

The Manifesto of Cognum.

The Intention:

On my site, Cognum.org, a separate category is titled as “Didactical Gems”. I intended to place articles there, that are self contained and simple, yet direct towards the bigger picture what cognum stands for.

Decades ago, I realized that a Didactical Logic must exist, but it was more like a revelation and I had no clue, even in what direction this new logic lies. This of course was frustrating and my isolation from the crazy world around me increased. Then, actual revelations passed through me and it scared me even more. Return to the didactical angle came by returning to my own mistakes. I rewrote all my mathematical books. The new versions are still not in accordance with a future perfection, but the changes proved to me that such future exists. This deep belief in the power of understanding does not mean that I ignored the un-understandable forces at a given time. Today I know that all mistakes, failures and self destructions, even death, is caused by failing to understand. But understanding itself, is the most complex process. So seemingly smart people can fail miserably. In very simple terms, we could say that understanding requires not only understanding the facts, but to see the bigger pictures. Then in fact, the truth becomes trivial. So everybody can know everything. The reality of course is that less and less people know anything. How can this be? Well, to simplify it again, just as I had to go to hell and back to see the bigger pictures, the world has to do the same. In spite of this unavoidable external and evolutionary purification, the road to an instantaneous understanding is always open. And that’s exactly the reason, I had to write down these lines. To offer for some chosen people, this peek into the future, without the random pain that will force the rest to see in the end what they all could have seen long before. Most importantly, you choose yourself.

The Final Form:

The above section was written few weeks ago. I went up to about twenty pages, after which I realized that I didn’t emphasize the seemingly simple flaws of attention. The need for repetition, re-reading sentences with the will of wanting to understand. And this is needed as opposed to the easy attentions towards the false values coming from the entanglements that we live in. This attempt to find some easy recipe against such elemental process of failure is ridiculous. More importantly, it was a symptom of my own failure. I tried desperately to be didactical about something that can not be. This new wave of my intention in approaching the world with my message, came about simply because I went through my fifth big change or turn. The new grand understanding of how the false earthly conditions of the present fit into the big cosmic existence, shouldn’t be re-organized or balanced, just simply shouted from the hilltop. And I simply have to make my claims clearer in general. So the message must have sections with singular titles as you see above.

So, A Rambling About Your Attention:

It’s all about the future and a simple choice right here, right now, in you to pay attention! I was writing this letter already on its 19-th page, when I decided to come back here and add this last sentence, plus the following section. Because this simple word “attention” needs a crucial enlightenment that might bring about the attention itself. I can do anything I want, to make my message more appealing to you, but it won’t replace your attention. I can lie, draw colorful promises in front of you, or drop big names and pretend that what I’ll say is already part of the must to be known. So,

appeal to your natural tendency to conform. Even when you choose some special peer group, anybody that you respect, you conform. But the natural potential click to change, to rebel, is sitting in everybody. To open your eye with a different attitude with a will to listen, simply because you prejudge the message, but now in a positive sense, with an expectation and belief that its your time now. It's a bit similar to the tool that desperate elementary school teachers try to use to approach the lazy kids with some cool subjects. Of course, that never works to really get over the slowly growing monster of boredom or even aversion towards any new information. And this is also a false process in itself. This is how religions build a belief from the will to want to understand. Then real understanding never follows, only a self-assuring new conformity. Real understanding is open to the world as it is. It doesn't go over the world rather through it. But this is a long and seemingly pointless process. Why bother to understand matter, just to see that understanding exceeds it? Even my earlier mentioned belief about a Didactical Logic can be regarded with a "So what?". In fact this whole return to the beginning is an indication of that the big didactical essence of the universe can't even conquer the simple problem of attention. This also shows that this seemingly primitive problem of "getting attention" must in a sense be deeper than my grand claim. To be quite concrete, you might not even know what the word didactical means. Then you either check it out from a dictionary or skip over and think "lets just go on and see what this asshole is all about". Didactical of course simply means educational, easily learnable for all, because it follows a natural usually visual meaning and also it sheds light on a wider picture. In short, beyond merely giving information, a didactical process creates understanding. So we are back to square one because understanding still can only come after attention and letting some information in. The simple but amazingly deep ancient wisdom was that "repetition is the mother of knowledge". Like all oversimplified wisdoms, it contains a deep truth with an obvious lie. So lets separate the lie! Anything repeated for long enough will be memorized, so this "method" really doesn't have a respect for knowledge. Or rather it assumes that the teacher is honest and wants to teach something important and thus emphasizes the obstacle that still exists for the student. And repetition was practiced in ancient times! People memorized much more than today. The repetition is quite oppositely external today! We hear and see the same things over and over again. We pretend to hate this and yet get addicted to it. But this is not the main problem! The earlier mentioned selective attention is much more dangerous! We think that we can scan the world and decide what's important. Most sadly we don't realize that we enter vicious circles of total blindness through this method. There is an other much deeper cycle of blindness about which I will talk a lot later. And yet this whole return to this point and adding these lines reflects that this simple "attention blindness" can kill the crucial initial understanding in a person. In fact, to call it "simple" is a fatal mistake. Its non simplicity will show from the desperate personal remarks that follow but my desperate intention to help the new unknown persons, has to rely on the simple advice of the ancients, "repeat!". Go back and read again, when you feel that your attention got tricked by your unknown demons. But then, when a new understanding does come about, then it is up to a higher understanding whether you get the importance of your own achievement. That's the first crucial point! It's your own ability that is revealed to you! And all teaching is merely such awakening! The even bigger generality, the second point, is the actual subject of this letter. That understanding is the deepest and elemental essence of the universe. But this is abstract at this point, you can believe it or not! The one by one understandable steps are concrete triumphs, undeniable diamonds that already reflect the end. But, but, but, and that's where a deepest sadness comes over me to admit, that all this doesn't work. Even those of you who will experience a wow moment will simply fall back. There will not be a life changing experience. And my goal is to change your life. I want you to drop everything and realize that nothing matters, that this is the only thing you can

really own or respect or fear, your own understanding. That there are no authorities, only helping hands. And all other hands, all other gifts, are merely poison. I could say that the material world is a delusion, that before you die you will have to realize this and then you will not have enough time to understand it and thus will suffer deeper than in your body. But these threats and promises merely push you deeper into the trap that you are already in. You already know that you are not happy, you already know that you have powers to see and understand things. All you have to do is make a connection. It is not easy to make this connection. The hunger for happiness can not be replaced by the joy of understanding! The hunger for happiness not accidentally drives you toward matter! You can not overcome matter in actions. If you decide not to act, to stay still because you realized these contradictions, then I will respect you deeply! This is that usually is regarded as the goal of yoga. But this is not the only way! Especially not the way today. You can remain active in matter! You can travel, see new people taste the foods, pet the animals, even falsely possess objects, falsely obey your passions, if understanding rules over your life. Understanding will over rule all mistakes if it is indeed active. This activeness is merely that you practice it. You learn, you teach and you judge! These three will organically intermingle once you simply practice the joy of understanding.

My son Daniel was typing most of the articles on my site through the years. He knows more about mathematics and physics than all his teachers did. But it's all passive. In elementary school his classmates had to beg him to explain the simpler ways he solved equations. Even the Rubik cube remained a show and not a demonstration of how easy it can be. This inwardness, this lack of sharing is not a selfishness. It's a general lack of destiny in understanding. Strangely, this is a more terrible curse than my outward pouring confrontational nature, being a hopeless champion of truth and justice. He sees enough to see the assholes around him but doesn't want to argue! Neither convince the neutral minds nor confront the unchangeably stupid. This seems to be a saving of lost efforts, but actually it is an avoidance of real learning. So already at 23 he is more isolated inside than I ever will be! My daughter Timea is also an acute seer of the world but quite oppositely to Danny, she doesn't apply a merely emotional criticism to divide the world into assholes and good guys, rather accepts everybody. Which I wouldn't have a problem with, if she were dumb.

Understanding does divide the world. It separates those who have the enquiring minds to understand, the helping minds who like to explain and the judging ones who get upset when obvious lies are fed to them from the media. But these attitudes must combine. Even then, it could be just the emotional right track or to put it simply having our hearts at the right place. But there is a good news, people get happy! Because that's not the case! Understanding has a perfect avenue in all matters! Literally! Matter obeys this most fundamental and final law. Even the finest matter, mind obeys it. This is the bible, the intellectual backbone of having our hearts at the right place. The didactical perfection is never hundred percent as reality because we make mistakes. But the improvements are not cycles, they are approaching perfection. The good intention of making others understand and the openness, to learn from teaching is automatically evolving by itself. Today this evolution is intentionally blocked by society because knowledge is merely a tool to acquire more privilege. Already in schools we train little selfish bastards to excel and not help each other. Even the generous sources of free informations like libraries or Wikipedia only represent a challenge to schools upwards that is being more detailed but just as abstract and never downwards, that is spreading understanding and thus showing what the schools should do. The main concern of Wikipedia is having a lot of citations to be respectable and being covered against criticism. They falsely believe that information has a value in itself detached from understanding. The truth is that only understanding is the measure of information. This crazy age of indigestible scattered information will be a sad memory in a future. Today your common sense can tell you

the truth already. Not one high school teacher on this planet can follow the tertiary subject articles of Wikipedia in math or physics. They are written not to learn from. The real aim of them is also known to your common sense!

The worst part of all this is that scattered information can challenge society only in a scattered manner, never revealing the monster we created. In fact, only human to human relation can change even the didactical information into perfect understanding. The mentioned attention or repetition problem is also automatically resolved in personal teaching. But people don't want personal learning, feedback of their faults. They try to obtain knowledge between two opposite grindstones. The well sounding trivialities of the media and the respectable abstractions of the academia. The mind numbing verbal rubbish is the real message, behind the visual appeals of "TV land", telling you that you are smart you understand everything. The mind dazzling abstract universe on the opposite side tells you that you are stupid, you should be happy where you are and just steal and use as much abstract rubbish as you can to fool others.

It's the emperor's clothe on both sides.

To use a written text as a source of life changing information is almost impossible. So, I am writing these lines in a hopeless defiance of the odds. Even where I simply wanted to demonstrate the didactical angle, I probably failed due to the non personal contact.

For example, Matt a friend of my son Daniel, created the actual site for Cognum.org and so clearly is a person above average in abstractions. And yet, he couldn't solve the Rubik Cube from the article that I've written in the Didactical Gems. I faced him to see the "problems" and I couldn't find one missing point. He simply couldn't pay enough attention. I believe that the article explains it crystal clearly with amazing simplicity. Of course, you have to have an actual cube in your hand and dedicate some time to try to do what the steps tell. You have to want to succeed. With a life changing message, the same is true. You have to want to change. If you think you are okay as you are, then don't even continue to read! But I also promised to tell you about the future. So if you are curious, you might continue and decide later to change.

Future And Technology, Rockets and Computers:

This next section was also already written down before I returned the second time and added these titles. The understanding of technology in a new light was the crucial start for me to see the cosmic reality. So I tried to explain in its true timeline, how I realized that understanding is intimately related to technology through society.

The big contradiction is that while technology proves that we are isolated in the usual space and time, it is already showing the deeper space and time that we ignore in consciousness. Rockets can not connect galaxies, but computers will. Not as artificial intelligence rather the evolutionary awakening of our own intelligence. But even that is a much more complex future than simple evolution of the mind biologically. Which is not surprising because intelligence is not biological. These added lines show what a deep time bomb of understandings lie behind this fifth new turn. So, you have to forgive me that I tried to approach it with a simple educational framework.

The things you will learn about flights are nevertheless all vital.

The negative of all this is that I didn't start with the direct consequence, that eludes consciousness today. Namely that both actions and understanding, that is life and thoughts are under continuous invasion by cosmic influences. The aliens are already here in the pre-material space and time. Was I simply shy not to start with this? Or I wanted to avoid oversimplifications? It doesn't make any difference because I will hammer you with both the shocking big pictures and fine details as long as it takes for you to take sides. So if you trust your own intelligence right here right now then make contact with me in person. In the end that's all that matters. A comradeship dedicated to understanding! So back to the text as it was:

A hypothetical future is not real future, but can be applied to help in understanding itself. Indeed, seemingly the future as reality is always given to us as the present, if we compare it to the past. Just as we know that language and customs are learnt and all races and birth circumstances can be conquered by the socialization of the individual, we believe that a baby plucked from the past would grow up to think in the present. A much more interesting question is what some adults would feel if were transported from the past to the present. Of course, most adults remain babies or animals by avoiding understanding for the sake of playing the game of life. But applied for those few who wanted to see, their hypothetical time travel into our world is a useful exercise for us. Namely, it is a window to see the stupidity of the present in a clearer form. A few years ago, this whole idea came through me in a song, without fully understanding its importance. The best to start with this line from it:

Vinci's out the cinema, running home for enema, constipated from his codes,
He looks up the sky, where the air planes all fly, how the hell they do that, no one cares,

The crucial part is not the criticism of the Da Vinci Code, rather the airplanes. Most (stupid) people think that Leonardo, if faced with the reality of airplanes, would merely be impressed, or even hit his forehead and say, "Oh yes, why didn't I think of this?". The truth is that he would be more puzzled than ever under his decades of watching the birds and trying to find out how they fly. We might also think that the average Joe who boards an airplane today, without contemplating how flight works, is merely ignorant or plays the game of life, as I said before. But this is not true. Cognum is not an optional category. Not understanding is always false understanding. Leonardo had the option of believing that a wing without flapping or large enough size can not bring about flight. Therefore, a present airplane with small fix wings, is a denial of his false belief and a challenge to understand the new force that lies behind. The stupid present day average Joe, is living in a false belief that the bird wings, are merely continued in the airplane wings. In truth, the birds wings do contain the "mysterious" usage of airplane wings, but they mix it with other principles. So Leonardo would realize soon that this airplane flying principle must be present at birds too, but is hidden by the other, more obvious flapping ones. Of course, an average Joe doesn't observe birds for years to find the secret of flight. All this doesn't mean that Leonardo could actually figure out why the airplanes fly. In fact, I'm sure he could spend the rest of his life here in our present and still, would not understand flight to satisfy his own required level of resolution. If he would start to go on Wikipedia, he merely would enter decades of entangled, hidden, complexities, replacing the decades of bird watching. That, in itself, is a meaningful criticism of Wikipedia, that spreads not a drop of understanding, only organized abstractions. So the continuation of my song was very relevant as:

So he goes back to Newton, looking for cool toys, but all he finds an angry man.

Again, the "angry man" referring to Newton's personality is not the important fact. Much more important is that if Newton came to the present, he would be just as surprised as Leonardo, but with very different consequences. This, I didn't even contemplate sub-consciously when the poem came out of me.

He would definitely understand flight to a proper perfection of seeing the why. And here, by flight, I could mean not only airplanes, but balloons and rockets too. In fact, lets start with a strange reciprocity about these three:

Rockets, the newest form of flight, is actually the simplest by its principle. It is also the simplest in its contradiction resisting cognum and also resisting something new, which I wasn't even aware of, when I started Cognum. Soon I will reveal this new angle that explains not only the hypothetical surprise of Leonardo or Newton but our

real future too. So before airplanes and balloons, we'll examine rockets. In fact, all three flights are based on Newton's mechanics.

Newton introduced forces in motions and recognized gravitation as a potential moving force that also obeys the general rules of forces. This "in motions" is crucial here, because static forces were known before, even calculated for buildings. But as far as motions are concerned, the false belief was that forces simply cause and keep up motions.

The vision of an object, being in empty space far away from all gravitation and not surrounded by other matters that would interfere, is an a priori one. We can all imagine such state and realize that then a motion would keep on forever. This first law of Newton is thus, indeed the simplest in an abstract sense. But of course, we don't ever experience it. The potential approximations, like boats floating on water for a long time or objects gliding on well oiled surfaces, are good tools for our imagination to relate the abstract a priori to reality. In addition, today we have silver platters, these shiny misleading easy entries into deeper truths by direct observations. For motions that keep on by themselves, we have the accepted knowledge of planets, moons, stars, atoms and molecules, plus the broadcasted pictures from space capsules. Amazingly, all these "supporting" silver platter justifications are false. The cosmic objects go in circles, so at once contradict Newton's first law that means keeping the motion in the same direction too. The microscopic particles are obviously confined in space, so must interact in more complex manner than minute billiard balls. Most surprisingly, even the floating pens in the spaceships are false representations of Newton's first law, as we'll come to it soon.

The crucial second law of Newton tells that if force is applied, the object not merely keeps its speed and direction, but will accelerate. But this acceleration not only depends on how big force we use, but also how big the object is by its mass. This dependence on the mass is opposite to the dependence on the force. Obviously, bigger force brings bigger acceleration, but also, a bigger mass is harder to accelerate. So, the acceleration is proportional to the force, but reverse proportional to the mass. In equation, $A = c \frac{F}{m}$. The c added factor is merely to allow any units for acceleration,

force or mass. If we choose the units in synchronicity, then simply $A = \frac{F}{m}$.

This heuristic meaning of an accelerating force becomes a flow of abstractions, if we introduce the directions of motions and forces, that is vectors. This is reflected by using capital letters for these two. This flow of abstraction is that leads to the crucial derivation of Kepler's laws and this achievement was without question, the biggest success of Newton's mechanics in the eyes of the professionals. It required a non abstract element too, namely the recognition of gravitation as a force. But this non abstract element can be combined with the above explained plausibility of $A = \frac{F}{m}$ without vectors. Then, we obtain an interpretation of Galileo's famous law of Common Fall. This line is not abstract, it is pure cognum. Something becoming plausible, by extending our visions:

In cartoons, the law of Common Fall is defied. The road-runner tricks the coyote and the anvil pulls him down to the ground with even bigger speed. Way before Newton, some smart people realized without seeing the light, that is the force of gravitation, that the seemingly common wisdom of heavier objects falling faster, is impossible. Of course, Galileo made experiments from the Pisa tower to show the truth, but these mind experiments are just as important.

Suppose that heavier would fall faster! Then, a hammer would fall faster than merely its head, without the handle. If the wooden handle is half as heavy as the metal head, then the full hammer weighs one and a half times as much, as merely the head. So one and a half times the force pulls down a full hammer than merely a head. But now lets

look at something else. Namely, dropping just a metal head and a handle, side by side. Since the metal head is twice as heavy, it should fall much faster than the wooden handle. Putting them together then means that the slower wooden handle is slowing down the metal head. In a sense, it pulls the head back. So then, the full hammer should fall slower than just the metal head itself. But this contradicts what we claimed before, that the full hammer falls faster than a head because it is heavier. This can make us dizzy and the proper Newtonian argument, is much better:

Gravitation is a force that tries to accelerate any object, just like any other force does. What is special about gravitation, is that its size is proportional to the mass of an object. This is natural! More of the same matter is proportionally heavier too. In general and in equation, $F = \gamma m$. This γ proportionality constant is again dependant on the units of force and mass. But now, it contains other factors too. For example, the planet where the gravitational force upon m is measured, or the distance from the planet. On a larger planet, the same m might be heavier and on high mountains an m is a bit further away from the planet so should be lighter. Anyway, this $F = \gamma m$ force tries to accelerate the m mass. But as we saw, Newton's second law says that the acceleration is not merely proportional with F , but reverse proportional with m . So:

$$A = \frac{F}{m} = \frac{\gamma m}{m} = \gamma$$

Thus two objects on a same planet dropped from the same point,

both accelerate with γ and thus fall together. To recap the intuitive point:

Just as a heavier car is harder to push for us, for the earth too, a heavier object is harder to accelerate, harder to make it fall. Of course, the heavier object has bigger weight, that is bigger accelerating force too. The bigger force and the bigger resistance cancel each other out, thus giving same acceleration.

Just as the second law has its split towards abstractions and thus Kepler's laws, or this simple intuitive application towards Galileo's Common Fall, Newton's third law has a same split applicability. In fact, its simple non abstract, enlightening power has two levels, one using gravitation, like we used above for the common fall, but one even without gravitation, that will explain the rockets.

The third law itself claims that if an object exerts an F force upon another, then the other exerts an opposite $-F$ force upon the first. With the old static forces, we experience this as the trivialities of non motions. A book lies on the table, under gravity, but doesn't move. The old or geometric way is to say that the table doesn't allow it to fall. The third law says that the book pushes the table with its weight F , but the table pushes it back with $-F$. So the total force on the book is: $F + -F = 0$, that's why it is not accelerating. The same way, an apple hanging from the tree is kept there by force through its stem, canceling gravitation. Regarding gravity in action, that is letting the apple fall, we still have two objects. Namely the earth is the second, that acts upon the apple. The third law then says that just as the earth exerts F upon the apple, the apple exerts $-F$, equal but opposite force on the earth. In short, the apple pulls the whole earth upward with an equal but opposite force. This sounds insane first, but lets use the second law as well. The F weight of the apple will accelerate it when it falls. The opposite $-F$ force should accelerate the whole earth upwards. But why don't we see this ever? Well, we have to remember that the actual acceleration is not only proportional with F , but reverse proportional to the mass too.

So for the apple with m mass, we have $A = \frac{F}{m}$, while for the earth, with M mass,

we have $A' = \frac{F}{M}$. The earth's M mass is billion, billion times bigger than m , so its

A' acceleration will be the same way, billion, billion times smaller than A . Thus, by the time the apple reaches the ground, the earth could only move nano-nano-millimetre. The point of course is that the earth does feel the "counter" gravitation and has to obey the second law too.

As I said, there is a non gravitational, even more basic enlightening from the third law, explaining the “rocket principle”. Just a year ago, I would have not written down this sentence. Simply, because the word, “principle”, meant something sacred for me, that should only be used for science and not a technological application, like rockets. As I mentioned, even after my song about the time traveling Leonardo, I didn’t realize the more important fact that Newton would be just as shocked, if came to the present. Why is it more important? Because all the flights we practice today are mere applications of Newton’s laws. But nothing as simple as the rocket. In spite of this simplicity, it is hiding a very complicated problem of reality in speeds. Giving an initial speed to an object, like kicking a ball, will mean that the earth’s fix accelerating downwards will reduce the initial speed to zero and then the object will fall back from that height to earth. If the initial speed could be increased arbitrarily, then we could kick an object to arbitrary height. But since the gravitation is getting weaker and weaker, going further from earth, in fact already a fix finite initial speed, is enough to move an object to infinity, that is never to return. An even smaller speed is enough to take an object, merely to the moon. These speeds were well calculated by Newton, and he also knew that the speeds of bullets from a gun or a cannon are slower than required. That didn’t stop Jules Verne to envision a flight to the moon by this method. We can forgive him this practical mistake, but not the totally insane idea that weightlessness only happens at a critical point between the earth and the moon, where the two gravitations cancel each other. As I mentioned, we all see the astronauts floating in weightlessness, already around the earth. This is artificial weightlessness of objects traveling with their capsule. In fact, the law of Common Fall means that in a free falling elevator, we would already seem to be weightless, that is float. So Jules Verne didn’t really understand already the law of Common Fall. But all these famous stupidities go back to Newton too. Indeed, he was aware of the practicalities of the initial speed problem and yet didn’t hit upon the only solution, his own third law, the rocket principle.

If we are in a boat, and we throw an object out, then we’ll not only make that object move away, but ourselves, the whole boat also, in the opposite direction. Every gun has a recoil, similarly. So just as in theory, the apple as it falls, it pulls the earth, it’s already well known from experience that any object throwing away some part of it, will bring about a motion of itself. For the boat, or the gun, these counter motions are disadvantageous. But, we can also regard this as the simplest and purest repulsion method for travel. Indeed, it doesn’t require roads, or any medium, like air to act upon. It is a consequence of the third law alone.

Throwing a mass with v speed, we accelerate it from zero to v . So, we don’t even need to calculate forces and counter forces, instead a much simpler law comes about. Of course, the mass is still crucial. Namely, if m mass is thrown out with v speed, then this means a given $m v$ momentum to that object. The object reacts by giving us an opposite but equal momentum, the recoil. If our mass was originally M , then this means that the remaining $M - m$ will move with w , so that: $m v = (M - m) w$.

If m is minute compared to M then, $M - m$ is almost the full M and so w will be minute, compared to v . But, if v is huge, that is we are able to throw out m , with really big speed, then w is something that we can use. More importantly, we can repeat this process, so even if w is small, we can throw out another m mass, sacrifice it to gain a new momentum. This can add new w speeds to accelerate in empty space or conquer gravitation from a planet. This is exactly what a rocket does. Every second, it sacrifices a small m mass of its fuel that it burns and thus, throws out with high speed.

The false delusion is that burning destroys the fuel! But as the early chemists observed, even burning wood, moves its mass into the air as carbon dioxide. The carbon is from the wood, the oxygen is borrowed from the air. The rocket fuel also needs oxygen to burn, so in outer space it needs its own supply. This vision of the

rocket accelerating in outer space also shows our delusion while watching the rocket lift up and fly in air. Namely, we feel that the air is involved, that the flame is pushing away the rocket from that. The flame coming out, is not relying on air and not only in the sense that it doesn't need oxygen already but also that it is itself the outpouring m mass. But even if we understand the existence of mass in the flame, a delusion still sneaks back upon us by believing that this outpouring m mass when hits the air or the solid ground at launch, will help the propulsion somehow. In truth, that m mass will interact with the air or the platform according to the momentums and counter momentums. But since it is not confined any more it will interact in all directions and thus can't help any more. The new momentums will go in waste. This universal chain reaction of momentums suggests a much better vision than the simple reaction or counter momentum or recoil. Indeed we can regard the M initial standing rocket as a closed system with zero momentum. The closedness means that we won't interact with it, it will propel itself. And indeed it throws out m mass at the first second with $m v$ momentum. The total momentum of the original M masses must remain zero and thus the separated $M - m$ must change from zero to a speed w_1 too, so that:

$m v + (M - m) w_1 = 0$ Or to say it even better, the $m v$ is taken from 0 and thus leaves $0 - m v = -m v$ as $(M - m) w_1$. This vision is better because now we can continue more exactly: Indeed, now the remaining $M - m$ rocket is the closed system but it is possessing the $(M - m) w_1$ momentum. Throwing out, that is taking away $m v$ from it in the next second, means that it is left with: $(M - m) w_1 - m v$ as $(M - 2 m) w_2$. Then again, $M - 2 m$ is a new closed system from which $m v$ is sacrificed, leaving $(M - 3 m) w_3$. Of course, the:

$$(M - m) w_1 = -m v, (M - 2 m) w_2 = -m v, (M - 3 m) w_3 = -m v \dots$$

equations will give exactly the consecutive w_1, w_2, w_3, \dots new speeds. Unfortunately, we made a big mistake, because the M rocket is not a closed system! The earth exerts a gravitation on it. Involving this too, means that w_1, w_2, w_3, \dots are all reduced with the fix accelerations or rather decelerations. The previous formulas are only valid in empty space or far enough from the earth. Taking a closed S surrounding to M we get an even better picture. First of all, it might involve the whole earth, but more practically, the closer environment at the launch. The outpouring propulsion will cause a big flow in air and debris. And yet, even the dust flying away or the empty pepsi can rolling away after the launch is merely taking away some momentum from the initial zero momentum of $M + S$. This merely qualitative picture becomes even more amazing quantitatively if we go through the mentioned abstract continuations of the third law with vectors. Then the momentum conservation becomes a mass-center conservation, that is, loses its dependence on the speeds. More exactly, only the very initial speed of M counts. In our case this was zero and thus, the center of all masses involved, remain exactly where the rocket stood at launch. The capsule that leaves the earth, if were combined with the flying out air and debris particles, taking into account all their sizes and directions as vectors, would add up to zero. So the propulsion is merely a disposition of the full environment that allows parts of M to go away by using the rest of the parts going in opposite directions. If M had an initial speed, then instead of the total mass center staying still, it would continue to keep its fix speed. So in an amazing abstract sense, the third law becomes a monumental higher version of the first law. This final view of the rockets as mass center conservation is abstract, while the understanding of the flame mass is concrete. This could be called as the vision of the Mass Conservation.

Newton wasn't aware of neither all the abstract consequences of his laws nor the deceptiveness of burnings as merely mass transformations from fuel or wood to gas. In short, he wasn't truly aware of the conservation of mass, and that's why the innovative idea of the rocket didn't come to his mind. This added to the fact that he

was a closet alchemist, is an interesting coincidence to think about. But there are much weirder coincidences too. It's a coincidence that the earth's gravitation is big enough so that no bullet fired from any cannon can leave the earth. It's also a coincidence that Hitler was stupid enough not to believe in nuclear power and so put all his efforts towards building rockets. Even more coincidentally, it was a Russian and an American who started to experiment with rockets, but the Germans soon became the leaders. Then it's a coincidence that America was able to achieve nuclear power, exactly at the end of the war. And finally, the German scientists were the ones who helped the two super powers at the right time, to initiate their rocket programs. So a Nazi, Wernher Von Braun, could become the head of the Marshall Space Flight Center and ultimately design the rocket that put man on the moon. But beyond these earthly, almost comical coincidences, if we calculate the realities of rocket flights between stars, then it turns out that a whole human life is barely enough to visit neighboring stars, and to leave a galaxy, is totally beyond human times. So Star Trek and Star Wars are based on false fantasies. And yet, soon I will explain a reality that is much more exciting than these fantasies. This hopelessness of the "rocket principle" should make you wonder why I defended this term so strongly before. I hinted that this was what made a crucial tick or turn in my mind. In fact, this turn is the explanation to the exciting new reality, that goes beyond galaxies. So it was not the continuation of my song, the what if Leonardo did go back to Newton, neither the questions that Newton would raise if he came to our times and were confronted with the false abstractions of Wikipedia about the lift force, rather the invention of rockets that made a final realization in me. Namely, that technological inventions are not merely a fall out of scientific discoveries.

But now, I still don't turn to this deepest and newest problem, rather return to explain the other two flights, the balloons and airplanes:

The simpler hot air balloon starts with a usually ignored puzzle that in fact leads to its real essence. The common explanation is that hot air is lighter than cold, so it wants to rise, just like a wood rises in water. So, Archimedes' law of buoyancy is used. Just as in a pot of water, the weight of the water causes pressure, in the air too, the weight of the atmosphere is present. Of course, this analogy is exactly hiding the real puzzle of the hot air balloon, as we'll see. But right now, just let's follow the whole claim in water, that is let's see the reason of buoyancy. The main point is that this lightening, that is upwards force is caused, not by the obvious weight of the liquid or the gas, but merely by the difference of the weight at the top and the bottom of an object. The basic fact that supports this explanation is that the pressure in a liquid or gas is transferred into all directions. So in a sense, it is directionless. For example, a potato placed in a pot of water, becomes lighter, because the bottom of the potato, will feel a pressure upwards, originating from all the waters around the potato, towering to the top of the pot, while the top of the potato will only feel the pressure downwards coming from the water towering above. Clearly, the two towering heights are different, namely with the thickness of the potato. This simple height difference is the source of the pressure difference at the bottom and the top and thus, is the source of the total upward force, which we call buoyancy. An instant counter argument could be to somehow stop the pressure to get to the bottom of the object. If for example, we cut a potato flat and place it on the bottom of the pot, then in theory, the pressure couldn't go and act on the bottom of the potato. The reality is that the tiniest layer of water can carry the pressure. So, to really implement this counter argument, we practically would have to glue the potato to the bottom. In fact, gluing in general, has to deal with these explanations. A more realistic counter attack could be to think about a long shaped potato and then ask whether it makes any difference how we position the potato under water, vertically or horizontally. Amazingly, it doesn't make any difference, for the following reasons: It is true that vertically the pressure difference between the bottom and the top is bigger. But, this pressure difference is still not the

force. It has to be multiplied by the surface on which it acts. Vertically, this surface is relatively small. Placing the potato horizontally, the smaller pressure difference will act on much bigger surfaces in the bottom and the top. The pressure difference and the acting surface combined will bring about the same total force difference. A more precise or detailed explanation of this, would be to replace the shapeless or round potato with a sharply digitalized cubist form with horizontal and vertical surfaces. Amazingly, just as the law of Common Fall had its purely external logical verification, here too we have a magical mind experiment: The idea is that we envision, instead of the real potato, an exactly same shaped “water potato”. This object, made of water, would itself obviously float in water, neither sink nor rise, and not move sideways either. Indeed, if this wasn’t the case, then we would experience continually moving waters in any pot of water. This floating of the water potato doesn’t mean that the surrounding’s total force is zero. Rather it compensates the weight of the water potato itself. Just as we applied this at the resting book, having a total zero of static forces. So the water potatoe’s surrounding exerts a force, that compensates the weight of the water potato. But this force from the surrounding can not depend on what is inside the water potato. So putting back the real potato instead of water, can’t make any difference. Therefore the potato experiences from its surrounding a total force, that is equal to the weight of water in the volume of the potato. If the potato is heavier than the water potato would be, then it still sinks to the bottom, but it becomes lighter with this buoyancy force. If the potato weighs less than its water version, then the buoyancy force will lift it up to the surface. It will rise above the water, with exactly that much volume, to make the immersed part big enough that if it were water, it had the weight of the full potato.

Boats and ships have volume under the water, much more than just the volume of the matter of the boat strictly. The hollow body increases the volume under water and thus, brings about much bigger uplifting buoyancy forces. Remember, only the immersed volume is that counts, because it could be imagined as filled with water, and then it would have to float.

Instead of water, we can regard the air and similar buoyancy forces act on any object. They are the weight of the air of the same volume. But to achieve actual flight, we need a surrounded volume with lighter than air material. The lightest “material” is nothing, that is vacuum. Air itself is “quite” heavy. Namely, only about thousand times lighter than water! This is a very lucky first coincidence that with an other one about our atmosphere can make all the calculations so easy that we can actually see the pressures. In schools of course they avoid all this and make the kids dizzy with insane units. It is all in the name of abstract precision. The slave minded teachers follow the orders because they themselves don’t understand the principles. It already starts with a hairsplitting distinction between kilogram and kilopond. As we explained, the weight is merely a force from a planet on a mass. The same m mass will be heavier on bigger planets. On earth of course the best sense of an m mass is this particular weight. This is not the only sense because if we want to move a mass sideways like when we push a car, then we need a force too and it is not against the weight. It is a bit mixed up with weight though, because a heavier car is having bigger friction to the road. Obviously we would put the car in neutral so it can roll “freely” before we push it. This quotation mark exactly means that no matter how well oiled the neutral rolling is, a heavier car is still harder to roll too, simply because it has a bigger mass and that resists our accelerating force. This is the second law regardless of gravity. In empty space it would be also harder to push a more massive car. Once of course it moves, it keeps its speed and then to accelerate it further requires the force. To explain all this is necessary but easy. It only takes time to perfectly clarify the distinction between the mass and its particular weight on earth. The distinctions of the units is totally superficial beyond this point! In the metric system the decimeter is one tenth, the centimeter is one hundredth of a meter. A one decimeter edged cube as

volume is what we call a liter as short for liquids. The two liter milk containers are perfectly showing the meaning because they are exactly two cubic decimeters above each other. Or in centimeters ten by ten by twenty. A cubic centimeter is a dice size and ten by ten by ten, that is a thousand such fit in a cubic decimeter or liter. Using water is the way we go from volume to mass. One cubic centimeter water is a gram and so one liter is a thousand gram or in short a kilogram. This is better felt than the too small gram. These same masses could be used to measure their weights too. And this was a practice before the war. So a kilogram bread is the amount of the bread as mass but also its weight on earth. Clearly a kilogram bread is less than a kilogram heavy on the moon but more than a kilogram heavy on Jupiter. After the war, it was suggested that scales and the education system should change the weights from gram to pond and from kilogram to kilopond. This is easy and we don't have to say "heavy" merely one kilopond for the bread. In spite of this it didn't catch on. There are millions of earthly abbreviations we use arbitrarily so this wouldn't be different. When our intuitions resist something logical that strongly then there is some deeper reason for it. The ultimate logic is understanding, and that is not playing itself out by how we shop. But I am willing to even push further the trials of "pond"-s. We have more dangerous fishes in the pond. The school system went berserk and introduced a whole arsenal of new units to "enlighten" the young minds. I am not even willing to go into these insanities. If there is not one Nobel prize winner who wants or can put a stop to this then it's hopeless anyway. So let's return to the amazingly lucky coincidence that air is about thousand times less massive and so also thousand times lighter than water. Since a cubic decimeter or liter water is the kilopond and a cubic meter is ten by ten by ten that is thousand cubic decimeter or liter, thus a cubic meter of water is thousand kilopond or in short a ton. Thus a cubic decimeter of air is thousand times lighter, namely a kilopond. This would be the buoyancy force on one cubic meter of totally weightless vacuum. One hundred cubic meters could lift up a not too fat person. But how could we keep such volumes of vacuum surrounded by some container? Here, a totally new problem enters, namely what pressure such container would experience from the outside. In water, the lighter solids or liquids automatically defy the full external pressure, and so we only cared about the pressure differences that cause the buoyancy force. Here, in air, the pressure difference is much smaller, so the buoyancy force is much less effective, that's why we need lots of cubic meters. And yet, the absolute pressure is big enough, that such usable volume size would be crushed unavoidably. To see this, we have to come to the absolute pressure that we ignored up until now. Our potato being in a pot or in the ocean hundred meters deep, wouldn't make any difference. The potato is strong enough. For containers, the situation is quite different. To calculate in a practical manner the absolute pressure of the atmosphere, we have to choose a comfortable unit surface. As I said, a cubic meter of air is about one kilopond. But the meter wouldn't be a practical unit for surface, because on one square meter, the weight of the atmosphere will be too big. The good choice is a square centimeter. This is about the size of a fingernail, because one centimeter is a hundredth of a meter. One thousand meter is of course a kilometer and so the Mt. Everest is ten thousand meters. We'll regard this as the height of our atmosphere, because the air already starts to be less dense before this height. This is the second lucky coincidence, I mentioned above. Indeed, this ten thousand meter height can be envisioned in the following way: In a cubic meter, that is, in a cube with one meter sides, we cut the bottom into one square centimeter pieces and place columns above. Since the bottom has a hundred centimeters on each side, thus, we have exactly $100 \times 100 = 10,000$ little one square centimeter based and one meter tall columns. Placing these on top of each other, amazingly we could reach the Mt Everest. This also means that towering above one square centimeter, the whole atmosphere is about one cubic meter and thus, has one kilopond in weight. So, we obtained the atmospheric pressure as about one kilopond per square centimeter. Our

palm is about hundred square centimeter, so it experiences hundred kilopond from both sides. In fact these two forces are counter equalized by same internal forces. Inside our body we carry the same one kilopond per square centimeter pressure. A square meter is ten thousand square centimeter so it carries ten thousand kilopond or ten tons. As we said a cubic meter vacuum would have one kilopond buoyancy, so to fly, it would have to be confined in a box that weighs less than a kilopond. But from all six sides it would experience ten tons of force. Clearly, there is no such light and yet strong material. So simple buoyancy can not be applied directly. How does then the hot air balloon fly? To compensate the enormous force from the outside, we have to keep it secret! In other words we have to use the same method that keeps it so non apparent around us. It is distributed perfectly as pressure, always equalizing automatically. In short we need a gas as floating object itself that will have the same pressure as the outside air. But the other requirement, that we need something lighter than air, seems to contradict this. To see why there is no contradiction, that is why a lighter gas can carry the same pressure, we have to go deeper and see what pressure truly is.

We all know today that matter is made of particles. Regardless of the exact meanings of atoms, molecules or sub atomic particles, this particle vision dictates enough vision to understand pressure. Unlike a solid, like a table that merely shifts and counters forces, gases and liquids transfer forces in every direction, even their own weight, as we applied above for buoyancy. A real mechanism for this all directional pressure offers itself as the continuous random hits of the particles. But of course calculated as averages. These averages are seemingly fix values. Indeed, if the number of particles is big enough, then the relative oscillations become smaller and smaller. Just like at flipping a coin or throwing a dice, though we can see very long strange sequences, when compared to the total number of throws, these become smaller and smaller. Similarly, we could expect individual particles reaching extra speeds, but the continuous collisions and maybe other interactions, would equalize the averages in the macroscopic regions. A most surprising application of all this is that the only reason we don't choke to death in a room is the above mentioned Law of Large Numbers. If the air molecules would go from one room to the other, we would certainly die. One air molecule is moving freely until it collides with an other. Even if the collisions are more complex than simple bouncing of billiard balls, the fact remains that it is the lucky or unlucky collisions that determine how many molecules will go from one room to an other. Since molecules move in both directions between the two rooms, to be more precise, it is the collisions that determine the fluctuation of extra molecules, one way or the other. Such fluctuations must exist, and I called this the Law of Big Numbers in the book "Randomness". It would be insane to assume that the density of air is continually perfectly equal. More importantly, mathematically we also know that the fluctuations themselves increase in a bigger and bigger population. So the total number of extra molecules can also be bigger between bigger rooms. But the local consequences like pressure, are averaged, not just mathematically, but physically too. So this whole merely statistical determination is very reliable. Most importantly, the molecular hits as the source of pressure gives an instant explanation for the hot air balloon:

In hot air, the molecules move faster and thus, give bigger kicks at every collision. Not only with each other, but colliding with a surface. The total kicks obtained on a unit surface, say one square centimeter, in every time interval, say second, represent the pressure. So, it is very plausible that an amount of air enclosed in a solid box and heated up will bring about a bigger internal pressure. And indeed, we see this when we cook and the steam blows off the lid. If instead of a solid container, we place the hot air in a balloon, then the faster moving molecules will fill the balloon until its pressure equalizes with the external. We can apply this, even in a solid confinement, by for example using a lid that can sink in the pot and we place weights upon it. As

the steam gets hotter and hotter, the lid will rise more and more. So we can control the pressure in spite of increasing the speeds of the molecules. This also means that the total kicks on a unit surface can remain the same, even though the molecules are faster and thus, have bigger individual kicks. The reason is obvious: The unit surface under the unit time must have less number of kicks. In short, less number of molecules hit the surface under the unit time. From this, it's again natural that then the actual number of molecules in a unit volume must be smaller too. Indeed, if there were the same or more many faster molecules in that volume, then that would cause a definitely bigger pressure on the walls. Having less fast molecules in every unit volume, simply means that the fast or heated up gas molecules weigh less per unit volume when kept under the same pressure. Thus, the hot air balloon can compensate the enormous outer forces by keeping the same internal pressure as the external, that is one kilopond per square centimeter and doing this can be also lighter than same volumed normal air. Then of course, the buoyancy force, which is the total weight of the balloon filled with normal cold air, is bigger and so the balloon will rise.

This explanation opens a whole flood of new questions:

In liquids, the particles obviously don't fly freely, so seemingly, everything is different and yet buoyancy is the same. In fact, liquids are less compressible than solids. Which is a hint toward some explanations. But what is pressure here?

The faster particles as a consequence of heating the gas means that the molecular speeds represent temperature. That seems to be supported by the explanation that objects in contact can transfer speed through collisions again. So, feeling the higher temperature with our finger simply means receiving speeds to our molecules. But this seemingly obvious vision contradicts with the similar vision of gas pressure. For example, why will the hot air balloon equalize its pressure instantly, but remains hotter for long. If the temperature exchange would be as fast as the pressure equalization, then not only the hot air balloon wouldn't work, but heating a room would be instantaneous too. So the gases must represent a puzzle that determines the more precise meaning of temperature from molecular speeds.

Finally, even if the molecular motions can explain both the pressure and the temperature of gases, we have a third, even more surprising consequence of their motions as sound. The sound waves are pressures that don't equalize instantaneously, neither slowly, rather travel with a fix speed. Instead of these puzzles, we have to go to the third and most important way of flying, to airplanes.

While in the innovation of the hot air balloon, the whole point is the hidden overcoming of the big atmospheric pressure, at airplanes the atmospheric pressure is the hidden source of the so called lift force that conquers the weight. Through the perfect equalization of pressures, the horror of too many molecules going from one room to an other and thus, choking us, is a sheer fantasy. But just imagine this: If we could master our palms so that the internal equalizing pressures would be different on the two sides, then we could almost fly by that alone. Indeed, we have more than hundred kilopond on both sides. Controlling a larger, say one square meter surface, we could easily fly, because the equalized two forces on a square meter are ten tons. So even just one percent temporary imbalance in pressure over a horizontal square meter, could provide hundred kilopond lift force. We might say that the lucky perfect balancing that keeps us safe from choking to death, must also forbid us to use such tricks. In fact, many who contemplated these calculations believed in this. But perseverance showed that there is a way out of the perfect balancing. The actual discovery was not worrying about the philosophy of molecular randomness, neither was fully aware of the enormous atmospheric pressures. In fact, not even caring about the already known perfume vaporizers that hid the solution. Once of course, the first experimentally built airplanes worked, the smart-ass explanations also appeared. Equations were pulled out of the hat "explaining" what the experimenters achieved. Later the equations even helped to build better airplanes. So the abstract explanations

became even more accepted by faith rather than understanding. In the last decades, a revision of the old explanations occurred. Fight in abstractions without realizing the need for a black and white simple explanation through molecular reality. A good analogy is magnetism. It was a big subject in the 19th century. The fundamental fact that moving charges also bring it about, was merely regarded as a particular aspect. Finally, Relativity showed that magnetism is this and nothing more, merely electricity experienced differently through motions. Here, the big arguments about the true nature of the lift force in abstractions, forget the simple fact that we already know it in its concreteness as imbalanced molecular hits. In fact the analogy is even more perfect because just as the magnetism is only the side force from the motions of electric charges, here too the crucial imbalance is between the sides of a moving object.

The lift that keeps the airplane up against gravity, is a force from the upset balance of the atmospheric pressure. The shape and motion of the wing, defies the third law of counter force as a statistically valid extension from individual particles to a set of them. This upsetting of the statistical equalization comes about if the particles, the air molecules travel together or objects travel among them, and thus, separate the air molecules. We know exactly why the airplane moves forward. It pushes the air with a propeller or uses the rocket principle in jets. But the crucial lift that keeps the weight of the plane is simply caused by the atmospheric pressure, the weight of the air above the earth. This pressure is equalizing by nature, that's why we don't experience it naturally. Moving objects separate the air and have different flows at different points of their surface. This temporarily upsets the balancing of the random molecular motions. Since the atmospheric pressure is so big, even a small, few percent inequality in pressures can bring about enough forces to carry heavy objects. To pinpoint singular flow conditions as the "real" cause of the lift, and not to mention the molecular hits as the ultimate cause is obsessive insanity. It is a symptom of a wider insanity of the whole education system. Understanding, seeing, is not a goal. Artificial fluency in verbal arguments, respecting undigested opinions to suppress even the last morsels of natural questioning is the real goal.

Every flow in a gas or liquid and every moving object in air will bring about an imbalance of molecular hits. An obvious imbalance is that the molecules ahead of the moving object will be hit by the object so they will bounce back faster. This is what we experience as air resistance. But an asymmetrically moving object will always have imbalances sideways too. This asymmetry can be already in the shape of the object but also in its motions. A bullet is perfectly symmetrical around its motion direction and even its spinning around this axis is giving more stability. It does mean a certain asymmetry in contact with the airflow but it is minor. A spinning ball is much more drastic. The ball shape is perfect for its own mechanical stability but the airflows at the surface points can be very different. This in itself has a wide variety of side forces caused by spins..

The airplane wings clearly separate the airflow but the difference between the upper and under flow will not only depend on the difference in shape but also on the attack angle, that is in what angle the wing is moving forward. Indeed, this angle can alter the point of separation a little bit up or down on the edge. This seemingly primitive method is already enough to enable an airplane to even fly upside down. But the rigid wings are very restricted compared to the flexible wings of birds. Not only the wings of birds are providing the propulsion in an obvious manner by flapping against the air that is using the air resistance, but they can use a "reverse" of the lift-force principle. So instead of creating side forces by streamlines in a forward motion, they can transform side forces into forward motion keeping the streamlines. This more ancient ability is clear at snakes and fishes or water mammals. In air, the conquest of gravity is so surprising to us that this perfection of propulsion is completely missed. And yet it is a good ignorance if we go deeper and realize that the conquest of gravity involves gravity itself. A gravity totally outside the flying object, by use of the atmospheric

pressure. The weight of the atmosphere is that gives kicks to the molecules. These kicks are hidden because they tend to cancel each other, equalize. Even a standing object, though separates the air, will merely transfer the equalizations. Winds not only move the air forward but pick up objects showing that side forces appear. Objects moving, create relative winds on their surface. This therefore is a window to a relative upset in the perfect balance. It mixes with the more obvious direct collisions with molecules. But if that collision or air resistance can be minimized then a forward motion can remain for long or kept by other ways easily. Then the side forces can cancel gravity, the weight of the moving body, continually and automatically, without any investment of energy. The magic of flying appears. Gravity conquers itself.

And seeing all this, the understanding must turn into greed, to ask for more. Why shouldn't we use the unbalanced random hits as source of the forward propulsion or as source of energy in general? If I say that Physics forbids this then you could reply "we heard that before". Indeed, the lift force is already defying the statistical balancing. But now a new word appeared too "energy". To create forces magically is okay but to create energy is impossible. Energy is not mentioned in Newton's laws and yet the forces and masses are direct sources of energy. We already mentioned the conservation of masses which exactly meant that the illusion of masses turning into energy is false. The wood doesn't turn into heat in the camp fire and the car doesn't burn up its fuel by converting it to motions. The exhausted gases have the same mass as the petrol we used up. This would mean that mass conversions into other forms is merely what happens and the distributions of masses is all we can use in the momentum calculations. Similarly the forces in motions carry a calculable quantity called energy that is also indestructible and non creatable. They can only help to calculate forces from the distributions of energies. So we have a concrete intuitive conservation of mass and an abstract for energies. Einstein's new mechanics, Relativity broke through this duality, it connected the two conservations. The famous $E = mc^2$ formula at first seems as a conversion of energy and mass by this huge c^2 factor. Indeed c being already the huge speed of light, the even bigger c^2 means that a tiniest m mass can create a really really huge energy. This false interpretation would mean that the old wisdoms were correct qualitatively and merely wrong quantitatively. The camp fire creates the heat from the wood but only uses up a tiniest actual mass, the rest is wasted in the air. The car is also a very ineffective invention and only a minute mass of the fuel is actually burnt into energy, the rest is exhausted. This line of thought is correct practically in the claimed low efficiencies of a campfire or a car and yet false theoretically about the small masses turned into energies.

But this error becomes only apparent if we realize that energy has mass!

The heat of the campfire is not a transformed mass into energy because it itself keeps that tiny mass that we claimed to be converted. In fact not only the radiating heat as electromagnetic wave has this tiny mass but that part that is stolen by the air molecules through contact that is as molecular speeds. Which of course means that a moving mass has to become a tiny bit bigger by itself. Similarly the driven car will steal not only the tiny mass of the "missing" fuel as used energy, but that mass will be put on by the car when it moves faster or given to the environment when it slows down again. This explains that relativity had to start with the motions themselves being not absolute. And now comes the real surprise:

In spite of all this grandeur, we said nothing that has to do with the restrictions of flights! Already the intention of using the atmospheric pressure for more than canceling gravity, to gain energy, can be defended. Indeed, we don't want to create energy from nothing, merely steal it from the atmosphere. In fact such futuristic power plants can be defended morally too by assuming that the whole earth will keep its atmospheric structure and thus energy through the support of the sun's heat. So in a sense all this would be merely a better use of the sun's energy. We can go further and realize that the oceans also represent a huge reservoir of randomly moving particles.

Since the conservation of energy, that is the forbidden creation of energy became known as the first law of thermodynamics, it's logical that this merely stealing of energy by upsetting the statistical balance, was forbidden as the second law. But why? Well first just lets see how? That is, how can they even claim this, when the airplanes are examples of the opposite. The crucial two factors are that we talk about energy which means force in motion and machines that are periodic. Indeed fluctuations in the particle motions happen by themselves. So gaining one off energies can happen but even to detect these energy surges is already forbidden. This shows that much deeper factors are involved than merely forces and balances. Information is also ruled by the second law. Apart from this mathematical direction, quite oppositely the whole premise of the law is that there is some deeply physical reality that distinguishes such collections of real particles from some mathematical, imaginary little billiard balls. Indeed mathematical particles would not resist some also mathematical tricks that upset the balances. The simplest such trick is a trap door. A particle hitting from one side can lift it and go through but particles hitting it from the other side would bounce back. Placing such molecular trap doors between two rooms we could gradually direct all the air into one room and kill someone in the other. Beside the second law forbidding this merely as an abstract law, we can go into the details of every proposed trapdoor and refute it concretely by taking into account how real particles behave.

Now lets see why airplanes don't really defy the second law. First of all they have to move ahead to create the anti gravity force so they are not periodical. But of course we can fly in a circle or around the earth and then we periodically repeat the same process. The more important failure is to use the force in motion. We are in motion but the lift force is perpendicular to this direction so doesn't do work. Of course airplanes do fly up and down and can even carry heavy objects against gravity. But in these periods the fuel is used not merely to go forward but to conquer the air resistance. Thus we put speeds back into the atmosphere, we don't harness them for our goals.

The exact examinations of flights versus the second law have not been carried out yet because we don't have a full theory of neither flights nor the second law!

A sign of how little we know, is the imperfection of helicopter flight. The obvious goal of hovering is both practically and theoretically a dubious process. Periodical stability is only in flight. The wider question of whether a smooth hovering can be achieved at all, using only the atmospheric pressure and no air resistance, is not known. If not, as I believe, then it means that there are wider forbidden technologies than periodic energy suction.

The real importance of all this lies much deeper than flight or even the statistical meanings of physical particles. It is human stupidity. Blindness to the most obvious, right in front of our eyes. Thirty years ago I already contemplated this whole helicopter problem but I couldn't use the word technology in it. I falsely believed that the theoretical machines have nothing to do with real machines and innovative human ideas. Even this sentence carries my old stupidity, because the innovative ideas are not human in origin. Technology is prior to nature. But thirty years ago I also separated the idea of technological influences upon our intuitions from the history of real technologies. Even when I claimed that science stopped and merely the progress of technology is falsely regarded as advance in science, it was my anger against others' stupidity that kept me from seeing my own. It was only my deep rooted belief in the simplicity of truth that lead me back to the things I couldn't see. Carrying this cross of mine allowed me to touch what I can't see. This is meant symbolically. In reality I didn't want to touch the crucial new technology, computers at all.

But there was an earlier period in my life when I was at the birth of the new personal computers. I was twenty years old, hardly speaking English and wrote application programs for a small computer at Cintra Physics International in Mountain View. The three competitor companies were Hewlett Packard, Monroe and Wang having similar

purely mathematical machines. They were all experimenting with Hollerith cards, teletext machines, IBM typewriters, plotters as extensions. Our company went bankrupt and a big Oscilloscope factory in Oregon, Tektronix bought us out. Only a few people were kept including me. The new management only made superficial changes, mostly “improving” the colorfulness of the keyboard. After a few weeks, in one morning a strange state took hold of me. As I saw the thousands of tubes around me to be assembled into the oscilloscopes, a vision came to me. Our mathematical computer combined with a typewriter keyboard and attached to an oscilloscope tube. The letters written in offices thus could be seen, formatted even translated to other languages and sent to other cities in the world through the phone lines. This combined with the mathematical capabilities could mean a merger of all office applications and thus a much wider and more general market. And of course the company already manufactured the tubes, so a new market for those too. It all felt so perfect that I immediately sought an audience with one of my bosses. The reply was cold and stupid. I quit the same day. In truth I hated the whole applied mathematical turn in my life that was interesting for a while and taught me a lot but my deeper interest toward Set Theory and Logic seemed as a second life. Through lots of adventures I drove down to San Diego, then back to L.A. to enroll at UCLA. But fate stepped in and I met my new friends a couple Michael and Rachel. So, I encountered my third big turn LSD.

The first turn in my life was that my mothers faith in me allowed me to apply into a math high school in spite of eight years of elementary school conditioning that I am stupid.

The second turn was that the obligatory philosophy readings for political economy turned into a discovering of philosophy. Namely, a crucial week in which I read the full History of Philosophy from Hegel. I remember when I wrote about my discovery of Idealism to my friend Gabor Fencsik studying in Moscow. He was very skeptical. Now in L.A. just a few weeks after my first turning on, he was again there to be skeptical. He drove down from Berkeley to see me and only found a “crazy acid freak”. I haven’t seen him since then. If you read these lines Gabor, believe me that I didn’t slip sideways, rather found the eternal grooves. You once almost electrocuted me and I saw the fear in your eyes. You owe me to seek out my friendship again, in spite of that I seemed to be a bad friend.

My fourth turn was coming slowly, as I started to tutor and realized that didactical correctness is deeper than merely an educational success.

Finally, the fifth turn is the recent realization about the true nature of technology that in fact shows that it has no nature, it is prior to that. Nature is merely an evolutionary recreation of technology in matter. The technological space and time is the pure space and time of thought. The apriories are memories of this pure state. But the recombinations can not be remembered, they must be recreated as elemental understandings. This is cognum. Matter wants to keep its hold on nature. So even though understanding has its unstoppable flow, we don’t see this around us. People can be lazy to follow even the clearest steps to see and attach values to false unseeable facts. In short, we pursue matter beyond the obvious manner of possessions and passions, namely as misunderstandings. These abstract knowledges split into two. Trivial lies and accepted wisdoms. Not only in the individual but in society too. The schools feed us abstract wisdoms, the media trivial lies. But the two support each other. That’s how we sail in our real lives, not only driven by matter but navigate by it too. Matter, in spite of evolving, has its memory about the pure relations. At different levels of evolution different forms of this memory kick in. The mentioned apriori certainties are the latest. Happiness, love is an earlier. We try to ignore these for animals because we kill them. The pursuits of happiness go through the levels of false understandings. From raw possession to abstract. Unlike the failure to understand, the failure to achieve happiness is revealed to our intellect easily but we deal with it by

replacement. Understanding is the only thing that grows “naturally” or rather pre-naturally. These replacements are cyclic. We get addicted to life which is the ultimate cause of death. I was short in this detour towards the bigger picture because I have to get back to computers to really show the actual future too. The crucial two twists that I completely left unmentioned above are that the happiness and love at animals is actually humanoid and that the humanoid apriories have a general form, the isomorphism principle. This is crucial because it is a non abstract, irrefutable concrete proof of idealism. Matter ruled by something that can not be explained through matter, only under or above or if you wish, behind matter. The humanoidness of animal emotions is also an example of idealism but is much harder to defend against a materialist explanation. The truth is that we ourselves are only part of a higher alien emotion complex. The highest level of consciousness is at the moments of understandings. The background of this is the apriori space-time. To understand our own entrapment in matter is much trickier and is related to emotions as such. Consciousness doesn't help here. In fact we feel purer emotions in our dreams. But our body is still interfering. Out of body or death is the next level. This points to the future but now I rather explain the two mentioned factors already here around us:

You can say that animals are happy in the wild but it doesn't mean the extra thing that they feel through humans. Domesticated animals are only an evolutionary and thus misleading form of this. All animals are domesticable instantly or through an individual life span. Their emotions are only awakened by humans. For them, these are alien encounters, mystical trips into the super natural. To only respect domesticated animals is a narrow minded attitude and to keep them in a city environment is a fatal weakness, a cyclic addiction that stops any progress of the mind. To respect only the wild as a conservable perfection is also a narrow minded denial of their real essence as the hunger for our love. The worst consequences of these false attitudes are two fold: One is a legitimization of slaughterhouses in our minds as something separate not relating to real animals. The second is shifting away from animal emotions into animal intelligence. In a sense this should make the killings feel worse, but in reality it is a trick to deny the emotional ground to be enough to respect life. So the animals around us represent a test for our humanities. I can not decide which is worse. The ignorance about the slaughter or the false belief in animal intelligence, denying not only the concrete human leap but the corner stone of idealism. But as this sentence suggests, I still lean toward this second ignorance as a bigger crime. The phony chimpanzee and dolphin experimenters are merely the real monkeys in the social arena trying to deceive us. Buying their ten minutes of fame through meddling into things that are much too important to be lied about.

Any child after learning to play chess will exhibit an instantaneous miracle on its own. Namely, placing the child in front of a huge garden chess board or an improvised one, using paper cut outs will make no difference. He or she will transform reality into its isomorphic that is similar essence. This isomorphism principle, the exhibition of independence from matter is much earlier of course. The use of words or recognizing his father from a picture are the same but in a much more hidden form. An other formal root of the isomorphism principle is the reality splitting. The child knows that the picture of his father is not the real father. A sheer negativity stops the identification to a reality. But in complex isomorphism conditions the leap from animals is a black and white, non evolutionary miracle. A rat can investigate and learn a labyrinth much faster than a human but it can never transfer the abstract rules as a sequence: left, left, right, left, right, right, to an other one. Animals live in the concrete surroundings, in the here and now. The guiding memories are beyond consciousness. So they are equipped from the past and for the future but are blind to this. In spite of our ability to use the brain in this splintered way thus leading to thinking, we are blind to its root and future too. Thinking or emotions can only reflect upon these. In fact, our consciousness not tied to the here and now must encounter

these, unless kept busy with life all the time. But understandings are the only fix points we have. They are splintered too but they are the only solid ground to build our reflections on. If not, we delude ourselves and become mere parts of an evolution toward the latter recognition. But that's about the future again, so now we should return to the computers that reveal something about that future.

Films and then television already created the new nature around us on which the next generations will evolve, but computers made it into the active environment. The cyclic memory, the digitization of micro time and the compact disk, the digitization of micro space came exactly when I left the computer world. Micro reality is connected to macro reality in the understanding of airplanes, gramophones and all the old electronic devices but these are all analogue. Merely visual magnifications can help. The fact that the computer users can't even see what they don't see, that they can't ask the right questions, is just a beginning in the full denial of micro realities. This probably will be crucial in more perfectly obeying the new realities of the appearances. The computer users know that when they move files without copying, then the real contents are not moved in the micro realities but they don't care about those micro realities. When the computer waits for a reply, we can go to the toilet or even for shopping. Time stands still! They know that something must still be running, but exactly what, is immaterial. These are the early stages of accepting a new space and time above the old. The truth is that this new technological space and time is not above the a priori space and time of nature. They are all pure forms, without and before matter. In fact, the galaxies are only far away in some levels of the space concepts. They can be brought together just like files, through the realities that obey this more abstract or rather, more ancient form. As thinking will become more and more evolved, these connections will be made conscious. The saying from "Contact" that "it would be a big waste of space", is true not only for the existence of aliens but also for the isolations of them. They've never been isolated. We are in continuous contact. Contact in conscious thought will bring about new levels, but even that won't change the fundamental lies. We can also see why the second law is so half baked today. All science is half baked. Only mathematics will remain the same. It will gradually become itself and replace science. This shows what an early stage of the evolution we are at. And yet, math today, contains everything it ever will. It is an eternal time capsule! The lens able to project all. And to read it, we don't need secret codes, it unfolds by common sense. But every new application of the common sense relies on a certain arbitrariness to look at something that we ignored before. The biggest change in the history of mathematics will be when it will gain its recognition for itself. In a sense, that will be merely an admission of a lie that exists today. Of course, every lie is contradictory already in itself, so we have a big contradiction. This lie is that mathematics is important because it is the language of science. One aspect of this lie was even emphasized by Einstein when he was asked about the biggest mystery of the universe. He said that it is the fact that the purely man made mathematics is exactly the language of physics. He completely missed two additional factors. One is that mathematicians don't care about applicability in physics, they are driven by their pursuit to new tricks to solve already existing problems. The new tricks can be isolated to yield only one proof or whole new pictures. These bigger pictures of course bring in new problems too. The second is that these problems are a rich jungle in which the applicable ones to physics are a minute fraction. Quite unconsciously, the education system defies its own belief about the usefulness of mathematics. Indeed, if simple practicality were the goal, then it wouldn't have the torture of abstractions, arbitrary concepts and proofs force fed. We shouldn't even have it as a separate subject rather as part of science, indeed as it was for Newton himself. The truth is that math is used as a selection method, to cut out a large percentage of poor people from entering higher education. It is used as a means in the conservation of privileges. The medical students need math exactly as far as they

become medical students. Calculus for doctors is a sad memory of hired tutors. That math, this sacred field is used for such false purpose can not be admitted and yet without that, no correct math education will come about. The inflated unusable set of abstractions carried on as math curriculum only signals a problem through the general aversion towards it. These surface contradictions initiate every decade or so, a new rehaul of math education, when the smart ass morons create a new, even worse curriculum. This false social reflection of mathematics is not surprising. Society has these multilayered lies in every respect and I will try to give a quick essence of the big picture now:

Lets start with an example! Putting criminals in jail is meant to be not punishment as revenge rather the protection of society and possible alteration for the guilty. But the reality that prisons create criminals is not denied either, so this contradiction can not be the real one. The acceptance of lies in principles must hide a deeper one. Namely that punishment is a potential weapon against crime. Only fear can keep people "moral". This contradiction is much sadder and society is ashamed of it. But it is still not a taboo. The reality is that fear is never isolated, as every psychologists will tell. So the social fear is an always present reality with a simultaneously acting logic that morality doesn't make any difference only getting caught. This deep contradiction was only addressed by the communists who openly claimed that law is a bourgeois suppression and must die out in communism. The fear of the law of course is dominant in all religions too. The present technological age put a new twist on social fear. This mind set was created by Hitler and then spread to the "Free world". This and the accompanying economical role of the state was the real present of Hitler to the west not the rocket scientists. In fact, the whole new age is a simple full circle in capitalism: The great financial crisis showed that free capitalism is dead as dillinger. The communists grew in Germany as a mushroom. The inaction of Stalin represented an internal split from Trotsky and a historical one too. Communism or a new trickier capitalism! That was the choice. And so the petty bourgeoisie was born. That's the original and today stupid sounding name of the new mind slaves. The motor is a new contradiction of work as social meaning for the individual. Its success defied the very essence of socialism and eventually socialism gave up. Its lie couldn't compete with this better lie. Imperialism is the external appearance of this internal lie in the new capitalism. That's all what the communists were shouting and this became the perfect excuse for them to be demonized. Also, the tiny islands of new socialisms, Korea, Vietnam, Cuba were magnified into a world domination. A perfect excuse again for capitalism to portray its expansion as a defense. Now that socialism died, the capitalist establishment turned to new enemies. And nobody sees that the same old curse from Hitler is alive. The aggressiveness of this new capitalism is not economical. The exploitation of others is happening silently and automatically by capitalism alone. This show of heroic fight to protect freedom is an act for the mind slaves, to keep the internal contradictions hidden. The greediness to create bigger and bigger inequalities is the true nature of capitalism. Modern technologies and the new mindset allow to create these inequalities with a false delusion of equal opportunities. As long as there is expansion, this can work. But capitalism as a continuous and equalized world production system is a contradiction. Sustained production is death. Only expansion and growth is survival. Capitalism will need a new blind maniac, a new Hitler to solve this problem. This is the undetermined basic future that is stewing right now, under the claimed big issues of world security, environment conservation and all the other phony crap.

The fundamental greed of capitalism is the extra profit ratio, but the subjective human greed is an old and simple fact. This individual greed becoming legitimized in modern capitalism is the crucial point. At the same time this is what finally destroys the naïve working class versus exploiters definitions of the early communists. A granny investing ten bucks in shares is automatically an exploiter. The idea that money can

make money is the purest form of greed. The ignorance of how such increase can happen is the purest form of ignorance. So loaning ten thousand dollars to a “friend” for a year with ten percent interest is a much less evil act than investing hundred in the share market. Only one in every thousand people will have a sick feeling in their stomach from the idea that money makes money by itself. Striving for privilege is the real hidden drive in the slavery of the mind. And the even deeper cause is the contradiction of work. The economic angle is merely a narrow window into the new mind set and yet historically this is the easiest to see as the big cycle of capitalism.

The second half of this big cycle, that is the establishment of the new mind set in the west shifted the center from Europe to America. So it’s appropriate to use a western analogy in referring to the three failed rebellions against that mind set, that were also initiated in America. The Good, The Bad and The Ugly. Prabhupada, Timothy Leary and L. Ron Hubbard.

Krishna Consciousness starts with premise that Raja Yoga is doomed in our present age of darkness and instead an oversimplified Mantra Yoga is offered. Statistically they are right in their premise and failing in their solution. It’s true that thoughts are a deeper trap in material entanglement and most who rely on their thoughts will fall into this trap. But thoughts are also unavoidable. So the cyclic purification from cyclic existence is continually interrupted. Making the right Contact is not a straight consequence, only a lucky coincidence. The big advantage of this faith in success is the Taste. This elemental remembering of matter can guide without intellect. Understanding is a concrete pavement but one has to walk long and far. Return on detours and get lost. The true guidance is to guide others, which defines also enemies who can’t be guided. So a political, militant strive for understanding is the modern Raja Yoga that I claim as the better solution.

The false impression of the hippie movement was a peacefulness. Love ins, communes, chilling out and protest against wars. In truth, it was itself a war against a finally defined enemy, the “establishment”. Most didn’t get the definition and that’s why the movement died. The rules: “Turn on, Tune in, Drop out” will define the enemy, the establishment, if you can carry them through. But this is a contradiction because you should first see the enemy and then fight against it, not fight just for the sake of fight and then claim a belief. So here again a statistical unsuccessfulness is the simple fact but here the rare breakthroughs, the total turnings through “turning on”, demonstrated the potentials in general. Instant consciousness about the existence of this hidden monster, the establishment. All other aspects are merely avoiding the admission of failure or weakness. Cosmic consciousness, expansion of the senses are all crap, foam on the cake. Whether you turned or not, whether you became a hippie or not, is very well defined. If you will never work again than you did. At the very first break through of LSD as substance itself this stand against the beast happened too. Indeed, Albert Hoffman didn’t stay at Sandoz to improve the isomer of LSD and work further on clogging medicines for pregnant women. He had a new destiny, work was finished. After Leary turned, he didn’t give any more big speeches at the Psychoanalytic Society. He had a mission, work finished. Ginsberg the poet even pointed at the working skeletons, defined himself and thus didn’t have to define who the skeletons are. I don’t have this luxury, I do split the workers into slaves and beasts. Again, only the communists dared to go this far but falsely as the working class and the exploiters. The new slaves and the new capitalism demolished completely these hollow categories. But even without my consciousness, the first two directions in revolt are contradicting work. If everybody were a bhakti or a hippie then society couldn’t function. In fact this continuation of their philosophy is a good excuse for rejecting them by the subconscious. The more general logic says “Don’t criticize society if you can’t offer a better alternative”. As if all intentions and thoughts were have to be forged in a primitive full chain of consequences. And yet,

one can turn this primitive rejection inside out. Offer a grand picture of existence beyond work, the real social existence, while this reality is conserved even exploited. This is exactly the magic trick that keeps Scientology alive. Every penny comes from conventional work, conventional social existence. And everything is all right, just give us some money. In exchange we give you a belief that you are not part of this bad world. You are merely playing the “game of life”. But that’s immaterial, because you yourself are not matter rather a spirit destined for more. We even give you a ladder to climb. It takes a long time and lots of money so just keep on working. Of course to run this circus you need a special class of people who seemingly don’t work at all. But these “monks of deception” are also workers in the true sense of the word. They obey without conscience and understanding. What’s more, get real money and consume the same crap everybody else in the bad world. Of course, society has no real problem with all this. It’s just an other proof for the unchangability of the establishment. The alternativeness of Scientology is all fluff! Grand theories that remain empty words and breakthrough technologies of mind expansions that are never demonstrated. But we have to see the comical perfect duality in their lies! Just as they rely on people staying in society and remaining closet heroes in their own mind, the acquired extra powers are never even claimed in their social function! That would upset society! You still need some demons to pretend that you are real. So Hubbard decided these demons to be the psychiatrists. They dare to interfere with the mind, when this is strictly his domain, so here he created a narrow radical real criticism. Even valid in some points but totally irrelevant in the big picture. He had an other of his personal demons. To become a hippie, the false requirement was to turn on. To become a “monk” in the Sea Org, the only requirement is never having tried LSD. Hubbard was so freaked out from acid that he could not trust his own brainwashing to withstand this. The celebrity scientologists are the worst contradictions. They not only give money obtained from an undeserved privileged social status, but also their moral support to deceive others. This of course is not the intention. They believe that they define themselves to be different from the bad world. Just as they obtained their money undeserved, they want to become better undeserved. The good intention doesn’t diminish their ignorance. And yet, even Tom Cruise’s psychotic frenzy, shouting “Lets clean up this place!” has some naïve charm. But when you ask, “Clean up how”? What is the dirt? The response would only be: “Those damned Psychiatrists!”. John Travolta will never realize that his son died because he gave his name to the scientology books published in Russia. He feels that being in control of an airplane that you own, is being in control. But only controlling your thoughts is real control. So, Cruise is actually closer at least in intentions to the truth than Travolta. The dry fact is that the aliens are not happy about being dragged into consciousness in almost comical primitiveness. That’s enough on this matter, maybe even too much.

Science Versus Reality, How Deep is The Trap ?

Up until now I proceeded in a manner that directly tried to support my claim that understanding is possible. Earlier at the Newton Laws, I only followed the plausible lines, that still lead to quite amazing consequences about the flights and deep questions about the micro realities in general. I even detoured to our present world and tried to show that a new mind set of the average workers was historically first realized by Hitler but spread to the west. The essence of the new technological age economically is simply to ensure the survival of Capitalism. The privileged inner slaves is the fundamental self-sustaining mechanism that keeps the expansions alive. But expansion can not keep on for ever. The world is finite. So even with the assumptions that the expansions don’t provoke new conflicts, even if the exploited areas adopt capitalism, that is new internal privileges kick into action, the production

itself can not be expanding after a critical level of universal consumption. Of course this is so distant future right now, that politicians don't worry about it. Will the contradiction last that far? This is the tricky thing that no one knows. Marx perfectly saw the fundamental problem of Capitalism in the forced expansion, in the extra profit. But then in the details of the doom or in the alternatives he was clueless. The whole vacillation whether the new center, America or the biggest tension point Russia would be the start of an avalanche, was a sign of his insights and yet these were merely guessings in the dark. He couldn't predict Hitler and the new age, following the Second World War. His false philosophy, denying even the importance of personal coincidences made him blind. History is unpredictable, but understandable. And this doesn't have to mean full blown consciousness of details. For example today it's almost obvious that a spooky resemblance of the old Roman Empire to America exists. A totally formal analogy that somehow sits too perfectly and must mean something more. But this only gives a healthy feeling about America and no prediction about the future. History is reality. In the title above, reality stands versus science. Is that a totally different physical reality? No, there is a connection and this means that science is involved too. But technology is obviously involved and earlier I already revealed that technology is taking over science today and mathematics will take over in the far future. So what's the importance of science? Well science doesn't want to die as easily as I simplified it and Capitalism neither. These are brothers in arms. And yet we have to start with old science, the birth of science, by returning to Newton, in fact first to Kepler. As I mentioned, he took the data collection of Tycho Brahe and found the mathematical rules behind it. He believed that God created the solar system and the mathematical rules that govern it are knowable, because we humans are related to God. The fact that the rules have to be figured out, that they are not obvious, merely shows that God is complicated. A religious war was going on, between the church and the protestants, children burnt as witches by both sides. The stupidities of humans were experienced by Kepler very personally. Not everything on our earth is ruled by God. But how far would the planets themselves and their motions be ruled? He hoped that far away from our little stupidities, things must be perfect. Newton believed in God just as deeply as Kepler did and yet he took God out of the picture. But most importantly, science that he created and replaced God as the commander of reality, allowed a freedom for reality. So the question of how far the planets should be determined at all, became answerable too. To teach the Kepler Laws properly can only be accomplished with this vital hindsight. It will show them much less glorious but will prepare the real appreciation of Newton and Science. We should even teach the forth false Kepler Law to give a black and white example of his mistaken view of the universe. In fact this means five critical sections because the intention is already the first:

The error in intention is the most obvious today because we all hear about other solar systems. Probably even those know that, who don't realize that our sun is merely a star. But explaining these, should continue with the question, "what could be common for so diverse realities". Common fully determining rules are obviously impossible.

The first law, that the planets revolve on ellipses should start with a correction of historical lies about the sun centered universe. The accepted wisdom is a suppressive church against a simple reality that contradicted the dogma of a fix and central earth. In truth, the circular orbits were rejected by astronomers themselves because they simply didn't agree with the observational details. The church didn't suppress the interpretations of the observational data as mathematical models. In fact the church was aware of the relativity of motions and so simply insisted upon a fix earth as a simpler oversimplification. This becomes clear from Cardinal Bellarmine's letter to a friend of Galileo. To say that the sun is the center is meaningless without the questions of relative motions and what would the sun be standing in. So the vacuum, the fix stars are all relevant. Without these thought provoking ideas just to teach that

the sun became accepted in the center finally, due to the heroic braveness of enlightened minds, is not only historically false but is a demagogue suppression of real enlightenment and an insult on common sense.

More to the factuality of the elliptical orbits, the critical point is to emphasize already here that the Brahe tables were so accurate in times that tiniest slow downs and speed ups showed from assumed perfect circles. So without the actual time laws, the ellipses meant a way to such speed changes. And indeed nobody could view the planets from above to see actual paths. It could be even emphasized that such time irregularities are a much finer measurable data. A very small ellipticalness can mean minutes in positions. And these positions are actually measured in angles!

The final and more critical view by our present knowledge of other solar systems and how they had to form, at once shows that the ellipses are not some God chosen paths orbited for ever. In fact they can't be fix curves rather slowly moving more complex infinite graphs. Capture of an incoming or forming object, not only opens up the possibility to other non repeating paths, but gives a blueprint to derive such curve equations. Again this can be regarded without going into the law of gravity yet.

The second law is the law of how a chosen planet is slowing down or speeds up on its path. There shouldn't be any tip toeing around with ellipses rather right away we have to visualize a stone spinned around and kept by a rope held in our fist. If we pull in the stone by pulling down and thus shortening the rope, then the orbiting becomes faster. Letting it out again it slows down. Viewing it from above these are spiraling paths inward and back. At this point should we tell the amazing fact that these spiraling motions obey a same rule that Kepler falsely believed as the godly time rules about only planets and ellipses. Namely, and only then do we reveal the law of the swept areas. This prepares the condition and a new name! Instead of the law of swept areas it should be called the law of central forces. We can even emphasize that this also means that this is not a law depending on gravitation.

The third law talks not about speeds of one fix planet rather the different planets compared. The start should be that our intuitions about the previous spinning rope again tell that further planets should move slower. Then we can tell that this is what we could call years for the different planets and indeed they have longer and longer such "years". The surprise what we reveal is that the same law of swept areas is false now. That law was merely accepted so it's not surprising to fail but rather to see the crucial difference from one planet's motion. Back to the rope experiment, we can now visualize different stones spinned with arbitrary starting speeds that will all obey the swept area law. The different captured planets by the sun correspond to this. But then why should be any law at all? Because here the gravity is the initial spinner not us. This at once takes us on the wrong path to feel that then this initial speed is dependant on the mass of the incoming planet. This in fact is a reincarnation of the false belief that heavier object fall faster. So we have to awaken the correct law of The Common Fall. But now we don't have to go through all the steps I explained earlier with the hammer and then the canceling out effect of mass in gravity and resistance to acceleration. Here it's enough to imagine two identical planets orbiting next to each other. Combining them shouldn't make any difference. So the years of the different planets are not mass dependant only orbit size dependant. And we should stop right there. The actual derivation of the third law is useless.

Instead we go to the mentioned false fourth law and even mention Bode's Law.

This whole critical and casually external view of the Kepler Laws is merely an introduction to Newton's fourth law, the crucial fraction that calculates the gravity between two masses by multiplying the two masses and dividing this with the squared distance. This is what replaces the Kepler Laws. Instead of hitting on the right formulas for reality, Newton's gravitational formula hit on the simplest abstract law behind all realities. We still have to accept that it is abstract, in fact we have to emphasize this. We even have to put it in relation with the other, already mentioned

abstract line, the vectors. These two are the total opposites in abstraction. The vectors require the long mathematical detours. In fact the calculus behind the speeds, accelerations and forces is also only meaningful combined with vectors. So we should simply talk about vector calculus. They don't teach this before the Newton Laws, thank God, but the fragmented calculus and vectors are just as useless. As I showed, we can still approach the Newton Laws perfectly without any math. That is the elementary school approach. The high school level starts with the critics of Kepler laws. Then the gravitational formula, the root of the non mathematical abstraction line can be introduced. The role of math, reality versus science can be understood here. Even the bigger picture of higher math getting involved and thus growing into the mixed abstractions should be mentioned. In fact as an immediate criticism of the abstractions, the two concepts, mass and energy should be brought in. They cut through the abstractions, even through the next level of abstractions Relativity. So we can already mention this second level. Even the historical similarity of Maxwell equations to Kepler Laws. Just as Newton made sense out of the Kepler Laws, Einstein made sense out of Maxwell's. This grand "map" must end with the mentioning of the Big Bang. This is the full circle back to the Kepler Laws. There the full reality description is clearly a false intention. Science lead out of this error. But now with explaining the Big Bang, science went back to the same dilemma. Indeed, the Big Bang is merely a scenario too. Yet it's our only reality. Or maybe not? These are the final thought provoking ideas that can be approached already at the start of the high school level. A new higher level is the following:

The Big Bang as reality not being a singular solution using science, begs the question whether the Big Bangs as realities don't stretch science itself. In fact, this is the only way to go beyond the singularities, because they become a set. Sticking just to the reality of our own Big Bang, it has a very important other singularity than its beginning, namely its application for science. This is the widest consistent verifier of science. Plus a perfect educational tool too. To talk about any part of science and not to mention its role in the Big Bang is an automatic failure in didactics. So the Brief History Of Time and Hawking's whole attitude about science is the only correct approach. But he didn't pursue this angle quite consciously because he was too close to it. For example a crucial mystery of the Big Bang Science relation is the dark matter and energy. I already mentioned that matter and energy are the two "meta concepts" in mechanics. Matter is the bottom, energy is the top. The almost absurd quantitative unknown proportions in these dark ends will give to an external person the impression that science is unreliable quantitatively. In fact one could be skeptical about the exact time line if such percentage is unexplained in space. The reason why this is not a contradiction is not explained by any Big Bang promoters.

From the outside of course you can ignore Big Bang and science in general, and talk about Life directly. Our lives are directly related to the Big Bang but not to science, so this ignorance can appear successful. Of course, we are all related to technology and this at once shows that it is a crucial missing link between the falsity of science and the falsity of sciencelessness. In fact, this formal simplicity also indicates a strange potential importance of math. Mathematicians think neither outside nor inside science but only in their limited pathways. So they either don't think about Life or have to choose to be in or out of science again. If they think about how to teach math and come to the realization that it is the essence of mathematics, then they will see the understanding correctly in science too. Then the philosophical jump to idealism and political jump to anti establishment is "easy". So the final jump to see behind the Big Bang can bring the peace of mind too! Coming without math, the self discovery is impossible! Then you can only wander into the truth by temporary faith. This is an other instant explanation of why understanding can only be the essence. Indeed, here the temporary faith, the lucky wandering into the commitment of becoming a soldier of understanding fades away because the understanding remains the only fix value.

Every other commitment in beliefs is contradictory in its root. Unless you stop thinking. The wandering of thoughts can be easily turned back to a belief. So a false superior belief is easy to maintain. Religions are better than that. They ask you to spread the thought, convince others. But even the uncommitted minds are resistant. To alter the thoughts and actions even to a superficial level of belief, is not natural. Thinking catches itself in its lies. Society, the game of life already has its well oiled lies. All religions are anti social on one level and yet solidify social conformity on others. This is so because they are lie filtering systems. The action regulations are not important. They are the external trivialities of being good or bad or just particular. The freedom of thoughts is the real catch phrase society abuses so perfectly today that religions became transparent. The neutral not thought spreading religion became the politically correct. And indeed all politicians stop at showing that they go to church every Sunday. The dedicated believers have their night spots on TV and private strong opinions but these are just demonstrations of how tolerant and overwhelming the open society is. The disarming of thoughts and actions is always achieved by the separation of these two but today it is very refined. The Romans gave circus and bread but today the entertainment and consumption is an intermingled web including the “real” web. To reach for the higher values, to obtain knowledge is promoted by society. This is where the real catch is hiding. It’s obvious to everybody that personal interactions are much better to learn from than abstract information. And yet we know that schools are not getting better in teaching and all the other personal contacts already fail in their intentions to teach. We don’t even wonder why schools only encourage separate achievements. Why shouldn’t students teach each other? That would be a new learning in principles. And why teachers don’t learn from how they teach. Why is the education system a hierarchy of self protecting and opposing layers. We don’t think about these because they are general features of society.

The other two “pools” where we feel the obvious failure is health and law. These three pools should be out of the control of Capitalism even by a more relaxed morality. The belief that everybody has the right to education, health care and legal representation is accepted by Capitalism itself. But that money buys better education, better health and better justice are also accepted. The root of these contradictions lie in the devaluation of the crucial individual roles, and in the more general information replacements. The teacher, the doctor the judge are sacred positions and should not even be tainted with money. A judge should be a person without material entanglement at all, a sannyasi not someone thinking about his next Volvo. The teacher should be a dedicated listener not a lecturer. But the excuses are the informations taking over the personal factors. The teacher is forced to teach the curriculum, the judge to apply the law and the doctor to prescribe the medicines. And these excuses are valid factors in the bigger picture. Society does have a mind of its own. Not a mind that can understand, only one that has intentions. To improve society by doing things better is the worst self delusion. You have to turn your back on society and create personal connections to convince more and more people to do the same. Stay in contact with society, stay in it physically but separate your mind from its values. This separation can only come about by avoiding all social actions. Then you can criticize it continually on deeper and deeper levels. Your social actions must cease sharply but interactions with persons who are trapped will not trap you, in fact liberate you. That’s where the crucial superiority of understanding as ruler of actions comes in. Every single shared understanding is a conquest of yourself as matter. The false openness of society will automatically turn into aggression against understanding. The media doesn’t want concrete truths only general alternative opinions. So you don’t even have to worry about criticizing society that much as individuals in it. The individuals in your face of course are always open to criticism and the social criticism is revenged from behind. This is real polarization, this is how truth turns you into a martyr at the same time. So it can not be safe. Socially safe

truths are worthless. But this is merely an external wisdom. Understanding has its own flow because it goes from the driest subject to the people who are involved. External wisdoms are not something that we have to be ashamed of but seeing their relation to the concrete is the real goal. To derive that Oprah Winfrey is a phony from the fact that she spends more money on her dogs in a week than a family in a year, is external. The fact that she reflects on everything except on the mystery what makes her the center of reflections is also external. But when we start to go into her actual sentences, then we see the lies purely in thoughts. If you are in the media, you can not profit from your privileged position without getting involved in straight out lies too. The chain of actions and the chain of thoughts will merge. The Dalai Lama can blubber about whatever he wants and never reflect upon the single event that put him in the position to blubber in public, namely that he was chosen as a child. If he believes that he is a chosen one then he had to reflected upon this as start. Not doing this, makes him a phony instantly externally. That he had the privileged position and the only worldly knowledge he sought was putting together swiss watches, shows again his level of depth into knowing matter. Then stepping into the lime light and blubbering without even feeling these contradictions is a deeper external sign of phoniness. But the actual avoidance of concrete truth about anything is all that matters. In theory, actions could be exempt from the betrayal of thoughts. Indeed actions are already poisons in themselves, but the social actions will always go through extra poisoned thoughts. The most obvious excuse for action without thought is acting. Actors once were hidden and despised. Today they are Gods. Humor is the next level of excuse, pretending in a different sense, namely not about the situations rather the meanings of words. The lowest level of social action is gambling. Stepping over the socially acceptable that is crime, is the most obviously social action. All social actions are motivated by seemingly passion but the hidden factor of privilege is the extra essence. This is the non conscious non focused drive, the real glue that connects these individual acts into the big monster. The non social actions that is actions of passion don't glue us into society, in fact separate us from it a little. But they numb thinking and the conditions of their cycles make us slaves to society. The most obvious is the cycle of possession and consumption. This duality of the social and non social actions is the finest detail in failing to be free. On the surface a celebrity possessing objects seems similar to the possession by a mere worker. But the involvement of their minds are very different. Similarly, love means totally different thing for them. The mind set can change from slave to privileged and back to slave again. These are not classes, merely strategies in lies. The collapse, or instant realization of a way out, can happen in both strategies. Most importantly, the way out is not merely seeing the lies. The acceptance of the lies is already part of the trap. These are traps in thought and action combined, so the way out is also a more complex active awakening.

How easy is to learn?

And yet the motor that keeps the trap out, once you understood understanding, is the simple application of the motor itself. Self propelled purity. The material attractions at an early age don't even interfere with the chains of understandings. They would simply grow out of matter. So how do we screw up that badly everything? Is it merely the mentioned forced abstractions that turn schools into a nightmare?

I started a concrete line above in physics to show that we never have to go beyond the plausible and still can shed light on deep things. I arrived at the formula of gravity as the first abstract information that should be the beginning of high school physics. This is so because it has to be investigated by consciousness. But abstract forms can be the building blocks of actions too. In fact that's how we learn to speak, read and write or count. Consciousness will only verify the usefulness of these things later in their

applications. We miss out on understandings here. This process doesn't stop in school. Technology, especially computers are learnt the same way. And yet in schools a hidden counter process went the other way. Abstractions were thrown out!

The last functional mechanical learning in school is the multiplication table!

Even this was thrown out in the sixties temporarily in some new experiments. They went horribly wrong. Instead of geniuses who discover the multiplication themselves, they had kids in grade seven who couldn't multiply. Today we have them again without failed experiments.

The pre-war elementary education was thrown out in all countries after the war and a fresh new start created a modern language for science and math in elementary level too. In Russia a miraculous book was created by Larichev entitled as the Collection of Algebraic Exercises. The title merely reflects the general tendency of algebraizations. Indeed the ancient geometrical root has been shrinking continually!

Euclidian constructions were my personal garden, through which I entered mathematics, and yet I have to clearly state that they are merely a garden. This will make more sense after I reveal that "garden", "road" and "map" are three crucial educational categories. The Larichev book is a "road". I only realized this much latter when I was tutoring. The fact that this book goes so meticulously in so slow increments that everybody will be able to learn the arbitrarinesses of our earthly algebraic notations, is the small part in its grandness. The real miracle is that it enables anybody to transform word problems into equations and solve them. This is the only road that leads to any science or further math.

If you can not solve word problems, you are illiterate in any math!

If you can, then you will be able to learn everything else yourself!

Roads are black and white! They can not be marked for a student. Either you know it or not. But they should be taught by the students themselves. They all have to pass or fail. Gardens are to be marveled by free will. They are demonstrations for possible interests. Maps are explaining where the roads will go. They are the respect for the students as guided tourists not cordoned animals.

Even those who know about the Larichev book in the west, merely regard it as an interesting collection of mind teasers and usually pick their favorites from it. The fact that it enables everybody without exception with a same universal ability, is not recognized. Solving word problems and using the necessary simple algebra to do this, is an ability just like walking, talking, reading, writing or counting. It is an entry into a new world of opportunities. It is the road to math and science.

The real problem is not that this simple and perfect solution to the whole elementary school math education is neglected, rather that this can happen by replacing the perfect solution with an arbitrary and artificial web of lies.