ideas of **Velikovsky**. On the other hand he didn't understand why nobody thought anymore about the essence of the Copernican Revolution that had demolished geocentricism. The earth was only a little dot at the edge of one of many galaxies. **Hoyle** found it unacceptable that the vast majority of scientists supported the idea that life originated on earth. His theory of Panspermia (http://panspermia.com) became only more accepted when space flights proved that living material was abundant in the universe and that organic molecules, viruses and bacteria descended continuously to the surface of the earth. Now it is beyond doubt proven that **Hoyle** was right and that life didn't originate on earth. But opposition against the idea that earth isn't the basis of human life hasn't withered away because people maintain their loyalty to the gradual Darwinist theory.

"On the isles of Galapagos **Darwin** researched some minor changes in finches, a kind of bird. The title of his book is "On the origins of species by means of natural selection" had as second title "The preservation of favoured races in the struggle for life". He inadmissible extrapolated his theory about change in some species to the change in classes, orders and even all life. The Darwinist extrapolation of the Theory of Evolution can be compared to what happened with the ideas of **Montesquieu** about democracy. He invented a new social system for a small part of society, the elite. Later politicians extrapolated his theory to the whole society. It is obvious that democracy is only of some value in limited parts of society. It fails when it is applied

on a big scale. It is never permitted to use reductionism by explaining macro-evolutionary events from what happens on the micro-evolutionary level.

"**Darwin** talked about the origin of species but in his book he hardly speaks about origins. A species is a group of animals that resemble each other and differ from other species on specific points. You can wonder how these specific points can change by using a gradual theory. Why are humans bipedal while their ancestors walked on four legs? Intermediate forms have never been found. In all experiments with plants or animals, from **Mendel**'s peas to the fruit flies of other evolutionists, the coming into existence of new species has never been observed. (Neo-)Darwinists can't explain the evolution of hair in mammals, feathers in birds, compound eyes, the poison apparatus of snakes, etc. Where do the new genes come from that are responsible for new characteristics? Where do the many human genes come from? Our early ancestors had less genes. Homeobox genes can explain some changes when genes are already present in the DNA but they can't make new genes.

"Because of the Darwinist Theory of Evolution many hundreds of thousands of geologists have in vain been looking for missing links in the development of primitive life to Homo Sapiens. Those missing links don't exist and all geologic effort was spoiled. Most major groups of organisms appear suddenly full-blown in the fossil record in contrary to Darwin's idea of development because of the gradual accumulation of countless infinitesimally minute variations. The fossil record is not an unbroken chain of transitional forms. Life developed in a saltationary way, in a leapfrog fashion.

"People don't like to admit their work has been futile and thus geologists and other Darwinists continue to adhere to an erroneous theory despite meagre results. The fear for change is another reason why erroneous theories continue to exist as is the contradiction between evo and revo. Darwin was a son of his time when he said that Nature couldn't make jumps, natura non facit saltum. This was in harmony with the ideas of **Descartes**, **Laplace**, **Newton** or **Leibniz** who explained the world in a mechanistic manner. Panspermia says that life originated in space and can account for jumps in the development of earthly life. But jumps undermine the Theory of Evolution, which fits like a glove in the purpose of the planners to maintain their power and their social order. Therefore ideas connected with jumps are still not allowed. The words 'natura non facit saltum' became a dogma. **Lysenko** hasn't been the only scientist who blocked further scientific developments.

"Theories connected with jumps never got much support. **Niles Eldridge** and **Stephan Gould** advanced the theory of punctuated equilibriums. They claimed that the fossil record proved that during long times prehistoric animals hardly showed any change. Then this period of stasis was suddenly broken. Many old species vanished and new species came into being. It is obvious that such periods of change are very interesting and ask for deeper research. But Gould and Eldridge didn't want to advance a new theory. They said that in tumultuous times small isolated groups of living beings changed very fast according the Darwinist mechanism of gradual change by the survival of the fittest. They disregarded the fact that this mechanism could only explain relatively small changes in the development of life forms. You start with one accidental mutation in one animal. Because sexual compatibility has to be maintained this change has to be small. Some time will pass before this change

spreads to all members of the isolated group. Only then a new change can occur and so forth. It is doubtful if enough time is available for this mechanism of change and it is doubtful if a group can remain isolated for such a long period. Though some change can indeed happen in this way, big changes, for example the change of sea-animals to land-animals, remain an unsolved riddle. **Gould** and **Eldridge** didn't dare to attack the established science. They stopped at the edge of a revolutionary development, the establishment of a new paradigm by which old facts could be considered in a new way.

"David Raup who wrote about the extinction of species didn't get much attention either. It is remarkable that only one out of every thousand living beings that existed in the past survives in the present. Though some species lived on for hundreds of millions of years a species survives on average only four million years. Some 245 million years ago at the end of the Palaeozoic trilobites vanished abruptly without leaving any offspring though these animals were living everywhere. Why did the dinosaurs suddenly die out at the end of the Cretaceous? Because other animals had better genes than dinosaurs and could adopt better to the changing circumstances as Darwinists say? According to **Raup** big climatic changes are often caused by unearthly events …….. and then he proceeds to enumerate the same causes **Velikovsky** brought forward. **Raup** even goes further when he says that these unearthly causes have a regular time pattern. He claims also that disasters and catastrophes are always the cause of the extinction of animals and that such changes are jumpy. But evolutionists cling to their theory and sometimes advance very bizarre theories to explain the extinction of animals. Neandertals for example should have vanished because Homo Sapiens annihilated them. That archaic humans could have changed into modern humans by means of a Panspermian mechanism is something that doesn't fit in the gradual theory and is thus rejected beforehand. There have been many extinctions but why should it not be possible that extinct species experienced a change in their genes so that they became a new kind of animals?

"**Darwin** played much longer havoc among scientists than **Lysenko**. Even now his theory is still giving credence despite the strange meanderings that are needed to keep the theory trustworthy. In the Eocene the prehistoric Eohippus was only thirty centimetres high and possessed four toes. The present horse has only one toe. Horses with three toes did also exist. Is this proof of a gradual evolution or is this proof of the existence of jumps? You have to wonder why fossils of horses with two toes or with three and a half toes were never found. And is a horse with one toe fitter than a horse with four toes as is demanded by the Darwinist theory? Has a horse with one toe more changes to get offspring than a horse with four toes? Is this the reason that horses with one toe are the only survivors? Not only toes give insurmountable problems, also the number of bones in the lateral toes didn't change by a structural reduction from three to two, one and then none. In species with lateral toes, each digit was made up of three bones. Modern horses have no lateral toes.

"**Hoyle**'s theory of Panspermia in which extraterrestrial viruses changed existing genes in such a way that other horses became possible is more probable. But by lack of scientists that look into the developments of prehistoric animals from the Panspermian point of view, there is still not much hard evidence. By Panspermian transformations many individuals of a species can suddenly change at the same

time. Special environmental circumstances could activate new genes so that horses with a different number of toes came into being. Most genes of living beings aren't active and don't seem to have any purpose. In humans only two percent of the genes have known functions. Maybe those genes are just waiting to be activated by some outside influence. Another possible solution of this problem are the homeobox genes which are also influenced by outside factors. Maybe in one of these theories lies the reason why in a special part of the world, in Africa probably, the brains of some apes suddenly became much bigger.

"Why did cockroaches not change in hundreds of millions of years? Are they immune against an invasion of viruses? The coelacanth, a deep-water fish, is another living fossil that hardly changed. The old Darwinian theory that the fins of the coelacanth changed in legs and that this fish was the first land-animal had to be abandoned when this prehistoric fish appeared to be alive in the deep ocean. But some animals indeed showed evolutionary changes so you can say that the Theory of Evolution has some value on a small scale. But it can't explain big changes in Nature, it can't explain why one species transformed into a different species. You can't imagine that gills, the complex breathing system of sea-animals disappeared because shallow parts of the sea fell dry. At the same time lungs came into being, an even more complex system to get oxygen into the blood of animals. In the development of the classes of bears or the classes of horses, we see that bears and horses suddenly came forward. The present descendants of these prehistoric animals are still bears or horses, are still the same species. An evolutionary development can sometimes be seen in small changes within species but for big changes jumps are needed. The solution of the development of life can never be found when you adhere to the idea of **Darwin** that Nature doesn't make jumps.

"Ilya Prigogine, in the twentieth century a winner of the Nobel Prize, also advocated a theory that all was determined beforehand. He gave his own twist at the theory. He said that because of chance evolution takes an unexpected new path. When this path is taken, determinism takes over till the next bifurcation point, the next revolutionary point. Most of the time development is predestined and the rest can't be influenced because that is caused by chance. The mathematician **René Thom**, the father of the Theory of Catastrophes, disputed the existence of chance. Changes are the chaotic result of events happening before the point of transition. **Thom** prefers a strong separation between science that advances new things and deterministic and technical applications that are made possible by science. I think humans are able to interfere in chaotic movements, to help chance and to determine the direction of the development of life. Human consciousness is disregarded by determinist scientists because they are afraid that their decent theories will be transformed into chaotic ones."

John, you are right. Many people are opposed to jumps in Nature because then jumps can also occur in human society. The neo-Darwinist theory, supported by people like **John Haldane**, **Ernst Mayr** or **Thedosius Dhobzhansky** propagates gradual development. The theory joins hands with the political idea that gradual changes are the best in society although they consolidate the existing wrong partition of wealth and power. The attacks on saltationist scientists who advance ideas about Panspermia (**Fred Hoyle**), the working of homeobox genes (**Jeffrey Schwartz**), hopeful monsters (**Richard Goldschmidt**), the gaps in the fossil record (**Otto**

Schindewolf) or the dubious methods of measurement of the age of fossils (**Richard Milton**) are hard and vicious. They often distort facts and use unjust arguments because the others have to be destroyed. They are treated in the same way as people who advance positive ideas about revolution.

"The theory of the survival of the fittest gives rise to the idea that one species is better than another species. The theory promotes the idea that a species will disappear because it is not fit enough. Though all humans belong to the same species Homo Sapiens, there are some small differences within the species. Genes are indeed only for 99.9 percent the same in all humans. Different humans are indeed different, but nobody has proved that some humans are fitter than other humans. But around 1900 **Ernst Haeckel** demonstrated the racist under-current of the Darwinist Theory of Evolution. Later this was repeated in the socio-biology of **Edward Wilson**. **Haeckels** pre-nazist theory said that the Theory of Evolution was an elitist theory in which the fittest individuals, those of Aryan descent, were at the top of society. They had the right to rule while the unfit, the Slaves, the Jews, the coloureds, the mental deficients and so on, must be prevented from breeding. Nobody learned anything from the Second World War because the Theory of Evolution continued to dominate. After that War the same racist idea caused that colonised people were seen as less fit and thus as inferior beings. It is striking that on this point ideas of left and right political currents in the West were very similar. But both are based on evolutionist ideas.

"Another implication of the Theory of Evolution is eugenics, the wish to accelerate evolution by making a 'better' human. **Francis Galton**, a cousin of **Darwinpromoted this idea** and one of **Darwin**'s sons became president of the British Eugenics Society. As the tree, so the fruit because in **Darwin**'s books include many racist ideas. Through genetic manipulation some plants and animals were changed. But the leading class wanted also to make 'better' humans and medical means weren't rejected. In many countries people were sterilised to avoid that they would produce children that were 'less' human. It is obvious that in our elitist society sterilisation was only applied to masspeople. Eugenics is an integral part of Darwinist theory. This theory can be abandoned when you assume that change can only happen in jumps. The old eugenic theory is nowadays obsolete but the idea that it is possible to make 'better' humans arises again and again and 'inferior' people are still forbidden to get children and medics still 'repair' human genetic material. Most hereditary illnesses have disappeared but the human species hasn't become 'better'. There is a danger that the dwindling diversity of human genetic material will cause the extinction of Homo Sapiens. Anyhow one thing must be clear. When it is possible for humans to influence their future with the help of genetic engineering then it must always be the individual who decides. It can never be that the state, in other words the elite, decides which human baby is fit to survive. The state must care for it that all newly born are safe from manipulation. But that is another subject. I despise the fact that in India still one out of ten female babies are killed because they are of the 'wrong' sex. I agree with the idea that only pregnant women may decide if the baby that is growing in their stomachs may be born.

"The present petrifaction in science is a result of the dominating Theory of Evolution that denies the existence of jumps. You can compare the situation in science with the situation in the rest of society where a strong bureaucracy crushes all initiative. All is

regulated in the same manner according to fixed rules, which are being handled by expert systems that can't generate new ideas. The room for the individual is continuously reduced and human consciousness, the 'self' of the individual, is curtailed.

"The smothering of human thinking by the Theory of Evolution is an example of this diminishing room. Planners follow the mechanistic theory of **Darwin**. This theory and the religious idea that the world is created by a God that determines all changes are identical. I throw God and **Darwin** on the same heap though there exists a continuing struggle between Darwinists and Creationists who attribute all development to the creation by an imaginary supernatural force. These two currents are much closer than the followers assume because both assume a mechanistic way of change. In our time pure religion has retreated but the basic thoughts have still a huge following. Many still believe in fixed schemes, in an ordered society in which individuals can't interfere. Revolution is a chaotic process and therefore many people can't accept it. By the way, this line of thought is one of my prime objections against the old leftist political thinking. They wanted to change the world in a gradual manner and only the extreme left favoured a revolution. But when the extreme left was allowed to join the circus of elections it was quickly won over and abandoned all ideas of a fundamental change of society.

"Basically you can't trust people who adhere to evolutionary ideas - and for me it is the same if those people believe in God or in **Darwin**. To a certain extent they agree with you but on an unexpected moment without any sound reasoning they fall back on fixed schemes and base their conclusions on mirages without considering facts. Religious and evolutionary ideas are in contradiction to human life. Humans can only trust themselves and can only create their own future by their own activity and creativity. Under the penalty of social petrifaction and the dying off of humanity he can't fall back on fixed schemes. Only original activity of individual humans can keep humanity alive.

"Sometimes I want to shout it out in order to penetrate into the minds of the masses: Evolution doesn't exist! But it seems that the age-long propaganda has stunned the masses. Everybody agrees that evolution keeps the world running. I uphold it is absurd to see evolution as the all-embracing theory which can explain all development. At the utmost evolution is of some value to explain some small and unimportant changes. Planners want to keep what they have because they fear that after a revolution they lose their privileged place. Therefore they propagate the slogan that everything was much better in the past. Of course it is impossible to return to former times but everybody has to remember these old times. Nostalgia is promoted as an argument to oppose renovations. Music, paintings, literature and so on are good, beautiful, pretty and ideal when it comes from the past. The planners' culture emphasizes classical music, old painters, old writers, antiques and old buildings. New things are seen as inferior. But also in culture we have seen sudden ruptures. After many years some new ideas were accepted in the culture of the elite. Jazz, rock and roll, **Mondriaan** and **Picasso** were loathed because they represented a jump in arts. Later the elite embraced them. But never was emphasized that new forms of art arose because of a rupture between the new and the old arts.

"Most renovation comes forward in times when old rulers have lost some power and when new rulers still haven't enough power. We find many renovations in the first two decades after a social shock. It is interesting to find out why some people suddenly become widely known and get a massive following. During his life **Marx** was virtually unknown and only after his death Marxism achieved great heights. Before the Russian revolution **Lenin** was an insignificant politician. Before he got the power to start the Second World War **Hitler** lived on the edge of society. After they became important they influenced and redirected the thinking of many people. Why became these persons suddenly important and powerful? In the first place because there existed a power vacuum in Russia after 1900 and in Germany after the First World War. Why don't we see such pioneers in the last century? Because planners understand how to stay in power. The elite has learned from the past, masses still use the same ineffective actions as before. They still demonstrate and sign petitions. They haven't understood that change only occurs when you attack the centre of power. And this centre happens to be the elitepersons who reside in the eliteworld.

"Planners have studied Scarism and understood that they have to avoid the promotion of creativity and activity of masspeople because that can corrode their power. Again I pose the question which people block revo's and promote gradual and evolutionary ideas to maintain the existing order. Everywhere on the world revo has been removed from the human brain and in the last century social jumps have become scarce. It is a deliberate policy of the planners …….. John, I repeat myself. I prefer to meditate a little about some new thoughts that came up during our talks. Can you tell me something more about Creative Artificial Intelligence, about chess and about what you want to achieve? Somewhere it is connected with the problem how scarists can better convey their theory to the mind of the masses."

John turned the CDI off. They had agreed to record their talks. The edited text could be presented to other scarists. The talks were a beginning of a better theory because scarists had never succeeded to formulate their theory in an understandable manner. **Stalin** who succeeded **Lenin** at the top of the Soviet-Union had once rightly remarked that a revolutionary policy wasn't possible without a revolutionary theory. Quietly they drank their beers and enjoyed the warm summer sun.

10. CHESS, CREATIVITY AND COMPUTERS

"Creative Artificial Intelligence, Theory of Catastrophes, theory of chaos, fuzzy logic, discontinuities, jumps, intelligence, creativity …….. they all belong to the same category.

"Why do intellectuals play with their children intellectual games in which you need jumpy thoughts? Once I heard an intellectual say to his daughter: "When you don't know what you have to do next, just trust your unconscious knowledge and your unconscious power to think. Even when something goes wrong the next time you will take a better decision because also faulty decisions will be stored in your brain". Never remain on familiar paths and never think you know everything. When you proceed on a familiar path you only will learn that path. Life can take more paths. When you don't want to deviate from known paths you will be even unaware of other paths. Of course when you leave the familiar path you run the risk to sink away in the surrounding morass but sometimes you will get new and solid ground under your feet. Someone who is only acquainted with one path can walk very fast and safe around and he is an able human but not an intellectual because he knows only one side of the world. When the path is suddenly obstructed he has an insolvable problem. An intellectual tries to expand his knowledge by continuously trying to take new roads. He leaves the further investigation of newly discovered places to one-sided people who only want to walk on well-known paths. This is not only a metaphor for the intellectual way of life but also for the contradiction between revo and evo. In evo you know only one path, in a revo you are always looking for other paths.

"My idea about Creative Artificial Intelligence is connected with the theory of jumps. Therefore you need quantified information. In the exact science quantification of information is normal but in arts ant the rest of science quantification is rare. In economics the mathematical way of looking at facts is still in its infancy. When all is going well, here seem to be theories that explain all. But when a crisis arrives then nobody knows what to do anymore. Then economists use their intuition – mostly not very well developed – or they look in old books what economists did in the past. They tried to solve the financial crisis from the beginning of twenty first century by using the theories of **John Maynard Keynes** though the crisis of 1929 was only solved because of the Second World War, another unexpected and incomprehensible fact. These crisis proved that the study of economy did not take into account the occurrence of jumps, of crises, they used theories where only gradual changes occurred. Long before **John Maynard Keynes** introduced his theories in the first half of the twentieth century mathematical economy existed. But to collect reliable information is still nearly impossible. The same is true for arts. Why isn't it possible to establish beforehand which books should never have been published? Editors still base their ordeal on experience without being hindered by scientific considerations. Isn't it possible to quantify the sentence structure, the depth, the treatment and the complexity of the subject, the build-up of the plot and many more characteristics of a book? When the Theory of Catastrophes is applied to these quantified factors it must be possible to observe a jump. Then it can be determined which book is literature and which book - that still can be readable - is a novel, a short story or a tale without

any pretensions and without further contributions to human development. In these fields human intelligence can yield much better results then Artificial Intelligence how ingenious and promising it seems to be. Human intelligence differs from computer intelligence.

"Computers win more chess games but humans play nicer chess. Not only the result is important but also what happens during the game. The computer never plays the most beautiful moves. At the end of the twentieth century the computer program Deep Blue defeated world champion **Gary Kasparov**. The computer wasn't expected to win but **Kasparov** played unbelievable bad. Many people thought the match was rigged. Because of the propaganda value of a won match for IBM, owner of Deep Blue, it could indeed have been a rigged match. We shall never know if the computer was then stronger than humans but now, more than a hundred years later, it is beyond doubt that computers always win from humans.

"Chess is a limited game with thirty-two pieces in two different colours on sixty-four squares. Still the computer can't calculate fully a game of fifty moves. People still play chess but the brute force of the computer forced us to complicate the game and therefore we use **Fisher** random chess, named after the old world champion **Bobby Fischer**. He proposed that we should have other possibilities for the starting situation of the game to eliminate the vast opening theory. That forced chess players not to rely on their memory of the opening theory. Because there are 960 ways to arrange the pieces at the beginning of the game the game is also called Chess960. A computer calculates in every situation the best move. She looks at billions of positions but still it is not sufficient. Even chess on sixty-four squares had too many possibilities. Of course humans calculate but an important part of our ideas arise when players contemplate the position. **Douglas Hofstadter** once remarked that computers didn't teach us anything about intelligence in general but that they taught us how people don't use their brain. Humans still play chess because they play different than a computer.

"Former world champion **Michael Botwinnik** tried to incorporate human ideas in chess programs. He produced a strong program but couldn't compete with the brute force computers. His program continued to make simple mistakes because he introduced contrary concepts in the computer. You can't tell a computer that a move is sometimes good and sometimes bad. The program of **Botwinnik** never reached a jump situation and real creativity was never ascertained. After his dead all attention was directed towards brute force because that technique could be used in the development of expert systems. These systems are indeed profitable but they remain screw jacks, that to a certain height are good at combininmg information from databanks. But they never open new roads to unknown pastures. That is only reserved for the human brain.

"Simple games as othello or backgammon are now only played by children because the computer always wins. The computer has however no idea of the intrinsic beauty of chess. But it changed chess. There have been tournaments in which all players had computers at their his disposal. Chess players should look for deeper concepts and the computer was used to avoid mistakes, to calculate variations and of course for the best opening and ending. It was not a success and Chess 960 replaced the old chess game. In this way the player with the best technical knowledge remains a

step behind creative players. Chess had always been a game for creative players and by introducing Chess960 we returned to the origin of chess. It has again become important to understand positions and to get unexpected ideas. Chess is again an intriguing exchange of philosophical ideas about certain positions. In chess the jumpy way of thinking of humans is more attractive than the logic method of the computer.

"Everyone can use the calculation power of computers. Therefore human thinking has become less dependent on foreknowledge. It is progress that humans can more use the essence of being human, the unique living being who can make creative jumps while using a multitude of technical expedients they invented in the past. I should like to see the same happening in economy. The computer collects quantified information and humans make jumps and determine the policy. But economy is more complex than chess and information is unreliable or unknown. The solution of economic problems is still unsatisfactory. By lack of sufficient reliable information humans must rely on their intuition, their feelings and their creativity. In my comprehension of the Theory of Catastrophes it is nearly impossible to make a jump because of the uncertainty in the amount of information. Without sufficient information one of the prime factors in the catastrophe theory is uncertain and a jump will be very difficult."

"John, maybe you are right but I have the idea that in economy nobody wants a better economic policy. Resources are wasted, progress lacks, human misery continues. I can't believe it can't be improved. I think planners don't want a change because economy is in the first place focused on the interest of the small top group. Should decisions be left to computers then they could be negative for the elite. It is an example how the interest of a few powerful humans can stop progress. But do continue about intelligence."

"The computer is a calculating machine and a data processor. **Marvin Minsky**, the father of Artificial Intelligence, stated in the second half of the twentieth century that the human brain is a complex machine. All thinking can be brought back to deterministic laws that don't permit jumps. Now, hundred and fifty years later, we know **Minsky** was wrong. In his time computers worked linear and were made of dead materials. Later came connectionist machines. Calculation speed increased but creativity didn't arise. A next generation of computers was made of biologic materials. These eco-computers remained dead objects, remained mechanistic apparatuses. They were only expedients for the living human even when fuzzy logic and genetic algorithms were introduced in the software. And quantum-computers remained in their infancy. It didn't seem possible to imitate the human brain. Only human brains can make jumps but we don't know how. Maybe it has to do with the fact that the human brain is a living entity. In a computer connections don't change while in our brain hardware continuously modifies. At the end of our life the neurons, axons and dendrites that are used in the making of connections are very different from those we started with.

"Electric pulses are used in neurons but chemical processes are important in glial cells, which make up more than half of the human brain mass and form eighty percent of the total number of brain cells. It is possible they communicate with neurons through waves of calcium atoms. It is characteristic for the narrowness of brain research that these cells were only given a supporting role. All attention was

directed to neurons and even now the working of glial cells is hardly understood. But we know that fast electric processes exist next to slow chemical processes. Even photons are active in some parts of the brain that are like optical computers.

"Neurons have microtubules that consist of little tubes through which one electron at a time can pass. Maybe they are an explanation of the question how the brain can store so much information. The amount of information that enters our brain via the retina is incredible large. We look around and it is incomprehensible how all this information can be packed in our small brain. Did we start with an empty brain when we were born? Can the data storeroom of our brain be filled completely? Maybe the filling-up of our brain is one of the reasons that neurons, glial cells, axons and dendrites change in the course of time. Older people have more trouble remembering information than younger ones but their brains contain much more information. The requested information must cover a bigger distance form the storerooms to the conscious part of the brain, which is connected with the speech organ, which transfers the information to the outside. Not much is known about these processes.

"Microtubules are so small that quantum mechanical processes may occur. **Roger Penrose** advanced the idea that these processes could have to do with our consciousness. It agrees with the idea that humans sometimes think in jumps. Quantum mechanics is connected with the sudden collapse of wave functions that belong to the equations of **Erwin Schrödinger**. To explain these processes **Penrose** proposed to develop a new theory in which quantum mechanics was combined with the theory of gravitation. Because of the petrifaction in science it is evident that in the century after the death of **Penrose** there weren't many impulses to advance such a new theory.

"The wave-function of **Schrödinger** is a measurement of the probability to find a quantum particle in space. When quantum processes play a role in our brain then a part of our thoughts can move outside the human brain and could be perceived by other persons. At the end of the twentieth century scientists have indeed recorded teleportation when they made a copy of a photon at a distance of about one meter from the original. The original was annihilated at the same time as the copy though original and copy weren't linked to each other. This could be interesting in connection with space journeys. It should be nice to copy people to other places! Quantum processes could give the beginning of the explanation of telepathy, the contact between two distanced humans, which includes thought transfer as well as thought reading. Maybe even prediction of future events will be possible because in quantum mechanics time is something special. The working of our brain is still in the dark. All neurons are different, all change in the course of time and even at a very high age new neurons are made. Dendrites also change in the course of time but nobody understands why older people have fewer but much longer dendrites than younger people.

"To understand the working of the brain a deeper knowledge of the construction of the brain is not sufficient. I suspect that genes use fractal formulas to determine the form of the neurons, axons, dendrites and other parts of the brain. It is possible that our chaotic way of thinking is already embedded in the chaotic construction of our brain. But how all these parts work together has also to do with the contents of our thought processes. I am however not very interested in the chemical, electrical and

quantum mechanical processes or in the construction of our brain. I want to know how humans get ideas from incomplete sets of information. In my research I examine how thought processes are formed in the brain. **Douglas Hofstadter** did some work on this problem with a reduced amount of numbers and I worked his idea out on my Mathematical Chip. But problems with a few numbers are too simple. You get some indications but it reeks too much of reductionism. Therefore I prefer chess problems though reductionism still lies in wait. Indications arising out of the study of chess can be interesting."

"The contradiction between form and contents, in which the contents is the most important part, agrees with my idea about the resistance against a society in which the form dominates the contents. It is especially important in juridical processes. The present detailed laws have to be supplanted by cadre laws, which judge problems because of their essence and don't regulate conflicts by using the letter of the law. Now rules determine how humans have to behave. Lliving according to fixed rules is wrong, it is a deterministic existence. Then it is forgotten that humans are unique beings who think on a very specific way."

"It seems easier to live according to fixed rules than following chaotic rules but it is hardly human. My research is still in its infancy. I can hardly explain why different people think different. I even don't know why in chess I get sometimes other ideas than other people. They often arise when I am thinking in an unconscious manner, when I am meditating behind the board. It is certain that the brain contains an unimaginable amount of information, which we extract in an unknown manner. Existing explanations aren't satisfactory. **Gerald Edelman** pointed to the technique of mapping in which the brain makes two-dimensional copies of perceptions, which enter our brain from the outside. Neurons play an important role in this process and when dendrites become stronger facts can be saved for a longer time. **N.G. de Bruyn** gave a role to chemical reactions in associative thoughts. After receiving a signal p a second signal q comes into being. When later a new signal p is perceived the same signal q is born with the help of a clever chemical reaction. The model of De Bruyn consists of two levels, the thinking soup and the thinking frame. It is a complicated construction and too much limited to associations. It gives some indication of the explanation and the working of memory. But it gives little support to the solution of the problem how thought processes arise in our brain. In view of the present level of knowledge these theories seem possible and you have always to take account of these nearly-facts. Facts remain the basis of our knowledge. The level of play in chess has increased enormously because each player can use the tremendous amount of facts recorded in computers. It is one of the conditions for a jump in development. In the number problems of **Hofstadter** it is proven that people with a vast knowledge give different solutions when they are six months later confronted with the same problem. People with little knowledge give the same solution. That confirms my idea that jumps are dependent on the amount of information.

"You can also wonder if there are different thought processes. **Hofstadter** advanced the idea that the essence of intelligence was the searching, finding and recognizing of patterns and the heart of intelligence the making of analogies. I don't agree. Maybe his idea is used in simple arithmetic problems but even in chess this idea isn't sufficient. To find patterns and to make analogies are relatively simple sides of

thinking. Hofstadter neglected the fact that humans can be creative. In the world of numbers there is little information and only the calculating part of the brain has to be used. When the problem is more complex the calculating part of the brain isn't sufficient and other processes than associations, analogies and the finding of patterns are needed. I miss the free will of the creative human who determines the direction of his own thinking. And I miss jumpy thoughts that arise for example when you make a painting. A painter has to decide how to finish an abstract painting. He mixes some colours, chooses a certain blue tint and introduces that tint to the painting. When the painter is famous, many people will appreciate what he has done. But how does the painter decide to apply which colour where? For a determinist the answer is simple. The chosen colour is in optimal association with the other colours in the painting. But that answer doesn't satisfy. Why shall one painter apply other colours than another? Does he uses other deterministic processes? I think that the painter is engaged in an interplay between his conscious and his unconscious power of thinking. He receives signals from his unconsciousness, judges the result and sends them back when the proposed colour is not appropriate. Then he receives a new signal and a new colour. In this process his feeling for beauty - what is that exactly, also a deterministic process? - plays an important role.

"In school I had to solve geometrical problems connected with congruent triangles. I had the same experience as the painter. To solve a problem I had to use an auxiliary line. I didn't think consciously but looked at the triangle and saw which line fitted. Many years later I had to teach children to solve the same problems. I could learn the pupils why which line had to be drawn. But I never used that conscious way of thinking myself. I used my conscious thinking only to control what my unconscious part of the brain proposed.

"In chess it is the same. Thoughts are bubbling up – occasionally I am even waiting consciously for such thoughts, a way of doing I call brooding – and then I analyze the proposed move in which even the beauty of the move plays a role. I know that there isn't only interplay with the unconscious part of the brain but also with the future. In the opening as well as in the middle game you take factors into account which are important in the ending. Occasionally you prepare a mating attack while there is no mate in the air. Chess players continuously use this kind of uncertainties, maybe you could call them myths, and also elements from an uncertain future while the computer only derives his conclusions from certainties, from the past and the present. For humans the future has no limits and they can hardly draw a distinct line between present and future. Only the computer meets the needs of the evolutionary deterministic theory. Only the computer can draw a straight line between present and future, humans are different.

"Maybe it is possible that conscious thinking can activate the unconscious part of the brain. Sometimes you are aware of something but you don't know what you know. Then you send a message to the unconscious brain to look if this knowledge can somewhere be found. Then indeed new thoughts can spring up, which are occasionally useful but other times crazy. Association is hardly involved in this process. I try to use jumpy methods in all what I do and think though I know that the Theory of Catastrophes can't be applied everywhere. I try to use my consciousness and my free will to advance ideas that are never advanced unconsciously. My investigations in the thinking processes in chess affirm that jumps are central in

human thinking and I extrapolate these findings to human activities and even to human existence. Discontinuity is characteristic for creative thinking and it has to be promoted that humans use this unique quality. We must distance ourselves from continuous and evolutionary ideas."

After some time Hakima broke the silence and said: "That is a useful idea that is something we can use."

11. JUMPS IN THE BRAIN AND IN OUR THINKING

"Your mathematical tinted ideas about jumps in the human brain coincide with our efforts to achieve jumps in human society. They reinforce each other. The individual human, the lone wolf will lead the way again. Human beings first, the interest of the individual is the most important. Incredible, Scarism exists already so long. Bizarre that you advance a new idea though I have been a scarist for over thirty years. A new idea, a jump to leave our predicament."

"Predicament?" John was surprised by the sudden excitement of Hakima.

"Yes we are in an impasse. We have become a phenomenon that exists already for a long time but appears to be doomed to simmer on the fringes of society. I will recapitulate our case.

"The theory of revo-evo in social sciences, the Theory of Catastrophes, the Theory of Chaos, your ideas about Creative Artificial Intelligence, our ideas about adventure games, the ambiguity between continuity and discontinuity and the thoughts about the scientific revolutions of an **Einstein** or a **Copernicus** have much in common. The central point is always the jump that has to be made.

*Even in quiet times the discontent of masspeople or the inflexibility of society can lead towards a jump. World War Two can be considered as a revo that shocked the existing situation. The chaos that arose inspired the masses and during more than ten years all attention was directed towards the reconstruction of the country. Therefore communists failed to take power in countries as Greece, Italy and France. The attempt to make revolution after World War One in Hungary and Germany came also too late and failed. Russian and Chinese revolutions succeeded because their revolutionary activities took place in wartime during a period of chaos. In a war the old elite is weakened and a new elite doesn't yet possess enough power. The masses see that another society is possible in the near future. After the war the new elite promises improvements on a very short term and the chance of a revo disappears fast.

"The inspiration people got from the ordering of the chaos after a war starts to diminish after less than a decade and the old discontent increases again. Nothing fundamental has indeed changed. In the twentieth century the performance of the anti-smoke magician **Robert-Jasper Grootveld** on the Spui in Amsterdam – a very small happening – was one of the factors that caused the coming into being of the Provo Movement. According to the Theory of Chaos the conditions were present in which an infinitesimal small change at one place caused a big change elsewhere. After a few years the Movement disappeared because results were disappointing. Demands weren't high enough and the elite could encapsulate the leadership. Ten years later the Squatter Movement as well as the Anti-nuclear Movement flourished but had the same fate. They had a massive following but they collapsed because the centre of power remained untouched. After that we never saw again massive social movements. Masspeople understood instinctively that this wasn't the right way to

improve the situation. A social jump couldn’t occur because the right parameters were too weak.

"To increase knowledge about how you can realise jumps non-exact sciences have to get acquainted with ideas from exact sciences. First of all you have to look to the Theories of Catastrophes and Chaos. I don’t understand why scarists never thought of this while we always advocate to connect the ideas from different scientific disciplines. During this process we come time and again in conflict with the existing power which want to stop jumps and want to keep the existing situation unchanged. They still succeed to convince most people that continuity is best. That is strange because most of the pleasure in life is caused by discontinuities. The soccer player who does unexpected things with the ball is applauded. People wait anxiously for the fulfilment of the small chance that money that every week is gambled away in lotteries suddenly is multiplied by a hundred thousand. Now I understand better why you say that jumpy events are the most important processes in our brain."

"Indeed, in chess a sacrifice gets the beauty price and not a positional game in which the position of the adversary is kept under constant pressure. In auto races people are waiting for the next crash. During a study the highest reward is the diploma even if everyone knows that you get anyhow that piece of paper. It is the end of the time in which a student gradually amassed scientific knowledge. Then the infinitesimal small step of the acquisition of an official paper is a revolution after which the student enters the new world of real scientists. Even two people who have lived already together for many years cherish the solemnization of the marriage as a revolutionary jump. They enter a new phase in their life."

"Let’s not to get lost in details because there are many nice examples of jumps and also of how the elite avoid discontinuities. Why do partners stay together while it is better when each goes his own way? One of the reasons is the possible disorder in the life of the children though it is not bad when young people come early in touch with chaos. Then they get accustomed to the fact that jumps are essential in life. Why do people often go to the same holiday resort? Because they are convinced that continuity is necessary for having a nice time. Why does someone continues to stay for twenty-five years in one and the same job? This lack of initiative is even rewarded with a badge of honour. Someone who has had twenty-five jobs in as many years has twenty-five different experiences but receives nothing. All schooling emphasizes the continuous and the conservative. Even on universities study is in the first place directed on learning to think within the existing science. People are discouraged to look for new roads, to take a jump over the fence that separates the continuous from the discontinuous world. You must remain within the boundaries of the existing science. You are even not allowed to advance your doubts about the boundaries or about the foundations of science. You aren’t allowed to wonder what happens when you leave the trusted fields of an existing science."

"I have seen that in my research in Artificial Intelligence. And there is another important factor. IBM financed the chess program Deep Blue because it could regain the costs by selling expert systems that were based on the brute force technique developed for Deep Blue. Money for really clever expert systems is difficult to find and money for fundamental research is lacking completely. Before the year 2000 there was some fundamental research but now all money is invested in research that

promises direct and profitable applications. Industrial research institutes buy the best people and only a few eccentric persons are looking in unknown directions. In the twentieth century there was a brain drain from poor to rich countries, now the best brains of fundamental research are bought in order to be used in practical research. Fundamental research is dying, not only because industrial bosses want to make huge profits but also because of fear for radical ideas that can upset society in such a way that old enterprises can't proceed in the same way."

"Industrial bosses know that there are other things but discontinuity is dangerous for their continuous existence. Besides leaders think that new things can only come into being by small steps because the Theory of Evolution dominates also in industrial circles. There are some inadequacies in this theory and so the mechanism of the Free Market is added to the Theory of Evolution. This mechanism also denies that you have to disconnect yourself from the old way to get really new things. You did mention it already when you talked about the gradual disappearance of fundamental research. The Free Market mechanism promotes short-term thinking. It is better to earn one dollar now than to take the chance to earn two dollars in future. All is aimed at earning money and not at the improvement of human life. Dead money rules over living human ideas.

"The human factor is eliminated because behind the Free Market stands the evolutionary and mechanistic idea that humans can't take autonomous decisions but has to be guided by a higher power. In evolution this is for example expressed in the idea that genes should want to reproduce themselves. In economy it is found in the invisible hand of the market or more precise in the motivation that only money can motivate people. No money, no Swiss they said in the past when nobody was indeed such an imbecile to defend the Vatican for free. Some evolutionists even deny that altruism exists. That agrees with the economic idea that people only act because of the money they will get. Indeed people do respond to money because money is needed to survive. But when something has to be done, most people look first in their heart and then in their purse. But in a society where elitepeople can grab what they want from the pool of prosperity, money is the only way to control masspeople and to force them to do the work that is needed for the continuation of their greedy existence.

"Commercial people follow the market without thinking of the consequences of their deeds for other people. After the collapse of the communist system the Free Market system was introduced in Eastern Europe though without the restraints that existed in the West. The economy started to flourish. At the same time the number of suicides skyrocketed and life expectancy of a substantial part of the population went down. Millions of people died earlier than needed. Of course some people profited from the introduction of the Free Market but the side effects were so bad that you could wonder if evolutionists weren't right with their idea that humans aren't altruistic. The idea of laissez-faire that says that everyone has to act for his own interest and that God acts for us all isn't human, it is the law of the jungle, the life of animals.

"Humans can act because of vague ideas. They often try to make the impossible possible. Human activities in a Free Market remain limited to the expansion of the already known possibilities. It is the contradiction between the divergence and the convergence of the known in which the convergence leads to petrifaction and the

divergence to renovation. In the last century petrifaction has spread to every corner of society. It is ironic that some decades ago planners started to curtail the Free Market because they saw they were losing their hold on society. Power was more important than more money. Social ordering has become considerably stricter and planners adopted many communist ideas. But elitepersons remain rich and powerful and masspeople dependent. Petrifaction was one of the main reasons the communist system collapsed. It will also contribute to the downfall of the elitist system.

"At the top of society dreams about a better future are beginning to disappear. Daily life keeps people too much occupied. They concentrate more on the own group, on the family, on the narrow field of current activities. A century ago many people in the richer parts of the world hesitated to get children in a polluted world in which misery continued to be abundant. Now the production of descendants is the apogee of human life because the own group is strengthened and the own pleasure increased. How a child is born is unimportant. With the help of in vitro fertilization, artificial insemination, adoption or surrogate mothers who bear the offspring of future owners of the child the family is expanded. The possible woes of a pregnancy are avoided by making use of the misery of other people who have to sell their children or their body. Withdrawing in a small trusted group is however not compatible with human individualism."

“Indeed, everyone wants to keep what he has. Computers still work on principles which were two hundred years ago already known. Nobody is looking for new concepts. The expert systems have become better but they still have many shortcomings because they work in a logic way with the help of established algorithms and they don’t make jumps. But planners accept imperfections because their power is not threatened.

"Fundamental scientific research nearly disappeared. Therefore the Theory of Catastrophes is still in its infancy. In the twentieth century this theory was only applied to three-dimensional problems. More dimensions mean a larger space but the scientific top didn’t want to widen its horizon. This is by the way not very accurate. A two-dimensional plane doesn’t contain more points than a one-dimensional straight line, a three-dimensional space isn’t bigger than a two-dimensional plane on which it is projected. Projections increase our knowledge of more-dimensional spaces and so we know something of the four-dimensional space. In these cases the Theory of Catastrophes has seven basic singularities, seven different figures with beautiful names as butterfly, swallow tail, pyramid, purse or pancake. On the boundaries of these figures catastrophes can occur. But the applications have been limited to only one of the seven singularities, the cusp. On my Mathematical Chip I gave some examples of this case in which two causes lead to one result. This was already known at the end of the twentieth century but further development has stopped. To investigate better how you can make jumps you have to develop a theory that works with more dimensions but I haven’t been able to find anything useful on this subject."

"Yes John, we need a theory that uses more dimensions because there are many influential factors. I asked other scarists about the Theory of Catastrophes but their investigations didn’t give much hope. Soon after the coming into being of the theory it was used to suppress prison revolts. Later the theory was used to quell other uprisings by exploiting unconscious feelings of masspeople by promoting

propaganda in the field of erotica and sexuality. Human life limited to sexual behaviour! But the results were dubious. Planners used the Theory of Chaos only to stop irregularities or possible revo's in order to preserve the present situation.

"The development of the Theory of Catastrophes seems to have stopped at the beginning of the twenty-first century. We have some indications that this isn't quite correct. We know planners possess secret research institutes were new techniques are tested that strengthen the own position with the help of knowledge that isn't known to the masses. We hardly know what occurs in these institutes. Already in the twentieth century media were hardly informed about institutes where new weapons for mass destruction were developed. That included also advertisement techniques that influenced the human mind with invisible slogans on Internet and TV and the addition of drugs to drinking water. Nuclear weapons, the shield in space against missiles, laser weapons, landmines or chemical and biologic weapons were made illegal in international treaties but research, refinement and production of these murderous tools continued. Genetic research was partly used to prevent illnesses by repairing genetic deviations. But it was also used to try to change man so he should become an able and docile domestic animal without an own will. In the beginning of the twentieth century **Aldous Huxley** described such a society in his book Brave New World. We can be glad that the human mind is too complex to manipulate and that docility is still far off. Maybe scarists have to nail these research-workers to the pillory to avoid that a small group of planners stays in power because of their surplus of knowledge. But also to avoid that planners will succeed in destroying humans as independent and unique individuals. The development of life will stop when humans are changed from autonomous beings in animals that hardly can think."

Hakima stopped a moment to detach herself from her political words. She resumed with something she had said already.

"If the Theory of Catastrophes can be used to give new life to our theory of Scarism we need better quantification of information. I see three parameters, three main factors, which can be divided up into many side issues. That is already a huge problem. Secondary factors have to be fitted into one main factor but it isn't simple to add all these vague values to get one main value. Anyway you introduce an uncertainty because part of the original information get lost when you try to add facts that are hardly related."

"You can use fuzzy logic to quantify information. Fuzzy numbers are vague numbers for which several adding methods exist but nobody knows which method must be used in a certain problem. I have given on my Mathematical Chip a simple example. I presume that in our brain the following happens. I told you I sometimes meditate during a chess game. Then the unconscious part of the brain determines a move. When the brain has reached a conclusion (using a fuzzy addition technique that isn't known to my conscious brain) the conscious part of my brain will analyze this move. Then I decide if the proposed move is good or wrong. Is the move not satisfactory I send the problem back to the unconscious brain with the order to look for another move. Then the unconscious brain knows it has to use another technique for the addition of fuzzy numbers. Sometimes another move comes forward. In my brain I try to promote a to and fro process between the conscious and the unconscious parts of the brain. That is something that also can be done in the Theory of Catastrophes.

You have to have a feed-back and a bringing together of the original information, the provisional decisions and the possible results."

"That seems a nice idea but first I want to proceed with the three main factors. In the first place our attention is directed to the planner who takes decisions. We presuppose that his personal situation as well as his place in society is important for his decisions. In the second place we look at the massperson about whom the eliteperson has taken a decision. We have to regard his enthusiasm, his perseverance and his capacity to become active. And we have the growing interaction between these two factors because decisions of elitepersons influence the life of the massperson and the pressure of masspersons influence the life of elitepersons.

“Planners undertake many small activities that hinder masspersons in their private life. Masspersons act in the opposite direction by intruding in the private life of planners. Masspersons are like bees that zoom and zoom and sometimes sting. This resembles the so-called Chinese torture method. A drop of water descends on the head of a prisoner and then another drop falls …….. and another …….. and another …….. that is the continuity, the prisoner knows this will go on for eons. So another drop …….. and another …….. and another …….. until we get a discontinuity, a revolution because the prisoner is so infuriated by the drops that he wants to do anything that is asked. Then you get a jump in thought and action, not only in the brain of the prisoner but also in the brain of the jailer, not only in the eliteperson but also in the massperson. It will be clear that the old situation has ended, that it isn’t possible to continue on the old road and that new ways have to be taken. Then we have arrived at a point that we call a jump."

"You say it beautifully, Hakima, but I lack sufficient mathematical knowledge to fill in this scheme. Besides quantified information is missing. The Theory of Catastrophes has been suppressed too long and I am not capable to breathe new life into this theory. I do something with my research of Creative Artificial Intelligence but I doubt if I ever can break through the walls of the establishment. I am somewhat comforted by the thought that in the past ideas of many scientists were first vehemently rejected and later accepted as true. **Hoyle** was right when he claimed that life originated in space and that elements of life are still coming down on earth. **Louis Frank** claimed rightly that small cosmic snowballs continually bombed the earth. That proved that earthly water had come from far away. By the way it is remarkable that I so often refer to something that was said before the year two thousand. In those times there was still some room for new ideas. The computerised information society blocks all further development. Human thinking is now restricted to fixed lines."

"Not all philosophic ideas have survived. You find seldom something about **Karl Popper** who supported social ordering by refining democratic ideas. He never ventured outside the boundaries of the existing social system. He propagated also that changes could be reached by critical discussion. On the contrary **Thomas S. Kuhn** said that old rules limit both the nature of acceptable solutions and the steps by which they are to be obtained. The choice for a new kind of society can never be unequivocally settled by logic and experiment, a discussion between people from the old way of living and those that are striving for a fundamentally different society is practically impossible. Because the system changes anyhow, contributions from

people as Popper who wanted to maintain the old situation became worthless. Names and ideas from people who looked beyond their own time are sometimes indeed preserved. **Sorel**, **Veblen**, **Wittgenstein**, **Heisenberg**, **Gödel**, in our talks many great names passed. After the year two thousand philosophy became dominated by computer logic. An answer had to be a, b or possibly c but the word maybe was taboo. Doubt was excluded from reasoning. Computers still can't use fuzzy logic or quantum effects. Old answers are refined, inaccuracies constructed away but new answers stay away. It resembles the situation before **Copernicus** forwarded his ideas. The Ptolemaic system predicted the positions of stars and planets by using very complicated calculations. For each new submerging fact a new algorithm was introduced. By the early sixteenth century a growing number of European astronomers recognised that the astronomical paradigm was failing. In this atmosphere Copernicus proposed his heliocentric theory in which he exposed the incoherence of the old geocentric system. The old system was sent to the dustbin. But even now it is sometimes used, which proves that old systems don't die fast. But the possibility that new ideas come forward is now nearly extinct. To paraphrase the word geocentric one could say that all ideas have to be plannercentric. All divergent ideas are being suppressed.

"I agree that the information society blocks many things. It is prohibited to offer any criticism when you don't propose an alternative. But that is rubbish, criticism is inherent to science. Strange phenomena that cannot be explained by the existing science are the motive for a change in the existing theory. If an instrument indicates a value that isn't in agreement with the theory then the theory has to be changed. But researchers that are capable to measure new values do not know how to advance a new theory. Therefore they keep quiet because deviating results are not allowed when you do not at the same time advance a new all-embracing theory. In arts you see the same. When a critic reproaches a pianist he isn't playing well enough he often gets the answer that he has to keep his mouth shut because he can't do it any better. The artist is holy, criticism by outsiders is not allowed. But tell me something more about revolutionary researchers in exact sciences, and especially about the critics of **Darwin**."

12. PANSPERMIA

"**Darwin** built further on Christian indoctrination. He replaced the Creator by a watery soup with methane and ammonia. When high voltage sparks passed through this mixture, amino acids and nitrogenous bases, components of proteins and of DNA were formed in this soup. These tests seemed to show that living organic materials could arise from dead inorganic materials. But methane was almost surely obtained from natural gas and thus organic. Ammonia was also suspect because it probably originated from activities of living bacteria on dead plants. Because some of the materials in the test had an organic origin the test only proved that life could arise from the activities of other living things. But that was already widely known.

"Darwinist theory hardly differs from creationism. The power of God is substituted by the power of Nature. In both cases life began by an unverifiable and incomprehensible process we can't copy. The origin of life is still hidden in the womb of time. The search for the origin of life is comparable with the search for the origin of matter. Both theories presume a beginning, an organic soup or a Big Bang. It is rejected that matter and life could have existed forever and that there was no beginning and thus no end. It is in any case an inadmissible geocentric thought to suppose that life originated on earth. The Darwinist idea that humans are unique in our cosmos is similar to the religious idea that man is specially made by God and destined to live on earth. Darwinist theory fails. A short time after the earth came into existence bacteria arrived already from space. Circumstances were much stranger than the Darwinist organic soup presupposes but bacteria can live everywhere without oxygen, in pure sulphuric acid, in radioactive surroundings or inside solid rocks. And they can live in space. It is quite normal to suppose that life on earth originated in the cosmos.

"The improbable theory of the origin of life isn't the only argument against the Darwinist theory though it is hard to destroy beliefs and myths with logic arguments. The development of life is also hardly supported by facts. By a slow gradual process of small changes simple forms of life should have changed into very complex organisms. But we know that many revolutionary events occurred in the past. About sixty-five million years ago a big meteorite struck the earth in Yucatan and many species disappeared including the dinosaurs. The geologists that discovered this collision, **Jan Smit** and **Walter Alvarez**, said that the whole process around the collision took less than ten years while Darwinist theory doesn't allow that events happen in such a short time. But the existing theory prevailed over the new facts. Darwinist theory is almighty and blocks a realistic vision of what happened to life.

"The consequences of the gradual theory of change are far-reaching. If change only occurs by small steps there is only a gradual difference between animals and humans. For Darwinists the human brain doesn't differ fundamentally from animal brains. It is denied that an increase in quantity can cause a sudden increase in quality and that this new being differs fundamentally from his ancestor. Socio-biology, an extreme evolutionary theory, denies fundamental differences in the behaviour of animals and humans. For socio-biologists the guiding principle of life is the 'survival

of the fittest', the survival of the being that is best adapted to the environment. Because survival is associated with the passing on of genes to the offspring, all living beings are in the first place engaged to preserve their genes in their progeny. It is unclear why genes want to do this and how tiny genes can impose that wish on very large and complex organisms. This theory of a sex-driven evolution of life must be rejected for human life. Humans live to a high age and in an important part of that life reproduction isn't important. I wonder how socio-biology explains the behaviour of older people. They are not occupied by getting more offspring. Humans have outlived the Theory of Evolution.

"Darwinist theory gropes in the dark to explain the transition of one species into another though it can have some value to explain small changes in species. Darwin rejected fast and big changes and highlighted the evolutionary principle with the words natura non facit saltum, nature doesn't make jumps. He stated that after big natural shocks such as bombardments with meteorites the fittest and best-adapted animals survived. In this way he included cosmic influences in the Theory of Evolution.

"Without shocks the theory can't explain why human brains grew so fast. Darwinists make the mistake to mix up cause and effect. Humans have bigger brains and "thus" there has to be an evolutionary explanation. Humans started to use tools and 'thus' the brain grew again. Humans started to make art and 'thus' the brain developed still more. Humans were driven from the trees to the plains and 'thus' humans had to walk upright to see predators and other enemies. Humans lost their hair 'thus' they didn't need any hair for their further existence except to protect their heads against the sun. Some humans in Northern Europe have blue eyes and 'thus' this was caused by the climate even though it has been demonstrated that other humans living in a comparable climate don't have blue eyes. Maybe some evolutionists reject some of these examples but I give only the general tendency of evolutionary argumentation.

"It is very strange that Darwinists give only superficial attention to human development. They declared that the first humans came into being in Africa but how did those ancestors look like? Were they Negroid, Mongolian or Caucasian? I never have found anything on this problem. Let's assume the first humans were Negroid. Then they spread over the earth and then, suddenly, Mongolians came into being in Asia and Caucasians in Europe. These races don't have any Negroid traits. We see that Negroids lose some of their traits when they mix with Caucasians and vice versa and that people in the North of China are more Mongolian than in the South. So traits change but were did the races come from? It seems an important question also in connection with the racist undertone in Darwinist theory but nobody ever gave a reasonable explanation of the coming into being of races. The Panspermian idea of a rain of bacteria in the North of China and another rain in Europe can easily explain races. And simple explanations are often the best explanations. That is one of the reasons that the theory of Copernicus could besiege preceding cosmic theories.

"Time and again cause and effect have changed places. I turn the arguments around. By a revolutionary change in the genetic material the brain grew bigger, humans got the possibility to walk upright, humans lost most of their hair and Negroids changed in Mongolians. First changed the genetic material and then changed the characteristics.

New genes were already present in the cells. We know that only a few percent of the genes are active, the rest is junk DNA with no known functions. Maybe some of this DNA is waiting for the right circumstances to be activated. Homeobox genes have in this process a very special place that doesn't fit in the evolutionary theory. They are regulatory genes that activate and turn off other genes by sending the proteins they produce to other stretches of the DNA. You find the same kind of homeobox genes in very different living beings as fruit flies and humans. When a hox-gene produces more alanine the number of toes in an animal will increase. A small mutation in a hox-gene can be the cause that insects have different eyes than humans. It can be assumed that the change in some hox-genes can cause bipedalism in humans. A small change can have big results. Also the timing of the activity of several hox-genes has different effects. But another important question can't be solved by this theory: where do the homeobox genes come from and where do all other genes come from. Humans have many more genes than the first multicellular animals with which they share many, if not most, of their homeobox genes.

"One of the theories about the why of life on earth is the idea that living organisms are abundant in cosmos and are transported to earth by comets and meteorites. Some evolutionists agree with this idea but they say that this has only happened in the far past and that after that development of life was gradual. But even now life on earth can be influenced and changed by extraterrestrial life because cosmic bacteria and viruses still descend on earth. This theory is called Panspermia. Since the beginning of the twentieth century this idea is frustrated by Darwinists though the Theory of Evolution is incapable to explain big jumps in the development of life.

"Darwinists affirm that other species can arise by more or less random mutations of genes. Mutations can be caused by radioactive radiation but also by duplication, inversion and reordering of genes. The explanatory value of this theory is low because nobody understands how a series of small accidental mutations can cause many synchronous changes in the body. An example is the interconnected change that was needed to develop human speech. Many genes have to be changed at the same time. When animals started to live on land many genes has also to change in a very short period in a very distinct manner. The chance that this happens through a series of small arbitrary changes can be neglected. A complicating factor is that changed animals have to be able to get offspring with other slightly different animals. And the change from sea- to land-animals must have occurred fairly fast because the water level in oceans fell sharply in a reasonable short time and the shallow waters dried up fast. Besides nobody knows where the genes came from that build new organs with functions that didn't exist before. Which existing gene caused the growing of lungs in sea-animals (and why)? No proof has ever been found of the theory that genes change because of environmental changes. Only in the case of small changes within the species the method of evolution has some value. Maybe the neck of the giraffe did grow in this way. Maybe the beaks of the finches on the Galapagos changed somewhat because of the changing supply of food. But this concerns minor changes within a certain species and never a change from serpent to fish, from turtle to bear, from ape to human. Apes were of course our ancestors. But the differences are immense and the change in the volume of the human brain can't be explained in a gradual way.

"Darwinism comes into real trouble when you regard the time that is needed to get complex human beings from the first simple life forms. Favourable chance mutations only occur in one individual of one species and it will last many generations till all members of a population are mutated. Of course four billion years have passed since life came on earth but many mutations are needed before the original few genes in the first living beings changed and augmented to the many thousand genes in humans. Besides it is established that big changes in life took place in relatively small periods and the slow Theory of Evolution is hardly suited for such a fast change. Panspermia gives a simple solution for these problems. New earthly life comes from the cosmos. Cosmic matter continuously bombards the earth. This matter contains bacteria and viruses and thus living genetic material that can be connected to earthly genes by Horizontal Gene Transfer. Only a few percent of our genes is active. When some dormant genes are activated this can cause a jump in the development of life. Maybe in this way apes mutated to humans when new genes caused the larynx to move up so humans could speak. At the same time another change caused the brain to grow so speech was facilitated. Of course it took many hundreds of thousands of years before all these changes were confirmed. I don't think that humans and apes ever intermingled. Someone was a human or an ape. Because the change in genes occurred in a relatively short time people who were half-human and half-ape did not exist. Many geologists have searched for missing links in human development but they found nothing. About three million years ago a young woman named Lucy lived in Africa. She belonged to the species Australopithecus Afarensis. Though she was not exactly like us Lucy was human, an early member of the species Homo. Though some scientists still say that Lucy was an ape, nobody says that Lucy was half-ape, half-man.

"Panspermia can explain the disappearance of the Neanderthals. About thirty thousand years ago this human species suddenly disappeared. The most accepted paradigm tells us that Homo Neanderthalensis was a distant cousin of Homo Sapiens. But it is improbable that Homo Sapiens could exterminate Homo Neanderthalensis. The current humans are present in vast numbers and have very advanced weapons but are still not capable to destroy even one kind of insects. In the time of the Neanderthals there were enough places were this ancient human could live forever without coming into contact with the destructive power of the Homo Sapiens. Not too long ago a tribe was found near the Amazon River in Brazil which had never been in contact with other humans. The Neanderthals lived on the coast of Western Europe but also deep in Russia and Asia. Now hundreds of millions of humans live in this area but at that time it was sparsely populated. It is difficult to imagine how and also why Homo Sapiens did annihilate his cousins. It is known that in Western Asia Neanderthals and Sapiens lived together for many thousands of years. You can even assume that they intermingled and produced some offspring. When the climate is good and the resources plentiful, humans aren't that ferocious.

"But what could have happened? Let's assume that Homo Sapiens originated in Africa and spread over the world. Because of the cosmic genetic bombardment genes of Homo Sapiens changed slightly in some parts of the world. Some genes were activated in Homo Sapiens and not in Neanderthals. The DNA of Neanderthals and Homo Sapiens are very similar. It is possible that some of the new genes were also present in Neanderthals. During many thousands of years Neanderthals and Homo Sapiens were living close together. It is possible that by sexual contact

dormant genes were activated in Neanderthals and that the offspring became more and more Homo Sapiens. It is also possible that Homo Sapiens introduced in a sexual manner some new genes in Neanderthals. Besides it is possible that changing climatologic circumstances activated dormant genes in Neanderthals so in a few generations everybody was Homo Sapiens. This theory explains why a fossil of a Neanderthal child could be found in Portugal at the time when Neanderthals were supposed to have disappeared for ten thousand years. **Mendel** knew already that recessive genes can come forward long after they seem to have died out. But in the end all Neanderthal DNA changed into Sapiens DNA. This idea is a mixture of the Theory of Evolution (changing of genes by sexual means) and the revolutionary Theory of Panspermia. But the Theory of Evolution plays a minor role, it only adjusts some defects after big changes have already occurred. When Panspermia is applied on big changes in species and even classes you can understand why there are no missing links.

"Darwinist theory of a gradual evolution has only some value for changes inside a species, not for the change of one species into another species. Homeobox genes can be important by the development of families and orders while Panspermia is also active in the change of classes and phyla. These theories are saltationist and indeed saltations occur in the development of species. I go even further by claiming that evolution hardly exists. Small changes seem to be gradual but can also be caused by small jumps. Development consists out of a long series of small revolutions. You can wonder why only five or ten percent of all humans have a special feeling for music or mathematics. Are in these humans already those special mathematical or musical genes activated that are elsewhere still dormant? Are in a thousand year all people musical and have all people a sense of numbers? It could be interesting to examine which factors cause the activation of dormant genes. Then I think of the Theory of Catastrophes in which a jump occurs when certain parameters change in a special way. You can think of a change in the configuration of genes by cosmic material or by a change in the climate. It is known that after eruptions of volcanoes active sulphuric matter is thrown into the air. And sulphur is aggressive. But it remains an unconfirmed theory that is obstructed by the top of the scientific world because it is in contradiction with the all dominating Theory of Evolution.

"There are many indications that the Theory of Panspermia is correct. During a virus bombardment disease-producing viruses also descend on earth. Panspermia gives a reasonable explanation for the spread of illnesses as the flu that have to do with respiratory organs. Also the spread of the plague in the Middle Ages seems to have a cosmic explanation. The theory that rats spread the plague can be rejected. Infected rats were too weak to cross the Channel to England. That rats came by boat to England is also dubious because the illness didn't start in English ports. In some isolated parts of the country the illness was as massive as in non-isolated parts. A rain of plague viruses seems an obvious explanation. It explains why the plague didn't occur in Milan, Liege, Nuremberg or the coastal areas of Portugal because it didn't rain viruses in those places. And it can explain why in the first part of the twentieth century the plague suddenly appeared in India when again millions of people died.

"The Theory of Panspermia has far-reaching consequences. The Theory of Evolution is rejected as the only explanation for change in earthly life forms. Panspermia

cannot be reconciled with this theory and neither with creationist theories. They all start with a revolution in the far past (the organic soup or the Creation) and continue with gradual changes. Life is still being influenced by extraterrestrial influxes. Panspermia can be the start of an explanation of the uniqueness of human consciousness, intelligence and creativity that is hardly present in lower life forms. Because of our bigger and different brain we have the possibility to influence our own life. Even when Darwin's law of the surviving of the fittest should be true, humans are the first living beings that can break away from this law. People can be altruistic because our behaviour isn't determined by the necessity to give our genes on to the future. Altruism doesn't fit in the Theory of Evolution. But science isn't interested anymore in questions, it only wants answers that give short-term profits."

John's face that had lighted up when he was talking about Panspermia darkened again. "I don't know how to proceed or what to do, I don't know."

After a short time Hakima broke the silence: "I don't know anything for sure but I think I can offer you an opening, which will open new horizons that will only reveal themselves when you take a new road. Jumps are central in this idea. You have to reach the place where jumps are possible, you have to investigate how and where jumps are likely. Take the dumb and trivial problem of giving a present to someone. When you have given the present just look at the face of the receiver. Seldom the receiver is really surprised. When you give a present to a relative unknown person it can be a surprise, so a jump occurs. But that isn't probable when you don't know much about this person. Even when you give a present to a friend, it is difficult to reach the point where a jump can occur. To bring about the unexpected you have to identify yourself with the other. The chance on a surprise is greater with a friend than with a vague acquaintance. A jump depends on the knowledge of the old situation. When information is abundant it is possible to jump though never is known where you arrive. But jumping is fun!"

"That remembers me of journeys into time, of jumps in space and time. Is this possible or is it a phantasm, a human wish to escape the humdrum of the day, to escape the continuity of their stay on earth. With the current level of science journeys into space are impossible. There are too many unsolved paradoxes such as the person that meets himself when he returns from the future. I am convinced journeys into time are possible but in the twentieth century **Alan Guth** was one of the last scientists who thought about these impossible ideas. I don't understand his ideas about the use of relativity theory and wormholes to make journeys into space and time. To get these wormholes you need black holes and to make these black holes you have to make mass heavier than the most heavy neutron star or to heat a part of the space by millions degrees. For me it is abracadabra but again I am straying away on a side path about which you can fantastically meditate. By the way it is strange that an original thinker as **Guth** liked the idea of the Big Bang though he advanced also a new theory about an inflated universe. All matter should have come from a single grain that weighed less than an ounce and had a diameter less than the diameter of a proton. Such way of thinking reminds me of the ideas about our own galaxy before the broom of Copernicus swept all old ideas away. Instead of looking for a completely new theory that doesn't start with a Big Bang, they try to improve an existing theory by patching it up. It is evident that in the end nobody can anymore understand this patchwork."

"Indeed let's remain on the main road. Scarists are annoyed that revo isn't tolerated. That is not caused by dead laws or dead structures but by living people who block new ideas. The same is true for computers. Most people have to accept what computers decide about them and only some people can interfere. Who are these people? Where are important decisions taken? Who promotes continuity and blocks discontinuity? In education, on university and in the media continuity is emphasized and all opposition is excluded. The power of the media and the petrifaction in science must be exposed but that isn't sufficient. Media are only one of the means to exert power, science only a means to reproduce existing knowledge. When you want to abolish war you mustn't destruct weapons because they are only means to kill people. You must attack persons that order weapons to be used. Elitepersons have the greatest power to run the show.

"Society is saturated with the idea of continuity, the present balance of power exists already for ages. Of course there have been strikes and other actions but they ended always with negotiations in which the active party only got small benefits. The balance of power was uncontested. The question for a radical transformation of the world never arose. The emphasis lay always on the good things in the old order. Old shoes never could be thrown away before other shoes were available, even if the leather of the old shoes was needed to make new and better ones. This way of thinking is determined by the top of society and can only be changed when masspeople become active against the top of the power pyramid. Then something will change. Now all actions are directed on small changes that hardly move society. Shocks and big jumps are prevented. Democracy is the political expression of this idea but you find this way of thinking also in education, in science and in much of human behaviour.

"A new way of thinking has to be imprinted in humans, all has to be directed on the causing of jumps, even when not exactly is known where jumps lead to. Without jumps society stagnates and degenerates. By developing the Theory of Catastrophes we will be able to determine the most important factors that will cause a jump. But theory is not sufficient, it has to be connected with practice. Then both will develop. When you are active you may never be disappointed when the result is insufficient. It is only possible to try out something new when there aren't too many obstructing and opposing factors, when the planners, who are afraid of unexpected things, have less power to obstruct us. Wait, be quiet, let me meditate for a moment, I feel I am turning around in circle, I am annoyed, I formulate this annoyance and then ……..?"

Hakima stopped talking. John wanted to say something but Hakima raised her hands. Five minutes, ten minutes, a quarter of an hour. The time went by but Hakima had the feeling she had enough information. Something had to arise from it, a qualitative jump must be possible.

"I don't understand why we never have thought that we can be the obstructing factor. We advice but we are never active in practice. Strange that we never saw our own imperfections because we do see the same mistakes in our clients. Scarism came out of the leftist political tradition of the twentieth century. We criticized our predecessors because leftist leaders always decided about and never together with their supporters. During a guerrilla struggle in an isolated jungle area there was some equality but when the struggle became institutionalized in a war between two armies,

leaders and leaded became separated. The guerrilla began to resemble an army in which generals gave orders and in which soldiers and lower officers executed orders, often at the cost of their own life. Leftist leaders stayed out of range when they summoned masspeople to strike or to demonstrate. Leftist foot soldiers were arrested and sometimes killed while leftist leaders, who had already a more comfortable life than the soldiers, stayed at large. Many leaders of the Provo Movement, who said they were attacking the establishment, later found their way to the higher echelons of society, trade union leaders became prime minister, leftist scientists industrial tycoons, guerrilla leaders dictators. Scarism is against this separation of power but seems to have introduced it inside their movement.

"When you ask others to get the chestnuts out of the fire you can't be convincing. We say we have a new way of thinking but we apply it only in philosophy and not in practice. We urge others to act but we don't participate. We have the greatest insight and maybe only we can attack the most powerful leaders. You can't expect people to attack top directors when a small director has acted incorrectly, to attack the superintendent of the police when a lower police official has maltreated them. To attack the top you need people that have more insight in the social power structure, who are annoyed by this structure and who are motivated to act because they want to achieve a lasting change. We are such people!

"The division between advisors and activists has to disappear. The advisor has to become activist, the activist advisor. Together they can change the computer from an instrument that supports the stagnating society in which wealth and power is unequally distributed into an instrument that supports everybody. That will be the start of the solution of the problem of the separation of theory and practice. Because our attack on the top of society smaller authorities will become uncertain and masspeople will have more chance to succeed. We know that the stagnation in society is in the first place caused because the powerful top in the rich countries gives the highest priority to the interest of the people in their own world. Our theory will become more powerful when it is supported by actions of activists from the massworld as well as by activities from the scarist world."

Satisfied Hakima leaned back after having remarked that some scarists will be so trapped in the theory that they do not want to participate in activities. But she was convinced that most scarists wanted to become active to break through their discontent.

"That was indeed one of my doubts. I couldn't put it into words but I felt some mistrust. You tell beautiful stories so I suppressed those thoughts till the moment you should stop with your theory and should begin about practice. I also listened to you because you are interesting, nice and attractive. When you become also active, mistrust will disappear. To fight together, to be active together …….. before I had to fight and you could look on. That is something you can compare with the way of doing that is so normal in our society where planners advise and order and masspeople are active."

In the course of time Hakima often wondered why the appointment with John had had such radical effects. After those meetings not only the problem of John came closer to a solution but the world of the scarists changed also. Within a year after the

conversations between Hakima and John the advising advisor had disappeared. The scarists loved the pleasure they got from attacking powerful persons because they liked the unexpected developments caused by their own creative and individual activity.

13. THEORY AND PRACTICE

Ten days later.

Hakima had again studied John's ideas on Creative Artificial Intelligence. She had contacted various scarists. That was unusual because scarists were lone individuals who only consulted each other for technical help. Most of them liked the idea to become active. She had asked some colleagues to investigate the development in Artificial Intelligence, others about the Theory of Catastrophes, again others about the mathematics of chaos. She had asked them to use all their tricks. She had also talked to scarists who were experienced in entering databanks that were closed to the public. Hakima felt something unusual was going on because planners kept some information hidden. She hoped to discover which information was kept secret and how planners exercised their power. She had been cautious and had held her meetings at inconspicuous places. So it wasn't obvious she was mobilizing scarists. She hoped she had set a ball running that couldn't be stopped. Now she could again pay attention to John's problems. At their first meeting he fired a question at Hakima that bothered him already a long time. "Will masspeople listen to my ideas?"

"You ask how a single person can transfer his message to thousands or even millions of people. When you use mouth to mouth advertisement you remain in your own circle. Mass media aren't available for masspersons who live far from the world where the news is made. When a massperson wants to be heard he must make so much noise that journalists can't miss his activities. Violent actions are nearly always commented upon in the media. Then sometimes the message also comes through. But I don't like this method because it is too risky for a massperson. Putting pressure on media people is also unattractive. I prefer the indirect method. Let the elite do the work.

"When a massperson becomes active against an eliteperson the press won't be interested. The eliteperson will be hindered a little. After some time he will find it necessary to explain to other elitepersons why his work isn't as good as before. He needs the press to reach his fellow-planners. Then the massperson sees a reflection of his actions in the press. He sees that his action has a beginning of a result because the eliteperson is cornered. The attacked eliteperson is in a predicament. He needs the press to get support but at the same time the press helps to strengthen the action. Other elitepersons keep their distance to him to avoid getting involved. The eliteperson also needs the press to activate the police for his defence. But the police don't understand the severity of the attacks. Actions remain mostly inside the boundaries of the law and don't go much further then the removal of a special plant from the garden of the attacked eliteperson. Police officers are never attacked, the action is limited to the private life of the eliteperson. So the police is not keen to defend the eliteperson. When he perceives he doesn't get protection the attacked eliteperson realises that because of the activities of some masspersons he has lost some power and threatens to become as powerless as masspersons with regard to the pressure of the elite. That is the start of a fundamental change.

"The only independent way to reach fellow-masspersons is the World Wide Web. At the end of the twentieth century, soon after the Internet came into being, authorities tried to close sites that were too much directed against the establishment. That didn't work. Other masspersons objected to the curtailment of the Net, copied the prohibited messages and published the messages on their own sites even when they didn't agree with the contents. Messages that were unfriendly and unpleasant for planners were so widely distributed. The freedom on the Web isn't sufficient to take away the feelings of impotence. A few people try to break these nasty feelings by becoming active, most people compensate their lack of power by dreaming away with the help of drugs. But it is striking that the same happens with members of the elite. Also the elite isn't living in heaven, also in the elite world you see petrifaction, stagnation, dependence and subordination.

"The question has to be put more strictly. Why don't planners listen to masspersons? Why do they prevent you explaining your ideas to other people? Who are these persons that seem so far away when a massperson asks something? Why is someone so powerful to stop the spreading of your ideas? The activities of masspersons are completely different from the way planners wield power. Masspersons don't strive for the conservation of power but for an increase in discussions and openness, for a world for everyone. This new power gives everyone the possibility to come forward. When this is realised, a new and livelier society arises in which people are more involved, a society where relations are more equal."

"I have indeed something important to say. But first I want to elaborate my ideas and therefore I want to enter some databases. I want to bring new life to the old Theory of Catastrophes to change the human way of thinking. I hope our action will emphasize the theory of jumps because then people see how you can act and think differently. I want to explain how the difficult revo-thinking is more human than the relative easy evo-thinking. How acting in a revo-way is more attractive than acting in an evo-way. I don't understand it. In sport revo-action is the most attractive. The unparalleled movement of the genial soccer player, the sudden fall of the descending skier, the recklessness of the mountain climber, the sacrifice in chess. The idea that continuity dominates over discontinuity has to be destroyed. When this manner of thinking is not changed people ever again become hysterical during accidents or fires, remain frightened when social jumps occur, remain submitted to the present situation though they know it can be better. During our meetings my mathematical problems have been expanded to more general problems. I want people to get accustomed to the idea of jumps."

"Ah, John, in the past many social reformers broke down because of comparable idealistic points of view. A social theory can be very beautiful but everything turns around the unequal distribution of power. The relations of power decide if it is possible to reach a position in which you can persuade other people. Nothing will change when you only try to convince powerless people that another society is possible. It isn't enough to show them another world, you have to show them also the road towards this world and the manner by which they get the power to cover the distance to this world. You can only achieve something when you can point to successes. And you undermine power when you penetrate into the power basis in which the powerful can safely withdraw.

"A rumour is one of the weapons of the underdog. Elitepersons want to be respected. With the help of a slanderous campaign a rumour can spread in his neighbourhood. There is no smoke without fire and thus a rumour find always a fertile soil. In his circle the eliteperson is then regarded differently and he starts to feel unpleasant. When he is then asked to solve a problem arising from the contradiction between the elite- and the massworld he doesn't know what to do. Must he continue to support a world that isn't helping him or must he give in to the other world, which attacks him? A rumour is never the decisive factor but it is an expedient to advance to the target. It is part of a policy in which the life of the planner is made uncertain. Then this planner takes more distance to his fellow-planners. During the whole process something changes in society. A new society only comes into being after a jump and your Theory of Catastrophes states that you can't predict what happens after a jump. So you take decisions, you act, you know some successes, but you never know what the final result is of your activities. The only thing you know is that something radical happens when you act and that all remains the same when you do nothing.

"Human life is limited but humanity will live on. Only religions say that dead people may enter a heaven where peace, satisfaction and eternal happiness reign. In such a divine society struggle and change disappear. That society is static and hardly human. But an ideal society does not exist. That society is always changing and during his life every human contributes something. A single person seldom makes such a big step that society, which comprises billions of humans, changes radically. But many humans together can cause a big change. That is diametrically opposed to the present idea that evo is the ideal situation."

"That corresponds with the mathematical philosophy of chaos which states that even an infinitesimal small step can be seen as a small revo. I think there are different kinds of revo's. A big revo differs fundamentally from a small revo because the magnitude and the complexity give rise to new dimensions, which never come forward by extrapolating small revo's. After a small revo something changes but a totally different situation is never reached. You can't compare big and small. It should be nice to advance the idea of the non-existence of continuity in your network of scarists."

OK, it is an interesting thought. I once thought that continuity was only a residue of the old religious doctrines. Once a big shock – the Creation – and the rest is gradual change, hardly visible in a human life. And this development is controlled by a supernatural power. I find this rubbish but it is still present in the unconscious thoughts of many humans. But I have said enough about theory. I will turn to the practical side. I sketched already the principle, when many small revo-steps are taken, when many unexpected events have occurred, a big jump can happen. After each step a new door opens to an unknown room with many other doors that give exit to many other unknown rooms. It isn't possible to look through a small hole to explore the new room. When the door to the new room is passed, it is hardly possible to return to the old and trusted room when the new one doesn't please. Actions mostly close the doors to the past. When a road is taken you can decide to stay in the new room or to proceed to unknown horizons. That is the mentality you have to acquire. Because you take small steps the past won't disappear at once. That occurs only when you make a revolutionary step. It is evident this only happens when you aren't the only active person. After such a revolutionary jump not only masspeople

but also planners have changed. The central question is always what kind of practical action belongs to these theoretical ideas."

For a moment Hakima looked around, brought her hands together and then went on.

"Imagination has to take the lead. That is an expression from the twentieth century. You need imagination to think of something new and to avoid the predictable path of computerized thinking. The unexpected gives the activist pleasure and the attacked an growing feeling of uncertainty. Pleasure is an absolute necessity for success. But not hedonist pleasure, the idea that humans have to strife for the best satisfaction of their carnal wishes while all difficulties have to be avoided. Hedonism comes about in the strangest ways, such as bungee jumping or other things that are to a certain degree pointless, dangerous and thus masochistic. Those feelings live their own life and they can't be controlled, so you can say that the conscious part of the brain is switched off. Hedonism doesn't contribute anything to a next event, it is without future. The pursuit for a hedonistic extremity, the effort to get near one's own dead or the boundaries of human existence, is hardly human.

"A single person has little influence on the big world and therefore many people flee via hedonistic pleasure from the evil society into the own small world. But own worlds don't exist, everywhere the influence of the rest of the world is perceptible. You can't find any protection in a flight. When you only know your own small world and something radical happens in the big world, the own surroundings collapse and the inhabitants panic. That occurs not only during wars or around big catastrophes but also by small accidents. Many people are frightened by change because they can't cope with a new situation. But changing events are interesting for those people who don't believe in a continuous world that hardly changes.

"I like actions that have to do with the society of which I am part. In hedonism pleasure is consummated, in Scarism it is produced. In hedonism difficulties will ultimately supersede pleasure. The suppressed unpleasant experiences from for example a war lead later often to syndromes, anguishes and illnesses because war overcame the people. They were victims, not participants. By trying to stay clear of any difficulty an individual is unprotected when he meets an unexpected social problem. They don't realise how nice it is when you autonomously solve a problem that is created elsewhere. On a small scale you can observe this from the pleasure humans get when they are solving crossword puzzles. Only when you take the initiative you can conquer difficulties and it isn't nice when others tell you the solution. So individuality, initiative and creativity that are the foundation of Scarism come again to the fore.

"You can compare this action strategy with the method that is needed to solve adventure games. In those computer games some problems have to be solved before you can enter a new situation with new problems and new unknown solutions. In adventure games other people make the problems and you have to find the solution. In human reality the individual can influence the situation as well as the solution. This is again the principal difference between humans and computers. Even in the most advanced computer games you know in advance a solution exists and when you fail you can begin again. The human adventure knows only interim solutions because the struggle goes on forever. Social situations are adventures,

which are continuously subject to changing interactions of individual humans. Each human action changes the situation that never stabilises because a next action – possible from someone you even don't know – can change the situation again. The computer is only a reason to think about a possible strategy. Answers on social questions are much more divers than a computer ever can produce. In human society each question can be answered in many different ways and from these answers sprouts an unending series of new questions. A computer society is limited, human society is alive and always moving.

"Let's go to my home to play some adventure games to get more insight in what I mean by acting and thinking step by step. It concerns steps that change little in the known situation but nevertheless lead to a situation that differs entirely from the original situation. What happens can be compared with the stretching of a rubber band. The results remain predictable till the moment arrives that the band snaps. Even with a simple thing as a rubber band the situation after the revolutionary snapping can't be predicted. And the old situation can never be restored."

They went to Hakima's home. Hakima turned the computer on and loaded the first adventure game.

"Just as in real life you don't have to react fast, you don't have to dodge incoming rockets or other flying objects. You have all the time to think about your next move. At the start you study the situation on the screen, information is important. In daily life you have much more information because life is more complex than a computer simulation. You know that you will find some indication on the screen. In real life you never know if the things you see can be used in a future activity. Adventure games are simplifications of real problems but they are useful to get an idea of the method to solve human problems. The game of life is however endless and constantly changing when a person actively interferes in the circumstances."

"That resembles the problem of the cat of **Schrödinger**. You lock a cat in a sealed box. In the box is some decaying radioactive material. When a Geiger counter has registered enough radiation a bottle with cyanide will break and the cat will die. Because the box is sealed we don't know if the cyanide is already released and we don't know if the cat is alive or dead. Only when you look in the box you know what happened to the cat. When we don't look in the box, it is meaningless to ask if the cat is dead or alive. We say that the cat in the box is in a superposition of two situations in which the cat is alive in one of the situations and dead in the other. This is what happens in the daily life of atoms. Until we look at an atom we never know where the atom is. When we know where the atom is we don't know some other things about the atom. By the way this isn't quite right. An atom can't be compared with solid objects. It has another substance that is difficult to describe and even more difficult to understand. When we interfere in an atomic process to establish a fact we influence the process by looking at it. That is only true for very small objects like atoms, we can't influence a house, it is too big. A house is a static object, the electronic world is dynamic. In some way the human world can be compared with the electronic world. A human is a very small part of the big world, but he can influence that world when he becomes active. The fundamental uncertainty in the atomic world gave **Heisenberg** the idea for his uncertainty principle. When we know how fast an electron moves – more precisely how large its moment is – then we don't know where the electron is

and when we know where the electron is, we do not know its moment. I can extrapolate this idea to human society. When we actively look into the society to understand society, society will change through our contemplations, our meddling or our activity."

"I have to be honest, most of this goes beyond me. But the basic idea appeals to me: someone who is active changes his surroundings and as a result his activity changes also. Then again society around him changes and so on. It is a continuous process of changes. Nobody never knows exactly how these changes take place and what were the exact causes of the change. The social game depends on the principles of uncertainty. It is a fact that the world changes when billions of people participate in society when they stop being lived by third persons. What happens in the future we never know in advance."

John played some games. In the meantime Hakima meditated about the game and society.

"In a computer program the programmer fabricates the possibilities in a systematic and logic manner. When you don't know how to proceed in the game you can call the helpdesk. In real life you can never call a help desk. It is a religious concept to ask an all-knowing creator for help and a lack of humanity when you think that such questions will help. Nobody has made society and you can only get help from people who know different parts of the social databank. But in a limited game as well as in our unlimited life you can ask the same question: 'what do I have to do to reach another situation'. In a game you can choose from a limited number of possibilities, in life you sometimes have to apply the seemingly impossible. The basis of our action is our thinking, our knowledge, our experience and our skill. The computer gives a simplistic image of real life, humans are the only ones that can work with vague information.

For many hours Hakima and John played various adventure games. Not only games in which you explore programmed worlds but also games on Internet in which you interact with other users. But like their simple predecessors these games are also pre-programmed, these fantasy role-playing games are creatively programmed with tantalizing clues to solve dangerous questions. But it is a virtual reality and not a real one. By playing games Hakima and John learned to know each other better, especially their specific way of thinking in solving problems. Above all they got to know when they made jumps in their thinking. In this way the computer helps to improve social communication. Often conversations result in nothing because one of the participants doesn't even understand why the other advances an idea. Then it is even more difficult to understand that new idea. And it is already so difficult to understand other persons because words have often different meanings when different persons use them. A classic example is the discussion about democracy. Some people classify a social system as a democracy others will find it almost dictatorial. The Soviet-Union was officially a people's democracy but in the West only a few people agreed that there were democratic tendencies in that country. The word revolution has even developed in a negative direction and all positive sides disappeared from the human mind. When someone says something positive about revolution or something negative about democracy he is excluded from social discussion. That is the result of the endless propaganda that humans aren't

autonomous and unique but mechanical objects that only superficially differ from other humans. Humans aren't allowed to deviate from other humans in their thinking and acting unless a human is crazy. In the past people who thought or acted different were sometimes locked up in psychiatric institutions but at present sneakier means are used. Dissidents are denied entry to the human society by presenting them as eccentrics who are sometimes funny but never useful. The village idiot of the past had still a certain function, the present queers are excluded from all social traffic.

14. POWER BY ATTACKING INDIVIDUALS

"I can summarise the purpose of our attack in one word: POWER.”

With obvious disgust Hakima repeated the word softly "Power, power, power. It seems that everything revolves around power. The possibility to let other people do the dirty work, to get more privileges and to maintain this privileged position. It is a wrong explanation of the word individualism because it doesn’t take into account the existence of other individuals. When you want to be an autonomous person you mustn’t subordinate other individuals. I, I, I and the rest may die has nothing to do with individuality. Power poisons human relations." Hakima shook her head a few times.

“You may put a question mark behind the excessive private ownership of earthly goods but you must always condemn the ownership of other humans. Jealousy is detestable and the result of the claim a man thinks to have on a woman or vice versa. Is the other person not able to decide with whom he or she wants to live? Of course, everyone has a certain power but why should you be allowed to use this power to curtail other people and to deprive them of their individuality? Some people use their personal power to acquire private benefits and so other people are harmed. It doesn’t only concern benefits which can be expressed in money, such as a luxurious life, free entrance to whatsoever, free trips to exotic countries and so on. It concerns also the right on the seats of honour, where they let themselves applaud by masspeople. Above all it is the right to transfer this power, these rights and these benefits to the progeny. It seems that such people persevere in their animal behaviour, in the wish for the continued existence of their genes. The powerful use their capital and power to be in the centre of society. An industrialist who takes too much profit because he asks too high prices presents himself as a Maecenas when he sponsors a sporting club with that undeserved profit. When the club becomes champion he sits on the best seat because he has been so generous that strong players could be bought. But he only acquires this prominent seat because he has power to get money to buy respect.

"The scarist method gives everybody the possibility to get so much power that the power of the elite is neutralised. The crucial idea in this method is the attack on the power basis. In the last ten or even twenty centuries nothing has changed for the elite. Its prime motive is still the accumulation of more wealth for the own group and of the respect that in our society belongs to men of means. But nothing is eternal and nowadays humanity has grown so much in consciousness that it has become possible to break through this age-long trend. That can only happen when everybody possesses power so that nobody is capable to use his private power only for his own benefit.

"Power dominates human existence already for a very long time. In ancient times the most powerful man of a tribe was the strongest man, the man who could catch most fishes or the man who possessed other characteristics that could be used for the benefit of the tribe. These planners formed the elite of the tribe. They got more

possessions and so they distinguished themselves from other members of the tribe. Later the landed property started to play the first role, after that the ownership of slaves or houses, followed by the property of machines, factories and capital. Nowadays the possession of functions and the access to information are the most importance means of power.

"In the beginning of the twentieth century the relations of power in Russia seemed to change radically after the Russian Revolution especially when in the Soviet-Union big property was abolished. After some time the Nomenclatura, the list of names of important people at the top of society, was formed around the leadership of the Communist Party. After some decades these new planners were as rich and powerful as their fellow-leaders in the rest of the world. They possessed the highest social functions with enabled them to obtain all privileges and benefits they wanted. And their children could get the same position. Only superficially the communist organisation in the Soviet-Union differed from the capitalist organisation in the West. Communism didn't last for more than a century but the advanced form of property that was tried out in the East entered the West and the possession of the means of production became less important. The possession of functions became the central point. Directors of factories could freely dispose of the amassed industrial capital and shareholders were shunted to a side-track. Top civil servants possessed a comparable power. They formed a new elite, which included a fairly important number of old rich people. It wasn't anymore necessary that planners paid for most of their needs. Institutions, enterprises or privatised organisations took care of the cost of holidays, the acquisition of expensive objects of art or the sponsoring of sport or cultural events. The honour for the sponsoring went to the director who resided in the skyboxes or on the first row in a concert hall. Honour and fame is reserved for the top that is surrounded by the jet set, the stars from show business and sport who may participate in festive gatherings of the elite. The Russians understood that free disposal of money is more important than possession of money. The capital at someone's disposition gives all the possibilities for the fulfilment of someone's wishes. There are still some very rich people but functionaries, bureaucrats and planners can get also all benefits and can transmit these benefits to their offspring. Their power is even greater than that of the former super-rich because they control the state apparatus. The monopolistic power of some people to do anything other people are never allowed to do has to disappear."

"But are privileges really so important when we express them in terms of money? Shouldn't it be possible to destroy the extravagancy, to take care that nobody can use too expensive cars, live in too expensive houses and do all these other too expensive things?"

"That idea was the motive of the Luddites who in the beginning of the nineteenth century destroyed textile machines, which caused vast unemployment. But the machines remained and humanity profited from them. Not dead technical renovations caused unemployment but living machine owners that didn't provide new work. Not the existence of a car that costs ten times as much as a normal car is important but the existence of a small self-reproducing group that possesses all the privileges. A massperson may sometimes hire an expensive car or make a sumptuous cruise but elitepersons can always do what they like to do. The existence of extravagant things is less important than the question why nearly only the elite can use these things. It is

caused by the social structure in which the position of the elite is unassailable. It is remarkable that a great part of the national wealth goes to the small top group. This includes expensive cars, ditto holidays, exclusive food or special training facilities but also the cost of the security of the elite, the furnishing of their offices, the festivities paid by the own organisation or the pleasure-crafts they use. In short not only the money spent on expensive consumption articles but also the money spent on representation, on the honour to belong to the elite and the way to let everybody know that the elite is something special. It covers all those things that aren't available for someone who lives in the massworld. Everybody has the right on a minimum level of existence to which belongs a decent house but also some food, clothing, medical care, education, amusement and recreation. The money that remains must be divided under all people. But from this surplus the elite, which comprises less than five percent of the population, gets more than fifty percent. That means that the living standard of people in our kind of countries can rise substantially when the top is prevented to take so much. Only that is already something to strive for!

"Sometimes elitepersons display their wealth to show they are powerful, unchallengeable and different but many things remain secret. It is however ridiculous to strive for more openness. The existence of the elite isn't caused by a lack of openness but by its surplus of power. Power doesn't vanish when the profits someone gets from a surplus of power are attacked. Rain doesn't stop when the water is drained and the streets are made dry. The belief that a greater openness leads to a better society sharply diminished in the last century. The privileges of the elite were not greater in regions where the elite controlled the press than in regions with a free press. It is even reversed, a free press diminishes the chance that the elite loses its power. The free press may expose some abuses, for example when someone amasses too much money. When one or two elitepersons are sometimes punished the system isn't weakened. The elite controls the free press that is mostly occupied with soaps and scandals and with the promotion of the idea that only continuity will advance society. And day in day out the elite is honoured. A free press didn't come into being because the masses demanded it but because the elite understood that some criticism canalises feelings of discontent. The elite can use the press, masspeople can nearly never explain their plights. This idea dominates not only in politics but also in sports and in arts.

"Conservative ideas continue to dominate arts. We live in the present and I think art must in some way be connected with our present life. But old art gets the highest praise. The greatest attention is directed to the past. In this way art degenerates to voyeurism in which people revel in something they aren't part of and can never be part of. People look at old and dead things because then they don't have to look at living things. Why do they say that old churches are beautiful while their pompous appearance is in the first place an expression of the domination of religion over autonomous humans? The buildings are immense because church leaders wanted to show their power as a warning to everybody that wanted to contest that power though that power was anyhow demolished. Now the elite shows its power through prosperous government buildings or towering banks. In literature, music and paintings the same old song is song over and over again. Most art concerns the glorification of leaders in past societies. The paintings of **Rembrandt** glorify the Christian doctrine and it is still said that these paintings are beautiful. Beauty is not absolute but is connected to the image and the function. A church can't be beautiful

because it supports religious ideas that damage humanity. Maybe the Eiffel Tower was for **Gustave Eiffel** proof of what could be done with steel, for the captains of finance the tower expressed the greatness of France and the power of the steel industry. Why indeed should we still admire this tower, why indeed shouldn't we tear it down? Because of nostalgia or to honour the former elite, the ancestors of the present elite. Or because the building proves that the elite was, is and always will reign?

"It looks if I again take a side way but everything is connected to everything. You taste the power of the elite in every single thing. By the way, openness increases the possibility to acquire knowledge and it is one of the factors to increase the chance on a social jump. Up till now most jumps were the result of activities of a genial individual in science whose ideas penetrated in society. The revolutionary scientist is engaged in a part of society that is of minor importance for social power. Such an individual can cause a change in scientific paradigms. For a change in human society a greater part of masspeople has to become aware of their possibilities and their power. Most social jumps in the past were caused by wars and natural catastrophes and weren't consciously caused by humans. When democracy arose in the West and when communism arose in the East many people were enthusiast because they thought that a new time was coming. They were wrong. Now the future has disappeared from the mind of the masses. Discontent has no way-out because the way-out lies in the future and the elite blocks the future. The elite points to the past in order to close the roads to the future in which they live. But in that future lies the power of masspeople, in the past lies the source of the power of the elite. Scarism wants to make humans conscious of the fact that they can only determine their future when they become active.

"Future has to come first, the present will then take second place and the past will be relegated to third place. The elite propagates old things as good. The language Latin died out long ago. It isn't spoken anymore. It doesn't contribute anymore to the communication between humans. It isn't useful to preserve Latin. The time needed to learn this language can better be used to learn things that have to do with the future. The same loss of time occurs in trying to save dialects that are spoken in small regions. The elite doesn't speak such languages but minorities of the masses that speak them are hindered in their contact with other people because they are forced to learn these languages in school. It is the old policy of divide and rule. The elite can't be attacked when many masspeople are engaged in the inferior problem of dialects.

"Arts, science but also sports are used to control the masses. Seldom will a member of the elite become a top sportsman. The elite sports for pleasure and has only limited time available for sport. The professional sportsperson has to train hard in the hope to earn enough money. The elite trains little because it earns money in leading society, it sees sport as a game that may not degenerate into work. People who train too much become one-sided robots who outside of the world of sport have so little to say that one can doubt their membership of the human race. A single characteristic is strengthened in an absurd way, many times with the help of drugs, but what happens with the other human characteristics? On a very young age mind and body of children are moulded and parents and trainers want only one thing: money! The elite

doesn’t want to train too much because it knows that in future it will earn money in another way.

"Only a few masspeople reach the top. Then they may take some crumbs or even a whole leaf of broad from the well-filled table but there are other profiteers. Leaders of sport organisations, bobo’s, bonzes in blue blazers the badges proudly pinned up, pull the strings and stay longer at the top than sportspeople. They pay sportspeople and at the same time they see them as puppets, as objects without an autonomous life. The soccer player is sold as a painting. Not the human is important but his monetary value. Car races, boxing and free fights are only some of the sports where the elite even sells the possibility of the dead of a sportsman as an economic commodity. The real profiteers live in the eliteworld. That also some masspeople are amused isn’t important, the elite takes the best seats. There they are in competition with other elitepeople about who can arrange the best performance of masspeople for the elite. Sometimes these people are presented as benefactors. But all these so-called philanthropists are and remain always better off then people for whom they supposedly are benefactors.

"This is again a long tirade but I am regularly exited about the situation in the world. Many people of my age have stopped hoping that anything will ever change. Why are elitepeople so powerful and unassailable? All turns around the position of power and one of the scarist goals is the undermining of power. Then privileges will also vanish. No one has the right to have more rights than another. Actions will bring equality nearer, they will cause that money, wealth, honour or privileges will become less interesting. Then power will be less interesting because the rich want power because of the benefits. They are powerful because they possess high positions and because they are like a spider in the centre of a web. They have built a network of relations via their family, their places of education, their places of amusement and so on. In the massworld such networks don’t exist because in that world power isn’t important. Masspeople associate with other people because they like them and not because of some monetary benefit. Elitepeople use social contacts in the first place to maintain and improve their position. Therefore they need a network of contacts because it is one of the most important means to stay in power. In the course of time the existence of those interconnected networks took care of the fact that all ideas became one-sided. All information comes from one source that is dominated by the network of elitepeople. The so-called competing media, TV, electronic newspapers and press agencies aren’t divergent. They are all dominated by elitepeople who know they always must respect the power of the eliteworld. Because of this they will never incite masspeople to stand up against elitepeople. It is allowed to mock about the eliteworld, it is even allowed to attack elitepeople who went too far, but it is never allowed to call for the eradication of all parasitic elitist persons. Sometimes journalists seem sympathetic to the improvement of the situation of masspeople but they will never cross the line and oppose the interest of the elite or the continuing existence of the current social system.

"Sometimes the leading class needs publicity to take the wind out of the sails of groups that agitate against the existing order. Hard action by the police can be harmful because wounds can remain open for a long time. By a shrewd anti-propaganda they prevent that extensive contacts between different groups in the massworld come into being. In this way they keep the network of opposing

masspeople small and thus also the opposing power. An extreme example can be found in the propaganda against terrorism that is directed against the elite. The press will hardly publish the reasons for terrorist actions and will never tell the world that such actions are hardly harmful for masspeople. The utmost is made of the few killed elitepersons what is in sharp contrast to the many deaths that fall in the massworld because planners force people to work in dangerous circumstances. The elite is never blamed when it sponsors dangerous sports or when it pollutes the environment. All is mobilised to set masspeople up against terrorists when the elite can't control these groups. When terrorism is committed in the name of the elite, even when it is directed against parts of the own circle, the ordeal is less severe. Then it belongs to the mutual play of the elite. All is mobilised to let masspeople adhere to the ethical view that in our hierarchical society people at the base may never attack people at the top.

"The power of the elite is partly based on the network of contacts built since the youth. On exclusive schools, in special sport clubs, in expensive holiday places, in living quarters with more than large houses …….. everywhere contacts are made. In the Information Age the elitist family is still the cornerstone of social power. In the Middle Ages family ties were only important for the elite, the massworld was allowed to live without formal ties. That changed in the nineteenth century when the industrialisation forced the planners to strengthen their hold on masspeople. Even now planners propagate the family because it assures continuity. Responsibility for a family means that parents have to work for money to sustain the family. That leaves less time for social action. The continuity of the existence of family ties puts a brake on progress because old values get more weight then newer ideas. Though the family exists of autonomous individuals they are subordinate to the interest of the family, just as the individual interest of the eliteperson is subordinate to the interest of his family. In the massworld the ties are weaker than in the eliteworld because they are less based on biologic bonds and more on mutual respect. Masspeople don't adhere much to the idea that you can use other people to get more power. That idea you find in the back of the mind of any eliteperson. That is one of the reasons that there are more differences of opinion in the massworld. In the eliteworld an eliteperson has to be careful not to deviate too much because then he can lose his place in that world. When you want social changes you must never look for help to people in the eliteworld. Elitepersons aren't reliable.

"The virtual barrier between elite- and massworld should become a real wall. Now the massworld is a plaything of the eliteworld, which by the way can't live without the workforce of masspeople. In the eliteworld they play the ball to each other so the whole group gets more. It doesn't matter which means are used to achieve this goal. Propagating that you have to arm you against a possible vicious, angry, sinister, bad or cruel enemy new weapons are being made and old ones destroyed. It is a ridiculous destruction of people and materials. This waste isn't converted into something useful as the increase of the standard of living of the poorest people. In the last century it is proved that these weapons weren't intended to protect against foreign elites but to keep the own masses in check. But it is useless to destroy the war industry, you have to act against people who can use the off-button on weapons machines. Those people never belong to the masses that live in the crowded living areas of big towns but always to the elite that lives in the roomy single houses of small towns that are environment friendly.

"The most important factor that contributes to the continuing power of the eliteworld is the human factor. But the media always tell that individual elitepersons are hardly responsible for mistakes. The greater part of the masses remains deceived by such fairy-tales. The words of **Abraham Lincoln**, one of the first presidents of the United States, that you can fool some people always but that you can only fool all the people some of the time, seem incorrect. The planners seem to fool most masspeople all of the time. But time and again the masses are set on fire when they amass in demonstrations. Then the police or the army protects the elite till the massworld is again harnessed. The anger of the masses is always directed against security services but it is better to avoid clashes with the police. Police are only a stick with which the elite castigates the masses. When someone hits you with a stick it is useless to take that stick away when there are many sticks lying around. Only the man who handles the stick is important. Sticks to hit the masses or police to control the masses continue to exist when part of the population possesses more power than the rest.

"When the differences in power disappear, the police will change from a punishing into a helping instrument. The protection of private possessions of masspeople can be cared for through social control. The exclusive possessions of elitepeople won't remain private but will be moved to museums where they are available for everyone. Now the police has to maintain law and order, the order the elite wants and the laws that gives the elite the possibility to get more wealth. The elite is even the cause of many conflicts in the massworld. The greed of the elite is copied by masspeople and because the acquiring of more goods by one individual goes at the cost of goods of other people crime is just around the corner. The police is mainly engaged in the prevention of small thefts and traffic accidents. They do hardly anything when they have to combat big crimes as production of imperfect goods, environmental pollution, bribery and corruption, employment of people without sufficient protection, acquirement of privileges and so on. When the police interferes in the drugs scene big financiers, captains of finance or directors of banks who collaborate in the whitening of drugs money stay out of range. What happens in the eliteworld lies outside the competence of the police. For their existence the police is dependent of the elite and it has to listen to people who butter their bread. The top can only be attacked in an independent manner. There lies the foundation of the power of masspeople, in the attack on the private life of planners.

"A spider can't catch flies without a web. The power of an eliteperson is reduced when the threads of his web are cut. In the jungle a rich and a poor man aren't different. When his wealth, his function and his network have disappeared, a rich man is thrown back on his human capacities. An isolated eliteperson isn't powerful. Of course someone can be hurt when the threads of the web are cut but you can't fry an egg without breaking the eggs. In the course of the ages the elite has harmed many masspeople. Not only by activities of drugs dealers, speculators, embezzlers or racist demagogues but also by those powerful people that determined the unchangeable structure of our society. And I don't say anything about those elitepersons that pushed masspeople into the graveyards of a war. The damage the elite caused to the masses is many times bigger than the masses ever can cause to the elite.

"It is useless to react when someone steals a car radio. It is probably a massperson and the assurance company pays for the damage. These thieves steal things of low value and will never rise to the eliteworld because they can’t steal sufficient radios. The elite doesn’t steal radios but it forces masspeople to pay many dollars for the use of a radio. Because the law protects elitepersons they can steal much more than masspeople. Because they determine their own high income you can rightly say that planners are corrupt. Corruption is the use of the own position to acquire more money and privileges. And I won’t say anything about the towering immaterial damage when for example the elite blocks further investigations into Creative Artificial Intelligence or when they don’t allow masspeople to become individuals. The misdeeds of the elite are much more important than the small inferior things that go wrong because masses are acting incorrect. You have to direct your attention to the principal cause. That cause is the social power of elitepersons. You have always to wonder who possesses most social power, who are the powerful men that have to be attacked."

15. GET CRACKING!

Hakima and John looked at each other and said at the same time: "Let’s start!" And John added: "I am going to look for an eliteperson that hampers my private development. As compensation I am going to annoy him in his private life."

What the result will be of the activities of masspeople like John and the scarists cannot be predicted. But without independent, creative and autonomous actions of masspeople the world will petrify and humanity will be doomed.

MATHEMATICAL CHIP

A. SOME OLD PHILOSOPHICAL IDEAS

Ludwig Wittgenstein was a philosopher who lived in the first part of the twentieth century. He started from the idea that language was a logic system and concluded that the world was also a logic system. A proposition p was true or false. P and not-p filled the whole space. Obviously he never had understood the uncertainty principle of the physical philosopher **Werner Heisenberg** who lived in the same period and who had demolished classical determinism. He advanced the idea that when some characteristics of an object were known into the smallest details of other characteristics nothing of value could be said. If the position of an electron is known, the speed of that particle cannot be established – and vice versa. P and not-p do not always fill the whole space. Not everything in our world can be determined in an unambiguous manner. Besides p and not-p there is also a maybe-p, an Idon'tknow-p or even a q, r or s and only the resultant of all these characteristics fill the whole space. W. used nearly always two-dimensional arguments that are easy to understand by three-dimensional humans: something is true or not-true. But then you suppress the third dimension. Nowadays the two-dimensional Boolean Logic is still the basis of computer programs that use only ones and zeros. But the world of the computer is very different from the human world.

Extrapolating the theories of **Wittgenstein**, Artificial Intelligence is only the perfection of computers with logic programs without any creativity. Deterministic programmers advance the idea that even the most primitive computer can think and can be called intelligent. But computers are far away from what we call human intelligence. The human brain can modify logic reasoning with non-logic arguments. That is evident form the centuries old controversy between chess played by humans and chess played by computers. A chess-computer can beat humans because chess is a fairly simple game with a limited number of possibilities. Besides humans make sometimes simple mistakes the computer never makes. But humans use deeper concepts and the computer only calculates his moves. It only uses concepts that humans have added to their programs. In humans these concepts arise from a combination of ideas out of the past, the present and a possible future. They are not based on correctness but on feelings, intuition or vague notions. The computer remains a mechanical screw jack that is sometimes stronger than a human but cannot be compared with a human. Human chess is of another quality than computer chess. The computer looks always for the best move, humans sometimes make dubious sacrifices because that sacrifice is nice, ethical, interesting or beautiful. People are able to exploit creative thoughts and new insights because they cannot oversee the future effect of their actions. Computers can never use creative, insecure or beautiful ideas when assessing the value of the next move because they know the future outcome of their moves.

A chess player cannot become a strong player when he plays chess in the same way as **Wittgenstein** looked at problems in languages. He studied primitive forms of language 'without the conflicting background of very complex processes of thought'.

He thought that by following a logic and causal way complicated situations could be derived from simple things. This denies the fact that in a complex situation unexpected changes can arise because the number of interactions rises steeply. Complex processes are often discontinuous because they include insoluble contradictions. Human ideas are sometimes influenced by a catastrophical shock. By developing the Theory of Catastrophes the mathematician **René Thom** who also lived in the twentieth century made a big contribution to the development of strange theories which can be of use in understanding of human thinking. Nowadays these theories are obsolete and it seems you are not allowed to think about infinity or discontinuity. Simple processes are mainly continuous but simplicity is not the whole story. The sum of many simple parts can be equal to the total but it may also be less, more or different. By increasing complexity the possibility of qualitative jumps increases and also the possibility that the process get stuck and can only proceed with the help of forces from the outside. The human brain is unusual because it can get out of a swamp by pulling at its own hairs. When we have established that the human brain works 'different' than computers work it will become possible to introduce 'other' methods in computer systems such as fuzzy sets or four-dimensional techniques.

The mathematician **Kurt Gödel** lived in the same period as **Wittgenstein**. He advanced the incompleteness theorem. Not all propositions in a closed logic system can be proved within the framework of this system. The mathematical space can never be totally filled by a logic system. You need something else than logic to reach the otherwise unreachable parts of space, you have to leave the system to make the system fully sound. In contradiction to a machine the human mind has the possibility of reflection, to consider the own ideas from the outside. This is maybe one of the most important differences between man and machine: the possibility to fill the gaps that are left open by logic systems. Wittgenstein never included the thoughts of **Gödel** in his contemplations.

There are more arguments against the ideas of **Wittgenstein** and his fellow-philosophers. They start from known and predictable facts and from dead objects while humans are alive. The behaviour, the way of acting and especially the ideas of an individual cannot be predicted. Dead computers can only establish and derive facts that are already included in computer programs and building materials, in soft and hardware. People can make something completely new, they can even produce new people. That is unique. In the far past humans started from scratch. Every individual human contributed something to the development of humanity. Robots or computers never come forward with something really new. Only when humans add their chaotic creativity something new can come into being. The research of Creative Artificial Intelligence that is based on mechanical methods will end in a dead alley. Dead things are not really important, they can always be reproduced. Humans add their own living knowledge and in every human this knowledge is different. That is lacking in CAI-experts. They concentrate on the improvement of computers or on the imitation of the human brain. They do not take into consideration what exactly makes humans so different, so human. It seems prohibited to analyse the human way of thinking. Therefore the development of for example more-dimensional fuzzy logic by which you could get a better understanding of human thinking is discontinued.

People can meditate about problems. They collect arbitrarily and sometimes even contradictory data. But they do not order these systematically as a computer does. Out of this multitude of chaotic data suddenly new ideas come forward. Most people have only a few new ideas in their life because creative thinking is suppressed in favour of mechanical thinking. The facts of life are twisted when you prefer the logic method of the computer above the creative method of the human brain. But it appears to be the normal way of thinking of the very learned gentlemen at the top of the Technologic Top Institutes. They fear chaotic ideas of other scientists because it undermines their own stable and comfortable position. The scientist who advances one hundred percent but mechanical idea is preferred above the scientist who advances ten creative ideas from which maybe one will turn out to be useful. Planners in top institutes cannot accept responsibility for nine proposals that cannot be used and so they throw away some really interesting new ideas. All noses have to be directed in the same way. And this direction is the mechanical way of thinking, the idea that humans and computers are essentially the same. The ordinary scientist will not be hindered much by the ideas of the bosses. Only the lone wolf risks to be excluded from his group or even from the whole scientific world. And when you are excluded you will become lonesome and for most people loneliness is terrific. So they prefer to submerge in the masses and forget their creativity.

Expert systems have nothing to do with intelligence. An expert system is a means to save and classify information. Humans have to design the method of saving and classifying. The system cannot change its search method or the way to interpret information. It hardly can manage vague information and certainly not jump to and fro between different bits of information, which are apparently not connected. Expert systems and databases can be used as a supplement to the human memory. Then memory is increased and a greater part of the brain can be used for creative thinking. In the past it was difficult and time consuming to collect information in libraries and books. Nowadays everyone has a vast amount of information at his disposal. Therefore expert systems are used in chess. Direct mistakes in the opening are evaded because you can look in the memory of the computer. Deep calculations are better made by the computer. But creation is absent. Expert systems can only start from the past and from the existing, never from the future or from the impossible. It will be very sad when the creation of new things are trusted to these systems. They are too rectilinear. You need fantasy when you want to produce creative thoughts.

The philosopher **Friedrich Nietzsche** lived in the second part of the nineteenth century. He was one of the first men who attacked Christianity in its behaviour as well as in its basis – the belief in one or more Gods. He propagated an individual philosophy of life. Man could not base his existence anymore on the belief in a God but had to turn to himself. People should seize power and the succeeding democracy should eliminate any leading class. It seemed a progressive idea that propagated individuality. But **Nietzsche** took another direction because he could not rid himself of the idea that man had to adhere to universal recognised standards. In the past these standards could be distilled out of centuries-old religious books. But where could you find standards for a decent living in a society, which had been freed of Gods? **Nietzsche** claimed that man had to determine his own standards and he associated with **Sigmund Freud**s idea of an unconscious spirit. His rule for the coming into existence of moral values consisted in the idea that everybody should be himself and

that individuals had the right on their own individual knowledge. However **Nietzsche** still adhered to the way of thinking of the elite because later he advanced the idea that moral standards had to come from great leaders because only they had proven to perform in a new and great manner. His most important model was **Napoleon** despite of the fact that this sick megalomaniac had brought havoc over Europe and had driven millions of masspeople into a useless death. The will to power – the title of his last book – was about the power of the individual man, which expressed himself in the deeds of the great rulers. He loathed weak men and hoped a new superman should arise who could not be controlled because he had a free mind. He had some valuable ideas for example when he pointed to the uniqueness of man that could not be ordered about by restraining ideologies. But he returned to the principle of the leader, to the man who had proven to be powerful. All other people had to look up to these supermen. Also because of the writings of **Nietzsche** individualism is nowadays an accepted idea. And the idea that the meaning of life can be found in man himself and not in some higher power that man cannot influence.

Douglas Hofstadter proposed a method how to learn more about thought processes. Take six numbers, for example 1, 3, 6, 8, 9 and 35. You have to make the last number by using one or all of the first five numbers only once and you may only use addition, subtraction and multiplication. The problem is fairly simple and the first solution I see is adding 6 and 1 and multiplying this number with the difference of 8 and 3. Why do I see first this solution? I now see a second solution by multiplying 3 and 6 and then adding 8 and 9. How do I use my brain in this simple problem? The first solution I can explain as follows: I know 35 is 5 times 7. I wonder if I can make the biggest divisor (7). Indeed I can do that by subtracting 1 from 8 or by adding 1 to 6. When I have used the 1 and the 8 the 3, 6 and 9 remain. I cannot make 5 with these three numbers so I look at the other possibility. When I add 1 and 6, 3, 8 and 9 remain. I can make 5 by subtracting 3 from 8. OK, problem solved. The second solution is less clear. I have multiplied 3 and 6. Why? I do not know. But the answer is 18 and 35 minus 18 make 17. And of course I know that 17 is the sum of 8 and 9. Now I see suddenly a third solution: multiply 6 and 8, subtract 13 (the sum of 1,3 and 9) and you get 35. Let's see …….. I now see also (3 + 1) x 8 +9 -6 and …….. (9 -3) x 6 - 1 and …….. 9 x 3 + 8 and …….. and 9 x 3 x 1 + 8 …….. and 9 x (6 - 3) + 8 and …….. . But now I am searching in a systematic manner by using the brute force method. It is not important to find all solutions. I hope to understand how people arrive at solutions and so how they think. I want to know how I arrive at the first two or three solutions. Therefore you need more complicated problems than a simple sum with six numbers. That does not give enough insight in thought processes on a higher level. It gives some indication but it is not permitted to extrapolate this indication to real thinking. That is reductionism, the explanation of complicated things by analysing and understanding small details. That is disgusting.

MATHEMATICAL CHIP
B. MATHEMATICS AND SOCIETY

Exact sciences have clarified many things. Many principles are known but you never know. We still know little of the working of the brain, the origin of life or the why of the existence of matter. To develop space travel we need new discoveries and new principles as were found by people like **Newton** or **Einstein**. But it is very expensive and sometimes even too complicated to penetrate into the smallest particles or into the far outback of our universe. It was indeed surprising when was established that life did not originate on earth but came from the universe. It should be a big shock indeed when we should establish that life on earth is brought here by intelligent beings that live elsewhere in space. But it was also a kind of shock when we discovered that life was abundant in cosmos and that life did not arise only on our small earth. **Nicolas Copernicus** destroyed the belief that the earth was the centre of all matter, **panspermia** destroyed the last bastions of the Earth-centred theory, which propagated that the earth is the centre of the universe.

Despite the opposition of the top of the scientific world the twentieth century saw the emerging of some radical new ideas. Quantum mechanics overthrew the foundations of classical physics and established new foundations on which all our modern understanding of atoms and particles, chemistry and molecular biology is based. It introduced also a fundamental uncertainty in life that contradicted with the existing 'logic' mathematics. This idea hardly penetrated in non-exact science. Probabilities are used but uncertainties undermine the philosophy of human existence. Ideas based on the use of more than three dimensions remained a dangerous field of research. Therefore space journeys to other planetary systems will remain a fantasy. A scientific break-through is needed but the leaders of the Scientific Network block progress. The development of mathematics stopped. This was promoted by the coming into being of Centres of Intelligence, a Network of Top Institutions. Most of the research money went to the Network and independent research did not get much support. Only a few people ventured into uncertain fields. In the beginning the Network had good results for example with the development of computer techniques and the unfolding of the present Information Age. However after some time development slowed down. Research became limited to the putting into practice of findings done in past centuries. Less and less money and people were available for fundamental research and no new roads could be taken. The jump towards unknown worlds that could accelerate social developments was blocked. That was not surprising because for many centuries the credo of science had been the accomplishment of gradual and slow progress by the perfection of the known. It was indeed nothing new that seated scientists obstructed the application of new discoveries because they wanted to protect their positions. Number Theory has even waited for two thousand years before it was used and then only in specialist applications in connection with the protection of money transactions on Internet.

Ideas that can turn the existent situation upside down are not welcome. Only small gradual changes are allowed, there is no room for jumps. That is strange because

nearly everyone is convinced of the fact that ancient hominids did not change gradual to the present Homo Sapiens. The human brain grew in jumps and not in a gradual manner. And things that sprout from our brain advance in the same way. Since the sensational book of **Thomas S. Kuhn** about the structure of scientific revolutions we know that scientific progress only happens when independent thinkers make jumps.

When mathematics will be used in a completely different way as it was used in the last two centuries it can support ideas about life that are now threatened to drown in a multitude of assumptions, guesses or unfounded proofs. Long ago mathematics was an integral part of all scientific disciplines and it was directly applied in social life. This changed gradually, scientists became specialists and mathematics an abstract study disconnected from society. Mathematics dissociated was excluded from social developments and the connections between exact and non-exact sciences became weaker. Mathematicians locked themselves up in an ivory tower, partly out of free will because they lost interest to apply their findings in daily life, partly forced because society did not want to put new ideas into practice. An important part of mathematics remained hidden in the study-rooms of mathematicians.

In the second part of the twentieth century some people decided to leave their ivory tower. They emphasised the use of mathematical methods in massive phenomena with which much money could be gained. Mathematical statistics, the use of probabilities, game theory and so on were everywhere promoted. These mathematical models were very helpful in the production of articles for mass consumption and in the insurance business. The employment of mathematical theories in the human and social sciences remained limited. The very dubious results that were anyhow obtained were however accepted without much criticism. This was caused by the growing belief in the correctness of numbers. The results of random tests and inquiries were accepted as the only and the highest truth. New theories of critical mathematical thinkers were uncritical accepted and applied by policy-makers. That was also caused by the age-old idea that mathematics was difficult and that it was not needed to understand exactly what mathematicians meant. That idea still prevails.

How humans think is still not understood. Human thinking only exists for some hundreds of thousands of years and is fundamentally different from the primitive way of thinking of animals. Though it is fashionable to attribute human characteristics to animals, this anthropomorphizing is based on nothing. Animal grieves, even plant grieves (people have to treat plants ‘well’) are being compared with human grieves. This contributes nothing to the contemplation about human problems. The attention is concentrated on primitive forms of thinking and not on the advanced human form.

Discontinuity, the Theory of Catastrophes, fuzzy logic, mathematics of chaos, the theory of fractals, a deeper understanding of the concept of infinity and of course a better idea of our consciousness are all subjects in which progress has stopped. But the solving of these problems can radical deepen the insights in human life and influence human society. .

MATHEMATICAL CHIP
C. DISCONTINUITY

Though there is a dominating attention for continuous developments you can wonder if developments are not always discontinuous. There are indications from mathematics that all seemingly continuous developments are in composed of many small discontinuities. Even when there exist continuous developments they form only a small p[art of the complete development in the course of time. You should also wonder about the possible significance of the concept of continuity in a four- or more-dimensional space for our three-dimensional thinking.

A situation sometimes appears continuous but when you look closer it is discontinuous. A sledge descends along a snowy hill. After a brief period of time the sledge advances a small distance and after the next period it advances again. It seems a continuous movement. Now we make the sledge gradually smaller. At a certain moment the sledge has become so small that it falls through the holes between the snowflakes. The continuous movement ceased. The two continuous movements (gliding down and becoming smaller) produce a discontinuity (the sledge falls suddenly down between the snowflakes). The smaller the sledge, the greater the irregularities. We can say that a smooth continuous surface does not exist. All matter is discontinuous. Simply said (but physically not right, especially if you take quantum mechanics into account) matter exists of an atom, then some space, then another atom and then again some space and so on. In theory you can speak about smooth surfaces, in practice a surface has many holes that are important when the sledge becomes very small.

What happens after an infinitesimal small change? When the sledge is made ten percent smaller nothing will happen. When this process is continued a quantitative change will occur at a certain moment. After the last very small change in length the sledge will fall down between the small parts of the snow. In the Theory of Catastrophes and the Theory of Chaos it is important to realise that a very small change in the primary conditions can cause a very large (and often non-predictable) change in the next situation. At the end of the twentieth century this idea of discontinuity contributed to the emergence of new mathematical theories connected with catastrophes, fractals and fuzzy sets.

René Thom was the founder of the Theory of Catastrophes. He realised that it was not evident that an infinitesimal small change in one variable gave rise to an infinitesimal change in another variable. A jump occurs when a small change in one place causes a big change in another place. Since **Euclid** mathematics has been dominated by the attention for continuous changes and certainty. This was supported by a mechanical and deterministic way of thinking in which the most interesting thing that could be found was the road between two well known and strictly defined places. When you stretch a rubber band the most interesting part should be what happens before the band snaps. Then you can describe exactly everything that happens after

each infinitesimal small change. Classical mathematics stops at the very point that the band snaps. The original starting point is still known but the end position cannot be determined by old mathematical theories. **Heisenberg**s principle of uncertainty undermines the continuity of the road that can be drawn between two known points A and B. It sows even doubt on the possibility to describe exactly the position of the points A and B. In quantum mechanics the starting position is mostly unknown and the same is true for the starting positions in problems connected with weather, economy or society. Then you need other mathematical instruments in which jumps are included.

The theory of jumps is founded on the idea that you have to go further than classical mathematics, which in the going from A to B makes a connection between every small change dx in the parameter x and the small change dy in the parameter y. But do you know if each dy is really connected to one or more dx's? Is it possible to establish where you will be tomorrow? Is it known where you want to go and do you even exactly know where you are today? Can the situation often not better be described in a fuzzy way and are roads often not better described by using the idea of discontinuity? The continuous road occupies a minor place under all the possible methods by which you can go from A to B. Some of the roads even cannot be drawn in a two-dimensional drawing. How can you draw a fuzzy starting point or a fuzzy end point, what happens during interruptions and jumps, how do you indicate what happens in an asymptotical transition and how do you draw a catastrophical jump?

All drawings are two-dimensional. Even then we cannot say which way is the most important or the most interesting, nor which road is best. What happens when B is not known? In which direction you will have to go then? What is the dy that belongs to that uncertain dx? Can this be established beforehand or must we develop a specific mathematical theory? In space journeys for example you know the starting point, the goal is already more uncertain and the space between begin and end is still less known. It is even not known if space is three-dimensional, maybe space contains more dimensions and is it possible to make strange journeys when you try to go from the earth (point A) to another planetary system (point B).

Mathematical contemplations about discontinuous roads are more interesting than contemplations about a continuous road. But donators of money are not pleased with research of discontinuities. They want to know what can be done with the results, they want concrete solutions. They do not want solutions for problems they do not know even if these solutions can be of importance in later times. The continuous method of thinking avoids unexpected problems. The discontinuous method advances solutions in unexpected situations and cares for big changes that are needed when the current situation asks for fundamental changes. In society these situations arise fairly often.

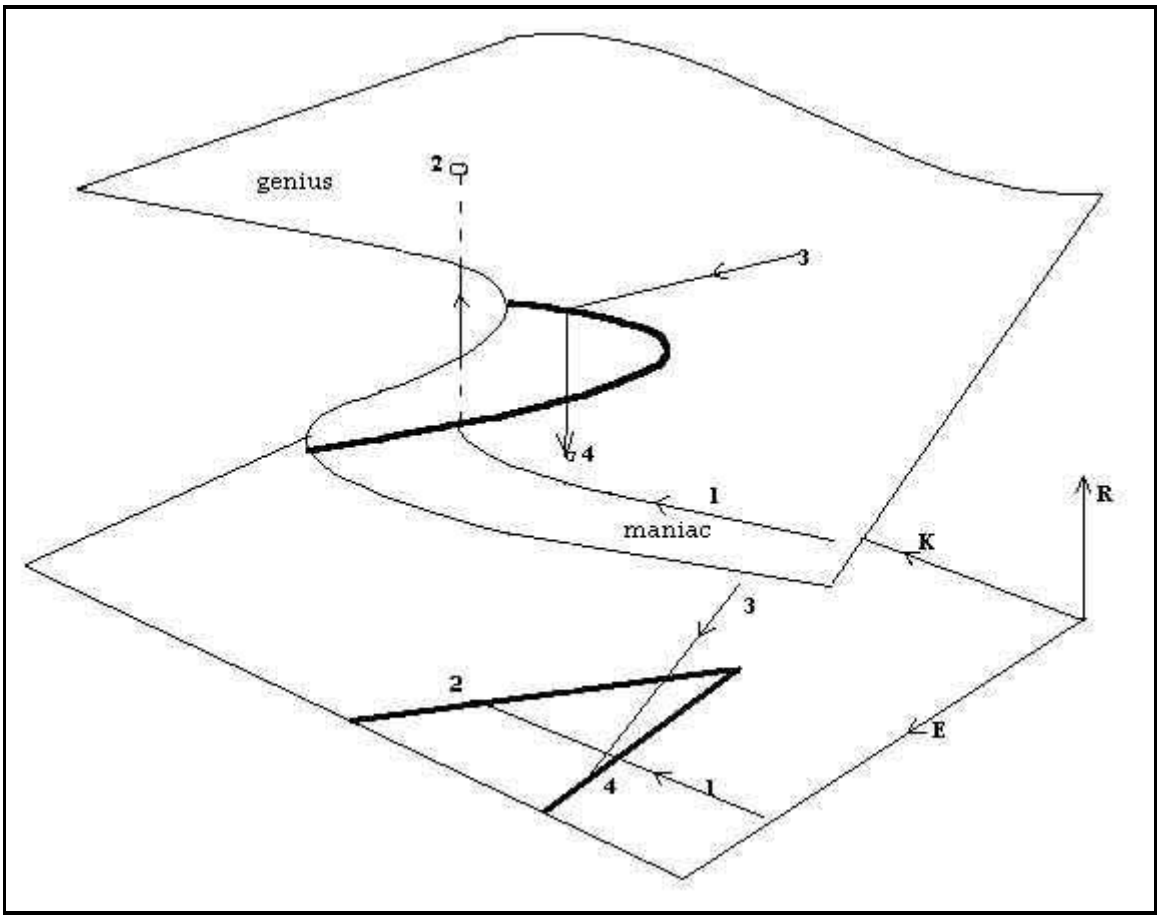
Mathematically we know that in for example limit situations an infinitesimal small change can cause a big change. But then we talk about a two-dimensional space or a space with a known number of dimensions. What happens when the change occurs in the direction of a new dimension? Then you get new relations and strange results and is it perhaps possible to make a real jump in space. It seems possible to return to the starting point in a continuous movement but when we go discontinuously from A to B it is doubtful we can return to A by the same road. When time is one of the

dimensions it looks nearly impossible but is time indeed a one-way street? Questions and more questions. That is lacking in the current science. Too much is taken for granted and nobody dares to attack established opinions though we still cannot explain everything. Do we indeed live in a three-dimensional space? Are humans indeed three-dimensional? We cannot answer such questions with the help of the known mathematics. With classical mathematics we will never reach the stars.

MATHEMATICAL CHIP
D. THEORY OF CATASTROPHES

With his Theory of Catastrophes the French mathematician **René Thom** brought in the twentieth century new life into mathematical philosophy that in the seventeenth and eighteenth century had been very important for scientific progress. The Theory of Catastrophes is not a strict mathematical theory. In a world were facts are disputable the theory can be used as a divergent method to consider problems. **René Thom** pointed also to the petrifaction in science. He perceived that scientists who worked in non-mathematical fields preferred to avoid new mathematical theories. A mathematician who wanted to say something about sociologic problems was often told he could not attribute anything of value because he had not enough specific knowledge of sociology. There was hardly any contact between different scientific disciplines.
Evolutionary biologists found the controversial judgments of the astronomer **Hoyle** about the theory of evolution undesirable. The saying 'cobbler stay to your last' promotes specialisation and blocks progress because the cobbler cannot use ideas from elsewhere – and vice versa. An important factor is that in the non-exact science, beginning with biology, the attention is concentrated on experiments and theorising is underdeveloped. In social sciences the gathering of information is in its infancy and the use of quantified models is problematic. The Theory of Catastrophes could fill the lacuna between qualitative and quantitative science using analogies with problems that are researched elsewhere. But only the elementary Theory of Catastrophes is in some degree elaborated for problems with only three variables. For more complicated problems the theory was not further developed.

People are three-dimensional and on a two-dimensional paper it is hardly possible to draw comprehensible diagrams with more than three dimensions. The following diagram gives some idea of the way in which the Theory of Catastrophes can be applied.



The figure is copied from the book of **V.I.Arnold**, Theory of Catastrophes. A slightly different drawing can be found in the book of **R. Thom**, Parabolas and Catastrophes.

On the K-axis the technical knowledge and possibilities of a group of scientists is recorded, on the E-axis their enthusiasm while the value on the R-axis is a measure of the obtained result. According to the Theory of Catastrophes upward and downward jumps are possible. In the last case the involved scientists will utter the strangest ideas and science will be obstructed in her development. The continuous existence of the idea of a Big Bang is also caused because astronomers lack deeper philosophical knowledge. Therefore they cannot interpret scientific data in the right way. Investigations into the coming into being of the universe are obstructed by these incomplete theories.

In the diagram everything happens in the upper curved and folded plane. The fold is one of the seven singularities that are possible in a three-dimensional space. The curved plane (K,E,R) is projected in the flat plane (K,E). All points between the two intersecting straight lines in the flat plane (K,E) correspond with more than one point in the upper plane (K,E,R). The other points in the lower plane correspond with only one point in the upper plane. A jump can occur when the projection of a development in the upper plane crosses one of the intersecting straight lines in the lower plane.

Results in science are dependent on knowledge and enthusiasm. If enthusiasm is small than the result increases slowly and continuously with the growing of knowledge. But as enthusiasm also increases than there is a possibility – when you

follow the line with the number 1 – that when knowledge is also growing, a jump can occur in point 2. The result will increase very fast and the scientist can get the designation genius. In a reversed order we can read from the diagram that when a growing enthusiasm is not supported by a growing knowledge (following line number 3) a downward catastrophe can occur in point 4. The result will fall down as a stone and we can say that the people who were active in this kind of investigations were idiots and not scientists.

This is a very simplified situation because there are more factors than only enthusiasm and knowledge. And because the upper plane is not continuous but contains more folds and other singularities. Therefore many small jumps can occur that sometimes improve the result and sometimes will cause a setback. The principal factors contain many sub-factors, which cause that principal factors develop discontinuous. The scientific development after **Copernicus** proved that knowledge and enthusiasm can indeed change very fast when new ideas come forward. The same scientists looked at the same facts in a different manner when became known that the world was not the centre of the cosmos. I did sketch a three-dimensional diagram but the system is in reality more-dimensional and hardly comprehensible for the human mind. In analogy to the development of the prices on the stock exchanges, where jumps also occur, it should be helpful to introduce a system of support levels. However the Theory of Catastrophes did not yet incorporate such ideas.

It should be possible to use the Theory of Catastrophes to establish how a sportsman could reach the top of his form when he needs it. What are the most important factors and how can you influence these factors in order to achieve a jump in capacities? Because of insufficient research into the quantification of the necessary factors this is now not possible. The factors include the physical and mental situation, the environment, the situation in the sporting arena, the relations with family, trainer and fellow team members, the sporting materials, the kind of opponent and so on. All these factors contain sub-factors. For quantification you could use fuzzy logic that is working with vague conceptions. You start for example with a simple model with the physical factor on the K-axis and the mental factor on the E-axis. Then you expand this model with sub-factors. It is an example of the use of support levels because every sportsman always can achieve a minimal result when his physical and mental condition is normal.

In the course of an investigation in creativity you start with a model with on the first axis the value of the amount of information available to humans. On the second axis the value of the ability to combine this information and on the third axis you should find the quantified result. Then you refine this three-dimensional model by more dimensions. Maybe we could get some understanding about human thinking and about how humans can improve their thinking. But this is still a daydream.

The possibility to obtain jumps stands in sharp contrast to continuous theories. The development of the fauna and flora according to **Darwin**, the **Newton**ian physics or the infinitesimal calculation are continuous theories. The Theory of Catastrophes and the development of human life are discontinuous. Most attention is directed towards continuity that is relatively easy because continuous processes can be controlled and reproduced and because it is possible to use computer calculations. The computer is

also a product of continuity. For many scientists an irreparable destruction after a jump is an alarming idea. Only in pure mathematics, for example in topology of which the Theory of Catastrophes is a part, there is still some development but this branch of science is hardly accessible for non-mathematicians. The application of the Theory of Catastrophes in other scientific fields fell into oblivion even after the theory knew some successes, for example in regard to the capsizing of ships.

Long ago some non-exact scientists explained strange movements in ice with the help of some three-dimensional diagrams belonging to the elementary Theory of Catastrophes by using the fold. For these theorists it was a pity that mathematicians had already solved the problem in another manner. Intensive contacts between different branches of science have always been rare. Other applications of the Theory of Catastrophes were mostly of the describing kind. So some loose remarks were made about the use of the theory in events as the quelling of prison riots, the control of masspeople in violent mass demonstrations or the behaviour of vicious dogs. All these applications had the purpose to end a period of chaos and to re-establish order. That is contrary to the idea of René Thom. He investigated how a continuous situation suddenly could change into a discontinuous one, how chaos could sprout out of order. His ideas have great value for creative thinking in which a continuous train of thought is interrupted by sudden new ideas. The Theory of Catastrophes could be used as a vehicle for the hypothetical, for the scientific imagination. But research into these radical mathematical ideas has stopped. Therefore further research into of Creative Intelligence will remain an illusion.

MATHEMATICAL CHIP
E. FUZZY LOGIC

The uncertainty relation of **Heisenberg** undermines the mechanistic worldview of **Descartes** that continues to dominate mathematics and physics. **Heisenberg** noticed that something was wrong with physical laws and improved the laws by introducing uncertainty. He did not make new laws based on uncertainties. He determined that when you knew exactly where a very small particle was, it was impossible to know anything about the speed of that particle. Inside the deterministic doctrine not everything could be measured in a discrete manner. There do however exist non-discrete ways as in fuzzy logic but that was something Heisenberg could not know yet.

Everybody uses fuzzy concepts. How do you know that something is a chair when you sees only a very small part of the object? Why is a chair called chair when you can hardly sit on it – which is by the way often the case when so-called artists design chairs. Many chairs resemble tables – and some tables can be used as chairs. We could say that some chairs are chair for the fully hundred percent. Other objects are chairs for 90 % and again others are maybe 60 % chair, 20 % decorative and for the rest a table. The concept long is also fuzzy. We say that someone is long even when he has a much longer stick in his hand. Women are on average smaller than men but a woman can be long while a man of the same size is not called long. We use the same word long for two different measurements and the human brain is not troubled. Discrete you could say that someone is long when he is longer then one point ninety meter. But is someone who is one meter and eighty-eight centimetres not long? In the collection of humans you can say that someone with a length of two meter is long for about ninety percent while someone with a length of one meter and ninety centimetres is only long for seventy percent. We can live with fuzzy concepts but it is very difficult to make calculations with fuzzy numbers.

Chess players often have a different judgement of the same position on the board. One prefers the white position (but in how far?) and the other the black one. They look at different characteristics of the position (pawn structure, activity of the pieces, possibility of an attack and so on). Judgement differs because the first prefers the pawn structure while the second gives more weight to the activity of pieces. It is very difficult to quantify these vague concepts. Therefore it is difficult to use such concepts in computers, which uses discrete numbers (ones and zeros). You need a different method of calculation to connect vague concepts. It is not sufficient to translate vague values into discrete ones, use normal algorithms and then at the end translate the found discrete numbers again in fuzzy concepts.

In Japan they use a kind of fuzzy logic based on discrete numbers. Washing machines determine with sensors a value that tells something about the amount of dirt. The weight is also measured and a third sensor looks at the colours. Then an algorithm determines how much water and washing powder is needed and what the temperature of the water has to be. These variables are independent from each other

and they can be quantified. So you get a washing machine with thousands of programs. This pseudo fuzzy logic is also used in lifts, which on their own accord travel to those floors where most people are waiting. And in cameras to compensate for tremors in the human hand. But this is not real fuzzy logic. The fuzzy situation is split up into very small steps after which discrete values are allotted to the parts. These values can be used in calculations according to the Boolean logic. Boolean logic is by the way a special part of fuzzy logic. It looks fuzzy but it is still discrete. This soft Japanese computing is still computing. Vague concepts are being converted into numbers that can be used in a computer. Our brain works with real fuzzy computing.

In industrial applications quantification is possible. Quantification of fuzzy chess values is nearly impossible. The variables in chess do not have a discrete value. The variables are dependent on the judgement and the attitude (more aggressive, more defensive and so on) of the observer. Besides the fuzzy values are interdependent. A change in the pawn structure has a vague influence on the activity of pieces, a decrease of the number of pieces increases the importance of the pawn structure.

Fuzzy numbers are vague. The value of a certain chess position could be established by the strength of the position of the pawns and the activity of the pieces. In a certain position the strength of the pawns is between 0.4 and 0.7 on a scale that goes from 0.0 to 1.0. The value includes the expectation about how in future – when all pieces have disappeared – the value of the position of the pawns is in the ending. Fuzzy means also that the value 0.4 is not less probable than the mean value 0.55. The distribution of values does not follow the normal distribution of Gauss. The diagram of the lengths of the Dutch population resembles a bell in which the values in the middle are more frequent than the values on the edge. Fuzzy numbers cannot be represented in diagrams.

Adding of vague numbers is difficult. In the above mentioned chess position the activity of the pieces lies somewhere between 0.2 and 0.6. What is the value of the whole position? It is not correct to calculate the mean of the sum of 0.3 (0.2 + 0.6 divided by 2) and 0.55 (0.4 + 0.7 divided by 2). You have also to take into account that the position will change after the next move. When for example a pawn advances the position of the pawns is weakened while the activity of the pieces can grow. Some calculation techniques have been developed but they are mostly based on converting fuzzy numbers in discrete ones. In our brain other processes take place in which the unconscious brain adds fuzzy numbers by means of an unknown technique after which the conscious part – by regarding the proposed result from the outside – looks at the result. When the result does not satisfy our conscious brain orders the unconscious brain to apply another fuzzy technique to the fuzzy numbers in order to arrive at a different answer. It is probable that the brain uses fuzzy techniques, which cannot be used by computers.

You start with a fuzzy input that leads via fuzzy dependency, fuzzy thinking, fuzzy judgement and fuzzy logic to a fuzzy output. On the basis of a fuzzy complex the brain decides which piece or pawn has to move. The brain includes in its judgement also fuzzy ideas about such fuzzy facts as the aggressiveness of the opponent. The discrete position on the board gives rise to a fuzzy process that results in a discrete decision: only one move can be executed on the board. For this kind of fuzzy process

techniques we do not have any theory. We do not know how we can obtain a fuzzy output from a fuzzy input. About a century ago science stopped to contemplate about such problems.

To use fuzzy thinking one must not be dominated by the idea that was already brought forward by **Galilee** when he remarked that the book of nature was written in a mathematical language. He pointed to a discrete and not to a fuzzy ordering. People think sometimes fuzzy for example when they want to park their car near (a vague concept, thus fuzzy) the sidewalk. They have to learn to use fuzzy thinking in a more conscious way and leave discrete calculations to the computer. Humans mostly fall back on discrete values but it is better to think in probabilities and uncertainties. Though the thinking of chess players has many fuzzy elements, they regard their ratings mostly as an absolute value of their strength. The strength of chess players is given by an ELO-number. Someone with an ELO of 2000 is stronger than someone with an ELO of 1800. The weaker player is often afraid of the stronger one and he regards a win as a surprise. Nonsense! ELO-ratings are not discrete but fuzzy. They give only an indication of the strength. When a match is played between two players with ELO's of 2000 and 1800 the strongest player is expected to win by 7 ½ against 2 ½ points. So it is quite normal when the weakest player wins two or three times in every ten games the players play. The ELO-number is of course also built up from many fuzzy elements. There is a difference in strength when someone plays with the white or the black pieces, the strength varies when someone slept well, does not have troubles outside the game, plays his own trusted opening. The ELO-number is made by a fuzzy addition of many fuzzy factors. Of course someone with an ELO of 2000 does not always make moves that belong to a strength of ELO 2000. Sometimes he makes beautiful moves, sometimes he blunders – it is all included in the number 2000. But someone with an ELO of 1800 makes less often beautiful moves than someone with an ELO of 2000. By the way, ELO-numbers are not real fuzzy numbers but probabilities in which fuzzy elements are included. The example of the ELO-number makes clear that humans have to change their way of thinking in the direction of vague concepts.

It is fairly difficult to get accustomed to fuzzy numbers and probabilities in case of the aforementioned relatively easy cases. When problems get complicated thinking becomes even more difficult and it is even more important to change the way of thinking. It is striking that in conversations most people understand fuzzy concepts fairly well. Words as about, maybe, long, short, nice and agreeable are all fuzzy. In a conversation these words are never described exactly. Even the question what is life is fuzzy. Viruses grow but they cannot reproduce. Are they alive? People are alive but when does human life begins? With the first two cells from which later a human will grow? Or is it needed that there are 4, 8, 16, 32, 64, 1024, 8192 or even still more cells before we can call a living entity human? The whole abortion discussion turns around such fuzzy concepts. Fuzzy exists, the consequences are everywhere and it is strange that scientists mostly avoid this reality. In some simple cases they use fuzziness but when problems get more complex fuzzy disappears and all is expressed in absolute values. But in complicated problems precise descriptions become meaningless and meaningful descriptions are not precise. Let humans become a little more chaotic.

MATHEMATICAL CHIP
F. FRACTALS AND THE THEORY OF CHAOS

Life often makes jumps, life is often chaotic. That makes life interesting. Chaos is unpredictability, the situation in which the effect cannot be derived from the cause and in which the cause cannot be found by analysing the effect. It is strange that chaos is nearly banished from science because humans are often chaotic and can bring about chaotic situations. Moreover chaos is more interesting than investigations of continuous events in which everything can be predicted.

Benoit **Mandelbrot**, a contemporary of **René Thom**, was prominent in the development of the Theory of Chaos. He did not investigate orderly mathematical diagrams, which since **Euclid** dominated mathematics. In a mathematical way he tried to describe odd forms as coastlines, lightening flashes or snowflakes. But he did not favour chaotic situations. He thought that everything in nature was orderly and regularly. But life be unlivable when everything should follow the order led down by mathematical formulas! Mandelbrot regarded the world in an incorrect manner. You must look for those places in which order is broken by beautiful irregularities that upset the musty conformity. Uncertainty is hidden in all seemingly regular situations. **Gödel** pointed in his incompleteness theorem to this fundamental law. The Theory of Chaos adds more arguments to the idea that irregularities are the driving force in the world and in our thinking. Vague factors can cause a break in the development of Creative Intelligence.

Our own body is so complex that you hardly can imagine how it can be built by a limited number of genes. It is possible that genes use fractal formulas that are connected with the Theory of Chaos to shape the human body. In this way they can make very complicated structures with the help of simple mathematical formulas. These formulas are transmitted to the progeny so that new people resemble very closely their ancestors. Our vascular system has a fractal structure, a modified form of the tree of **Pythagoras** in which every next branch is half as thick and half as long as the preceding one. The well-known drawing of **Leonardo da Vinci** of a human body with stretched arms and legs within the contours of a circle indicates that many proportions in the human body conform to simple mathematical formulas in which the product of two distances a and b equals the square of a third distance c by which the sum of b and c equals a. The frequent occurrence of the Golden Mean in living organisms points to the fact that genes can use the same information in various places in the body. It is striking that there are only a limited number of basic forms in nature. This contradicts to a certain degree the existence of chaos but we know from mathematics that simple starting conditions can have very complicated effects.

Nowadays everybody knows the importance of **fractals** because they are part of Computer Art. Landscapes and other backgrounds in animated motion pictures that are made with the help of this technique. In physics fractal theory is used to understand the Brownian Movement of small particles that are suspended in a liquid. In biology fractal theory is used to describe the change in succeeding generations of

insects. Other mathematical formulas also have some connection with irregularities in nature. A **Fibonacci** number is made by adding the two preceding numbers. So you get the sequence 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, …….. You find these numbers everywhere in Nature for example in the spirals that are formed by the seeds of sunflowers. The ratio of two succeeding Fibonacci numbers approaches about 1.6, or more accurate the sum of 1 and the square root of 5 divided by 2. That number is also connected to the Golden Mean. This kind of mathematics can be an expedient in understanding intelligence when the ideas of Mandelbrot are turned around. You must not look for order in chaos but for chaos in order. The attention should not be directed on deterministic chaos but on chaotic order.

The word fractal comes from the Latin word frangere, which means break. One of the aspects of the theory is the 'broken dimension', an interesting but for me incomprehensible term that never has been elaborated and of which I do not know any practical example. The mathematicians who were obsessed by continuity emphasised the geometrical self-similarity in which fractals repeat themselves in smaller and smaller forms in which the original form always returns. A fractal seems irregular but it gives in fact an endless row of regular formed mathematical pictures.

You can make a fractal by considering pairs of numbers with a special algorithm. Each pair forms a point in a two-dimensional plane. With fairly simple mathematical formulas you get meaningful results. The formula of **Verhulst** is X(n+1) = aX(n){1-X(n)}, in which X(n) is the value of the X-co-ordinate and X(n+1) the value of the Y-co-ordinate that belongs to the first co-ordinate. Then you use X(n+1) as the new X-co-ordinate and you calculate the new Y-co-ordinate by using the formula X(n+2) = aX(n+1){1-X(n+1)}. And so on. A regular irregular picture comes into being that has some meaning in biology. When X(n) is the number of insects of the first generation then you can calculate with this formula the number of insects in next generations. It appears that dependent on the factor a the number of insects develops towards a fixed value. The value a is influenced by ecologic factors. Different values of a give different pictures. When you put all these different values of a in a sequence than the ratio of two consecutive a's has a constant value, the number of **Feigenbaum** (about 4.6692016…..). This number is a universal constant that you can find on many places in Nature. It has a meaning in the transition of phases in physics and also in the explanation of the behaviour of helium atoms near a temperature in the vicinity of zero **Kelvin**. It is an example how theoretical mathematics can support ideas that are found elsewhere in science. But outside the exact sciences the Feigenbaum number is seldom used.

The pictures made by the pairs X(n), X(n+1) are regular and have some meaning in those parts where points are present. Each point says something about the population of insects. When you start with a known population of insects it is however not possible to say how the population will change after a certain time t. The only thing you know is that the population has to correspond to the points, which appear in the picture. But the diagram contains also empty regions, that is to say there are some values X(n), X(n+1) that never will be reached. What does it mean when you draw a line in the two-dimensional picture that intersects regions with points and regions without points? Does such a line have a comparable significance as a line that can be drawn in pictures connected with the Theory of Catastrophes? And what is the meaning of a point on the border of a full and an empty region? Can you move

from a full to an empty region? What is the meaning of points in the empty regions? Many questions can be asked but answers have never been given.

Feigenbaum once said that classical science ends where chaos begins because cause and effect are connected with each other in a strange manner. You cannot derive a future event from the present and the present and the future cannot be determined in an unambiguous way from the past. That is an important reason why the Theory of Chaos was not used very much. Scientists prefer to work in an orderly way and do not like to plunge in the chaotic deep. Just as the Theory of Catastrophes, the Theory of Chaos predicts that a small cause can have big effects. The well-known expression that the flapping of the wings of a butterfly in Brazil can cause a typhoon above Cuba contains some truth. The effect of the minuscule movement of the wings of the butterfly will strengthen in the course of time. Because there are many unknown minuscule movements you can never predict how the weather will be after a longer period. Meteorologists try to use the Theory of Chaos to predict the weather but the predictions of the learned meteorologists with their big and fast computers are not better than those from someone who puts a wet finger in the air. Old scientists still think it is possible to predict the weather if the starting conditions are fully known. This idea is in contradiction with the Theories of Chaos and Catastrophes. Even if all starting conditions are known – but it is never possible to know the movements of all butterflies – it is not possible to predict a complex event as the weather. The idea that the world is deterministic is based on outlived philosophical ideas and contrary to reality. The future remains uncertain.

The Theory of Catastrophes and the Theory of Chaos can be used to predict that a change can take place and to find ways to come nearer to such a change. What will happen after a jump will always remain unclear.

MATHEMATICAL CHIP
G. DIMENSIONS AND INFINITY

Many mathematical ideas are represented in two-dimensional planes. Sometimes a three-dimensional picture is produced but higher dimensions only appear in formulas. It is not difficult to use more dimensions in a theory but we can hardly visualise more dimensions than three. It is said that **Einstein** could think and see in four dimensions. When he presented his theory of relativity it was indeed only understood by a handful of his colleagues. What does it mean to live in a space with 5, 6, 10 or even a thousand dimensions? Can you then move from one place to another while it looks in our three-dimensional space that you are in two places at the same time? The artist **Maurits C. Escher** drew once a three-dimensional ant that walked over a two-dimensional road that had the form of a torus. The ant met himself when he walked along the road. Is this reality? Can we move along more-dimensional roads? These questions are important in connection with space travel. But I do not understand anything about the broken dimensions in the Theory of Chaos. And also not about the possibility that our brain uses quantum mechanics or that our consciousness comes into being because of quantum processes in microtubules, the very small parts of neurones. For me these questions are too complicated and even too difficult to contemplate about.

The solution of some questions can only be found in very unlikely places. Maybe you have to take into account a road that leads from the empty to the filled regions in fractal pictures. Is it possible that humans can do this consciously by changing some parameters when they are engaged in making such a fractal picture? Perhaps it is too difficult, for sure it is too vague and especially it is not correct to think in such a way in a world where jumps are not allowed. The question if it is true that yogis can be in two different places at the same time has never been answered. Indeed yogis have never transmitted their technique onto other people and so their allegations are useless. But still, space travel via fractal structures, via catastrophic jumps. Someone must take up this task in order to give human life more depth. How interesting and complicated the Theories of Catastrophes and Chaos are, they have one defect because they are limited to finiteness, to a limited number of formulas, to a limited number of parameters, to a finite space in which all happens that will ever happen. But is everything finite, are people indeed three-dimensional, is our brain only suited to work in three-dimensions, is it not necessary to concentrate on more dimensions? Should it not be right to give more attention to more dimensions and above all to infinity?

Classical mathematics knows infinite numbers and infinite processes. **George Cantor** introduced different kinds of infinity. The collection of integer numbers has an infinity that is called aleph-zero, while the collection of real numbers, which contains also numbers as 1/3 or 2/7, has an infinity that is bigger and is named aleph-one. But on the other hand, two lines of a different length contain an equal number of points. Humans can work with infinity because our brain can work with infinite ideas. It is possible that this characteristic is one of the fundamental differences between living

humans and mechanistic computers. Computer calculations use a finite number of bits. Then you must sometimes use roundings and so truncation errors can occur. Therefore it is possible that some solutions cannot be found and certain roads cannot be taken because we know from the Theory of Catastrophes that a small difference (caused by a rounding of a number) can have a big effect.

How can you ever make a computer image of the infinity of a coastline? Pictures can be digitalised but they are an approximation of reality. A coastline shows more details when you look more precise. And when you try to fixate details the whole is lost. Computers cannot give precise pictures of infinite objects. Fractals are infinite and they can generate ever more points into an endless sequence of pairs of numbers that never stops. The computer gives useful results. But it are results from a small part of reality and the computer never knows when it has to stop giving more details. It cannot think about the possibility that all the following values are lying in a limited space and contribute next to nothing to the solution of a problem. Only humans can can contemplate from the outside about their own thinking. Therefore we can see a asymptote as a real frontier, for a computer such a limit can never be reached.

Without the concept of infinity science appears to be limited to things that can be processed by a computer, to the solving of finite problems. All information that is introduced in a computer must be quantified in a discrete way. In one glance humans can process whole clusters of vague data that are hardly connected. When a computer makes a picture of a painting it has to break down the image into very small details (points) after which this finite number of points is digitalised in a binary (or more-ary) language. Then you get indeed a good picture but some details get lost. The brain acts in another way when it has to process an infinite amount of information but how this done is unknown. The computer can recall each detail without any mistake, the human has a general impression of the picture and only some important details are preserved. Contemplating about pictures is not a discrete event and with things that cannot be made discrete a computer is at loss. And there are many things that cannot be quantified or digitalised for example when you try to think about the future. Indeterminate values have in a certain way to do with infinity and irrationality. The holding on to the theory of the Big Bang is an example of the aversion of the seated science of uncertainty. The idea that the universe does not have a beginning or an end and is infinite is unacceptable. Mathematics that includes these uncertain ideas has still a long road to go and only then the aforementioned uncertain ideas will be investigated. One of the reasons of the lack of research into these subjects is the fact that it is not allowed to ask questions that could disturb the present petrified situation.

John Linegar
Amsterdam, July 2150

LITERATURE
SOME INTERESTING PUBLICATIONS

From all the sources from which I took some knowledge, facts and ideas when I was writing "The Scarists" and my other books, I give only the titles of those interesting books I have read with much pleasure. Many other books I don't mention because writers were biased, pedantic and too convinced of their own right way of thinking or because they weren't interesting enough. Even more important because many times writers only copied ideas and facts from other writers without combining these ideas and facts to reach new insights and new heights.

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