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381. Guide to action

1. God and the workers in the vineyard

Because with the kingdom of heaven it is like with an estate owner who left his house early in the morning to recruit workers for his vineyard. He agreed with the workers on a denarius for the day and sent them to the vineyard.

At about the third hour he went back to the market and saw others standing there who had no work. He said to them: You too go to my vineyard! I will give you what is right. And they left. At around the sixth and ninth hours the landlord went back to the market and did the same.

When he went back around the eleventh hour, he again met some who were standing there. He said to you: What are you standing around here doing nothing all day? They replied: Nobody recruited us. Then he said to them: Go to my vineyard too.

When it was now evening, the owner of the vineyard said to his manager: Call the workers and pay them their wages, starting with the last up to the first. Then came the men whom he had recruited about the eleventh hour, and each received a denarius. When it was the turn of the first men, they believed they were getting more. But they too received only one denarius. Then they began to grumble about the landlord and said:

These last worked only an hour and you put them on an equal footing with us; but we endured the burden of work and the heat all day long. Then he replied to one of them: My friend, there is nothing wrong. Have you not arranged a denarius with me? Take your money and go! I want to give the last as much as I give for you. Can't I do what I want with what's mine? Or are you jealous because I'm kind to others. So the last will be first and the first will be last. What is God telling us:

Everyone has a right to life, to work, to get the money to pay for life. First of all, God wants everyone to be able to work and receive their equal share.

That is the task that God gives us. He also does not control what the individual needs, but rather gives him his share to live with.

Nobody has reason to grumble about it, but the vineyard is for everyone, so that they can work, so that they get their share of their lives. So let's go into this new world, God gives us the means to realize the life he has wanted.

Nobody should have to pay more than what they get in the vineyard, how should they be able to do it? Everyone should be able to work, some more, others less, because the vineyard is there for everyone. And God wants everyone to get a job.

God has opened the door to the new science that will give everyone their share. It will not favor anyone, but everyone should participate.

This society will not continue to live like this. God will turn it around, it will fall apart. The new science will give us the means to realize this promised world of the vineyard.

Let us go God's way, let us give everyone the opportunity to be active, let us give everyone the same share, and let us only ask everyone what they can pay from this share. God doesn't want profit, God doesn't want to throw anything away, God doesn't want to take advantage of anyone. God is good and we have to bring this goodness into the world!

2. From flint to computer chip

It took people a long time to gain insight into the invisible world that stands behind everything that is visible and perceptible to them: stones, earth, plants, animals,
Water and air. God finally gave them the insight, because everything is based on the organization of trillions of atoms, which determine the properties and behavior of all substances.
The ancestors 10,000 years ago took stones to build the first tools, formed and burned clay for vessels, struck fire from the flint, loosened bronze and later iron from the rock by means of heat and built new and better tools and weapons.
Today's microelectronics have succeeded in storing what computer systems still needed a whole room for on small chips and accommodating them in a pocket computer. Today's technology may seem very small compared to what was previously required in terms of space. Even so, it is still the work of trillions of atoms working together here.
For what is possible in the future with even more powerful technology, today's devices still seem vast.
Until now, atoms and molecules were processed and put together en masses, it was a technology of the masses. The coming technology will process atoms and molecules individually with high precision and purity, let's call it molecular or nanotechnology.
This technology will fundamentally change our lives, from wear and tear to durability, from large to small and invisible, from expensive and complex to free, from sick and defective to healthy

3.Genesis-how it started!

In the beginning God created the heavens and the earth; but the earth was desolate and empty, darkness lay over the primordial flood, and God's spirit hovered over the water.

God said: Let there be light and there was light. God saw that the light was good, God separated the light from the darkness and God called the light day and the darkness he called night

Then God said, Let there be a vault in the middle of the water. It was so, and God called the vault heaven.

Then God said: Let the water below the sky gather in one place so that the dryness may be seen. God called the dry land, and the accumulated water he called the sea.

Then God said: Let the land grow young greenery, all kinds of plants that bear seeds and trees that bear fruit on the earth.

Then God said, There shall be lights in the vault of heaven to separate day and night. God made the two great lights, the larger one that rules over the day, the smaller one that rules over the night, including the stars.

Then God said, The water is teeming with living things, and birds are to fly over the land.

Then God said: Let the land produce all kinds of living beings, cattle, reptiles and animals of the field.

Then God said: Let us make people in our image.

God created the light to which everything returns, on earth and in space, the speed of light and the distances measured in light years.

4. Homo sapiens: development of brain function

The brain grew larger, from 500 to 1400 cbcm, compared to gorillas and humans. However, the size of the brain is not the only requirement for intelligence.

Neanderthals were the first specimens of Homo Sapiens in the period 20,000 to 100,000 years ago. CRO-Magnon humans lived in parallel for about 20,000 years.

Little was known about this human history until the mid-19th century. The study of fossils was still in its infancy, the stone tools only made guesswork.

In 1856, larger bone finds were made in the Neander Valley near Düsseldorf. It now became apparent that God planned for long periods of time.

There was evolution, the point in time when the first humans stood up and only walked with their feet so that their hands became free.

The mouth was no longer needed only for eating and holding, it could develop sounds and speech. The arms made tools.

God distinguished humans from animals because he intended to do more with them. Intelligence developed with language and tools. The brain could store knowledge and remember.

5. The black death and its end

In 1348 the great death began, people who contracted smallpox went black and died. The king of Tharsis saw death among his people and found no help
He boarded ships with some nobles to travel to the Pope in Avignon. He wanted to be baptized so that he and his people might be converted to Christianity. For it could only be their sins and unbelief for which they were punished.

After 20 days he had already seen the black death in many countries and everywhere, which made no difference between Christians and pagans. He returned to his country and renounced conversion.
In England pestilence came from the sea across the coast to Southampton and Bristol, where almost the entire population died, death came quickly, after two or three days it was all over.
God later made people recognize the causative agent of this plague and find remedies for it. Because why should God punish people? They can remedy their ignorance themselves by taking the path of knowledge.

6. God and whom he chooses!

Who will doubt God, who gives life and who brings the dead back to life? Everything returns to him. He makes visible everything that is otherwise hidden and he has knowledge of all things.
He chose people to experience. He showed himself and gave people knowledge.

The scriptures were revealed and were meant to show the way to knowledge. But you must also recognize the truth yourself and act accordingly.
Bow down to the omnipotence of God and the world that he created and into which he gives you insight.
Prove yourself worthy to live in this world. Then he will bless you and take you into his house.
Prepare for the day when you will be tested and given an account of what you have done in this world.

7. Search for the truth
Everything we are comes from our minds, based on our thoughts, we get bad, suffer, or do nothing. Purity and impurity come from us.

Everyone must strive, whoever walks the path of knowledge will be freed from the burden of sin. Those who do not go when they can, who are lazy and weak, will not attain enlightenment. Constant effort leads to the goal, indifference achieves nothing.

Gautama went to the priests to learn how to overcome suffering. But he only saw them making sacrifices to the gods and revolted against them. Because one cannot atone for bad deeds by destroying life. Only a moral life can help against this.

In the jungle of Uruvilva he found five disciples, led by Kaundinya, who lived in asceticism. He stayed there for six years, until he was so weak that he could not leave the Nairanja River alone after bathing. Sujata, daughter of a shepherd, supported him.
Asceticism couldn't be the way either, it only weakened the body. Immersion in the self and inner enlightenment had to lead to knowledge.

8. The right way
Large projects must be carried out in such a way that all work is done on time so that it can continue
For this there is the analysis of the critical path, the path that leads to success. There are jobs that run side by side, others that have to be finished first in order to tackle the next project. Accurate schedules can be made so that the total time can be determined.
Today computer programs are used to enable efficient planning and implementation of large projects.

9. Discovery of the new world
The land is beautiful, overgrown with trees that never shed their leaves and bear fruit all year round that are tasty. The fields produce flowers, herbs and plants that give off scents. Then there are the colorful birds with their songs and the many animals that live in the forest. An earthly paradise.

Plus the people in this new country, completely naked with beautiful bodies and long hair. You don't need any laws or religious commandments, or private property, because everything belongs to everyone.

There is no king because everyone is his own master. That is why there is no administration and no judiciary. They live in large shared houses that are artfully constructed without iron or metal. Up to 600 people sleep in hammocks and without special bedding.

10. From finite to infinity

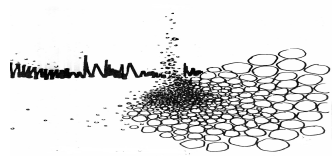
Finite automata return to their initial state after they have run through. Since they only go through a certain number of states, everything repeats itself anew.

The principle of eternal return says that every finite system goes through the same states over and over again. Finite automata always do the same thing.
Infinite automata move us forward better. The Turing machine is the prototype of all infinite automata. A read / write head runs over an endless belt. This head can perform 5 operations:

It can write on the tape, 0 or 1 is sufficient.
It can read what's on the tape.
It can save what it reads.
It can delete or replace what is on the tape.
It can move his head one step forward or one step back.
This describes the computer that has spread across the world.

11. Faith will grow

You believers strengthen yourselves with patience and prayers. God is with the patient. Those who have sacrificed themselves for God are not dead. They live on even if you cannot recognize them.
Your steadfastness will be tested when you are afraid or starve when your life and property are threatened. But God is with those who have endurance, for the day will come that a new life will begin. That they no longer need everything that was important before. For they belong to God and with him they will dwell and share in his knowledge. These people are on the right track.
However, whoever refuses the knowledge that God has in store for him will wither and perish. He has no future.



12. Machines of the future

What will these machines be like?

Technology was used again and again to improve technology. Tools have been replaced by better ones, as computers and programs make better computers.

Protein nano machines are used to build better nano machines. Enzymes show how it is done: They create larger molecules by collecting smaller molecules from their environment and holding them together. Enzymes take everything, DNA, RNA, proteins, fats, hormones, chlorophyll, all of the molecules found in the living world.

Bioengineers will develop new enzymes that assemble new atomic structures, e.g. Carbon atoms are placed on a pot, layer by layer, with a strength 50 times that of aluminum.

But the time will come when more complex nano machines will be built that will change the human body and end diseases like the plague of the Middle Ages.

13. The Flood

God looked at the earth: It was corrupt, for all fleshly beings on the earth lived corrupted.

God said to Noah, I see the end of all beings of flesh is here; for through them the earth is full of violence. Now I want to destroy them with the earth as well. Make yourself an ark out of cypress wood.

I want to bring the flood over the earth in order to destroy all beings made of flesh under heaven, everything that has life spirit in it. Everything on earth should perish.

14. Building blocks of life

DNA and RNA, abbreviations for deoxyribonucleid acid and ribonucleid acid. They are used to build proteins, which are huge complex molecules, the basic material of life.

The proteins are involved in thousands of chemical and physical reactions, some are additionally controlled by enzymes and hormones.

They also protect us as anti-bodies in the immune system.

Although there are thousands of proteins, they are all built in the same way, the basic patterns being found in DNA and RNA. Each cell contains this instruction in the core.

The human embryo begins by fertilization. Every sperm cell and egg cell brings its DNA. The embryo develops through cell division, each new cell contains a copy of the DNA from the original cell.

15. Invocation of the gods

Brahma is represented as a god with four faces that point in the four cardinal directions, because he created the world. In his four arms he holds a rosary for time, a vessel with water as a symbol for creation and also a book for knowledge.

Vishnu is experienced in the events of the world and is a supernatural power. He is in the rain clouds that fill the arid land with new life in the monsoon.

Like a lotus flower, it unfolds its perfection.

Shiva carries the flame, he is the destroyer of the world. It is a symbol of the pyre when the body gives up its individual existence and ascends into eternity as a purified spirit.

16. Make sacrifices

The Aztecs only made prisoners as human sacrifices. During the war, they were keen to make as many prisoners as possible for their human sacrifices. They wanted their enemies alive to use them for their victims.

Usually the victim's stomach was opened, then the heart was removed. The procedure went like this:

Six people had to perform the ceremony, four of whom held the victim by the hands and feet, the fifth held the head and the sixth opened the stomach and cut out the heart. This sixth, who offered the sacrifice, was honored as a priest.

17. The geological ages

The earth has a long history, enormous changes have taken place over millions of years. Many plants and animals have emerged and then disappeared again. However, everything happened over long periods of time.

A warm climatic phase came to an end around 40 million years ago. The large reptiles lived during this time, the Antarctic had separated from Australia. Later the world became colder, the large reptiles disappeared, other animals adapted and spread.

The most important changes were probably triggered by astronomical events, the earth changed its position in relation to the sun, and with it the climate also changed

18. Program and machine

What is needed is a universal constructor, a machine that can make any device when the required material is ready, and a program for construction. It can also make a copy of itself.

A universal constructor corresponds to a universal computer that can compute anything a computer can do. Just like a universal constructor that can produce anything that can be constructed.
When settling the space, the technological effort must be kept as low as possible. Above all, the materials must be used on site. With future computer technology, such materials can be used to cover the cost of colonization.

19. God comes over the land
After Moses died, God said to Joshua:
My servant Moses is dead, therefore arise with all the people and cross the Jordan. For I gave you this land as I promised Moses.
The mountains of Lebanon to the great river Euphrates, to the land of the Hittites and the seashore, everything should be for you.
Be strong and of good cheer and colonize the land that I promised your fathers.
You should have the book of laws with you day and night and obey everything that is written in it.
Then you will receive prosperity and be successful.

20. Plans and copies
The protein factory is the cytoplasm, the material that the cell is made of. Only the DNA - the master copy - is separate in the nucleus. In order to create instructions for the protein factory, partial copies of the DNA are made, the messenger RNA.
Each cell contains all of the DNA instructions, but only one part is needed to keep the vital functions of the body parts going. This is how the messenger RNA is created, which is sent from the nucleus into the cytoplasm of the cell in order to convey the instructions for protein synthesis.
In these processes, errors can occur that lead to changes, to mutations that can be passed on to the following cells.

21. In the beginning everything is small
Atoms are the smallest particles of matter that take part in chemical reactions. They consist of protons and neutrons in the nucleus, which is surrounded by electrons. The atoms of around 100 different elements differ in the number of building blocks, their atomic weight and properties.
Atoms are invisible and in constant motion, e.g. the cesium atom has a diameter of 0.0000005 mm.
Greek philosophers believed in the existence of atoms, it was not until the 19th century that Dalton brought further evidence and Rutherford showed in

an experiment that an atom consists of a nucleus surrounded by negatively charged electrons.

22. The smallest living unit

The cell, smallest unit of life, and independent unit of life. It multiplies through division and forms new cells. All living things are made up of one or more cells; humans are made up of trillions of cells. Viruses, bacteria, only. Protozoa are unicellular.

The membrane encloses and protects the cell, inside there is a gelatinous mass, the cytoplasm, and in the middle the cell nucleus with the genetic material, the DNA.

Cell division causes DNA to duplicate and the nucleus to split up. The process is triggered by meiosis or mitosis.

23. Knowing the truth

The cause of his death was poison in the food that the blacksmith Chunda gave him, and his remains were burned with honor by the Mallas of Kusinagara. He teaches us the four truths:

The truth about suffering

The truth about the origin of the suffering

The truth about the cessation of suffering

The truth about the path that leads there

Knowing these four truths leads to the highest enlightenment that only the wise can experience.

24. God creates order

In 529 the Byzantine ruler Justinian closed the philosophical schools of Athens, as well as the academy founded by Plato in 387 BC.

With this, Christianity as the state religion was to be freed from pagan influences.

Some of the academy's students went to Syria, where they founded Greek schools, looking down with disdain for the level of knowledge prevailing here.

The Syrian bishop Severus Sebokht wrote to them in 662 that there were others who knew something. The Hindus in particular had made great strides in astronomy and mathematics.

They worked with 9 numbers, but still without the zero. Here the number system is mentioned, which was later adopted by the Arabs and even later by the western world, where it became the basis for the mathematical order.

25. Commandments of Life
You shall have no other gods besides me.
Do not abuse the name of the Lord your God.
You can work six days, the seventh day is a rest day.
You should keep the holiday holy
Honor your father and mother
You should not kill.
You shall not commit adultery
You shall not steal.
You shouldn't testify wrongly against your neighbor.
You shall not ask for your neighbor's house and all that is his.

26. Expert systems
Computer programs that provide expert knowledge use databases with stored knowledge. This is provided by experts so that specific questions can be answered and knowledge can be made available.
A doctor can use such a system to get better information about a sickness and query symptoms of illness or an oil company consults an expert system to identify new drilling sites.
These systems appear intelligent, but they are only as good as the knowledge that is given to them. If wrong conclusions are drawn leading to errors, who is responsible?

27. Failure
Dealing with errors is an important issue in computers. A program aborts or gives incorrect results. All operating systems generate a message when a condition occurs that leads to the error.
There are syntax errors relating to the programming language, logical errors relating to the program design, errors in execution, and data errors. If a number is to be divided by zero, an error occurs during execution, there are overflow errors if the memory is too small.

28. Genus Homo
The first humans, the Homo habilis, known from the discovery of tools, the first step to change the environment. The oldest tools have been found in Ethiopia, around 2.5 million years old. These are stones that have been processed.
These types of tools can later be found anywhere in the world where there are prehistoric finds. The oldest stone houses were found in Tanzania, around 1.9 million years old, and their inhabitants ate meat.

A home for women and children when the men went hunting makes all the difference to the animals. Most importantly, it made survival easier, for rest and protection against illness.

Homo sapiens, as the last stage of development, subjugated the earth with technology and science.

29. Fasting
In the month of Ramadan the Koran was proclaimed, a book for your guidance to distinguish right and wrong.
Everyone should fast this month. Those who cannot keep this must do good for it.
God is kind to you, he wants you to fast the whole month to do him honor, because he is almighty. You must thank him for guiding you in all your ways.

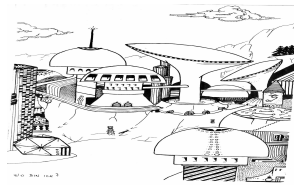
30. Nano computers
Assemblers will open up new ways for engineers to drastically reduce the size of machines and increase their speed enormously.

With current technology, patterns are created on silicon chips by randomly applying atoms and photons. Everything is flat and unclean.

With the assemblers, circuits become three-dimensional and with a pure atomic structure. These new computers are a thousand times faster in calculating and executing commands and are much smaller.

31. Disassembler
Molecular computers will control molecular assemblers that will trigger the precise arrangement of atoms. Nanocomputers with molecular memory will store data that describe structures.

Assemblers help engineers assemble devices, disassemblers help with analysis, assemblers bring enzymes together and control the processes. Disassemblers capture the structure to make exact copies.



32. Redesign
Assemblers will take years to create, but they will come and change the world.
Biotechnology has already taken the first steps.
The path goes through global change in life and people. The social changes are difficult to predict, but they will be huge.

Assemblers will produce human food at low cost, including meat, everything that nature has previously produced in long processes can be produced quickly and in a targeted manner.
Assemblers will control and change the functions of the body, will have an impact on health and the length of life.

33 Causes of the plague
The plague, the black death, the great hostage of mankind in the Middle Ages, was caused by bacteria transmitted by fly bites, mostly from infected rats.
In the 14th century, the plague spread across Asia, the Middle East, North Africa and Europe. At the time, its cause was a great mystery. The symptoms were high fever, vomiting, diarrhea and bumps.
There was no antidote, with the result that the population was drastically decimated.
The causes were looked for in unbelief, in moral failure or in the Jews who had to suffer for it.
Ignorance has always wreaked havoc in human history

34. Carbon and half-life.
Carbon-14 is only found in living matter that has had an exchange with the atmosphere, e.g. wood, grain, leather, bones. Timing above carbon-14 does not work for minerals. The half-life can be determined for dead material with 5730 years, in which half has decayed. Correspondingly, further periods of time can be determined.

35 Death in the Flames
A bad episode from the great war. We were driving down the street in a convoy when a German tank came out of a forest and fired, killing two of our people and disappearing again.
We stopped and surrounded the forest. German soldiers had buried themselves inside as if in fox caves. Now our tanks were covering the forest with flamethrowers. Now the forest was an inferno and full of screams from the Germans in the hell of flames. Some came running out but were killed by

our machine guns. In half an hour there was only ash left of the forest and what was inside. We moved on.

36. A miserable end

A group of partisans with red scarves appeared. They wanted to help us. Some Germans were supposed to be hiding down by the river, including an officer. They wanted to look for them.

Gunshots could be heard half an hour later. A short time later they were back. They had found the Germans, three of them including the the officer. He had tried to escape, but to no avail. They brought his wallet with them. He had led a squad of tank destroyers. Some of the photos showed a tough face, he had been in the SS troop from the beginning and had seen the various wars.
Awards filled the book: invasion of Austria, Czechoslovakia, Poland, France, Russia.
Now it was the end of him, shot by a farm boy as he crawled through the bushes and could no longer defend himself because his ammunition ran out.

37. Attraction

The many forces of nature can be traced back to four, of which the most famous is attraction. According to Newton, it is the only universal force that is active between all bodies. The origin of the force is the mass of the body, a force that grows with the mass.

It also works over great distances in the cosmic realm. However, the absolute force is very small. It does not play a direct role in the atomic domain.

38. God has spoken

I grew up and fed these people, and they rebelled against me.
A nation of sin, a people full of injustice and iniquity, they have turned away from me.
You will rebel against me more and more because your head is sick and your heart is bad.
That is why your country is in a desolate condition, your cities are dead, strangers are taking over your houses.
Purify yourselves, end the time of evil deeds. Learn to do good, help the oppressed and do justice.

If you have good will and are open and ready, you will experience good things. But if you are stubborn and do not want to change, the sword of the Lord will be against you. Because God spoke like that.

39. Eternal cycle

Life is development, technical progress. Without this, the end of all life threatens.

There are two theories: the eternal return of the same and heat death.

All processes in nature repeat themselves again and again according to the same laws. Thereafter there can be no steady progress because there is always a return to a previous state.

Nineteenth-century physics came up with the theory of heat death. In thermodynamics, the law of entropy applies, which increases temporarily but always remains the same.

If this also applies to the universe, then there comes a time of equal entropy, constant temperature, heat death.

40. Status of man and woman

Women are the fields, go there to do good and meet God.

God hears everything and sees everything, he looks into your hearts and sees your evil intentions.

Anyone who separates from his wife has to wait four months if he changes his mind. God forgives and shows grace.

Women usually have to wait three months after the separation. They must be treated with dignity and respect, even if men are of higher status. God is mighty and wise.

He has set limits that you must not cross so that you do not commit an injustice.

If a man has separated from his wife, he cannot remarry her unless she has since been remarried and is divorced again.

41. Death in heat and storm

Suddenly there was a flash of lightning with an unnatural sound, followed by an extreme heat wave and a violent storm.

In a few seconds a roller of fire rolled over thousands of people in the streets, they were either burned immediately or in severe agony. Houses, factories, trams and other objects were thrown into the air in a huge suction.

Half an hour after the explosion, when the sky over Hiroshima was without clouds, a fine rain fell on the city, which had formed in the overheated air. In the evening the fire was out, Hiroshima was dead.

42. God punishes disobedience

Then God said to me, Jeremiah, proclaim these words in the streets of Jerusalem.

A conspiracy is going on among the men of Judah and the people of Jerusalem. They no longer listen to God's word, but have evil intentions in their hearts.

They are returning to the atrocities of their ancestors who would not listen to my words and who served other gods. The house of Judah and the house of Israel broke the covenant made with their fathers.
Because of this, punishment will come upon them and I will not listen to their cries, so says the Lord.

43 Origin of Suffering
Where does the suffering come from, is it the desire for procreation combined with joy and pleasure.
Is it the desire for temporary happiness. Eyes, ears, nose, tongue, body and mind feel the pleasant and beautiful, that is where suffering arises.
Sounds, smells, tastes, physical touch, ideas create the illusion of beauty, that is where suffering arises.

Driven by their passions, kings, princes, priests and citizens fight against each other, fathers and sons, siblings, brothers and sisters fight against each other. They fight with fists, sticks or worse weapons to injure or even kill themselves.

People do evil to themselves in words and deeds. Wherever people are born and grow, they reap the fruits of their deeds, in this or the next life.
The end of suffering comes with the end of desires and passions.

44. Matter
What is matter, does it occupy a space, does it have mass and inertia, does it have shape and volume. Molecules in solid bodies hold fixed positions, in liquids the molecules are in motion. The attractive forces are reduced by heat, the molecules start moving faster and faster and finally take on a gaseous state. All of this determines the state of matter.

45. Chaos and order
Order can arise from chaos, so crystals could arise from the interstellar gas long before the sun, earth and life were created.

Crystals also arise from more familiar circumstances. Molecules in a liquid that wander aimlessly come closer together through evaporation or cooling.

Crystals form through trial and error, choice and variation. There is no hand involved. First, a lump is created, which gradually arranges itself.
Level upon level is formed. This creates order through variation and selection.

46.Destroy your idols

And the words of the Lord came upon me, prophesying:
The mountains of Israel are to hear the words of the Lord, the mountains, the hills, the rivers and the valleys. I come with the sword and I will destroy your places.
Your altars will be orphaned and your idols will break. The corpses and bones will be scattered around the altars, and your cities and homes will be desolate and empty.
So that you all may know that I am the Lord your God.
Whoever flees and goes to other peoples will be trapped in a foreign country. For I broke with you because you worship false gods and sin.

47. Life

It is the ability to grow, to reproduce, to respond to light, heat and sound. Life on earth began 4 billion years ago, from single cells to complex multicellular cells.
Life originated in the oceans; the original atmosphere consisted of carbon dioxide, nitrogen and water. In the laboratory, simple amino acids were formed when electrical charges were sent through this primordial soup. The cells were formed from simple molecules.
Life begins with fertilization, embryo development, adolescence, adulthood and procreation until finally death occurs.

48. Laser beams

Laser is an electrical device used to generate concentrated light which can be precisely controlled and targeted. Laser beams can even penetrate steel with their power. The light we deal with is a mixture of different wavelengths and brightness, which spreads in all directions.
The laser beam produces coherent light with the same wavelength and direction.
Normal light generates photons with different wavelengths because the hot molecules move randomly in the light sources.
Laser sources control the wavelength and also the color through the material used. A deep red light is created with chromium atoms. Moving back and forth between mirrors will align them at the end.

49. Mixture of races
With the Sumerians, their civilization also spread in Mesopotamia. New peoples appeared in the area. This area was populated by many peoples, there were the Akkadians who came to Mesopotamia from the Arabian Peninsula, the Amorites followed the Elamites.

Kingdoms were in Assyria, Upper Mesopotamia, Damascus and Babylon, the Hittites settled in Anatolia, Egypt was dominated by a great civilization and the Indo-Europeans came to Iran. The whole area was a melting pot of races and peoples.
Finally, the great Babylon came into being, with its ruler Hammurabi, who had his laws carved in stone, with the principle: an eye for an eye, a tooth for a tooth. He united the whole of Mesopotamia and had his laws drawn up in the courtyards of the temples.

50. The One God
There is no other god but him. He is eternal. He holds heaven and earth together and nothing happens without his will. God hears everything and knows everything. He guides people and keeps them from failing, those who do not worship idols and believe in him.

Abraham trusted in God who gives life and takes it again. God punishes evildoers who blaspheme and fail to recognize the truth.
God let one of the evildoers die and brought him back to life after a hundred years, who said it was only a day or even half a day. Even his food and drink wasn't spoiled. So God can fill the bones with flesh again and lead the body to new life.

51 Induction
The English philosopher, Francis Bacon (1561-1626) was not an expert in the sciences, but he dealt with many questions.

He wrapped meat in snow to determine the shelf life. With these and similar processes he developed a new method of research. He called it the inductive method, which is based on various experiments in order to arrive at a result.
Science today uses both induction and deduction, the development of theories that can later be tested in practice.

52. Slaves

A boy, about 15 years old, was put up for sale
for $ 200, very little for a nigger some thought. His mother came out of the house and screamed for her son. But the bystanders were unmoved.
The poor boy was trembling with fear but did not dare to scream in front of all the strangers. Finally he was sold for $ 250.

53. Intelligent machines

A human being is determined by mind and soul and not simply by body structure.
Adolf Hitler defined humans solely according to their physique and therefore wanted to prevent the reproduction of all who were not Aryans, such as the Jews, 70% of whom were destroyed at the end of the war.
Intelligence will determine the future, intelligent machines, robots that will dominate our civilization
When humans leave Earth, they can hardly exist in space without robots. These will ensure the survival of humanity.
In Japan, many robots are already being used in the factories and a lot is being invested in further development to make them more and more human-like. Because there is no aversion like in other industrialized countries, but one also admits something living to them, even if they seem to be mere machines, because they have intelligence. This connects them with people.

54. Electrical energy

A copper wire is made up of copper atoms. Each atom has 29 electrons orbiting the nucleus, which has 29 protons. A proton holds an electron in its orbit. Here protons and electrons are in equilibrium.

If additional electrons are sent through the wire, the equilibrium is disturbed by sending electrons to the next atom. Energy comes in different forms.
Mechanical energy where whole packets of molecules are in motion.
Thermal energy where molecules are set in motion.
Chemical energy where molecules and atoms are separated and reunited.
Electrical energy where electrons move in a stream.

We register particles that have no size and no mass, that only exist when they are moving at the speed of light, and disappear when they stop. They can exist in periods of seconds or light years. These particles are called photons, as a result of processes in the atom. When electrons orbiting around the atom change their orbits and lose energy, photons are emitted.

55. Friends
God, ruler over all rulers, you give power and you take power. All good is in your hand and you have power over all things. You lead the night into the day and the day back into the night. You bring life and you take it back.

Do not take unbelievers to your friends, but stick to your fellow believers. For you should fear God in everything you do.
The day will come when you will be held accountable for what you have done. For your bad deeds you can only hope in the grace of God,

56. Replicators-I
History shows how life is constantly evolving, changing and duplicating. Today's technology has created new machines which, however, cannot simply be reproduced.

A replicator is a unit that can automatically copy itself. Just as genes use proteins to replicate, so machines use the human brain and hands to do so. A replication could be realized with nano computers that control assembler and disassembler.
The human brain, using language, writing, and drawing, can be used to replicate mental models of what has been used in history to pass on experience and skills.

57. Quantum Theory
The theory deals with the energy in molecules, atoms and atomic building blocks, the physicist Max Planck (1858-1947) developed it.
In everyday life you can see that there is always a transition from point to point when the speed of the car increases or the temperature rises on the thermometer.

At the atomic level everything is in constant motion, but changes take place abruptly, in jumps, without transition. We cannot see this in everyday life because the measuring devices work on a larger scale.

58. Origins
Humans seem to differ from animals in so many traits, in language, creativity, artistic ability, mathematics, writing and culture. They are intelligent.
Nevertheless, paleontology shows that humans are descended from animals.

Homo sapiens is a branch of the monkey family.

The differences to the animals come from our brain and the upright gait, which released two hands with which the ideas of the brain can be implemented.

59.Bones
The hand of the Lord led me into the valley that was full of bones and I went around and they were very dry.
Can these bones live again?
And I should say to them, O bones, hear the word of the Lord. And God gave them new breath to bring them to life. He made them flesh and skin.
And there was a noise as the bones came back together and new bodies formed, which stood up and gathered into a great army.
You shall see that I am the Lord your God who will open the tombs and lead you into the land of Israel.

60. History
For many centuries the history of mankind was the history of the Jews and what they told of other peoples. The Old Testament and the holy books of the Jews testify to this.
They were the first to come up with an abstract idea of God and forbade his representation in idols and images. The origins lie with the Semitic peoples from Arabia who invaded the fertile river areas in the north. It began
with the stories of Abraham, Isaac and Jacob, the patriarchs. Abraham came to Canaan from Ur and his descendants were called Hebrews.
Later Christianity and Islam spread across the world and determined its history. The Hebrews gave the people a new religious vision.

61. Natural choice
A process in which parts of a species develop genetically improved properties in order to be able to better survive and reproduce in their environment.
The process is slow, more random, through mutation or combination of traits in reproduction. It is the trigger of evolution, where the organisms are favored that adapt their properties better to the environment and prove to be more capable of living.

62 Understanding
Buddha preached to Ananda:
Since the beginning of time people have let themselves be distracted by their senses and could not see the essence of things. They only react to external influences and their perception is limited.

When you learn to see the true nature of things, both your body and mind will become enlightened and you will reach a state of calm.

63. Variables, values and factors

The results are obtained when the variables are replaced with values. For example, $x^2 + y^2$ have the result 25 if $x = 3$ and $y = 4$ are set.
Variables play an important role, they can be replaced by various values, in contrast to constants, which have a fixed value. Variables can be dependent and independent.

The function of x, written $y = f(x)$, contains the independent x and the dependent y, it applies:
$y = 4x^3 + 2$
Factors can still change the variables, as in $y = kx$ or as a fixed value $y = 2x$.

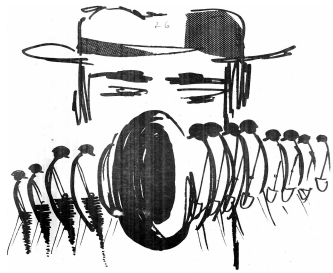
64. vectors

Everything that has size and direction, represented as an arrow, where the length corresponds to the size that points in a certain direction or written as a pair of values in the form (x / y) .. Vectors can be added graphically, shown in a triangle .

65. Escape

Whoever has to leave his home for God will find many places in the world where he can live. Those who flee to fight for God will be richly rewarded.
Those who stay at home are worth less than those who fight for God's cause.
He will reward everyone, but more to those who fought for him.

The angels will ask the sinners, What have you done for your faith? - They will answer: We were oppressed and could not do anything.
Wasn't the earth big enough for you to flee and fight for God? - To hell with you !!



66.Science
For a long time philosophers thought that they could fathom the mysteries just by looking at the world.
Galileo and Newton made experiments and observations in order to explore the movements of the bodies. They ushered in a new era of scientific progress.
The ideas in the physical sciences arose under some basic rules.
Scientists only accepted ideas that could be proven by tests, otherwise further tests were carried out to find results that would allow reliable statements about the behavior of the bodies.

67. Progress
Progress for mankind means improving material needs, extending life expectancy, improving health, and generally improving living standards. Progress also means further development of human intelligence.
Of course, there can be setbacks, as the history of the earth shows. Meteorite strikes have caused downturns in development.
The dinosaurs were probably destroyed by such a catastrophe 70 million years ago.
It took millions of years to bring a new advance to earth.
There has not always been an advance in intelligence. Greek philosophers developed mathematics and astronomy as early as the 3rd century, but it wasn't until the 17th century that Copernicus continued the development.

68 The day is coming
Blow the trumpet in Zion, sound the alarm on the holy mountain, let all the inhabitants of the land tremble, for the day of the Lord is coming.
A day of darkness and gloom, everything full of clouds. But when the day comes they are there, a great people like none before.
In front of them lies the land like a Garden of Eden and behind them a desolate wilderness. But nothing will escape their feet. The earth will tremble and the heavens will tremble, the sun and moon will darken and the stars will stop shining. And the Lord will speak up before his army, for the day of the Lord is great and terrible.

69. Movement
According to Newton there are the laws of motion:
A body at rest remains at rest as long as no other forces act on it; a moving body keeps moving unless it is prevented from doing so by external influences.
Gravitation acts between two bodies and decreases with distance.

Einstein's theory of relativity led to a new understanding of these laws, but they still apply to the orbits of the planets and the spacecraft that fly to the planets.

70. Firestorm

Because of the flying sparks and the fire, I couldn't see anything at first. Someone shouted from behind at me that my coat was on fire, I took it off. A woman shouted: My house is on fire! I keep running. I do not know where I am.

I fell into a bomb crater where three women were lying. I tried to talk to them, but they didn't move. Eventually I climbed out of the crater. A woman runs next to me with a baby in her arms, she falls, falls and the baby is thrown into the flames. She doesn't move anymore.

The firestorm is everywhere, people are shouting for help, I hold a wet handkerchief in front of my mouth. I run in the direction where it is dark. But even here people are screaming that everything is on fire. Eventually I manage to escape the inferno, half burned, but I'm still alive.

71. Prehistory

Religion was an important foundation of Greek culture, a pantheon of gods, full of myths, arose over a long period of time. The Greek gods, for all their supernatural powers, are very much like humans. They represent the people-oriented Greek culture. They had the vision that man could become god-like.

The gods intervene in the Trojan War, fighting on the side of the heroes. The Iliad tells of a long war and the Odyssey of the later wanderings of one of the heroes, Odysseus. The works became the basis of classical civilization, and with the Bible later the basis of Western literature.

The omens and oracles, like the oracle in Delphi, also belonged to the Greek culture; it was the deep respect for the occult and mysterious.

Homer describes a society of kings and aristocrats; in Greek cities power passed from kings to aristocracy, like Aeropag in Athens.

72. Cleaning
The believer washes his hands three times, his mouth three times with the right hand with water, he cleans the teeth with a brush or with his fingers.
It also cleanses the nose, face and ears. Each part of the face three times with both hands. Then the right hand and the arm with the left hand and vice versa. Finally, he washes the right and left feet up to the ankles. Then he is purified.

73. Imbalance
One speaks of equilibrium in nature, which however is not a static state.
Think of a forest where hares and foxes live. If there are too many foxes, the rabbits will not be enough to eat so the foxes will have to get fewer. Conversely, the hares can multiply when there are fewer foxes. There seems to be an optimum, a balance, but the number of rabbits and foxes is not a static set, new ones are born and old ones die. There is a dynamic interrelationship that can even out an imbalance.

74. Lenses and levers
In optics, a piece of glass can influence the light, a convex lens brings the light rays together, a concave lens brings the light apart. Lenses are important for glasses, telescopes, cameras and all optical instruments.
The light is deflected by the lenses, which can be offset by using multiple lenses.

Just as the lenses can amplify the light, so there are the laws of levers in mechanics that can amplify the force.
Heavy loads can be lifted with the lever and the forces acting can be multiplied.

75 Holy Spirit
An angel of the Lord appeared to Joseph in a dream and said:
Joseph, son of David, do not be afraid to take Mary as your wife; for the child she expects is of the Holy Spirit.
She will give birth to a son; you shall call him Jesus; for he will redeem his people from their sins.

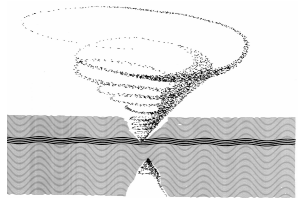
All this was done in order that what the Lord said through the prophet might come true:
You see, the virgin will conceive a child, she will give birth to a son, and he will be given the name Immanuel, which means: God is with us!

76.Deification
It is a Roman tradition to deify rulers. The ceremony is called deification. A public mourning is announced in the city. And the body of the dead person is burned in the usual way.
A wax copy is laid out on an ivory bed at the entrance to the palace. This is where the Senate and all the mourners and women who were in the deceased's favor meet.

This lasts seven days, during which time the doctors come and simulate the dying person, seeing that his condition is getting worse every day. When death is finally announced, some nobles carry the bed with the wax copy down the sacred path to the Roman Forum, where a pyre will later be set up and lit. An eagle is released, which soars to heaven with the flames, taking with it the soul of the ruler where he is now worshiped as god.

77 Entropy
All events in the universe, from the movement of the galaxies to the infinite movement of the electrons, are an expression of energy that approaches entropy. A raindrop, charged with energy, which is high in the clouds, falls to the earth, gets into the water, to the river and to the sea, giving off more and more energy. Together with other raindrops, it has reached maximum entropy. However, the cycle starts all over again because another energy source, the sun, takes care of it.
But the sun, like other stars, has a limited energy that decreases more and more until the maximum entropy is reached.

78. Enzymes
An organic catalyst that supports certain chemical reactions without being consumed in this process itself.
The greatest success of enzymes is that they enable life that constantly requires chemical processes. Thousands of such reactions take place in complex organisms, large molecules are broken down into smaller, small molecules form larger units, e.g. Body Parts. All of this is done by enzymes. There are thousands of them, each responsible for specific reactions.



79. Roman Empire
The Greeks made an intellectual and cultural contribution to civilization, while the Romans made a practical contribution.
No individual is an empire, yet there was a man of extraordinary ability, Octavian, successor to Julius Caesar, later known as Caesar Augustus.
At first he allied himself with Mark Antony against the murderers of Caesar until they were destroyed, then his fight was directed against Mark Antony, who became allied with Cleopatra.
After the Battle of Actium (31 BC) they both committed suicide and Egypt became a Roman province.
Octavian was consul, his office was renewed every year, in 27 BC he was given the title of Augustus.

80. Prohibited
You believers keep your obligations. You can eat all meat except carrion, blood, pork, or whatever is meant for other gods. God commands what he wants.
You should not eat any longer animals that have been beaten to death or that have fallen down, or that have been sacrificed.
The unbelievers have no power over you, do not fear them. Today I have purified your religion and Islam should be your faith.
Those who have to eat forbidden things out of hunger will find forgiveness from God.

81. Hydrogen
Hydrogen, colorless, odorless, a gas, not metallic, symbol H, atom no. 1 is the lightest element that occurs on earth in connection with oxygen as water.
93% of the atoms in the universe are hydrogen, so it is part of the stars, including the sun, whose heat and light are generated by nuclear processes, whereby hydrogen is converted into helium.
The hydrogen solidifies under high pressure, otherwise it is used for welding because of its high temperatures. Combustion with oxygen creates water during combustion.

82. Hands
Imagine, Ananda, a man, sitting, with hands and feet at rest, his body in harmony, very calm, neither happy nor unhappy.
Without any particular intention, he rubs the balls of his hands against each other and feels cold, warm, rough and tender. They are illusions, because when the balls of the hands part, the feelings are over.

83. Replicators-II
Biological replicators such as viruses, bacteria, plants, and humans use molecular machines. Biochemistry studies the cells that reproduce and multiply.

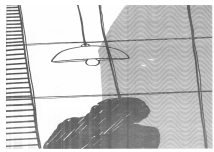
They are machines, designed with all materials, with energy and the instructions. Cells multiply, robots could behave similarly. Automation leads to mechanical replicators, a system of self-reproduction.

84. Quantities
A number of elements that are combined in a group must meet certain properties.

The set of all integers (positive and negative) has the following properties in common with regard to addition:
· The sum of several numbers is always the same regardless of the sequence
· The addition always results in whole numbers
· The empty element 0 has no effect
Every whole number has an inverse (e.g. +7, -7)

85 Blessings
When he saw the crowd, Jesus went up on the mountain and said:
Blessed are the poor before God, for theirs is the kingdom of heaven
Blessed are those who mourn, for they will be comforted
Blessed are those who do not use violence, for they will inherit the land
Blessed are those who hunger and thirst for justice, for they will be satisfied
Blessed are the merciful, for they will find mercy
Blessed are the pure in heart for they will see God
Blessed are the peacemakers, for they will be called sons of God
Blessed are those persecuted for the sake of righteousness; for theirs is the kingdom of heaven.

86.Binary system
Around 1700 Leibniz defined the number systems with the base 10 or 12 or 2, the latter as the basis for the binary system. This consists of the symbols 0 and 1 and is the basis for computer systems today.



87 Encyclopedia
In 1751-1752 the French enlightenmentists Diderot and d'Alembert published the first volume of the encyclopedia as an attempt to summarize the knowledge of the time, science, art and morals. Further attempts will continue the development to this day.
88 Equality
In 1762 Rousseau published the Social Contract on life and society in the natural state and the harmful influence of civilization and the vision of overcoming inequality of people through a social contract.

89. Fear
O people, listen to the messenger God has sent you. Remember that God has power over everything.
Moses said to his people:
Go now to the holy land that God has chosen for you. Don't look back or you will fare badly.
But they were afraid because a race of giants ruled the land. True believers trust in God and are not afraid. So the land remained closed to them and for 40 years they wandered homeless on earth.

90 Transgenes
Genetic engineering, a technique in which part of a DNA is taken from one cell and combined with the DNA of another cell. The new organism now contains transgenes.
Genes contain the genetic material that determines what a living being is, how it develops and functions, and what its offspring are like. The new technology changes both the organism and the offspring.
By 1988 hundreds of such genes had emerged, e.g. produce insulin or vaccines against diseases.

The first attempts were made to use genetically modified cells in humans.
Modified bacteria can be used to insert new types of genes into plants to improve their performance.
Regulations are designed to make things safer. Even if no serious problems have arisen, ethical concerns remain.

91. Success
For a long time the Arabs were favored by the circumstances, since the first great opponents, Byzantium and Persia, were preoccupied with other opponents.

The Arab armies came from the desert of Arabia, they believed in the teachings of the prophet and that death on the battlefield meant the entrance to paradise. It was the belief in doing God's will that drove the armies. For a long time Islam seemed insurmountable, but it too was reaching its limits.

92. Chips
Basic material silicon, onto which electronic conductors are pressed. Most chips are not much larger than an inch square. The electronic structures are pressed on, created using photographic processes. The original is a large diagram that is reduced using a lens and applied to the chip.

93. Space
The earth is just a small point in the universe. Our ancestors saw the vault of heaven with the stars. They couldn't imagine traveling there because they had no knowledge of space. We are in the process of developing awareness of a new frontier in space.

Oberth and Goddard foresaw that spaceships could be built to move in space. The Apollo project landed on the moon, robots explored Venus and Mars to find that there was only sand and craters everywhere. The dream of a new earth had to be sought much further in space.

94 Power plant
Here electrical energy is generated with the help of coal, oil, gas or uranium. Wind, water or heat are used as renewable energies.
Turbines are driven, by water or wind or indirectly by steam pressure, e.g. arises in the nuclear reactor.

95. Healing
Jesus went on and came to the Sea of Galilee. He climbed a mountain and sat down. Many people came and brought to him the lame, the crippled, the blind, the mute and many other sick people; they put them in front of him and he healed them ..
When people saw that the mute suddenly spoke, the cripple recovered, the lame walk and the blind see, they were amazed and praised the God of Israel.

96. Exterminate
On October 5th, 1942, I, Hermann Graeben, heard that Jews were being shot near Dubno, 1500 people daily. All 5000 Jews who had lived here were liquidated.
They were brought here in big trucks, men, women and children, had to undress and line up at the long trenches, where they were shot and fell into it.
They let everything go by in silence, no one screamed or begged for mercy.

97.Space suit
The new spacesuits show the possibilities of nanotechnology. The suit feels even softer than rubber, is easy to put on, hugs the body and has hardly any weight. The helmet is barely visible, there is a small package on the back.
You feel like nothing at all, but you can still move around in a vacuum. Thousands of nanoparticles work in the material of the suit. It has the strength of steel and the mobility of the body parts.

98 Radioactivity
The spontaneous decay of atomic nuclei combined with the release of rays and energy. Radioactivity has been around since the beginning of the universe.

Uranium and thorium are heavy elements that occur in nature; when they decay, alpha, beta and gamma rays are produced. Uranium-238 emits alpha particles when it breaks down into thorium-234, has a half-life of 4.5 billion years.

99 Mongols
In the 12th century, Genghis Khan became the ruler of the Mongols. He conquered a huge empire in Asia and China, he believed that he was called to conquer the world, not loot or settlement but conquest was his goal. He was tolerant of the religions and customs of the peoples, but did not identify with the religions of the subjugated peoples.
Surrender was the better way, many small peoples survived by paying tribute to the Mongols and accepting a Mongolian governor.

100.The wheel
Buddha said: Everything in the world is a manifestation of the four elements. Earth, water, fire, air. When the substances are in harmony then they can perfect themselves, from beginning to end there is the process of death and rebirth and again to death like a wheel.
It is like water that freezes into ice and turns back into water when heated.

101. Heaven
God raised the sky without any visible pillars, he directed the sun and moon into their orbits, he blessed everything. He established mountains and rivers and animals and plants. These are all signs for those who can think.
If we're dust, are we brought back to life?
That is what the doubters ask. But they will end up in hell and stay there forever.

102. Agriculture
Agriculture and animal husbandry made the people settled so that they could feed themselves. The animals gave him milk, wool and meat. In order to increase productivity, chemicals were later used to keep insects, fungi and other pests away from the plants or new varieties were bred.

Today there are large farms for poultry, pigs and cattle, where production is controlled.
More and more land is needed and more and more forests are being collected, which leads to erosion and climate change.

103. Karma
The cause of rebirth is karma. Nothing happens without a cause and there is a connection between thinking and doing and the life someone leads.
Karma is the result of our past, our merits. Everything we do leaves its mark on consciousness.

104.Dinosaurs
With a dinosaur DNA, it should be possible to restore such a living being. However, another dinosaur is needed that will give new life to DNA. So a female dinosaur is needed. But that no longer exists.
In nature, the evolution of different DNAs took place over a long period of time, which eventually led to the development of dinosaurs.

105. Assembler
Self-copying assemblers require no labor to manufacture once they are built. The whole process from making molecules to building skyscrapers could be done without labor costs.
Assembler systems will be able to produce everything, above all they can duplicate themselves several times a day, only the demand and the available material determine the amount.

Since molecular machines arrange atoms as needed, little material is required, most structures can be made with common materials such as hydrogen, carbon, nitrogen, oxygen, aluminum, silicon. They are light and form strong bonds, and air and waste contain enough of these substances.
Assemblers, like plants, can convert solar energy; no people are needed for production, programs take care of production.

106. Purity
From the beginning one has to understand that all appearances are ephemeral and pass away. Empty space is free from any content and therefore cannot be destroyed.
Your mind unites the properties of sight, hearing, taste, smell and touch. These form consciousness.
Individually they are pure, but when you mix them it is like water mixed with dust and sand, they become impure.

107. Society
A society arose in China that was less based on heredity than on education and the morality of Confucius. There was no church here, as in the west, which was the rival of the state. The state was conservative, kept tradition, was innovative in that it carried out large public works.

Taoism and Buddhism later exerted their influence. In contrast to Confucianism, Buddhism rejected material values. Despite persecution, once over 4,000 monasteries were destroyed and a quarter of a million monks and nuns expelled, Buddhism was still able to assert itself.

108 Landing
Chateaubriand lands in Chesepeake Bay in 1791, admires the houses with the many grazing cows. But blacks work everywhere, they are slaves, brought here from Africa to the land of freedom.

109. Robot
A machine controlled by the computer that can move and do work, and is mainly used in industry, e.g. to assemble electronic components or in space or in the deep sea, where it becomes dangerous for humans.
With built-in cameras and sensors, the robots can also react to events and make decisions.

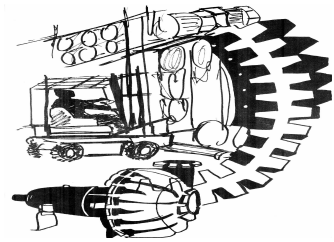
110. The King
He will say to those on his right hand, Come and receive your reward. Because I was hungry and you fed me, I was thirsty and you gave me drink, I was a stranger and you took me in. I was naked and you gave me clothes. What you did to the least of you, you did to me.

111. Metal
About 75% of the 109 elements are metals. They form alloys with one another, bases and acids. Most of them occur in nature in connection with others, some also in their pure form, human ages are named after them: Copper, Bronze and Iron Ages.

Gold and silver are precious metals, iron, copper and zinc are heavy metals, aluminum and magnesium are light metals. Technetium, which is corrosion-resistant, is produced in nuclear reactors.

112. Repair cells
With molecular technology one will have the exact description of the cells and be able to build biological machines that can control and repair cells.
They are comparable in size to bacteria or viruses, but much more complex. They can penetrate tissues and cells, examine the contents, detect defects in enzymes or in the DNA and make corrections.

Complex machines contain nano computers for control, which are so small that you cannot see them, yet they contain more information than the DNA of the cell.



113.Decisions
In real life, many decisions are made randomly as actions often take place where conditions are uncertain. You hardly have comprehensive information because the effort and costs are usually limited.
It is a double game with mixed strategies where the player always has to leave part of the decision to chance or luck.

114. Cancer
A group of more than 100 diseases, heart disease is the leading cause of death, especially in the more developed countries, where people are also getting older. The cells of the body normally grow and divide in an orderly and controlled manner by reproducing.
Uncontrolled cell divisions occur where tumors form, which can be benign or cancerous.

115. Uncertainty
The principle, as defined by Heisenberg, says that the position and torque of an atomic particle cannot be precisely recorded at the same time.
Before, it was assumed that the behavior of atoms and their particles was always safe and predictable, as was still thought by Laplace. He hypothesized that at a certain point in time the position and torque of every particle in the universe would be ascertainable in order to accurately calculate the past and future. Now the uncertainty is there.

116. Isolation
In the 17th century, Japan had isolated itself from the world, especially against the invasion of the Europeans. They mainly brought firearms and Christianity, which initially spread widely until persecution by the Japanese rulers began.

The English had to leave the country and the Spaniards were expelled in 1620, similarly to the Portuguese.
Only the Dutch were given a small trading post in the port of Nagasaki.

117 Selflessness
By concentrating on the element of water, I understood the flow of my own being, through which I received the transcendental power to go through all things, to get to all places and to see all times, in order to achieve the end of rebirth and enlightenment.

118.Science
While religion has a regulating effect on human behavior, science changes behavior, primarily through technology.
A modern person hardly ever thinks about the fact that furniture, clothes, vehicles, airplanes owe their existence to the sciences of chemistry, metallurgy, aerodynamics and others.

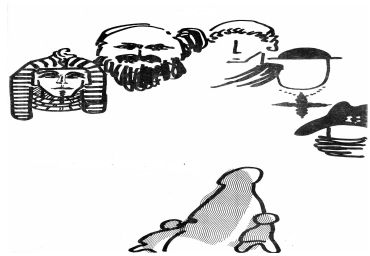
To this end, science offers an objective system for describing the world, in which the scientific theories must present their proofs in practice.

119. Peace
You shouldn't listen to idle chatter, but listen to the voice of peace, morning and evening. This is the paradise that the righteous will inherit.
Your Lord does not forget anything, he rules heaven and earth.
Do not forget who made you. The evildoers will burn in the fire of hell in the company of the devil.

120 Healing
The simple application of the nanomachines will cause selective destruction. To fight certain diseases, one has to destroy the dangerous replicators, such as bacteria, cancer cells, viruses or worms.

This can clear arteries for blood circulation as well as damaged molecules.
The repair machine will first identify proteins and amino acids and look up the correct structure in a database in order to correct the errors.

121. Innocent
Pilate said to them, what should I do with Jesus, who is called the Messiah? Then they all shouted: on the cross with him. He replied, what kind of crime has he committed? Then they shouted louder: on the cross with him. When Pilate saw that he could not achieve anything, he had water brought, washed his hands in front of everyone and said I am innocent of this person's blood.



122. Modeling
Mathematical descriptions of nature are models of different statements.
Certain events are used to test the rules.
One can compare the calculations from the laws of gravitation with the real behavior of a planet in order to confirm their correctness.
Mars responds to attraction from the sun as calculated it should. It describes a path that comes very close to the theoretical calculations.

123. Proteins
The building blocks of proteins are amino acids, of which there are 21 types.
The way they are connected determines what type of protein is produced.
The genetic code or DNA determines the exact order in which the amino acids are linked.

The information to produce proteins is transmitted from the nucleus to the cytoplasm through the RNA.

124 Mayas
Their culture in Mexico produced great achievements, especially their buildings have stood the test of time.
The Toltecs later defeated the Mayans and changed their culture, above all they brought metal and the custom of sacrificing prisoners, and new gods appear among the Mayas.

In the 13th century they moved their capital. Eventually Yucatan was conquered by the Spanish, which also marked the end of the Mayans.

125. Burning
We drove people into a hut and threw hand grenades in until everything burned. Others were rounded up in a ravine and shot with automatic rifles.
As Roberts reported to Life magazine, many bodies were in a pile. A child came to hold a dead man's hand.
A girl in black pajamas was raped by a GI in the middle of the burning huts.

126 Pilgrimage
Those who believe and do good works will walk in fertile gardens with running water, clad in silk and hung with jewelry.

Exhort all people to make the pilgrimage. They will come from all places on foot or on camel back to praise God and walk in circles around the sanctuary.

127 The moon
Neil Armstrong shares his first impressions while circling the moon. In its shadow, which was only illuminated by the earth, we could see the corona of the sun. The moon had long expected its first visitors.

After landing: the sky appeared black, through the window the surface appeared like a desert with black sand.
Outside, with a sixth of the earth's gravity, we had to move differently than on earth, because everything seemed slower.

128. Age
If the cells can be repaired with molecular machines, then an extension of life will be possible.

Slow healing of wounds, wrinkled skin and weak bones, poor memory are the result of a broken molecular machinery. When the cells are restored, the body regains its youthful structure.

129.Boole
In 1847 the mathematician Boole published the basics of Boolean logic. With a series of symbols, logical laws are developed, which later find their application in computer technology.

130. Conservation
In 1847 the physicist Helmholtz defined the law of thermodynamics for the conservation of energy. In a closed system all of the energy does not change
.
131. Disorder
The physicist Claudius defines the law of thermodynamics that disorder increases in a closed system and that some energy is always given off in heat until an absolute temperature is reached. He formulates the concept of entropy.

132. Truth
Words and books relate to perception. But the truth lies in our mind, it is pictureless and cannot be expressed with words. Only the ignorant cannot see the truth that lies in spiritual perception.

133. National
In the Middle Ages, no state was national as it is today. However, the heroic stories originated in England, the figure of King Arthur or the epic of the Cid in Spain. For centuries, family, the local community, religion, and trade were the links for people until language and literature became a national bond.

134. Prayer
Prayer purifies heart and soul. And convey the blessings of God. Those who pray according to the laws of Islam acquire happiness and satisfaction in this and the next world.

Pray five times a day, fast one month a year, give part of your wealth to the poor, go on pilgrimage, whoever does this for the glory of God is a free man who has overcome his passions.

135 Laws
They are the great designs of the universe, features determined from context.
Theoretically, organisms are characteristics of an ecosystem, societies are characteristics of the interaction of human bodies and spirits.
Our laws of nature are not ultimate truths, but they capture important features of how the universe works.

136. Center
Around 1400 Jerusalem appeared as the center of the world, one thought of a world consisting of the three continents, Europe, Asia and Africa.
Later on, new ships and new navigation techniques made ocean crossing easier. The compass in particular played an important role.

First the Portuguese explored the coast of Africa as far as India, then Columbus succeeded in discovering a new continent in America. In 1522, the navigator Magellan made the first circumnavigation of the earth and proved that all oceans are connected.

137. Population
The molecular machines will prolong life and lead to an increase in the population. But nanotechnology will also help protect the earth, conserve

resources, and above all long-lasting products can be manufactured. With biological machines, humans can also produce their food independently of nature; they no longer need to kill animals to get meat.
Nanotechnology will also create better ways to spread life from Earth to space.

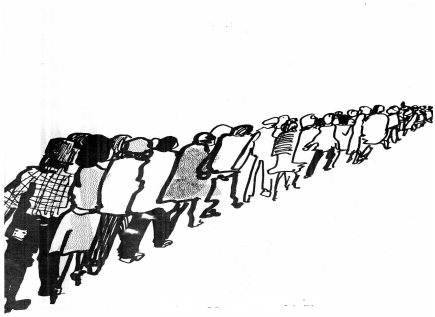
138 Sorrow
Even if you hear the cry of war, do not be afraid. Nations will stand up against each other, earthquakes will break out and famine will come. This will bring great sorrow.

But the word of God must be spread over the earth. You will be brought before kings and persecuted in my name. Do not defend yourselves, because the Holy Spirit will come upon you and give you the words to defend yourself.

139 Execution
At 11:11 in the afternoon von Rippentrop, one of the great men in Hitler's empire, entered the execution room in Nuremberg. Between his two guards, he strode to the scaffold. He stared straight ahead when he got the black cap on, then the rope was put around his neck and the execution was carried out.
140. Ignorance

By their very nature, all beings have a need for enlightenment, but without the right conditions they cannot achieve it. Without a buddha nature or a teacher, you cannot attain nirvana.

However, if the conditions are met, then the end of suffering and the end of birth and death will come and they will enter nirvana.



141. Light
In 1853, the physicist Foucault determined that light travels faster in air than in water. The discovery leads to the wave theory of light.

142. Energy
In 1853 the physicist Rankine developed the concept of potential energy, which is specific to every body due to its position and its state.

143. Geometry
In 1854 the mathematician Riemann developed the non-Euclidean geometry, in which all lines cross each other, have a finite length and no two lines are parallel.

144 Homo sapiens
Population growth in Europe is lower than in Africa or Asia. The human race of Homo sapiens changes color. Today's knowledge is much greater than it was a hundred years ago.

Our species is a step in the overall evolution of being in the universe. We are finite beings, our brain can only absorb knowledge to a limited extent. The heirs of our civilization must be of a different kind, above all they need a higher intelligence.

145 Colonies
In the 18th century, most of the European powers were able to make some profit from their colonies, plus the migration of the European population into the colonies.

There was an enormous need for ships, be it for trade, transport, or fishing.
The culture came from Europe, especially on the American continent, with the Christian religion. Islam and Hinduism only affected minorities.

146 Amino Acids
Organic molecules mainly made up of carbon, oxygen, hydrogen and nitrogen. Proteins are made up of several amino acids.
All proteins consist of a maximum of 20 different amino acids. Plants can make all of these they need using solar energy and the minerals from the soil.

147. Amoeba
One of the simplest living things, consisting of one cell. The body consists of colorless protoplasm. Amoeba live in water and take in organic components as food. They multiply through cell division.

148. Bacteria
Microscopic protozoa that multiply by dividing every 20 minutes, making about 20 million copies a day. Some are parasites and cause disease, others can spoil food. But many are also useful, break down cellulose or help ferment cheese and yoghurt.

149. Effects
The impact of Europe on the world was serious. In the beginning the other peoples hardly had any advantages. Most of them suffered terribly under European rule. Smallpox and other diseases were introduced and decimated the local population.

In Virginia the first settlers lived in peace with the Indians, but later their expulsion and extermination began.
Ancient cultures like those in India and China were better able to defend themselves against European influence.
The slave trade from Africa to America was carried out by Europeans and has caused much suffering.

150 Alpha Particles
Positively charged particles, charged with high energy, are emitted from the core of radioactive atoms. They consist of protons and neutrons, have a short range due to their large mass and can be stopped by a sheet of paper.

151. Alternating current
A current that flows once in this direction and then in the other. This electricity is normally generated in the power plant. The voltage can be better increased or decreased by a transformer. Railways, factories and households use alternating current

152 Deserts
Climate change or human changes in the landscape can lead to desertification or dry land. Forests are destroyed or the soil is depleted. The process can be stopped by replanting. Many people in Africa, India and South America are affected by this event.

153. Electronic structure
The atom as the smallest unit that can react chemically and cannot be further chemically broken down. It consists of neutrons and protons in the nucleus, surrounded by electrons. The atoms of the various elements differ in their atomic weight and chemical behavior. Atoms are in constant motion.

154. Coordinates
The horizontal x-axis and the crossing vertical y-axis form the coordinate system. A point on the surface can be defined by x and y coordinates.
Lines are described as equations, $y = 2x + 1$ gives a straight line.

155 Analysis
The identification of complex substances by breaking them down into their various components.
The world is mostly made up of mixtures. The incident light consists of colored rays that combine to give the impression of white.
There are various gases in the air. Purity is an abstract definition. Various methods have been developed by science for analysis.

156. Cooling
The Frenchman Carré developed the refrigerator in 1858 by using liquid ammonia for cooling.

157. Origin of Species
The British naturalist Darwin developed the theory of natural selection in the development of species. Species change and new ones arise through adaptation to their environment.

158. Tao
One way to Tao is to put aside all desires and thoughts, another to focus all intentions and prayers.
There are good and bad, beautiful and ugly things, simple and complicated things are related. Loud and soft only exist in opposition.

159. Pattern
Atoms that form our body are in constant exchange, our body is constantly being re-formed in the course of life. The human body always contains atoms that were once part of other living beings. But all atoms of an element are identical, so that no difference can be determined.
The pattern of a body is retained with all the changes, at most, unless there are defects or damage that is repaired.

160. characters
Honor your God in the evening and in the morning. He brings the dead to life, just as you are brought back to life.
He created you out of dust, you became human and spread over the earth. He gave you a wife and planted love in your heart. These are all signs for anyone who ponders.

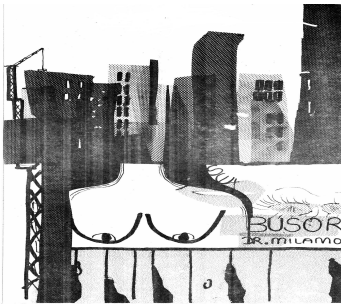
He created heaven and earth and languages. He sends the water from heaven so that the earth may be refreshed.
These are all signs.

161. Devil
Then Jesus was led into the wilderness by the Spirit; there he was to be tempted by the devil. After fasting forty days and forty nights, he became hungry. Then the tempter came up to him and said, If you are the Son of God, command that these stones be made into bread.

But he answered: Man lives not only on bread, but on every word that comes out of the mouth of God.

162.Beta particles
An electron that is emitted from a radioactive atom. In beta decay, when a neutron is converted into a proton, an electron is emitted. Beta rays can extend for several meters, 2-3 mm aluminum can stop them.

163.Blood
Circulates in arteries and veins, brings oxygen and food into the body's cells and brings waste with it, such as carbon dioxide.
The normal adult has 5.5 liters of blood, which contains red and white blood cells. Blood cells are constantly renewing themselves.



164 Nucleus
Atoms are held together by the attraction of negative electrons and positive protons, which however only works as long as they are together, otherwise they will repel each other. If there is a separation, atomic forces are released.

165 Radiation
This is always present, from alpha and beta particles, from radioactive minerals, from stones, also from the human body, from space.

166. Earth
It is the third planet from the sun, 70% is covered by water. In the solid core it consists of iron and nickel surrounded by a molten layer, on the outside a layer of rock and on the surface a crust.
The mantle consists of 12 movable plates, some of which carry the continents. The plates are in a constant and slow motion.

167. Reproduction
Reproduction that does not require two partners has great advantages since there is no fertilization by a male or by pollen. This reproduction by division can lead to rapid multiplication.
The disadvantage is that only identical beings, clones, are created, there are no variations.

168 Lines
Artificial lines to define a position on the globe, latitudes, parallel to the equator and longitudes parallel to the zero meridian through Greenwich. When the chronometer was not yet invented, the length could not be determined. Because of this, there was no ocean crossing.

169.Binary
Binary describes a number scheme in which there are only 2 digits or 2 possible states: 0 and 1

170. Reconnaissance
The aim is clear, science took precedence, observation of the senses led to knowledge, to the improvement of the world. The secrets of nature should be revealed by the laws of physics and chemistry.
Opposition to authority, revolt against the church, new authorities were sought who embody science and reason.
A new belief in the power of reason emerged, unlimited progress was possible. Ignorance had to be fought. The great encyclopedia by Diderot and

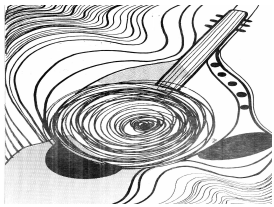
D’Alembert, a collection of the knowledge of the time, consisted of 21 volumes and was published between 1751 and 1765.
The European intelligentsia was cosmopolitan, as new ideas were brought to Europe through travel and discovery. The laws of nature should create a new social order.

171.Spiritual
In ancient times the leaders were intelligent and spiritual. Her thoughts were hard to read. They were cautious like a man crossing a river in winter, they were suspicious like someone who fears his neighbors, they were ready to adapt, like ice that is beginning to melt, they were straight and true like the trunk of a tree. They had an open mind like a great valley, but their thoughts were also dark as churned water.
Those who control themselves through the principle of the Tao can go from calm to activity of life and find calm again. Mind and energy are refreshed and renewed.

172 Killing
The prisoner must have come to terms with his fate. He seems lost in deep thought. We'll be there in 20 minutes and everyone has to get off the truck.
Major Komai says to the prisoner, an air officer: We will kill you with the sword according to Japanese bushido!

Now the prisoner has to kneel at the bomb crater, which is filled with water. He sticks out his neck. The major raises his sword and carries out the killing with full force.
The head rolls into the crater on the floor, there is blood everywhere. The body is also thrown into the crater.

173.CPU
Central Processing Unit, the most important part of a computer that executes programs. The CPU consists of the logical unit, the control unit and a memory unit. All units have registers, memory locations to carry out the tasks.



174. Parameters
A variable factor. Variables are often used in programs. If e.g. you have written a routine to draw a rectangle, general parameters are used for length, height and line width. Any rectangle can be created by assigning different values to the parameters.

175. Quantities
A collection of certain elements that are different but are created according to certain rules. Afterwards it can be decided whether an element belongs to this set.
E.g. L stands for the set of all letters of the alphabet L, the symbol e stands for: is part of, then p e L means that p belongs to the set L.

176. Revolution
The principles of 1789 were brought to other countries by France, either through propaganda or through war.
Many believed that the revolution was a worldwide event and the principles should apply to all people.
Previously people believed in changes in politics that took place slowly, now people believed that the revolution was a radical change in all areas, down to the family and personal property.

177. Time
The time will bring the weak to become strong and the disenfranchised to experience justice again. There will be abundance, the old will be renewed. Whoever had to abstain will be rewarded, whoever gathered a lot together has to give away a lot. Wisdom will rule over the world. Because it has no prejudices, it is not selfish, it does not seek power, but rules through conviction and recognition.

178. State
The great state is like the water of a river, it flows down through the deeper valleys. There is a unifying bond that holds people together.
By helping the smaller states, the larger one wins their support.
By submission, the smaller wins the favor of the larger. The larger wants to combine more states into a federation, the smaller, to ensure its security, is ready to join.

179. Dissemination
The earth is green, not only in the oceans where life began, but also on the banks, on the mountains and in the valleys.

Now spaceships are leaving the earth with green plants so that they can spread. All organisms want to spread as far as possible, they die under hostile conditions, but some survive and carry on the development.
If there are other civilizations in space, then they will spread as well.

180. Oil
A green-brown flammable liquid that has accumulated inside the earth after the decomposition of organic substances. New technologies have been developed to get the petroleum out of the earth.
Many products are made from it, such as gasoline, diesel, wax, plastics, medicines.

181.Dynamo
The electric dynamo for the mass production of electricity was developed by Werner von Siemens in 1866.

182 Dynamite
Alfred Nobel invented dynamite in 1866 using nitroglycerin. This enabled explosions to be carried out on a larger scale.

183. Cable
The American Cyrus West Field laid the first permanent transatlantic telegraph cable in 1866.

184. Capital
In the period between 1867 and 1894, the works of Marx and Engels were created, including the capital of Karl Marx.
The class struggle plays the main role in the story, predicting the struggle against the capitalist class and the victory of the working class.

185. Pangea
Pangea once united all current continents about 250 million years ago, the rest of the earth was covered by the Panthalassa Ocean. Two land masses emerged: Laurasia in the north and Gondwanaland in the south. From this emerged today's continents, which have shifted to their current position.

186. Heat rays
Heat is given off by bodies such as the sun, of which only a small part reaches the earth. The atmosphere still absorbs a part. The radiation is strongest at the equator.
The earth also gives off heat, also due to the climatic differences between the continents and the oceans.

187. Energy
Atomic energy is created by fission in the reactor. This creates heat that is used to generate electrical energy.
The uranium reserves will be depleted in the near future. The operation of reactors also poses major safety problems.

188. Computer
Several stages can be seen in development.
1940-50 as the first generation, from 1960 use of transistors and printed circuits, then the use of microprocessors up to parallel processes. In addition, the programming languages have continued to develop in order to solve the most complicated tasks today.

189.Simulation
Representation of the processes in reality in a program. Computer simulation helps to represent risky situations that would be too dangerous for a real experiment.
This is how flying can be learned with flight simulators.

190. Make a decision
Decision tables provide a method to show the processes for a program. Possible decisions and their consequences are determined. This is often used when designing new program systems.

191.Disk
Hard disks and CD-ROMs are common storage media on computers today. Hard drives work with magnetic processes, CDs with optical processes.

192. Electronics
Science that deals with the creation of electrons and their manipulation. The first electronic device was the vacuum tube, through which an electron beam was passed that could be deflected.
Other developments include radio, television, radar and computers.

193. Code
Instructions for the computer's CPU (Central Processing Unit), which understands and can execute. Machine code is represented in the binary system, which is why higher-level languages were developed for programming, where a compiler later converts it into the corresponding code. As an intermediate stage there is also the assembly languages, where an assembler program carries out the implementation.

194. Microcomputers
Developed as an individual computer for personal use. In the network, however, these can be connected in order to work together or to work with larger systems. In 1975 the Altair 8800 came out as the first micro-computer.

195. OOP
Object Oriented Programming, programming method based on objects. The data is linked to the procedures that work with it. A circle on the screen can be seen as an object, with data such as the center point and radius, as well as procedures to create, modify, or remove the circle.

196.OCR
Optical Character Recognition, optical text recognition for the computer. First a digital image is generated by a scanner, then the text is analyzed by a text recognition software and made available in a word processor for further processing.

197 pixels
A point on the computer screen. All images are made up of a collection of pixels, with the density determining the level of resolution. The number of bits with which a pixel is represented determines the number of colors. 24 bit results in high quality.

198. Cycle
Sequence of repeated processes when running a program. The central unit of the computer constantly executes instructions, fetches program instructions from the memory, as well as required data, changes the data and stores the results before further instructions are executed.

199. Program
Set of instructions that control what is going on on the computer. There are application programs that carry out user-related work and system programs that control the internal processes of the computer. Programs are written in special languages, each of which is converted into machine code before it can be executed.

200.Support
Environment of software that helps design and write other programs. This can be a text editor and a compiler for translating the program or interactive error programs that detect errors and store data in dictionaries in order to understand the processes.

201 System
System analysis in order to transfer business processes to a computer, the existing business processes have to be brought into a system in order to create programs. Forms are developed to record the data, as well as input masks on the screen and lists for the results.

202. Exam
Procedure to check input data, however it cannot be guaranteed that only valid data will be received. Formal checks determine that only valid characters such as letters or numbers are used; the length of the input can be checked, e.g. a 6-character field must be checked for this. Control sums can be included in the check or a check digit such as with the ISBN numbers.

203. Variable
Can have different values. Variables play an important role in computer programming because they can represent different data values. A global variable can be used by all program instructions, a local variable only by the respective subroutine.

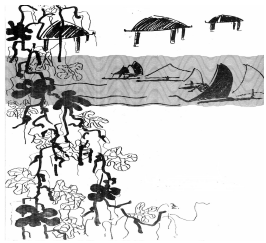
204. Vector
Computer graphics stored using geometric formulas. It can be enlarged, stretched or rotated without changing the resolution. All components can also be converted accordingly.

205. Virtual
A highly developed form of computer simulation where the participant has the illusion of being part of an artificial environment.

206. Sweep away
In 1848 the Communist Manifesto appeared, the most important document in the history of socialism. The author, Karl Marx wanted to break with the utopian socialism of his predecessors. The rootless industrial workers were the industrial proletariat intended to develop revolutionary force. Sooner or later it would sweep away capitalist society as it had swept away feudal society before.

207. Threat
Living organisms cannot produce everything, they are set on a system with DNA and RNA and ribosomes.
In the future there will be life-like machines based on nanocomputers and assembler.
Assembler based replicators will be able to mimic what life can do and more.
Plants with artificial leaves could outperform existing plants, and powerful bacteria could replace existing ones. They could multiply like pollen and cover the biosphere like a cloud of dust if no precautions are taken.

208.Bread
Our fathers ate manna that heaven gave them in the desert. Jesus said to them: My Father gives you the true bread from heaven, for it is he who comes and brings life into the world.
Jesus said: I am the bread of life. Whoever comes to me should never go hungry.



209. Cruel
The Spaniards, armed with swords and lances on their horses, murdered and committed atrocities. They invaded the villages and did not spare women, children and the elderly.
They slit open the bellies of the women and threw the children against the rocks, cut off the heads of the men or cut the bodies in the middle.
Thirteen of them were hung up in honor of the Savior and the 12 apostles, and they set fires to burn them.

210. Confession
So you don't want to renounce. No, I said, as long as I can breathe.
We'll hang you up by your legs again now and later after dinner.
I said: I only have one life and if I had several I would sacrifice them all for the same cause.

So I hung again. The pain was immense, but my soul was calm, filled with the longing for death. I wanted to suffer like Christ and be with him. My heart was filled with joy and I surrendered to his will.
Eventually I was taken down and taken to my cell. My guard's eyes were full of tears because, as he said, his wife had been crying and praying for me the whole time.

211. Transformation
In the Christian churches, worship or mass is an important event, where at the Lord's Supper bread is transformed into the body of the risen Jesus and wine into the blood of the risen Jesus.

All scientific research after the transformation has shown that bread is no different from normal bread and wine does not differ from normal wine.
During the Reformation, wars were waged because of the nature of the transformation during the sacrament.

212. Domination
The rule of the Europeans over other countries and peoples was a decisive event in the 19th and 20th centuries.
Imperialism was not the expression of a single age; it existed before. Now European systems of rule had spread over the whole world. Two phases can be set with the year 1870:
Some powers like Russia, France and Great Britain expanded their empires, others like Holland, Spain or Portugal stood still or had to downsize.

213. Weapons
The development of new weapons in the 19th century gave Europeans further advantages in ruling the world. In 1898 the Madhi uprising was put down by the British. With the artillery and machine guns the British inflicted thousands of losses on the enemy without them being able to approach the British lines.

214. X-ray
In 1895 the German physicist Wilhelm Conrad Roentgen discovered X-rays, now known as Roentgen rays.

215. Cathode
In 1895 the French physicist Jean-Baptiste Perrin discovered that cathode rays are not waves, but consist of negatively charged particles.

216. Mass
The Dutch physicist Hendrik Anton Lorentz found in 1895 that mass increases with speed and increases to infinity as it approaches the speed of light.

217. Curie
The French physicist Pierre Curie discovered in 1895 that all magnetic metals have a point when heated where they lose magnetism.

218. Film
In 1895, the French inventors Louis and Auguste Lumiere introduced the cinematograph, which allowed films to be projected onto a screen instead of watching them in a peep show as was previously the case.

219. Nobel
In 1866, at the age of 33, the Swedish engineer, Alfred Nobel, developed dynamite using nytroglycerin.
In the period that followed, the new explosives were used all over the world used for peaceful purposes and also for military purposes in the following wars. After seeing the negative effects of his invention, Nobel founded the Nobel Prize for Outstanding Scientific Achievement in 1896.
The first prize in 1901 went to Wilhelm Roentgen for the discovery of X-rays.

220. Mission
When the Jesuits came to the court of the Chinese Emperor Kang Hsi, at first they just wanted to learn the language. They even wore Chinese clothing and tried to conform to the customs in search of ways in which to spread Christianity.

Two emissaries of the Pope were supposed to examine the extent to which this behavior was in accordance with the objectives of the mission.
Official China still felt superior with its culture and rule. But it was becoming apparent that for the first time in two thousand years, major changes were coming to Chinese culture.

221 Adaptation
At the beginning of the 19th century, there was little evidence that Japan would adapt to the challenges posed by the West. But the Japanese learned quickly, studying books that came into the country through the Dutch trading post. Most importantly, they quickly copied European weapons.

222. Defense
Viruses are molecular machines that attack cells. Cells use molecular machines such as enzymes or anti-bodies to defend themselves against it.
Likewise, human societies have a police force for defense or armies against attackers.
Molecular machines have successfully defended themselves against molecular replicators for millions of years.
Because of this, it will also be possible to use nanomachines against the reproduction of harmful nanomachines.

223.Information
We have to deal with a lot of information. Printed publications are difficult to understand and organize. Books contain our cultural values.
Today, electronic media are opening up new ways of organizing and making information available much more efficiently.

224. Hypertext
It helps to connect texts and make inquiries more efficient.
Comments can be entered and found easily on a hypertext system. Questions can be posted so that others can post their answer. This creates a network of experience and knowledge.

225. Progress
Technological progress can make life better and longer. Nanotechnology will dominate everyday life, e.g. products that clean themselves, other systems can produce fresh food, e.g. meat, vegetables, cereal products. Cells can develop and multiply in a special environment in plants and animals.
No more animals have to be killed to get meat.

Nanotechnology will open up new avenues. Biological systems will be able to produce food, health protection, shelter and everything that humans need. This does not require large bureaucracies or large factories.

226. Focus
It's a point in or near an object where all of the weight appears to be coming from. A symmetrical object like a cube has its center of gravity in its physical center.

227. Chain reaction
Process in atomic physics where neutrons are released that split other atoms and release more neutrons. This reaction can take place in a controlled manner, as in a nuclear reactor, or uncontrolled, as in a nuclear explosion with an atomic bomb.

228. Colors
Visible white light contains different wavelengths with colors. From short to long waves, the range is 400-700 nanometers.
White light is partially absorbed on an illuminated surface, depending on the molecular structure of the material.

A red surface absorbs light from the blue end of the spectrum, but reflects light from the red spectrum.

229 Electricity
All phenomena caused by the electric charge due to the shortage or excess of electrons and an electronic current. In 1880 electricity is available at a commercial level for lighting and for driving motors. Metals can be electrical conductors or serve for insulation like rubber.
Michael Faraday developed the first dynamo in 1831 by moving a wire coil quickly between the ends of a magnet. Georg Ohm discovered the properties of current in 1827. Resistance is named after Ohm, voltage after Volt and current intensity after Ampere.

In 1855 Maxwell formulated the unified electromagnetic theory, the connection between magnetism, heat and light. After all, the atom also consists of a positively charged nucleus surrounded by negatively charged electrons.

230. Paradise
Seek forgiveness and seek Paradise prepared for those who believe in God and his apostles. That is the grace of God that he forgives to whom he will. Every calamity is planned before we make it a reality.
We sent the apostles and through them brought the scriptures and the tables of the law for people to act upon.

231. Displacement
Christianity has replaced various ancient religions in Rome and Greece and became the state religion in the Roman Empire. It was later spread by the Europeans.

In Central America it replaced the local religions. The natives found that they were being decimated by diseases that could not harm Europeans.
The prayers to a true God had to help. Because of this, they adopted the religion of the Europeans, yet they continued to die of the diseases.

232. Books
The books of the world religions are all over 1000 years old. A lot has happened in the world since then; science, civilization and society have advanced.

When the New Testament was written, the earth was believed to be the center of the universe, but it is only the third planet of the sun.
The book of nature brings the new knowledge today.

233. Science
By 1914 the foundations were laid for the dominant world culture in the 20th century.
In the 17th century the first inventions of science began, institutions were created where men would come together to study nature, in a way that was later called scientific.
In the 19th century they were still called nature philosophers and later scientists.

Finally, in the 20th century, cars, airplanes, steam turbines, engines, telephones, wireless connections were seen as realizations of modern science.

234. Execution
The king was sitting in a carriage that was being led through the streets in procession full of onlookers. I read him psalms that he recited. The gendarmes who accompanied us were impressed by the calm of their monarch, whom they had never come so close to.

After 2 hours we arrived at the scaffold, where at the top he announced in a loud voice: I am dying innocent of all the crimes that I have been charged with. I pray to God that my blood that is shed will not return to France.
When the guillotine was done, the king's head was shown to the crowd, which shouted: Long live the republic.

235. Fire
Napoleon had paid a high price for the conquest, now he believed that he could dictate peace.
The Russian army had evacuated most of the residents from Moscow, leaving only a few thousand lower class people behind. They had nothing to lose and waited to see what would happen.

When the Emperor entered the Kremlin, fire broke out in Kitaigorod, the Chinese Quarter. Although attempts were made to put the fire out, it spread more and more, eventually across the city. We were powerless.

236. Selection
As a young man, Darwin was on the ship Beagle, where he studied evolution while traveling. His theory of natural selection says that those species that are better able to adapt to the environment also have the greatest chance of survival by also passing on their new traits to the offspring.

237. Death
The end of all life functions, so that molecules and living structures dissolve.
Living organisms generate the energy necessary to maintain life processes, especially for cell renewal. At death this energy is no longer available, so that the dissolution becomes inevitable.

238. Carbon
Carbon goes into the atmosphere when living things breathe, plants take up the carbon again through photosynthesis and release oxygen into the atmosphere. Today, fossil fuel burning has disrupted this cycle by releasing too much carbon into the atmosphere.

239 Chlorophyll
Green pigment in most plants, responsible for absorbing light during photosynthesis.
The pigment absorbs the red and blue-violet parts of the sunlight, but reflects the green parts, giving the plants their characteristic color.

240. Chromosomes
Structure in the cell nucleus that contains the genes. Each chromosome consists of a long thread called DNA.
Higher organisms have two copies of each chromosome, they are diploid, others have only one, they are haploid.

241. Development
A process where a cell becomes a complex multi-cellular organism with limbs and with functions such as breathing. Aside from sex cells, all cells in the body share the same genetic code. The organs into which a cell develops depends on which genes trigger the development.

242. Food
The most important components are proteins, carbohydrates, fats, vitamins, minerals and water. Different living beings need the substances in different proportions.

The food requirements of living things depend on their living situation, whether they are growing, reproducing, being highly active, or approaching death.

243. Dissemination
Molecules move from a region of high concentration to one of poor distribution until an even concentration is achieved. In biological systems, diffusion plays an important role in the transport of molecules from food, gases from respiration. In this way, the entry and exit of molecules into the cells is controlled.

244 Digestion
Food is broken down through physical and chemical processes from ingestion in the mouth to the stomach. In the intestine, the substances are absorbed or passed on if they are not used.

245. Illness
Any situation that changes the normal state of the organism and affects the functioning of the organs. Mostly it is certain symptoms that characterize an illness. Diseases can be congenital or caused by infection.

246. DNA
A complex, double-stranded molecule that contains, in chemically coded form, all the information needed to build, control and keep a living organism alive.

247. Equilibrium
The European balance had held until 1914. But the rulers were of the opinion that a war could solve the problems better. A complicated system of treaties linked small and large states so that a conflict could hardly be limited.
Many saw the war as a cleansing of decadence and sterility, especially the revolutionaries saw the opportunity to bring about great changes.

248. War
The duration and intensity of the war exceeded expectations. More and more states joined the Allies, others joined the central powers Germany and Austria-Hungary. At the end of 1915, the French army had 300,000 dead, in Verdun the same number was added.

249.Birds
In 1835 in the Galapagos Islands, Charles Darwin wrote:
The birds on these islands are very tame and are not afraid of humans.
A young boy sat by a spring with a stick to kill the pigeons that came to drink. The birds in this archipelago had not yet learned that humans were the most dangerous predators.

250. Mutiny
Scenes of the massacre of British women and children in Cawnpore in 1857:
The mutiny began in Meerut, spread to other cities and finally to Meerut, where the Nana Sahib, the ruler there, had the entire garrison killed, 200 women and children, all of whom were butchered.
I came to the house where the poor had been killed and where everything was covered in blood. I wish every soldier would look at this to see the atrocities our compatriots have been subjected to.

251. Retribution
If the rebels are caught, if they cannot prove their innocence, they will be hanged immediately. The leaders must first purify some of the blood that comes from the women and children.
A native officer belonging to the Brahmin caste refused to do this work, but some blows made him docile. When he finished, he was hung up and buried in a ditch by the road.

252. Practice
You should not listen to the crowd that is speaking but not practicing. Those who leave their country and go abroad should not commit themselves and remain independent. Whoever has experienced spiritual truth and renounces the world can follow the great vows of poverty, chastity and obedience.

253.Superior
He who holds back pride and envy is a superior person. Those who are satisfied with little, stay away from hypocrisy and deceit, stick to their agreements, keep friendships, recognize the victories of others, stand out from the crowd, are superior people.

254. Chemistry
Science of the structure of matter and the possible changes. The decomposition of substances is analysis, the assembly is synthesis.

If substances come about without changing the molecules, then it is a mixture. New substances are created through a chemical reaction that changes the structure of the atoms in the molecules.
Organic chemistry deals with carbon compounds, inorganic chemistry deals with all other substances.

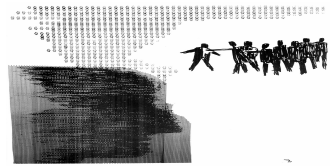
255. Electrochemistry
Study the chemical reactions when there is electricity. Electricity is generated in batteries using chemical reactions. Since all chemical reactions cause changes in the electron structure of atoms, they are known as an electrochemical reaction.
Oxidation is now defined as a process where electrons are released.

256. Elements
Substances that cannot be further broken down into simpler substances. The same elements have the same number of protons (their atomic number).
95 elements occur in nature, 81 of them are stable, the others are radioactive. They are divided into metallic, non-metallic and semi-metallic. Symbols are used to denote: C for carbon. Ca for calcium, Fe for iron.

257. Energy
Is the quality of doing work. There is potential energy, like water in an elevated reservoir.
Bodies that move have kinetic energy. All of the energy remains the same. A body that falls loses energy from gravity and gains energy from movement.

258 Antibiotics
Chemicals made by microbes. Today they cure many diseases such as tuberculosis, cholera, type and others.
It began in 1920 when the bacteriologist Alexander Fleming used penicillin against lung diseases. For every 1,000 antibiotics that have been made, 100 have been shown to be very effective.

259. Anti-Matter
Matter made up of particles that are similar to the known, but with some differences.



A hydrogen atom consists of a positively charged proton, which is orbited by a negatively charged electron. An anti-hydrogen atom consists of a negatively charged anti-proton and a positively charged electron, a positron.

260. Artificial intelligence
A machine with real artificial intelligence has not yet been developed, at the moment it is about the creative possibilities of a machine to simulate thought processes and understand human decision-making processes.

261. ASCII
A well-known code made up of letters, numbers and symbols used on computers. It consists of 0 and 1, always seven per character. 1000001 means A and 1100001 means a.

262. Rays
Background Radiation in space is an indication that the temperature in empty space is not absolutely 0, but 3 degrees above it. Furthermore, an indication of energy that originates from the time at the beginning of the universe.

263. Big Bang
In cosmology, the Big Bang is the beginning of the universe, i.e. the starting point for the creation of matter, space and time. According to the standard cosmological model, the Big Bang occurred about 13.8 billion years ago.

264.Binary system
A number system with base 2 used in computers. The system of ten that we use probably goes back to the 10 fingers we have.
Here 77 means: 7 times 10 and 7 times 1

265. Collapse
When the German Navy declared unlimited submarine warfare, drawing the United States into World War 1914-18 after the first American ships were sunk, the Allies had a great confidence in victory. But 1917 cost another 400,000 dead soldiers.

Finally, the Russian Revolution also caused the state there to collapse. Lenin, the leader of the revolution, ended the war. The workers' revolution was expected in the capitalist countries too. Now the Allies also intervened in the Russian civil war.

However, the Allies could count on the nationalism of the peoples in Austria-Hungary and the Balkans, and they also declared an independent Poland.
In the summer the last German offensive was repulsed, the Allies were advancing and the collapse began in Germany.

266. Homeless
Whoever wants to follow me has to give up all connections to his family, as well as all possessions and all connections to the social world. Anyone who no longer has a place to lay his head has become my pupil, a brother without a home.
He still has a long way to go, even if he dresses like a monk. But when his mind is pure, he is very close to me.

267 Gods
The first gods came to India with the Aryan settlers: Indra, Mitra, Varuna and others, later gods such as Vishnu, Rama and Krishna were added. There is no general Hindu faith, no Vatican and no Pope. Hinduism is a way of thinking that came from an ancient civilization.

268. Fires
In 1864, General Sherman in pursuit of Hood, instructed General Cox to give him signs of where his troops were: Burn stables and houses, everything.

Finally in Columbia, General Sherman gave orders to demolish everything in town except the new Capitol. The arsenals, train station, depots, department stores, magazines, the stored cotton bales, everything had to burn.

269. Yes
Stanley found Livingstone on November 10, 1871.
In 1866 the Scottish missionary Livingstone went on an expedition to Africa, where he reached Lake Tanganyika in 1869. Some of his people fled and spread the rumor that he was no longer alive.
The New York Herald newspaper sent Henry M. Stanley to look for him, who also reached Lake Tanganyika. There he meets him, takes off his hat and asks: You are Dr. Livingstone ?? - And he answers: Yes!

270. Enzymes
Biological catalysts that are produced in cells and are able to accelerate chemical reactions. They are complex proteins, each chemical reaction requires its own enzyme. Temperatures above 60 degrees damage the structure of the enzymes and cause reactions to stop.

271. Freeze
The change from liquid to solid when water turns into ice .. There is the freezing point.
Animals in the arctic zones produce a natural anti-freezing ability and remain active, or they have the ability to freeze in places in the body where no damage can be done to the cells. They can later return to normal life.

272. Ammonia
Fritz Haber, 1868-1934, a German chemist who succeeded in using the nitrogen in the atmosphere with hydrogen for the production of ammonia, opened the way for synthetic fertilizers.
The reaction is carried out at 400-500 degrees Celsius and at 200 atmospheres pressure.

273 Helium
Color and odorless gas, He, atom no. 2. It does not form compounds. After hydrogen, it is in second place in terms of distribution in space.
In the sun, hydrogen is converted into helium by releasing heat and light.

274 Kinetics
Describes the physical properties of matter with regard to the movement of atoms and molecules. A gas is made up of rapidly moving atoms and molecules.
When temperature drops, the movement slows down. At –273 degrees, the absolute zero point, the movement stops.

275. Liquid
State of matter between solid and gaseous. The atoms have no fixed positions or can move freely like in a gas.

276. Air
At –196 degrees, air becomes liquid. This happens through the Linde process, where air is pressed, cooled and expanded again. The expansion always leads to a lower temperature.

277. Molecules
The smallest unit of an element consisting of one or more atoms. It goes from simple molecules (H2) to macromolecules in the case of polymers.

278. Neutron
One of the three building blocks of the atom (proton and electron the other). Neutrons have the same mass as protons but have no charge. They influence the mass of the atom but not its chemical properties.

279. Power
John, wearing a cloak of camel's hair, ate locusts and wild honey, and preached, saying,
Someone comes after me who is stronger than me; and I am not worth stooping before him and loosening the straps of his shoes: I baptize you with water, but he will baptize you with the Holy Spirit.

280. Law
Do you know, brethren, how much the law has power over people as long as they live?
The woman who has a man is bound to him by law. But when her husband is dead, she is delivered.

281.Boole
George Boole (1815-1864) Professor of Logic and Mathematics at Queens College provided the logic for the computer. Boolean algebra is based on the three terms: AND, OR, NOT and their combinations NOT-AND (NAND) and NOT- OR (NOR).
The logic can be represented in electronic circuitry and with on-off switches.

282 Elementary Particles
Electrons have so far resisted any further division. However, around 200 elementary particles were found in the particle accelerators: Leptons, mesons, baryons, quarks seem to form protons, neutrons and other particles.

283. Fiberglass
A system for transmitting light, made of glass or plastic. For telephone cables, fiber optic cables are used instead of copper. A pair of extremely thin glass fibers can transmit several thousand telephone calls at the same time, a great saving in space and money. The telephone signals are converted into light pulses for transmission.

284. Farmers
Sun Yat-sen died in 1925, having taught that the revolution was not over. Theoretical Marxism relied on the workers in the factories, but the bulk of the Chinese were peasants and lived in the countryside.

Mao Tse-Tung saw great revolutionary potential in the peasants. From 1920 he and his followers turned to the peasant masses in the countryside with great success; around 10 million were organized by the communists in 1927.
In a few years, wrote Mao Tse-Tung, the farmers have achieved what Dr. Sun Yat-sen wanted to, but could not achieve in 40 years.

285. Quiet
Sit quietly with calmness of thought, full of joy, straight,. Slowly, realizing that breathing is there for the body and not for the self.
Remaining calm, suppressing all thoughts, concentrating the mind on itself, realizing that the organism and all its activities are only a shell to fulfill the Buddha-being and to enlighten all living beings.

286. Evolution
A slow process of changing from one form to another, like the evolution of life on earth.
In the 19th century Darwin developed the theory of natural selection, through spontaneous changes or mutations in the genes of the organism.

287. Gametes
Sex cells are produced in animals and plants during reproduction. They are haploid and contain half of the parents' chromosomes.

They arise through meiosis, a special form of cell division. During fertilization the gametes mate, so that the new individual has the full number of chromosomes again, it is diploid.

288. Exchange
Release of gases into the atmosphere, especially oxygen and carbon. Living things take in oxygen to burn food and give off carbon dioxide as a waste product.

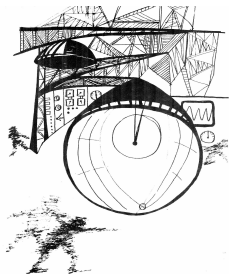
289. Genes
Genetic material, with the code of DNA. Contain the hereditary factors e.g. the gene for the color of eyes.

290. Code
Genetic code is the way the instructions for making proteins are presented.

291. Manipulation
In genetic material, often obtained by introducing new DNA with a virus.
Genetic engineering is used to produce insulin and a number of vaccines.

292. Heart
A muscle that contracts in rhythm to pump blood around the body. Mammals have hearts with 4 chambers, two to take in blood and two to pump the blood out.

293.Body
The physical structure of man. The body develops from a fertilized egg cell, is born after 40 weeks and reaches sexual maturity between 11 and 18 years of age.
The circulation supplies muscles and organs with blood. The body's functions are controlled by the nervous system and hormones.



294. Immunity
Protection that organisms have against foreign microorganisms such as bacteria and viruses and also cancer cells. This is what white blood cells do. Natural killer cells can destroy cells with viral infection and cancer cells.

295. Neurons
Nerve Cells found in the nervous system that quickly transfer information between different parts of the body.

296. Nitrogen
Nitrogen is absorbed by plants and converted into proteins there. With the excreta, the nitrogen is released into the soil. 78% of the atmosphere is nitrogen.

297. Oxygen
O2, a colorless, odorless gas, is used by organisms for breathing. 21% of the atmosphere is oxygen..

298. Photosynthesis
Process where green plants absorb light and thus initiate a series of chemical reactions.

299. Red cells
Cells in the blood that carry oxygen around the body. Contain the red dye hemoglobin. When they get into the tissue, they give off the oxygen.

300. Floor
A mixture of stone material and organic materials that are mined cover the surface of the earth. They provide food for animals and plants.
However, this humus must be constantly renewed, otherwise it will lose its fertility.

301. Fire
A tremor went through the boat, the torpedo was shot down.
20 seconds were counted until it reached its destination. Then there was a huge explosion and a huge fountain of water rose up.
A drama took place on the struck ship, in the glow of the fire people ran back and forth and tried to get into the lifeboats. War is tough business.

302. Quanta
In 1900, the physicist Max Planck defined the concept that energy is emitted in quanta.
Born, Heisenberg, Schrödinger are the founders of quantum mechanics, which was developed from quantum theory to explain the properties of molecules, atoms and atomic particles.

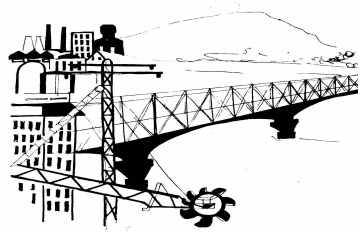
303. Uranium-235
In 1935, the Canadian-American physicist Arthur Jeffrey Dempster discovered uranium-235, an isotope of uranium that was used to sustain the first nuclear chain reaction.

304. Interaction
In 1935, the Japanese physicist Hideki Yukawa developed the theory of the strong interaction that holds the particles together in the atomic nucleus.

305. Cleavage
In 1938 the German physicist and chemist Otto Hahn carried out the first nuclear fission by bombarding uranium-235 with neutrons and separating the nucleus into two parts.

306 Resurrection
It is sown in perishability and raised in immortality. It is sown in lowliness and resurrected in glory. It is sown in poverty and is resurrected in power. It is sown a natural body and it is raised a spiritual body.

307. Renewal
Hitler's message was simple. The Treaty of Versailles, the international capitalists, the anti-national activities of the German Marxists and Jews were to blame for the decline of Germany.
Germany's society and culture had to be renewed by purifying the biological basis by eliminating the non-Aryan components.



308.RAM
There are two types of computer memory: RAM (random-access-memory) and ROM (read-only memory).
RAM can be written, read and changed. ROM can only be read.

309. Basics
Grand Unified Theory (GUT), an attempt to describe the 4 fundamental forces of the universe with a few mathematical equations:
1. Gravitation
2. Electromagnetism
3. Weak atomic force
4. Strong atomic force

310. Gravitation
The mutual attraction of all bodies in the universe. The strength depends on the matter in the body and on the distance. It is not known how gravity works, whether it is transmitted through a particle called graviton is theory.

311. Galaxy
A collection of stars, dust, gas, and planets and other astronomical objects. On a clear night, the pale ribbon of the Milky Way can be seen in the sky, the Galaxy we live in.

312. Prison
Rosa Luxemburg, pacifist and socialist, was imprisoned several times and murdered by a German right wing in 1919.
Here I am in a dark cell, a mattress as hard as stone. A faint glow from a lamp that burns in front of the prison falls through the window. I lie here alone and in silence.

313. Famine
A drought with the collapse of food production led to a famine in the Volga region in 1921. An international commission led by Herbert Hoover came to Kazan in the Tatar Republic for inspection. There was no more grain here, the seeds had died because of the drought and the granaries had been emptied by the Red Army. The houses were full of refugees from the dying villages, small children whose parents had already died.

314. End of the war
Roosevelt had given the victory over Germany priority, in June 1944 there was a landing in Normandy, Mussolini had been overthrown in Italy, the Russians soon reached the Polish border.

Germany fought on three fronts. Eventually Hitler committed suicide and Berlin was conquered. In the Far East, it was not until the beginning of September after atomic bombs were dropped on Japan. The war was over.

315. Gamma
Electromagnetic radiation that comes from the atomic nucleus during radioactive decay.
Gamma rays can be stopped by lead, otherwise they can penetrate tissue and cause damage.

316. Gas
Form of matter like air, where the molecules move randomly in an otherwise empty space. Gases can be liquefied by cooling. The speed of the molecules is reduced and the attractive forces increase.

317. Half-life
In radioactive decay, the time at which half of it decays. Carbon-14 takes 5,730 years for half of the material to decay and again 5,730 years for the next half.

318. Heat
Heat always goes from a high temperature area to a low temperature area. The effect on a substance can be:
Raising its temperature, its expansion, its melting when it is solid, its evaporation when it is liquid, or in the case of a gas, the pressure is increased.

319. Light
Light appears as a wave or as a quantum, the light quantum is called a photon. The speed of light is around 300,000 km / sec.
Newton discovered in 1666 that sunlight is a mixture of light of different colors and can be broken down accordingly.

320. Machine
A device that can process a greater force with little force. There is the inclined plane, the lever and the wheel. And the axle.
All machines work according to these principles.

321. Magnet
An object that forms a magnetic field either permanently or temporarily by induction. This allows bodies to be attracted. A magnet has two magnetic poles.

322. Induction
The creation of magnetic properties in non-magnetic iron. Electromagnets create induced temporary magnetism to lift steel plates by approaching a magnet to create the magnetism. By switching off the current, the magnetic effect disappears again.

323. Magnetism
Region of a magnet where the magnetic properties are strongest. A magnet has two poles, the north pole points to the north pole earth. It attracts the south pole of another magnet.

324. Mass
The amount of matter in a body. The mass also determines the acceleration in a body by a force. The standard unit of mass is the kilogram.

325. Nuclear
The reaction related to the atomic nucleus. Nuclear fission and nuclear fusion are examples of atomic reactions. The amount of energy that is released is shown in Einstein's formula: $E = MC^2$

326. Reactor
The core of uranium-235 is split in the reactor and releases energy, e.g. warmth. The heat is extracted by water to generate steam, which drives turbines under high pressure to generate electricity.

327. Waste
There are radioactive waste products from the nuclear industry. Disposal by sea or on land has so far posed great problems.

328. Conditions
The matter occurs in solid liquid and gaseous form, depending on pressure and temperature. The transition occurs at certain temperatures, the melting points and boiling points.

329. Charging
When certain materials are rubbed, static electricity or induction is generated.

330. Record
Magnetic method to record electrical signals on an iron-oxide layer, for sound, video or data. When playing, a read head converts the magnetic signals into electrical signals.

331. Connection
Connection by electronic means. In 1876 the telephone was invented by Alexander Graham Bell in order to transmit calls over long distances. This is based on the discovery of electromagnetism by Michael Faraday.

332. Pass
History entered a new phase in the 20th century. In 1945, European domination over the world ended. Instead, the world grew together into a new unit with a view to the development of a new civilization.

333. Blood
As they neared the salt pans, they sang the revolutionary slogan: Inquilab Zindabad.
In perfect silence, Gandhi's men stopped near the entrance. When the demonstrators did not leave, the police charged them with batons. In a few minutes the ground was littered with bodies and the earth was covered with blood. But more and more columns marched forward and were beaten down and new ones came …

334 Organic Chemistry
A part of chemistry that deals with carbon compounds, especially the more complex ones.
It is based on the ability of carbon to form long chains of atoms, branches, rings and other complex structures.

335. Nylon
Synthetic polymer consisting of long chains, similar in chemical structure to protein. Nylon was the first synthetic fiber made from petroleum, gas, air and water by the Du Pont company in 1938. Nylon fibers are stronger and more elastic than silk.

336. Oxygen
Symbol O, atom number 8, relative atomic mass 15.9994, is the most abundant element in the earth's crust, 21% of the atmosphere consists of it, and is in a composite form in water, carbon dioxide and other compounds.

337. Steel
Mixture of iron, up to 1.7% carbon, partly with other elements such as magnesium, phosphorus, etc.
During production, oxygen is blown into the liquid iron at high pressure. The oxidizing foreign matter is burned as gases or excreted as slag.

338. Valence electron
The electron in the outermost shell of the atom, which indicates the maximum valence for many elements and corresponds to the number of the group that the element occupies in the periodic table of the elements.

339. Valence
A measure of the ability of an element to combine with other elements. The elements are referred to as one-valent, two-valent, three- and four-valent when they combine with one to four one-valent atoms.
The valence for oxygen is 2: H2O (hydrogen is one-valent)

340.1939
The first nuclear fission by Otto Hahn is published.

341.1941
The American President, Franklin D. Roosevelt, signs a secret paper for the development of the atomic bomb known as the Manhatten Project.

342.1942
Werner von Braun and others launch the first rocket, later V2 in Peenemünde, Germany.

343.1945
At the end of World War II, together with Wernher von Braun and Walter Dornberger, more than 120 German missile specialists went to the Americans, and more to the Soviets.

344.1945
At 5:30 A.M. on July 16, 1945, the first atomic bomb explodes at the test site in Alamogordo, New Mexico.

345.1946-1
The first electronic digital computer, the ENIAC, is being built at Havard Univerity by engineers John Presper Eckert and John William Manchly.

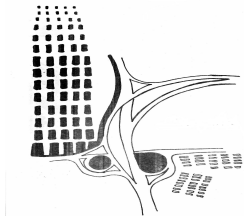
346.1946-2
The word automation is first used by the Ford Motor Co. engineer Delmar Harder to describe the 14 minute process of making a car.

347.1947
The American chemist Willard Frank Libby invents the process of determining the age of archaeological finds using the radioactive isotope carbon-14.

348.1952-1
The German physicist and philosopher Albert Schweitzer received the Nobel Prize for his work on the sick in Africa

349.1952-2
Martinique-born psychiatrist, Frantz Omar Fanon, explores the meaning of racism and cultural prejudice in his book Black Skin, White Masks.

350.1957
The Soviet Union brings the first satellite, Sputnik I, into space, the start of the race with the USA.



351. Victim
The Russian cosmonaut Yuri Gagarin became the first person to orbit the earth in 1961.
In 1958 the USA started the Mercury project, Alan B. Shephard was the first American to fly into space, John H. Glenn was the first American to orbit the earth and L. Gordon Cooper was the first to spend more than a day in space.
In the end, on January 27, 1967, space claimed the first casualties with Virgil I. Grissom, Edward H. White and Roger Chaffee, who unfortunately perished in an Apollo I space capsule while training in Cape Kennedy, Florida.

352.1959
The microchip is invented by American engineers Jack Kilby at Texas Instruments and Robert Noyce at Fairchild Semiconductors.

353.1968-1
The American physicists Steven Weinberg and Sheldon Lee Glashow with the Pakistani physicist Abdus Salam propose the electroweak theory, which gives a common description of the electromagnetic and weak interaction.

354.1968-2
The American behaviorist B. F. Skinner describes the technique of programmed instruction in the Technology of Teaching, which prescribes ordered information for learning.

355.1969-1
At 10:56 p.m. during the Apollo 11 mission from July 16-24, astronaut Neil A. Armstrong will be the first person to set foot on the moon.

356.1969-2
The modern division of living beings into five classes applies:
Monera or Prokaryotae (bacteria), Protista or Protoctista (algae, protozoa), Fungi (fungi), Plantae (plants), Animalia (animals).

357.1969-3
At the Merck Laboratories in New Jersey and at Rockefeller University in New York, the synthetic production of the enzyme ribonucleose succeeds.

358.1969-4
A scientist at Harvard University reports that a gene was isolated from an organism.

359. PC
In 1975 the first PC came on the market, the Altair; developed by Ed Roberts of MITS Co. in Albuquerque, New Mexico
It was based on the microprocessor that had been developed in 1971 by Intel, a company in Silicon Valley.

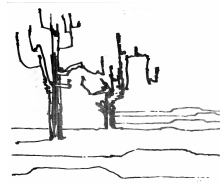
360.1984
The first 1 Megabit Ram (Random Access Memory) is being developed by Bell Laboratories in the USA. It can store 4 times as much data as other chips before.

361. Gorillas
The American zoologist Dian Fossey is murdered, presumably by enemies of her work for the mountain gorillas in Rwanda's Virunga Mountains since 1967 (Gorillas in the Mist)

362.1992
Start of the 'World Wide Web', abbreviated www or web, which made it possible to provide and exchange multimedia content on the Internet worldwide. This enabled the Internet to begin its triumphal march with the help of the 'World Wide Web' service.

363. Alaska
Archaeologists discover evidence of human settlement in northern Alaska 11,700 years ago, the first evidence of immigration from Asia to America via the Bering Strait.

364. Blitzkrieg
Erwin Rommel on May 15, 1940:
The way to the west was open. The tanks rolled in long columns through the fortifications towards the first houses that were set on fire by us. The fire of enemy artillery and machine guns did not reach us.
We drove on at a steady speed. We sent a message to headquarters of the success of the 25th Panzer Regiment. We had come through the Maginot Line.



365. Auschwitz
December 25, 1941, The gas chambers
Sophia Litwinska reports:
The truck was unloaded like you do with potatoes, so the naked people were simply tipped down.
We were shown into what looked like a large bathroom, with towels on the walls, and even mirrors.
Suddenly I saw smoke coming from the ceiling, my eyes were watering, it was difficult for me to breathe. It was gas.
Suddenly my name was called. I was sent out and taken to the hospital. I came from a Lublin prison that was not intended for gassing.

366. Dachau
The Medical Experiments 1941
Seven of the doctors were sentenced to death in Nuremberg.
Dr. Franz Blaha:
25 men were brought into a specially prepared delivery van, where the air pressure could be increased and decreased. One wanted to test the effect of parachute jumps from a great height. Most died in these tests.
Cold water experiments were also done to see how to resuscitate pilots who had fallen into cold seas.
The test subjects were placed in cold water and the temperature reduced in order to test their behavior when their body temperature fell. Most of the test subjects died at a body temperature of 25 degrees.

367 Manila
The Japanese bomb Manila on December 8, 1941
Carlos P. Romulo:
We didn't have to wait long after the air raid against Pearl Harbor. They came with 54 machines in a V shape. Manila, the capital of the Philippines, was unprotected and unprepared. The church bells announced midday through the sirens. The bombing began.

368 Crete
The village of Alikianou was below me. I could see the people in the streets looking up at the planes. Our plane slowed down, then the moment came to jump. A current of air grabbed me, the air roared.

369 Stalingrad
December 1941, a German infantryman
Benno Zieser:

One night the great frost began and winter came over us. We froze terribly in our holes in the ground.
The area was littered with destroyed equipment, with tanks that could not go any further, with weapons that had been destroyed.
The men in their field-gray uniforms, full of lice and vermin, sunken eyes and starved, were completely cut off. The icy winds left ice crystals in the unshaven beards of the men and penetrated their uniforms and emaciated bodies to the bone.

370 Offensive
The Russian Summer Offensive July 1944
Alexander Werth:
The current debacle is the greatest disaster since Stalingrad. The fallen reach half a million.
Division after division was encircled and eradicated.
Out of the hundred thousand prisoners, 25,000 had to parade through the streets of Moscow with their generals in the lead so that the residents there could see the beaten Germans, of whom they no longer had to be afraid.

371. D-Day
June 6, 1944, British paratroopers captured us. When I saw the endless material behind the enemy front, all I could say was: It is over!

372. Berlin
The fall of Berlin on May 1, 1945
Report by Claus Fuhrmann:
On April 25, the Russians had taken Berlin and met with the Americans on the Elbe river. After the 12th German Army could no longer save Berlin, Hitler committed suicide on April 30th.
From the street corner, the Russian infantry advanced with hand grenades in their belts and boots. The SS had disappeared, the Hitler Youth had given up.
With the next wave came the reserves, the supply troops. On the street corner I saw two Russian soldiers rape an elderly woman. "Don't worry, Russky soldier good."

373. Population
The world population of about 720 million in 1750 doubled by 1900.
In 1950 around 2.5 billion had been reached. It took Homo Sapiens 50,000 years to reach the first million, around 1840. By the end of this century the 6 billion will be reached.

374 Raw materials
Half of mankind consumes about 85% of world production, the rest share the rest. In 1970, for every 100 people in the world, 6 were Americans, yet they used 40% of the oil that was produced in the world. In all parts of the world the discrepancy between poor and rich nations has grown.

375. Computer Age
The greatest technical development since 1945 was in information technology, the complex science of managing electronic machines to process information. The rapid growth in capacity and speed, the constant downsizing of devices and the improvement of input and output on the screen meant that much more information could be processed much faster.

Within 30 years, a credit card-sized microchip was doing the work that a living room-sized machine did before.

376. Technology
In modern technology, the role of science has become extremely important. In the nuclear power plant or in a computer system, the role is very visible, in the manufacture of plastic material it is rather hidden in the chemical processes. The path from science to the technical production of an end product is usually very fast today.

377. Physics
In the period between 1895 and 1914, the foundations of physical theories were laid. Röntgen, who discovered the Röntgen rays, Becquerel, who discovered the radioactivity, Thomson, who localized the electron, Curie, who isolated radium and Ruhterford, who examined the atomic structure.
The universe presented itself as a cluster of atoms, the particles of which behaved like small solar systems

378. Finally
Today energy and material resources are used wastefully and unfairly, although they are not available indefinitely.

There is a limit to what everyone can eat but no limit to what they can consume to improve their wealth. But the material resources are finite.

379. Understanding
The revolution that has long been going on in the human mind was the belief in changing and improving the environment and living conditions.

In the past the instruments were magic and prayer; today they are science and technology. It is man's confidence in his ability to change the natural world, from the invention of fire, agriculture, the discovery of nuclear power, and the landing on the moon.

380. Food
In the future, assemblers will produce human food at low cost, including meat, everything that nature has previously produced in long processes can be produced quickly and in a targeted manner. In this way man will become independent of nature.

Guide to action:

381.The system of the periodically infinite space, which is determined by force, energy and technology.

We live in periods. The processes in our body develop in periods. All our actions are subject to this process; the whole world moves and changes in periods.

Every person whose life has been shaped by the knowledge of the natural sciences will have this experience continuously. Whoever lives in a society that is developing becomes aware of the periodic changes.

382. We are born, we develop, we train our minds, we provide functions in society, we work in the production process, we reproduce, we die and dissolve again. Everything is period. Someone will ask what all these statements mean. For him it may not be a new insight. Even better, the faster he will find access to the system.

383. The system conveys fundamental truths that every person can understand and experience in their own life. These

truths are not new; let's look again at these basic truths:
All processes in the world take place in periods. Each period has its timing, which can be of short or long duration. Each period triggers new periods. These periodic processes create infinity. This means that every end of a period awakens the urge to start again. All changes in the world create space: houses, machines, cars, factories; trees, water, mountains; plants, animals, people; books, thoughts, words. Everything is space created by periodically infinite processes.

384. Every period needs strength to come into being. We need strength to get up in the morning to go to work to tackle our work. Energy keeps all these processes going until they have reached their goal. Force is cause, energy is effect. Technology is the process that determines the construction of houses, the construction of the machines, the work flow of the production process, the origin and development of plants, animals and people, the thoughts and words of language.
The system has as the basis of general knowledge the periodically infinite space, which is determined by force, energy and technology. The system that can be derived from this basis is a guide to action. It shows the new design of life and the change in the environment.

385. The system is characterized by the fact that it gives life processes a direction. It leads these processes towards the goal of development. The system operates according to rules. But there are no rigid rules. There is a constant need to make decisions. However, if a decision leads in the wrong direction, the path is interrupted. What is special about the system is that it controls processes and developments and makes errors visible.

386. How do we find the way to the system? First, by seeing everything that happens in the world and also ourselves as a periodically infinite space that is determined by force, energy and technology. We have to consciously lead our life in periods. We must always be ready to begin new periods.

387. We have to be ready to develop forces that give the impetus, we have to be ready to release energy that enables us to endure. In all of our projects, we have to find procedures and methods that enable us to carry them out.

388. How is the transition to a new period realized? It starts with imagining what we want to do. At first it will be an imprecise idea. Therefore we have to deal with it for a long time, a few days or weeks, in order to finally find out exactly what we want to do.

389. Once a clear picture has emerged, we must now deal with the question of whether we can make the idea a reality. We have to check whether we have the necessary skills, whether we will find support from other people. Even this process of testing can take a long time. Did it lead us to the conclusion that we can have the necessary trust in ourselves, then it is important to make the decision. Often a favorable moment is needed to say: "So, now I am ready to realize my ideas." Then we have to find the necessary energy to drive us out of the previous life cycle. This means that we constantly keep the ideas we have gained in mind. It is important to show those around us that we are serious about our intentions.

390. The more firmly we are convinced, the less hindering influences from our surroundings can dissuade us from the chosen path. This path now requires physical and mental exertion. We need the will to persevere. We will only be able to develop endurance if we constantly keep our ideas awake and align everything we do with it.

391. Often we will find that all our efforts are not enough. Then we have to think of a method that can help us further. It can enable us to use our forces better and to strengthen our stamina.

392. If finally it turns out that both all efforts and all methods constantly place greater demands on us without

getting us any further, then we have to carry out a fundamental review of our ideas. This temporary withdrawal can give us new impetus to find other means to achieve the goal.

393. We have to constantly check whether the forces employed will help us, whether our methods are correct. We will often have to wait until we find better methods. But as long as we are convinced of the feasibility of our ideas, nothing will be able to dissuade us from realizing them.

394. When we have finally reached our goal, a path of exertion, mental and physical concentration lies behind us. At the same time, however, this path gives us experiences that we can use in later actions. We must be willing to constantly learn from past events in order to complete new and perhaps more difficult tasks.

395. This system of action creates certain characteristics in people: One becomes flexible, constantly ready to take on new tasks. You learn to concentrate and have endurance. One becomes open to one's fellow men, because one is often dependent on their experience and help.

396. You learn to give in temporarily but still pursue your intentions continuously. You are able to overcome environmental obstacles through patience and perseverance. You learn to assess yourself accurately. You get a free attitude towards life and you will enjoy your life.

397. Some people will now say what am I supposed to do with such a system; it only takes me effort. This system frees us from random events in the world. We design and determine the course of the periodically infinite space. We create new periods and thus new space ourselves.

398. If we leave ourselves to the action, then we are at the mercy of chance. Certainly, the world goes on without our intervention. If we followed the periodic processes of this

world, then we would succumb to the often slow processes, all undesirable developments would have to go through to the end. Because nature has no such system for the development of periodically infinite space.

399. If the path leads in the wrong direction, there is usually no end, unless it is total destruction, think of the great hurricanes of nature. They are periods of nature that cause destruction; they only come to an end when their power is exhausted. The system here always leads to an end that does not consist in destruction.

400. Whoever lives in the consciousness of the system finds the fulfillment of his life in the formation of the periodically infinite space. This process can take place in any environment: in the apartment, on the street, in the car, on the road, at work, in the office, in the factory, while walking, studying, physical and mental development. The system is all-encompassing.