

Kepler's Fourth Law

The title has a multitude of meanings that will be explained later. Trust me!

This is the difficult part. You have to trust me, like you have to trust everybody who starts talking to you. Simply because we can not convey the importance or the validity of what we are going to say at the beginning. We might even sound incoherent or straight out crazy in the start.

I still believe that honesty shines through even before the meanings or the importance of our message. Honesty has a very simple and concrete form that I think is actually unavoidable.

Namely, we should not lecture people without revealing ourselves too.

In a sense, this comes easy for me because I have narcissistic tendencies. I could even admit that I have a huge ego. On the other hand, my message is exactly about the existence of an objective impersonal and universal reality, Didactics. This reality today is unrecognized and I even claim is intentionally covered up by the egos of those who are in power or get to the public arena. Strangely, these "charismatic" public faces have a certain "soft ego" feature because the public doesn't like the confrontational, wild, "in your face" ego like mine.

I've known this for a long time and already more than four decades ago, accepted it as the transition from the "Pisces" age to "Aquarius". When I entered my hippy phase, after my first LSD trip I went through the third transition of my life. But I was still a Pisces and a John by name. A double whammy of dualities. To be rational and emotional simultaneously.

The previous two transitions were the entry into mathematics and the entry into idealism.

Just like this entry into the almighty, ego vaporising power of LSD, the previous two entries were also accidental mercies of fate. Apart from this feature of being produced by lucky coincidences, these three were also short and drastic transformations. The fourth entry quite oppositely was slow and though helped by external factors, basically in me forever and it merely had to come out.

The first two entered fields, mathematics and idealism are the "fine print", the details.

The third radical and "lucky" change caused by LSD, just like the fourth self discovery of Didactics are not such "technical details" or exactifications, rather they are the essence, the simple straightforward and common sense black and white transferable point of everything.

The ego change and new consciousness caused by LSD is the emotional side while Didactics is the rational side. You might say why don't I just start directly explaining these two then. Well, the title will explain this too. Actually, the third emotional essence will be only explained last.

So, I start with the two specific awakenings and then Didactics.

After I was accidentally accepted to a special math high school in Budapest and then accidentally got a double best grade on the first math class, I ended up in the little church across the school in Huba street. I sat in a corner for hours. My parents were devoted communists and I didn't even know I was a Jew in elementary school. I never entered a church with feelings before. What drove me inside that church is still a mystery and nobody knew about the event then. I was definitely not religious and believed in nothing and nobody, including myself. This was the first thing that changed in those first months, and after I learnt all the basic math, that my class mates already knew, I was ready to win the competitions.

My second entry, the entry to idealism was initiated by the strange fact that Hegel was a suggested reading in all the universities of the communist countries as a supplement to the obligatory political economy classes. Of course, nobody believed in the stupid oversimplified categories of social classes and communistic ideals. Not when the west was already in our face, with private boutiques opening everywhere in Budapest, their owners driving BMW-s and the radio playing the Beatles and Rolling Stones all day. Still, for some reason I really started to read Hegel. First the "crazy stuff", his Logic, the Phenomenology Of Spirit and as a last "effort" the History Of Philosophy lectures. This was the book that finally lifted me over the threshold of materialism.

Idealism is in everybody but to become an idealist requires philosophy.

At the same time, there was something even more important bubbling up. Something that came not from outside and was not even something that is in everybody like the root of idealism.

This was in me for ever, hidden, suppressed yet trying to manifest itself. So, this fourth entry is the trickiest, the entry to Didactics. How could it come last if it was my personal destiny? This is the biggest mystery. The entry into Didactics as an existing reality came only decades later.

Didactics is the future logic but it is actually the most ancient logic too.

It is the true essence of idealism. The pre material absolute truth of the spirit.

So, after Plato's "concepts" and Kant's "a priori"-s this is the even more concrete form of the non material. Total subjectivity without any subjectivity. The common and yet fragmented root of all intelligence. A sharp defiance of an abstract absolute that supposed to exist against us. Either regarded as an impersonal, unintelligent and hardly approachable accumulated social wisdom of the verifiable truths, by the materialist, or as a super personality of the religions that always becomes merely a private matter to approach or not, beside the obedience to the dogmas.

But in our new age these two became partners. This is the ultimate betrayal of the spark of idealism that hides in everybody. The spark only awakens by understanding, realizing that thought can not be matter at all. Then we always realize that feeling can not be all matter either.

The superiority of thought versus feeling, rationality versus emotions is a tricky thing. Feeling can exist without thought. We all know this because we know that animals have feelings but can not think. Computers can not do either and yet we try to envision our brain as a computer. This is a good thing because it leads to the possibilities, thus specifying the impossibilities. These impossibilities then open real possibilities of changes in our thinking.

Back to feelings or emotions, the tricky part comes after we realize that thinking always involves feelings too. So then the superiority of thought versus feeling becomes questionable. Maybe the very mystery of thought is based on feeling. Didactics is the only solid part of thought that avoids feelings. Or rather, it narrows down the feeling parts to where they can not be separated from thought. This leads to the shocking conclusion that feeling and thought are much closer to each other. They are like relativistic effects of each other. The even more shocking fact is that the seemingly, only feeling animals are drawn to our intelligence. All wild animals become only fully emotional after they made contact with us. The same way, we humans can only be fully awakened to idealism after we make contact with God. So, these most difficult concepts on their own, have these most simple relations to each other.

The admission that a trumpeting of the existence of Didactics is my personal destiny and the recognition of my early didactical struggles, came last. Much later than the slow fourth entry into recognizing Didactics itself. This gradual entry, that is facing of my own born ability, was also induced by external events. Namely, I had to tutor math simply to get money. This tutoring of failing students under my uni years was the beginning of the Didactical awakening.

I realized that these failing students are capable of understanding everything I know. The old joke about the Tutor, became a reality for me. This joke goes that after the tutor explains something three times that the student still can not see, the tutor exclaims: "You've gotta be kidding me, now finally even I understood it!". And indeed, I spent more and more time after tutorings to think about where I failed and finally I even axiomatized my view that "It is always the tutor's fault and never the student's".

At this same time at uni I became famous for my "I don't get it" interruptions. My hand was up in the air and everybody knew that I will say it again and we will have to dwell into deeper and deeper. But they started to respect me because it always turned out that these were the crucial understandings. The system of lies that jump over the actual points, I latter called Formalism. This was not yet connected to my elementary didactics, experienced at tutorings. The obsession with derivations of course was a trivial fact at the math department, while at the elementary level it seemed that abstraction as such is an obstacle already. Since then, the proof obsession of the education system spiralled down to even elementary school level and this helped me to see that Formalism as "abstract verifiability" is actually a social menace everywhere. So, "Formalism" became my more concrete version of "alienation". The strangest thing is that it took me decades, to tutor all over the world and see dozens of bad education systems to realize the "algorithmic learnt abilities" as a simple solution towards practical Didactics. The pursuit of Didactical correctness as an existing true future Logic actually blinded me from realizing that "abilities" beyond the three "R"-s, reading, writing and arithmetic, that is beyond literacy and numeracy, exist already now. There are a dozen such simple abilities that anybody can learn in a month and this enables one to enter all the abstract worlds that man created. The intentional hiding and avoidance of these abilities is nothing short of a conspiracy.

The “delusion of adequacy” is ruling the persons in power and this leads to a wider class of the “new demagogues”. My own stupidity is not an exception and was hard enough to admit.

In the math high school we had three four math classes every day, so the entry into math came by unnoticed channels. For me personally it was geometry. Then the spell of Set Theory lead me to New Math. In fact, I avoided Number Theory for decades. Then at my early tutorings I still missed that there are simple “Roads” beyond the there “R”-s. This was an even more blatant stupidity because a crucial fourth Road was well known. This fourth “R” is the “Word Problems” “canonized” by Larichev. In the fifties Soviet Union, Larichev created this miracle that he humbly titled as the “Collection Of Algebraic Exercises”. A systematic step by step tour that enables anybody to solve word problems. When I realized that this absolute “Road” can lead everybody into mathematical thinking, then I still didn’t know the depth of the road itself. I only observed it here in Australia that those who get over the word problems, become at once mature in a much wider sense. In fact, first I merely emphasized that instead of the phoney patronizing, “encouraging” educational attitudes, only real success gives real motivation and solving the word problems, getting the answers right is such a perfect motivation and self confidence creator. Once the student experiences this, he or she will respect the truth not only in math but in himself or herself too. Only much later did I realize that the use of variables as subconscious ability is the real entry to math. Then I returned to a much earlier obsession of mine, “Grammatics”. My daughter Timea was the original test subject back in Hungary. Grammatics is the twin subject of grammar and should also be taught by the English teacher not the math. In fact, this is the road to math, simultaneously with numeracy. Already an affinity towards grammar is a sign of mathematical ability, unrecognized today in elementary schools. Of course, nowadays even grammar is disappearing, so I am pissing against the winds of time again. More to the point, Grammatics is translating the everyday statement sentences into proper mathematical logical forms. The crucial recognition is using variables that are missing from our everyday sentences. The hidden quantifications behind the words, everybody, everything, somebody, something and so on, formalized into the two proper quantors is the most evident and easy part of this transition, but the real motor towards the awakening of math is the use of variables again. Here of course, without even numeracy and so on a much simpler and yet more general level. One day it will be looked back as an insanity that more than hundred years after the recognition of the true quantifications, elementary school language education kept on using the monkey language and didn’t reveal the simple universal forms of not only our world but the universe. And yet, if I am sure of anything, it is that quantors will never be introduced in elementary schools. Why? Simply because of the mentioned “delusion of adequacy”. The morons in power have only one reaction to everything: “I don’t know that stuff so it can’t be that important”.

So, I revealed two new “Roads” beyond literacy and numeracy! Grammatics and Word Problems. There are eight more and everybody can become a genius. But why would we want that.

I already realized these two new “Roads” and I just started to finally admit the simplicity of Roads in general as algorithmic infinite abilities, when my personal curse of the wider Didactical eye became clear. A distant memory jumped back. My first grade teacher aunty Etelka sent me to the corner, probably for my bad behaviour. There stood a big table of the Hungarian alphabet. We have many more vowels than in English because of some extra sounds, some distinguished ones that are merely recognised in English from the whole word and finally also because the longenings are also marked for some of them. In spite of the clarity that all sounds are distinguished, the markings that distinguish or longen are not logical at all. The typically Hungarian sound of “a” is the first in the alphabet similar to the English “what”. Our second letter “á” is the sound in “car”. Similar use of this accent is for the letter “e” that denotes the sound in “get”, as opposed to “é” for the sound in “gave”, thus for the alphabetical “a” of English. But then in the other vowels this accent is used for longening rather than altering. So, I corrected the Hungarian alphabet as it should be, and when Etelka saw it, she became furious. The tortures by stupid teachers became much worse in upper grades. Then my high school math teacher was a sharp change. László Bánhegyi possessed a simple wisdom to which I could return again and again, decades later. Strangely, his role continued to be filled at uni by my analysis lecturer László Czách. All the smart ass students who came from the more famous math high school were sad that

our year was not lectured by the famous Császár. He was giving analysis to the year above us, containing half a dozen students from the same elite high school. My year was much luckier but the second grade geniuses didn't realize this. To be honest, I didn't either and only decades later did I see the truth. At that time I merely felt an honesty. For example in the fact that Czách wrote down everything on the blackboard that he required to know. His beautiful and fast writing was unbelievable and very much appreciated by the girls and the ten Vietnamese students. The norm was that the lecturers blubbered everything and then nobody could find the exact course as required. The really interesting concrete event that decades later made me shiver, was how he started the first class. He said that we have to analyse an old Hungarian chanson before we can analyse anything. So he wrote down on the blackboard the lines:

Every woman in her life has a moment, when she wants to do the things that are not allowed.

In Hungarian it sounds much better:

Minden asszony életében van egy olyan pillanat, mikor azt szeretné tenni amit nem szabad.

Czách then asked what is the opposite of this claim and said that if we can not correctly claim this negative then convergence and divergence will never make sense to us.

Today its clear to me that he simply tried to provide the missing "Grammatics" that we all should possess. "Of course", mathematical logic was left to the last year when you already don't need it.

I left Hungary after two years of uni and a year later in Rome, reluctantly accepted the American visa. My friend who initiated our whole "escape", Peter Elias was even more reluctant but his Canadian relatives forced him to leave Europe too. I went back to Hungary a few years later and then sixteen years later, I "escaped" again with my daughter, Timea, son, Daniel and third wife, Georgia, whom I divorced soon after in Australia.

Back to the time when I arrived to America, I was heading to Stanford to meet Paul Cohen, a famous mathematician responsible for the most important result after the war. He was in England and I had to wait few months while I worked in Stanford at the Math Library. The Xerox machine lady got me a next job in a starting computer factory, Cintra. I hated computers but writing the application book allowed me to learn a lot of applied math that was useful against my pure math obsession. Finally, I met Cohen and we had a short and hostile conversation. Strangely, next day he came to the library called me out and said that he thought a lot about what I said. "Probably you are right but for me the only meaningful thing is to solve the next biggest problem." These were his exact words. I was right, he never solved the Riemann Hypothesis and he could have done many other things. Yet I was very wrong. The "widening universes" that I tried to explain him was a primitive and naïve version of my didactical maturation. It wasn't our time and it still isn't my time. I still prefer my wasted years to his or Einstein's, spent on the unified theory.

Cintra went bankrupt and an Oregon oscilloscope factory Tektronix bought us. I moved there but after few months I quit. The details of this are important. My earlier boss, Rudy Panholzer an electric engineer from Austria did not move to Oregon. His right hand man a logic circuit design genius without a high school diploma left also and took all his circuit designs to Texas Instruments. So, our desktop computer actually became the first calculator, using chips.

The shift from core memory, that is individual ferrite rings for all bits, to the circular memory of integrated circuits and then chips, was just happening. So miniaturisation, like calculators was an obvious next step but a more substantial purpose of programmability was not obvious at all. The idea that computers could become home appliances, the internet, were all non existent and not even conceived as dreams. I was just as dumb as others. But I did have my slight epiphany. One morning as I was looking at the thousands of tubes on the factory floor, it occurred to me that the different applications we tried to market our computer for, are an idiotic fragmentation. A much simpler common office use is universal. Our arbitrary and ad hoc peripherals and devices are secondary, because offices already use typewriters and teletext devices. So, the goal should be a universal office computer to at least tap into this common ground. Coincidentally, the factory was already manufacturing scopes that is tubes. So, our computer should use a standard typewriter keyboard and be connected to a tube. The secretary would type her letters visible on the tube only. She could edit change and store all communications and print it later. While I was explaining all this to my boss, I also mentioned that it might even happen that private people would attach the machine to their TV-s and this somehow could become an even wider market. Luckily, my boss

had no vision at all. In fact, he called my idea insane because the hard copy is the most important and IBM typewriters were already standard. All this gave me a good excuse to quit and return to California. A final twist was that the other mathematician at the company who I met when I moved up, a very nice guy with a wife and two sweet kids, liked me very much. He begged me to stay and said that he wants me to meet some young kids in Seattle who are in high school and are thinking much bigger than the idiots at Tektronix. Luckily, I missed out on meeting Bill Gates.

I know it sounds pretentious to say this but I really feel so.

Bill Gates can still listen to me now if he decides so and that would really alter history!

I sketched my life but I distorted the time line. I wasted much more time than the above suggest. Repeatedly I entered into spiritual cocoon states lasting for years. I had absolutely no ambition to prove myself socially, to be part of a team, a university.

Moving to Sydney was a turning point, simply because for about two years, I spent half days at the Math Library. Then with the use of the Internet, my math articles and books changed rapidly.

There were a lot of blanks in my knowledge, while other complete fields that I worked out way back in high school, I had to rediscover from others. The only fix point was my stronger and stronger conviction that Didactical approach exists for every single detail of everything and that Academia and the Internet is going exactly the opposite way. More Formalism, more name dropping less intention of teaching.

Wikipedia, the widest and most reliable source of all information is actually the biggest Devil in the present. Its "goodness" and yet its lack of the Didactical angle is a chilling foreplay of the empty future. A closed example of why democracy is an annihilation of any real goodness is humanity. Simply, the worst of everybody gets accumulated. The obsession with references and reliability, by "overseers", who don't even try to simply follow and understand any of the articles that they control, is a total defying of the whole purpose of information.

Undidactical information is useless, no matter how accurate and reliable it seems to be!

But this undidacticalness is not merely some mystical subjective missing factor, here at Wikipedia. The infinite circularities and inconsistencies of the forms reached a point of total chaos within their own false goals and standards.

Not only average high school students but best high school teachers too, are unable to follow any science articles of Wikipedia. Higher points, philosophical angles are of course not even allowed.

The internet as whole and even Wikipedia does contain some articles that are pointing to the right direction, but these are needles in the hay stack and not sharp enough needles.

As I will approach the actual details, you will see how much simple stuff is simply ignored by this electronic lie machine. This is not an accidental fact. Just as the Media is only making you stupider no matter what channel you select and the Academia is making you blinder no matter how much it teaches you, the inbetween Internet is an even more refined trap of freedom.

So lets start to explain the title. Why is that fourth law so important.

Well, for start, there is no official fourth law of Kepler because we only teach his first three.

The first claims that the planets orbit the sun not in circles rather in ellipses.

For most planets these ellipses are so close to circles that looking them from above we couldn't tell that they are a bit compressed. And yet these tiny compressions were exactly verifiable by even those old data collections that Kepler's boss Tycho Brahe made through decades.

By the way, Kepler stole these books after Brahe's death and he was sued by the relatives. But Science justified his actions. Already Brahe knew that simple circles just wouldn't work as orbits. So how again? Well because these orbitings are so slow and the tables marked the positions at few minute intervals, thus the unevenness that is the speeding ups and slowing downs were quite evident. Orbiting a key on a rope and pulling in the rope through our closed fist, we feel that the speed should increase as the rope gets shorter. But a tiny shortening is unnoticeable by our eye. Yet Brahe's books recorded exactly such minute speed ups. So, for Brahe a circular orbit with changing times really was not meaningful. Kepler tried different mathematical curves instead of circle and when he hit upon the ellipse he also hit upon the fact that the speed ups are indeed the closer points to the sun. But this rope pulling vision or any force for that matter, was not imagined by him. So he missed gravitation as a cause of the orbitings.

In his second law he went further and described in more detail how the speeding ups work.

In his third law he compared the different planets.

Now this is crucial because just as a fix planet becomes faster as gets closer to the sun, the closer planets are also faster than the farther ones. Or in reverse, the years of the farther planets are longer and longer. Jupiter has a year that lasts twelve Earth years. Again of course, he gave an exact formula for the year change by the distances. But his formula between the times and distances is different from the previous one in the second law. So the speed ups of one fix planet is different from the speed ups between the different planets as we get to closer planets. Why?

Well, poor Kepler had no idea why and only gravitation could explain this later. But even more strangely, the previous second law of how a single planet changes its speed is not depending on gravitation. Its existence is gravitational as force but its law is irrelevant by what kind of force pulls the object as long as it is central towards a point. So our key pulling experiment actually also obeys Kepler's second law, though the orbit is obviously not ellipse and it can be in and out spiralling curves. The different planets could be imagined as different keys that we start at different speeds and so we see that here there is no rule between these different motions. They are independent. But for planets the situation is different because they are not kept by ropes and spun by a magic hand initially, rather captured by gravity. That's why there is a third law determined by gravity. This law still only tells how the distances and orbit times relate but the actual values of these, that is how far the planets were captured or formed are not determined.

So, the open feature of the third law is that though it is relating the distance and time features of the different planets, it is not telling these pairs exactly that is the distances from the sun and the years. In fact it's open in a third sense too. It's not telling the sizes of the planets either.

Now, this is a bit different openness because of the following argument:

Suppose a planet is increased or decreased in size. Should this matter? Well not really because we can imagine an other same planet again there and moving together is practically being twice.

We might also think that this line is a hidden force argument and so knowing what I already told that Kepler completely missed the forces, he couldn't think this way either. But these are not quite true either. The independence of the motion from the mass is a tricky thing. In fact, just staying on our Earth, it is also true and yet was totally unrecognized by a seemingly more logical argument: Bigger body is heavier so should fall faster. This ignores the basic fact that the bigger body is also more resistant against forces. All forces, and this includes its own weight. Thus the heaviness and the resistance cancel and so indeed the motions by gravities are independent of the masses.

To be precise, fixing some masses that we regard as gravity creators and then using a test mass that moves, the motion of this relative to the other objects will not depend on how big is the test mass. The seemingly already conceptual error is to talk about gravity creators when the test object is also part of the force creation. If the test object is huge then even subjectively this sounds stupid. Like instead of the apple falling due to the Earth gravity, we would say that the Earth is falling due to the apples gravity. But the motions themselves can be looked relatively so there is no direct contradiction because I did mention that we regard the test object moving and the others or the other one as standing. If we claim that the apple and Earth should be regarded as the Earth being the fix then we are simply ignorant because a tiny bit the Earth is moving too while the apple falls. This claim itself reflects in a hidden form of the "perfect compromise" to regard a system that is in-between the objects proportionally to their masses. But this mass centre can also move drastically if there are more masses. Like the Earth and Moon centre is moving around the sun. Then you could average with the sun but that is moving in the galaxy where the laws are even different. They turn like discs, so the suns or stars move together and not with Kepler styled altering speeds. So, a perfect centre of all masses of the universe should be the standing centre. This whole side line problem that escalated out to the universe, shows already that this mass cancellation, is something very deep.

While Kepler discovered the planetary laws, Galileo discovered the laws of falling on Earth.

So, he finally established the rule of "common fall" too. And yet this didn't induce in him the concept of gravity. But most amazingly, then Newton who combined Kepler and Galileo and discovered "everything", again missed the "grandness" of this common fall or common orbiting of different masses and regarded it as I explained it, as a lucky coincidence of cancelling.

Only Einstein said that this is too beautiful to be a coincidence, a consequence. So, he regarded the obeying of the gravity and the resistance against it as a single “act”. In fact, he said that this action should be transferred from the test object to the space and time at that place and time.

So gravity alters the space-time and the test object merely goes where it is ordered to go.

Newton said that in empty space a thrown object keeps moving forever. This became a sliver platter plausibility. Einstein’s vision that the masses of the universe alter empty space and so the straight motions forever are turned into the fallings and orbitings, became everything but a plausibility. So, Einstein’s theory should have remained a crazy idea if it wouldn’t have opened the door to incorporate two new factors. One is the already above mentioned relativity of systems and the other is to extend the masses and motions to include electro magnetic waves. The two questions, the absolute system of the universe and in what medium do the electro magnetic waves travel, melted. This meant rewriting the laws of Newton but keeping and making sense of the new laws of Maxwell about the electro magnetic waves. This already shows that formally, if Einstein was the new Newton then Maxwell was the new Kepler. This is a perfect and even spooky parallel in its details too.

Back to Kepler, we came to his fourth law that tried to tell the actual orbits of the planets.

Luckily, we don’t have to tell it because it is false. Now if I list you the actual orbit sizes then it is true and so why must Kepler’s fourth law be false. Is it merely not accurate enough for the planets he listed, or the problem is that he missed few planets? Well in a sense both and neither. These imperfections are not the point. The real point is that it is not physics. The other three laws were neither but luckily Newton verified them by physics that is by the laws of matter in general.

Thus, they became necessities of matter and not mathematical rules of our direct surrounding.

Today this all became obvious because we know that there are other solar systems obeying the same first three laws of Kepler and totally disobeying his fourth.

A crucial point from all this is that poor Newton was in an ever more miserable situation than Kepler. He realized the rules how forces move objects and how the particular gravitational force can be calculated between objects. These implied Kepler’s first three laws but not the fourth. Now this could mean formally that physics will grow and we’ll get the fourth law too. But physics doesn’t grow. It is complete or has to be altered completely. The real point is that our solar system is merely a set of material objects. It must obey physics and indeed we get the first three Kepler laws. But the assumption that our solar system is merely a set of objects, implies things that are not told directly by physics. It suggests that there could be other solar systems but not knowing this, it suggests other things too. Mostly, that the matter in our solar system should not be the only matter of the universe and luckily that was a known fact too because we see the stars. This then implies the question whether the matter of our solar system was formed or was the same forever. If it was formed then the non derivability of the forth Kepler law becomes natural because the planets were captured by our sun, or both our sun and the planets formed parallel but still interacted continually. So the past was a reality that couldn’t obey the fourth law anyway.

Physics is an absolute framework that all matter obeys always. But the universe is merely a particular set of matter. Observing matter, we learn facts that might be particular specialty of only our universe but at once we can derive consequences by physics even from these particular facts.

The big duality of materialism versus idealism is not merely and not essentially about whether there is something beyond matter. Of course there is. Physics became such thing after Newton and mathematics was such even before. The materialists also admit that these are “behind” matter. So, they simply shy away from saying “non material” by saying instead “behind”. But that is irrelevant! If you only fight over words you are not an idealist and so fighting to admit the “behind” as something much “deeper” means nothing. The real problem is whether there are facts and rules in the material world that are not Physical. This jumps not only into the point but it also cuts into the crucial duality of math and physics. Indeed, by one logic mathematical truths are direct proofs of idealism because they are not Physical, but oppositely they support materialism because they are much more non material than physics and if we can recognize them behind matter than the existence of physics shouldn’t be such a big thing. This leads to the more important point of declaring these recognitions as material or not. To say that only these understandings are themselves non material is insane but unfortunately most of the self

proclaimed idealists are at this level if we corner them properly. The materialists can be also cornered easily. They say that our individual brains and our social systems brought out these recognitions by also simple material laws. So the law recognitions are created by some other psychological and sociological laws. The real mathematicians and physicists who do these recognitions are much smarter than to accept this circularity but don't come out to defy it either.

This betrayal can happen because matter is not passive! It doesn't just obey the laws of math and physics but it has rules exactly beyond matter. Not to go beyond itself is a primary rule.

Subjectivity, understanding, thinking, is the elementary non material ability of matter and it is naturally truthful. So, common sense, sticking to a subject is always perfect and will reveal the non material nature of the universe. It is the things that you don't think about but still materially influence your decisions and actions, that are conspiring against your natural spark of idealism.

So using a new terminology, you can also say that while you are conscious you are always perfect but you are never fully conscious. Unfortunately, the non conscious material influences are not merely disturbances or random noise. There is systematic deprivation of consciousness. We are continually hypnotized. Matter wants to overcome your idealism and turn you into a machine.

Why is this war going on? Because the more suppression is overcome by the idealist spark, the more resilient it becomes. The claims of religions is simple. The spark can even survive the death of the body. We don't believe that we would remember and so the belief itself becomes formal.

Not to care about death and still do the right thing gives only two avenues of actions.

To cut yourself out of the conspiracy of matter as much as possible.

To reveal the big conspiracy of matter to people as much as possible.

The first seems selfish while the second seems full of traps.

The point is that the felt selfishness in the first road is valid and only valid if one actually avoids to help others. So, the second road must be a choice for one who already crystallized enough black and white hypnotic spells revealed. But any public appearance and social spreading of messages without a direct intention to help others to go away from matter and society, is the deepest evil.

Academia, Media, Politics are institutionalized evil.

Religion is not fundamentally evil! It is born from turning against matter but always loses its goal.

To require only faith is still not self contradictory because it goes against social materialism.

But then to smoothen out social existence parallel with faith as non contradictory is a fatal lie.

Finally, the third step, to use religion to "oil" the social existence is back to public evil.

A direct motor of social lies is money and usually this third phase spirals into making money too.

Back to matter without man yet:

The facts that the stars are other suns, many with their own planets and later that some "stars" are actually whole galaxies with billions of stars in them, came gradually.

Surprisingly, we still don't know exactly how planets or galaxies formed, though we know exactly why stars formed and how they differ and change in time. This information gives a crucial and astonishing fact about planets too, that I will come back. But first a basic and unfortunately counter intuitive working of gravity has to be made plausible that explains the stars.

All matter obeys gravity! All masses attract each other. We know that the apple falls because the Earth attracts it. The apple attracts the Earth with the same force but the Earth is so much bigger that by the time it could move a nano nano millimetre, the apple is already on the ground. An even better envisioning of the Earth gravity is by cutting it into pieces. Each attracts on its own and their effects combine. This way we could even prove that the Earth as this huge body has the same gravity as if it were all concentrated at its centre. So, the Earth gravity can be calculated by its mass and its distance from the apple taken as the Earth's radius. This is a lucky simple calculating method for gravities of big balls, so practically all stars, planets and moons. But it is also important without the lucky simplicity of the geometrical centre being the gravitational and instead merely emphasizing that the distance between object shouldn't be stupidly regarded as the distance between their surface. Firstly, at again between heavenly and small sizes like an apple falling to the ground the distance change was not from few meters to zero, because this zero ground is still the radius of the Earth. So the actual distance change was negligible. But we can also comprehend that going up to Mount Everest, this ten kilometre could cause a decrease in gravity that might be measurable.

More surprisingly, the non surface distance reality also crucial at small versus small gravities to avoid a total contradiction. Indeed, if two apples touching each other would mean zero distance between them then since the gravity increases as distance decreases, the gravity between two touching apples should be infinity. Of course, the real distance is again from the centres. This is only a few centimetre but their masses are so small that the end result is an almost zero gravity between them. To see this correctly, we have to realize two additional facts too:

First, that the gravity decreasing effect of distances, that is going away and the increasing effect of the masses are not in the same in proportion. Double masses mean double gravity but double distance means not half, rather fourth force. So the decrease is not proportional rather square proportional. This seems to contradict the previous apple example because the decrease of mass could not keep up with the increase by the squared closeness and so the small objects should have visible gravities to each other. Like apples attracting each other on a tree, or especially touching each other that is being only few centimetre. But we have to realize a second twist:

The mass proportionality is actually a third power, or cubic proportionality with size as distance. Simply because the mass is proportional with volume and so for example a double sized apple is actually eight times bigger in volume and so in mass too. So, the decrease of the sizes diminish the gravitations between microscopic objects in spite of their closer proximity, simply because their masses are decreasing even faster.

All these primitive but surprising facts are needed to really feel what gravity would do on objects that are unusual. A fluffy cotton ball is still a cotton ball if we increase it ten times. If you increase it a billion times then your mind will tell you that it is billion times heavier so it is indeed heavy. But so what! It is still so soft and fluffy. It wouldn't squash you. What about its gravity? Well you are not stupid so you know that weight is gravity so if it is heavy it has a big gravity too. But now comes the weird part. If it is so big that its mass is the same as our Earth then it will attract an apple the same way as our Earth. Bigger chunks on the surface are weighing kilos and so are pushing the soft layer under them. So the ball will collapse by its own weight. Gravity would self compress our soft ball into a much smaller and tighter ball. Now increase everything billion times and you will see why dust clouds of matter can gradually self compress into stars. Then burnings start and a particular beautiful end of such burning is the super nova explosion which is actually an implosion and rebound, spewing the unburnt heavy atoms far away to even other galaxies.

This is crucial because the earlier burnings and those smaller suns that won't come to this fate can only compress the initial Hydrogen and Helium into light elements. Theoretically up to Iron.

So, heavy elements beyond iron can not be coming from our sun at all. The gold rings we wear and many atoms in our body too, originate from supernovas far away. The weird come about of these self compressions or gathered materials from explosions that don't compress further into suns rather remain planets is still a mystery. Nevertheless, we know the black and white fact that our planets and we too are star dusts from far away places by the just explained rule of the heavy elements. So, one would expect to find this shocking news in the Wikipedia articles. Well look for it! Of course, the much bigger problem is that the whole gravitational collapse is not explained either to your plausibilities. No cotton ball, no apples, just crazy formulas to bewilder you and make you feel small.

I mentioned the philosopher Kant before, as the second giant leap in idealism after Plato.

I will not go into this crucial second stage because I now travel in matter. But Kant could only become the new idealist because he digested Newton and respected his role. In fact, Kant realized among the firsts the gravitational collapse as a possible cause of star and planet formation. So, he calculated and widened his plausibility field. We still have to admit that he didn't really comprehend the full importance of Newton and physics.

Hegel, my Guru of idealism failed much more miserably to understand Newton than Kant, yet he reacted sharply and even truthfully from a higher angle. Newton wrote as motto to his book that "Physics Beware Of Metaphysics". Originally, metaphysics was merely an alternative word for philosophy but by this time and especially in English, while philosophy was softened to include everything, metaphysical was kept as being speculative. Now, Hegel said that Newton actually warned his readers: Physics Beware Of Thinking. Hegel was wrong even if he was defending metaphysics as being speculative. Simply because physics leads to a deeper speculativity and is

not merely a wider mathematization of nature. So, Hegel did not understand Newton and did not understand physics. The most obvious and sad proof of this is his remarks about the “logical” number of planets. Of course there are no logical numbers, it is arbitrary. It’s interesting how he would explain his ignorance after learning that there are other solar systems. And yet the “thoughtlessness” of physics is also true but you can only claim this if you first understand physics and attack it from inside. On a much simpler positive side, actually Hegel was just as much against the empty metaphysical blubberings as was Newton. He regarded the formal scholastic syllogisms mixed into arguments about God more dangerous than materialism.

Today, new versions of metaphysical blubberings rule the humanity departments of Academia.

In fact, even the Media allows it to flow parallel with its otherwise patronizing stupidity.

This new reality, physics and its new speculativity is still in its infancy.

So in a sense, we have to be more lenient toward Hegel not seeing anything about these.

His false assumption of physics being merely a further mathematization is actually still the ruling false vision even among materialists. The deeper problems are the roles and future of physics and mathematics. Somebody can even be a physicist and still miss the deepest problem. And indeed this happened with Einstein the greatest physicist after Newton. He very correctly identified a deep mystery in the fact that our mathematics is exactly capable to create frameworks that are useful to tell the laws of physics. The “our” of course means that the mathematicians create these concepts without looking at matter, rather regarding forms in their heads. The existence of physics as a separate reality from math was of course accepted by Einstein and he was thinking in this reality. He also knew that this thinking is different from, in fact superior to mathematical thinking. He was humble in the sense that he was not emphasizing this superiority and partially because he needed math that he borrowed from mathematicians. So, this pulled in math was still external. Quite differently from Newton, who created the math he needed. This separatedness of math and physics is the real cause of that both came to a temporary end exactly in our time.

The ignorance of Einstein was not to see the necessity of this temporary pause! The signs were there clear and simple: He knew exactly well that it’s only a tiny fraction of math that physics is using. In fact, he was a friend of Gödel, so he even knew the revolutionary directions of New Math that were flying ahead light years above the classical math used by physics. And yet he hoped that somehow he can again be lucky and borrow the right old math to solve physics completely.

This wishful naivity is still alive. But we better return to Newton or actually Kepler.

Kepler’s idea that God rules the planets mathematically is not primitive because we know that his fourth law is false and there are other solar systems. No! He missed not merely gravity. He missed physics. Newton placed this new reality between God and our material reality. The widening of mathematics to suit this amazing new world might suggest that maybe he placed physics between mathematics and reality but this is false because the real problems that were spawned by physics are much deeper than mathematics. In fact, mathematics after Newton was reignited by physics and not in reverse. But we can not deny the importance of Newton as mathematician and the new mathematics he had to invent to introduce physics. Especially because this reveals a fundamental lie and the cause of the split between math and physics education.

The common wisdom is that Newton discovered calculus simultaneously with Leibniz. The ugly behaviour of Newton towards Leibniz is well known too. The bigger picture is the sick personality of Newton but even this is irrelevant for us now. The crucial didactical point is that physics needed not calculus rather vector calculus. Then through some smoke and mirrors deceptions of Academia we are at the point that a heavy mathematical education separated math from physics and is teaching calculus in high schools for people who will never use it but we don’t even mention vectors, without which the Newton Laws are empty. So we teach empty Newton Laws.

But that’s not all! The pre Newtonian mathematical level of the Descartes system that algebrized geometry was continued as if nothing had happened. In spite of the fact that vectors actually provide a much nicer algebraization of coordinate systems too.

This avoidance of vectors is an other emperors clothes phenomenon. Everybody who knows anything knows that it is a fatal and unnecessary mistake and yet all education systems of the world are all doing the same. It’s time to smell the roses and admit that an intentional gap is created to cut people out from understanding.

But we have to dig a bit deeper!

I talked about silver platters and we might even think that as technology grows, the easy learnings will fill in the gaps and eventually the understanding of science grows. This is not gonna happen! Two hundred years after Newton, Jules Verne described the insane idea that the bullet rocket that travels to the moon will reach a critical point where the gravitation of the Earth and moon cancel and so a momentary weightlessness occurs. In “Back To The Future” Doc is explaining his enthusiasm for Verne which shows how much Hollywood cares about understanding. But more importantly, the space flights showed the weightless astronauts around the Earth and people got used to this reality. Even the falling airplanes in which weightless scenes are filmed, became a silver platter reality. So, we might think that from this then the jump to feel why the moon is falling continually as orbiting is not that hard. Not so! In fact, it is an amazing fact that the famous picture that Newton placed in a later edition of his book with the canon on Mount Everest, appeared in all high school books only two decades ago. The canon shoots balls farther and farther and at a big enough speed the ball returns to the canon and thus the falling becomes a satellite motion. Now, can you explain it better than this? Yes you can! This is still a fragmented vision and will not create the “feel” of Newton’s Second Law.

The bigger point I try to make is that there is much more than accidental stupidities in education. There is a systematic cover up and deception. And as I’ll go further, the facts will cry out louder and louder. Now lets just assume that I am crazy. Vectors are not that important, there is no conspiracy and simpler or more important facts can spread into the education system freely.

This January, David Silverman from the American Atheist Group appeared on the O’Reilly Factor and Bill O’Reilly repeated the famous words “Tide goes in Tide goes out and you can not explain why”. To go on a right wing program to attack false religion and not to be able to explain the tides is indeed a bigger ignorance and evil than being a right wing phoney believer in God.

Now, we might say that it is not Silverman’s fault that the education system is that bad. But this is a lame excuse. In fact, he said: I can not explain the tides but scientists can and it’s definitely not God that is pushing and pulling the tides. This makes the whole affair much worse. In a sense, the scientists are the new God of Silverman. Or even worse, the accumulated human knowledge.

If he thought that “people can understand from science the true cause of tides but I was too lazy to learn it because I have more important things to do” then he was wrong too. People can not learn the tides neither in schools nor from the internet. This is becoming even more shocking soon when I will explain the tides because it will show that in a sense it is much simpler than the seemingly more basic fact that planets orbit the sun and moons and satellites orbit planets.

Above I started to claim that these orbitings are only partially explainable or approachable by analogies or even the nice picture of Newton’s canon. In the end the vectors are unavoidable. So lets say that this dynamics of orbitings is a complicated affair. I also explained that gravity is itself a tricky force because it is proportional with mass but reverse proportional not directly with the distance rather its square. Which is even more tricky because size as volume or mass is cubic with distances like diameter or radius. These simple but tricky proportionalities supply the strange strengths or weaknesses of gravity.

As I said, on the surface of our Earth the distance from the Earth is the radius because the little pieces of the Earth combine their gravity in this beautiful way. It took Newton a year to prove this simple fact. So, an apple on the tree or on the ground are practically the same distance from the Earth. But I also mentioned that going to Mount Everest might lead to a measurable change in weights because ten kilometres added to the radius of the Earth is a real change in distance.

Now, the amazing fact is that all these details are irrelevant for the tides. Tidal effect is the most basic and trivial consequence of any force that decreases with distance. And yet in an other sense we simply have to be hyper theoretical. The beauty of physics is that everything is perfect and whatever is true, even if it is negligible, that is hardly measurable, will still have some crucial importance from some new angle. If the Mount Everest is a difference in distance then the tree is also but we even go further to the almost insane claim that actually the top of the apple itself is already farther from the Earth than its bottom. Which means that the top parts are lighter than the bottom parts. So, beside the weight of the full apple that pulls the tree or pushes the ground, there

is a gradual change of force for the apple parts. This minute increase of weights from top to bottom parts of the apple is even more irrelevant because they already pull or push each other by their weights. Now, while the apple is falling, this pulling or pushing each other is not existing.

In the falling state, the old fashioned common weights of the apple parts would move them together and so this new hyper theoretical weight difference would be more real.

The assumption that the parts would move together here seems obvious because an apple is pretty homogeneous, If we start to ponder about the skin and centre of the apple of half of it being rotten, then we might feel differently and then we have to jump to the law of common fall which tells that these are irrelevant too. A cork and iron ball fall together too. Now you might say, okay I remember, lets skip to the new part about the hyper theoretical differences. But I have to go into the law of common fall again because it will be very useful. So we claim that not only a homogeneous apple but even a hammer falls freely. The heavier head will not fall faster and pull the handle. Unlike in cartoons, where the anvil is actually chocking the road runner before they land. So, the physics of Warner Brothers was a false physics of our false intuitions. Amazingly, this false logic of non common fall can be refuted by a very simple logic. Indeed, if the heavier head of the hammer were pulling down the handle, then this would mean that the handle is actually slowing down the fall. So the full hammer is falling slower than the head could alone. But this means that something heavier, the full hammer, is falling slower than something lighter, the head. If you still feel confused then regard instead of hammer, three iron cubes glued together, or if you wish merely regard a solid iron bar cut into three sections only in your mind. Two of them is slowed down by the third, so the three falls slower than two, but three is heavier than two. Same contradiction again. And this throws light on something deep! Namely, that the visual trivialities and the logical trivialities are two different directions in Didactics.

Now we can go back to the point before our detour to the common fall. This was the minute variation of gravity, point by point simply due to the alteration of distance from the source, the Earth's centre. This then should cause a weight difference between the apple parts and thus cause a force between the apple parts. So, the same false logic we used above that the lighter handle wants to slow down the heavier head, is now a true logic. The bottom apple parts are heavier and the top ones are lighter. So the bottom wants to fall faster or the top is pulling back.

Now how can a false logic become true? Well, the crucial difference is that here this difference in weight is caused by the locations of the parts and not by their masses. So, here the logical refutation of the false logic can not come in. This shows that these plausibilities are indeed a labyrinth and that's why the education system wants to avoid even going into them. The solution is to emphasize both the false and true plausibilities. Here, this then brings a new recognition of how deep the common fall and especially Einstein's final recognition is.

Indeed, the crucial difference between a false mass caused falling differences and the true place differences in the fallings of the parts of any object, shines a light on the extra feature that Einstein regarded space-time as the transmitter and even "actor" of the common fall, not the test object. The parts of an object just obey, they can not cause difference in fallings but their locations can because they are still at different points of the space.

Gravity is a tiny bit different point by point even in a single body, so the free falling is actually not quite free falling. There is some tension between the body parts but it is not caused by the different masses of the parts, rather their different locations. Quite generally, the cause can never be in the obeying body it always has to be in the local circumstances. That's why it makes sense that space and time is altered by the other masses. They don't create a gravitational force field rather alter the normal space-time field. We still didn't make this really plausible, only went a step closer. But this was just a detour anyway.

The immediate point is that while the apple falls there is a tension between its parts.

Now imagine a water balloon falling. Theoretically, it should be a tiny bit elongated.

Our Earth is such giant water balloon! The oceans are not inside, rather kept on the surface by the gravitation itself. Actually, we do have an inside liquid too. The hot magma in the centre. The falling of the water balloon would be now the falling of our Earth toward the sun. And then the oceans and the magma inside should be elongated. But we are not falling toward the sun rather orbit it. This is the orbiting paradox. That actually we are falling but have such a big side speed

that our falling is not getting closer rather stays the same. Or even more precisely, being faithful to Kepler, we are altering even our distances a little but still return to the start after every orbit. The point is that this paradox doesn't alter the simpler fact that gravity is decreasing with distance. In fact, an orbiting and not straight fall toward the sun makes this elongatedness simpler. Indeed, falling towards the sun directly would mean an increasing of the elongatedness itself. We would be more and more elongated. Black holes, that is suns with much much bigger gravitation than our sun, actually tear apart the bodies even before swallowing them. But here with our orbiting around the sun we simply have a fix not that big but still considerable stress force due to the considerable size of the Earth's diameter. Of course the solid Earth will not elongate, only the oceans around and the magma inside. So, these are squeezed in a bit or have bumps towards and opposite to the sun. These would stay the same, if the Earth itself would also stay the same way that is facing with the same side to the sun. Observe that such facing the same way to something and going around it, is actually a full turn around yourself too! So, if you go around a table facing the table then you yourself turned around. Not to turn would mean that you face the door in the room but then you will show sometimes your back towards the table. At any rate, the Earth is not doing neither because it is spinning around itself like hell, namely 365 times a year, that is under every orbit. The oceans and the magma of course want to stay elongated the same way or rather always radially towards the sun. This is a conflict with the Earth's daily spinning but the spinning is so strong that it easily conquers the frictions of the oceans and the magma. The daily two tides moving around the Earth are actually the Earth spinning under the tidal bumps. We of course see it as the bump moving. The proper way would be to say that the "bumpiness" is moving because it's always new water that becomes the bump.

The most amazing consequence of these tidal effects in general is that the moon indeed faces the same way towards the Earth. The explanation is simple. Long ago the moon had a random spin and big magma. The Earth caused a considerable elongated tidal effect on this magma that actually slowed down the moon's spinning to the ideal situation without friction, that is facing the same way radially just as the elongated magma did. The magma dried but the motion remained. Speaking about the moon, it also causes tidal tensions on the Earth and actually stronger ones than the sun. So the real tides of the Earth are these tug of war effects from the lunar and solar tides. End of story, these are the tides.

Now I admit that with all the beautiful detours it is a complex affair but if I start to explain the tides to an elementary school kid then I can skip those. In fact you have to be prepared to detour according how the kid responds. The point is that even with the detours, all teachers could learn these and be able to start understandings in everybody and revolutions is some.

The mentioned measurability of the weight decrease on top of Mount Everest is a fact.

The hostile conditions create lot of trouble to do such experiments. The air is cold and rare.

This rarity of the air is due to that we went up and so actually less air is above us that is less pressure. This pressure is simply the weight of the air above. But since it is gradually less and less, the idea of a simple column of air is false. Instead we have a column of gradually decreasing air. So how high should we go to get an estimate? As it turns out, actually the Mount Everest is a very good height if we assume that up to this we had the normal air of sea level. Lets leave the problem of how dense this sea level air is and just regard a Mount Everest high column. This height is ten kilometres, that is ten thousand metres. Lucky for us and lets forget the crazy Americans.

Now how wide column should we choose? Since we are looking for the pressure and not the weight it doesn't matter. If we chose a meter by meter square as cross section of our column then our pressure will be measured by square meters that seems logical not only because meter is our unit but because air feels light and so we feel that we need that size to get a considerable weight. That's where we are wrong and so a much better size for our pressure is square centimetre. This a finger tip area and so we regard such narrow column of air up to the Mount Everest ten thousand meter high. Lets cut this into ten thousand little one meter long columns and place them tightly. Ten thousand is actually hundred times hundred and so we can put all of them on a one meter by one meter square. Hundred on one edge hundred on the other and so on the full area hundred by hundred, so all the ten thousand fit in. Since they are also one meter tall, we get a tightly filled one

cubic meter box of air. This is that pushes every square centimetre down at sea level. We might think we made a mistake for choosing the square centimetre because this seems too light. But we are still wrong! This box of air has a mass of one kilogram or weighs one kilopond.

This crazy double talk is needed to distinguish mass from weight. Mass is universal but its weight is different on different planets because the planets mass is influencing the gravitation too. Of course staying on Earth, ponds or grams are the same. Now this one kilo to put it quite simply, is the mass or weight of water in exactly a ten by ten centimetre cube which we also call a litre. So the one kilo mass or weight of our cubic metre air, is simply caused by the accidental coincidence that water is thousand times massive or heavy as air. Indeed, in a cubic meter we could place thousand of such one litre boxes because ten by ten by ten is thousand. Actually, looking at this way, we see that the one kilo for a cubic meter air is not that much. It's thousandth of the same water which would be exactly a ton.

So, not only, the coincidence of our earthly conditions and the round relation between air and water mass lead to the round result that the atmospheric pressure is about a kilo per square centimetre, but with the round height of the Mount Everest it came out roundly and easily too.

If air were a foam or liquid it would mean the same for our above pressure concept but it is a gas and so looking closer, it contains freely moving particles. Atoms and molecules, that hit each other and the surfaces that try to contain them that is stop them. So, this weight of the air column is transferred actually as the continuous hits of these particles toward the bottom. The word continuous is false because discrete individual hits are involved but to express how many are involved we have to realize that a thimble full of air contains more particles than the number of stars are in the universe. The more important consequence of is that they get inside the tiniest gaps and holes. So this one kilopond per square centimetre pressure is everywhere. Even inside us. In these tiny crevices the surfaces are smaller than a square centimetre but this merely means proportionally smaller force. For example, a square millimetre is hundred times smaller than the square centimetre, so this same pressure means one dekagram per square millimetre because a kilo is hundred deka. Indeed, deka means ten, kilo means thousand.

A very important additional and usually unmentioned feature of gas pressure is that actually our previous picture is still false! The average total hits per unit surface is not really the pressure. We have to use a unit time too! For ten times as long time period obviously we get ten times as much total hits, so we have to use a fix time period. But this time dependence of the pressure is important beside just formally accepting a unit time. This becomes evident if you compress a gas. Then the same kind of and even same number of particles are contained in a smaller volume. So, obviously the density is increased, but the pressure is only the hits given to a surface and so we might get confused whether that increases proportionally too. It does because the frequency of the hits is that counts in the end. If the density increases for example to twice, than this simply means twice as many hits on any unit surface in any unit time. Now back to our air pressure.

A coin is usually larger than a square centimetre but less than ten dekagram. So, the one kilo per square centimetre pressure from the air is more then ten times the coins own weight pressure. The air pressure of course is on both sides due to the particle transference, so this extra pressure is cancelled and ignored. An even more amazing case of this equalization of the air pressure is to regard a fan. This has hundred times the surface so it has more than hundred kilo on both sides as pressure forces but they are so delicately balanced that we feel nothing. The only thing we feel is the air as mass that we have to move away every time we flap the fan back and forth. This resistance of the air against to be moved is nothing special. It is the same as pushing a car. Measuring this resistance of a fan we could conclude that air has mass and even could approximate its value. Then we could visualize the atmosphere and deduce the air pressure. Probably these lines of thoughts lead to the recognition of the atmospheric pressure.

As I said, air can get under every gap but we still have air tight conditions. The misleading factor is that such gap filling circumstances usually involve actual gluing. So, for example gluing a coin to the ceiling, we feel that it is only the glue that keeps the coin there, while actually the air pressure from the bottom helps too because the glue stops the pressure from the top. In theory, if on a totally smooth ceiling, like made of glass, we would place a similarly smooth heavy disc,

then the pressure from the bottom should keep the weight there. Unfortunately, solid surfaces always have microscopic gaps where the air pressure would go in. A much better, “self sealing” idea is to make solid contact only on a perimeter with a soft rubber ring in between and then to suck out the air. As the air pressure decreases, the sealing becomes better and better. So a little left pressure is better in practice than aiming for nothing, because some self ballancings come about. Soon we’ll see that this had not merely practicality but a theoretical truth too.

Changing from solid objects to liquids we get a whole new set of wonders.

Most famous is the “cup and card” trick. We fill a cup with water, place a card on top and carefully turn it upside down while holding the card there. Then we can release the card. It will stay there and the water inside too.

The over simplified explanation is that since there is no atmospheric pressure inside, only the weight of the water is pushing down. This is much less than the one kilo per square centimetre pushing from the bottom upwards. The arithmetic is correct because a cup is about ten centimetre tall and ten cubic centimetre water is only one dekagram. So indeed, the atmospheric pressure is hundred times bigger than the water weight.

Firstly, we could reply that if this is the case, then why doesn’t the whole cup just fly up. This is the “Over Force” paradox. A lame explanation for this could be that our hand keeps the cup from moving. But that’s insane even directionally because we can feel that our push is still upward as before, so our force would increase the upward over force even more. A much better explanation would be to say that the over force is cancelled out by the atmospheric pressure above. But then what are we doing. And this leads to:

A second even more puzzling fact is that we feel and can even verify with a scale and a mechanical arm that we hold the same weight before and after the trick. So this means that if the suggested explanations are true then we and the atmospheric pressure are doing the same weight holding after the trick. This is the “Double Weight” paradox.

The third but in my opinion the original paradox is what makes the whole trick an actual trick. This is the stuff that impresses any child. This avoids the whole abstract line of forces and so even the previous “Double Weight” paradox. The child even if only sees the trick, will still feel that we are holding the same weight upside down because we behave the same way. If he is allowed to hold the cup then he’ll be impressed even more. Because the real magic is that we are holding the water even though the cup is upside down and so the water is free to fall. We are not in the way of its expected motion. The only thing that should stop the water is the card. And indeed, most kids think that the card is that does the trick somehow. In a sense they are right as we’ll see at the end.

So, you have to realize that children already learnt that if I run into the table I will hit my head.

Force and geometrical positions of free movability are strictly related. If somebody pulls me away from the table and I don’t hold onto it then my pulling should not affect the table. The weight of the water wants to move it down. If the cup is in its way held normally then logically it can stop it provided we supply the force too. But if the cup is not in the way upside down then we shouldn’t be able to stop the water from falling already by sheer geometry, regardless of forces.

With forces, that is with the felt weight included too, the whole thing is even worse:

How can the weight of the water be transferred to our arm or even to a scale, when the water is under the cup. This could be called the “Unconnected Holding” paradox.

Of course, we do know some very trivial situations when an upside down cup can hold the weight of something in it. First of all, glued in objects but also pudding, ice cream, and so on. But we know that water can not stick to the cup. Now, by the earlier mentioned claims about glues hiding atmospheric pressures between solid surfaces, we should here again go toward showing that these gluey cup situations are also illusions and actually hide a holding by atmospheric pressure alone.

The most crucial is to see that even a plausibility shift that reveals the atmospheric pressure behind the normal gluey attachments, would only resolve the “Unconnected Holding” paradox but would still leave the “Double Weight” paradox unresolved, in a new form:

Why do we hold a weight that is already held by the atmospheric pressure?

I also said that avoiding glue to show the atmospheric pressure between solids is hard, because the surfaces that are supposed to hold together by themselves, usually have imperfections. We still

have everyday intuitions about this fact, like a smaller glass piece sticking to another. In fact, we all know how a little water can help. So, this contradicts what we just said above that liquids don't stick. We might reply that a little water sticks but a lot breaks away.

If you want to make kids understand pressures then forget the cup and card trick and let them play with syringes. Without needles of course.

Lets start with no water just air! Pull the handle half way and then stop the opening with your finger. Moving in or out is not that difficult but we encounter a force against us. The force against pushing is more plausible as "compressing" the air. We feel same similar counter force when we blow up a balloon too. The pulling of the plunger without covering the tip would simply mean that we suck in air but now with the tip covered, the pulling being difficult is also interpreted as a sucking force trying to hold us back.

The first step is to erase this whole sucking plausibility as a phantom!

We explain that outside the air is filled with billions of particles in every little space.

They hit each other and hit also the surfaces of everything around.

If the syringe is totally empty, that is the plunger is fully in and we pull it then through the hole we are not sucking in the air, rather we merely allow it to go in by itself. The hole is small but billions of particles are rushing in by themselves. When we close the tip the particles are locked inside.

They are hitting the glass wall, the closed tip that is our fingertip and the plunger from inside with same size and frequent hits as the outside air. As we move the plunger inward and compress the air then this actually means that the same many particles are now in a smaller space and so more frequent hits are expectable. This is the pressure we feel. Not the full hits, only the extra hits because we also get the old hits from outside. When we don't push rather pull the plunger then we increase the volume and so the same many particles are spread out and so now we can expect less frequent hits on the walls. But the outside gives the same old frequent hits and so actually an extra amount of outside hits are on the plunger too. The outside air wants to push the plunger in. The inside air is still pushing it back, but a little bit less. This is our phantom "sucking force".

Now we can play with water! We suck in water half way. Close the tip with your finger and try to push or pull the plunger. You can do neither. This now feels much harder than before with air.

So, we think that water is incompressible and also unstretchable.

Instead of trying to pull the handle, you can just turn the syringe vertically but keep the tip closed on the top. Now it feels obvious that the weight of the plunger and the water above will be kept because we tried much bigger force than this weight already with our hand.

The cup and card is exactly this same situation. In a sense even less surprising because here the water is only holding itself, it doesn't keep the plunger's weight. The most convincing way to see this similarity is to use a really wide syringe or just a wide glass tube sealed on one end, filled halfway with water and then sealed with a disc. It works exactly as the small syringes. Here, the water is much heavier than the disc. In fact, we can use thinner and thinner discs. In the end we can cut out a cardboard disc, place it in on top of the water and carefully turning it upside while holding the disc, we almost got back to our cup and card trick. Is there a difference because the cardboard disc is in the tube? If water is totally unstretchable then the cardboard wouldn't move anyway and so the card covering the cup does the same. Then the card or cardboard, simply avoids the spill while turning upside down and maybe later it could even be removed.

We are wrong in all three assumptions.

Water is not completely incompressible or unstretchable. The cardboard disc always moves a little and yet the card covering the cup works. The card can not be removed even theoretically.

These unfortunately lead us deeper and deeper into a jungle again. To keep our sanity, we have to go back to our plausibilities and move towards abstraction from them. As always, to understand.

The pudding sticking to the cup upside down is not shocking us. Why? Because we feel that it is sticking there. The glueyness and the sufficient rigidity makes everything trivial. The weight is attaching itself to the wall and we keep this weight from outside holding the wall.

Not being able to suck a syringe is also a plausibility. The explanation is now that water doesn't want to separate. Just as it is incompressible it is unstretchable. Now above I said that this is not completely true. But I lied! Yes, water is not completely incompressible which just means that

there is some minute compressibility. Who cares? But the second part about the unstretchability was shoved under the carpet as trivially “not completely” again. But this part is not “not completely” true rather “completely not” true! So we nailed down something vital.

The delusion that water is hard to stretch or tear apart is the root of our pains. And yet our plausibility that the syringe or any other tube of water can not be pulled apart is true. How? Simply because that hardness of separation is in truth a direct effect of the atmospheric pressure.

This pressure is so big yet so hidden due to its ballancedness in other situations that we claim it here in the syringe pulling as an independent and exaggeratedly infinite phenomenon.

So lets try things again!

Hold the syringe in you left hand keeping the opening sealed with your finger. Hold the plunger in your right hand. The syringe is again half filled with water not even a bubble of air inside. You can not move the damn thing. In fact, you are afraid you break the whole thing. Well, don't be a pussy! But you better learn physics! Because pushing is indeed infinitely impossible and you may break the glass if you are strong enough. But pulling your hands apart will not break the glass, in fact for a small enough syringe is not that hard. Do it and you will see some bubbles inside. But they are not bubbles! It is vacuum! You just separated water quite easily! You feel the sucking and if you let your hands back, the “bubbles” disappear. I told you it was not bubble! Air couldn't just appear and disappear again. Now here is what really happened:

The syringe is under atmospheric pressure. One kilo per square centimetre. The side directions of the tube are irrelevant because they are balanced. The moving direction means that both ends are pushed toward each other. The water inside can handle this easy, in fact even your failing attempts to compress by adding much more to this atmospheric pressure. Pulling apart is totally different! It requires only to conquer this external push. If the plunger is about one square centimetre then you need a kilopond force. The same as lifting a litre water. Now that you see what you already felt, we can go back to desserts.

Imagine a glass tube open on both ends with pudding in it. Wide enough tube will not hold the pudding. Now imagine the same wide tube closed on the top end with some pudding under there. It will definitely hold. So indeed, the glueyness intuition can melt into the syringe intuition. And the syringe situation can be explained by replacing the suction intuition with the external pressure explanation. We saw that there is no mystical infinite inseparability. Separation of water is effortless. In fact we could see on TV how water spreads in empty space. Here on Earth it's only the air pressure from outside that keeps the syringe in and with strong enough pull we do separate it leaving behind vacuum. Now, using smaller force than this separation limit, that is the total external pressure, it is obvious that the air pressure equalizes only that much force that we apply on the syringe. In fact, in both directions. So, nothing happens. All forces are equalized.

How this equalization happens, why not the total atmospheric pressure is working against our small pullings is still an intellectual challenge. In short, the “Over Force” paradox is still here.

Apart from this and the “Double Weight” paradox we also have a new gaping hole in our plausibility even if the “Unconnected Holding” is resolved. Namely, the role of the card.

We feel that it is needed to turn the cup upside down but is it removable later? And if not, why?

At this moment it's very crucial to see the difference between truth and lie!!!!

To say that the upside down water is hit by air molecules through the card is a truth.

We didn't say that these air molecules are the only forces and factors. We merely painted a picture and claimed that it must be part of the bigger picture. We also supported the picture by applying it to reveal contradictions in our plausibilities with suction.

To say that the external atmospheric pressure is a kilo per square centimetre, therefore the water in the cup is supported, is a total lie. A simple case of using authority to make you accept something.

If they at least would make show you how much is this pressure and why, then at least as a side result you would get something out of their lie. But the practicality is that liars lie continually and not by imperfections rather intentional evil. And oppositely too, honesty and the will to explain always transmits understanding and thus truth, no matter how limited the arguments are.

If we stopped in our investigations at this point we already would have told the truth.

Simply because we told the problems and limitations of what we explained.

The mentioned “limit value” feature of the atmospheric pressure already hints all the problems.

The equalization directly and indirectly the holding paradox too. Why we still hold the weight even after upside down. You can not expect perfection. Some details are always forgotten and some are not even known yet. To throw formalized abstractions over your head without any didactical road is the consequence of not even thinking with you, rather spreading science like the bible. Going on a patronizing power trip. The reason they can get away with it, is that they are not challenged, humiliated and destroyed. In fact a wider system of lies, rewards and sustains them. This wider system is the new democratic world order of “freedom”. A disease originating from the “Land Of The Free”, America. The lowest common denominator manipulated to believe that it is indeed their freedom, while it is the freedom of the “shadows” to exploit the worst in everybody. These shadows are not merely concrete people but tendencies too. But lets return to spread as much concrete proofs for my points as possible.

We regard a perfectly cylindrical cup that has a C weight and is filled with water that has W weight. We obviously hold $H = C + W$. We cover it with a practically weightless card and carefully keeping the card in place with our other hand, turn everything upside down. Then we can release the card and yet it and the water stays there. In fact, we feel to hold the same H again.

First you explain the child that already the $H = C + W$ equation of holding a cup normally filled with water is not true because a huge B force is acting on the cup’s bottom upward helping our holding force, and an opposite T on the top of the water adding to the weight of the water.

So the truth is $H + B = C + W + T$.

These huge B and T forces are actually hits from the air particles transferring the weight of the air all the way up in our atmosphere.

Even this equation is imperfect because these hits are received on the side of the cup too.

But these horizontal forces all around the cup cancel each other so we can neglect these.

More importantly, since the atmosphere is so tall, thus at the cup’s bottom and top they are practically the same and so $B = T$. Thus, these two cancel too and so indeed we have $H = C + W$.

After the card is placed on the top then things are even more complicated because of two things: The card is pushed by the air down on a bigger area than the cup. Of course, the overlaying extra area has air under, so it is at once equalized. If we ignore this overlaying area then the previous equation should remain true because T is simply regarded through the card acting on the water.

But this hides a second problem that the card is also transferring some force to the rim of the cup.

If we split T in two T_w and T_c according to the transferred parts to the water and to the cup through the rim, then the true equation is $H + B = C + T_c + W + T_w$.

Of course $B = T = T_w + T_c$, so the end result is the same that $H = C + W$.

At this point the child will not say but will think that you are full of shit! Why would we have imaginary huge forces that cancel anyway? So, you tell by yourself that the proof of these “imaginary” big forces is that now the upside down situation will make perfect sense:

There are again six forces. The three air particle hits from the top, the bottom and the side.

The water weight, cup weight and our holding. The hits on the sides are again ignored at once.

The bottom hits are now acting on the card and again the overlaying area can be ignored because hits from the top are there too. The C cup weight and the T top hits are not acting on the card because we hold the cup. So the only two forces are the B bottom hits and W water weight.

This is opposite directional and much smaller so the total force on the card is $B - W$ upward.

This is split to push the water with $(B - W)_w$ and the rim of the cup with $(B - W)_c$ forces.

These split components are proportional to the areas and the rim is much smaller, so we could regard $(B - W)_c$ as negligible, but there is no need for this simplification because both components are transferred to the top. To the bottom of the cup.

So the bottom of the cup is pushed upward with $B - W$ force.

Before we go further, we mention a point about the card.

If the card could be removed then obviously all the $B - W$ force would have to go through the water to the top. Which means to move the $(B - W)_c$ part into the $(B - W)_w$ part somehow.

But this is not the real problem. The card has to be there even just to transfer the hits to the water properly. This will be explained later.

Now back to the top that is the bottom of the cup.

This got the $B - W$ force upward but it also gets the full T force from above from the air.

So the total forces would be $T - (B - W)$ downward on the cup.

Of course, we didn't include two forces yet, the C cup weight down and our H holding up.

We obviously hold the cup but also all the forces that the cup as rigid body suffers.

So: $H = C + T - (B - W) = C + T - B + W = C + W$ because $T = B$

So, indeed we hold the same $C + W$ size of force as before!

But only the C cup part of it remained the same physically.

Now we don't hold W , rather $T - (B - W) = T - B + W = W$.

The left side is the physical meaning as the difference of the two big forces.

The W end result is just the mathematical size of the force.

Read this little section above again!

If you feel that things became clear then that's good but now comes the real point:

The argument above itself is a lie! The only truth is happening "in your mind".

For now, you can also say it that "in your brain" because that lie is even deeper.

You can not tell perfectly what you think and where you think it.

One thing is sure though! The only way you can find these things out is by repeating the process.

A simple partial repeat is to re read the section and I asked you to do that.

A much better repeat is to try to recall the argument without reading it.

And an even better one is to try to explain it to someone else.

If you do these then you will encounter problems and challenges. That's life. That's truth.

This is an article that tries to help you toward all that.

So why is the argument a lie?

The role of the card was not a lie because we said it's still a lie.

The fact that we assumed a cylindrical cup but most cups are not, is again not a lie because we straight out said that we assume this lie in our explanations.

The major problem with a non cylindrical cup is that in such narrowing cups the bottom area covered by the card will be bigger than the top and so the B bottom hits from the air is also bigger than the T top force down. So, we feel that now the non vertical wall of the cup has a role.

And indeed, now the air hits from the side don't just hit horizontally and cancel out all around but have a vertical push downward that increase T .

So we might say that let T be the total vertical down force on the cup and so everything is fine.

But lets check a totally conic cup that has no bottom at all!

Here, the total $B - W$ force from the card and T air force from above are acting on the side.

The angle of the side means that only a p proportion is acting vertically.

This would mean that: $p T - p (B - W) = p T - p B + p W = p W$ force is pushing the cup down. So the holding of the water part would require only the p proportion too.

The water should become lighter upside down!

That's what happens when you go into some detail but not deep enough.

The error we made was that we regarded the p proportionality falsely for the full old forces.

A conic cup means that the atmospheric hits on the wall will have a horizontal and vertical part.

The horizontal parts again cancel all around so we can ignore those.

The vertical ones are indeed a fix p proportion only, but this is acting on every surface unit of the cone. The total cone surface is however much bigger than the bottom namely $\frac{1}{p}$ times bigger.

So, the total perpendicular force of the air on the cone wall is $\frac{1}{p} B$.

This must be reduced by the p proportion to get the total vertical force which is thus $p \frac{1}{p} B = B$.

For the $B - W$ force coming from the bottom to the wall, we again have similar situation. The horizontal components cancel each other, all around and the vertical is only a p proportion. But this is applied to every surface unit of the cone and so the total vertical force is

$\frac{1}{p} p (B - W) = B - W$. So the total force acting on the cup is again $B - (B - W) = W$.

All this might give you the impression that “Oh yeah, things are complicated in the details and so we can only go partially in explaining things”. That would be the worst message.

This line of partial over simplifications is true and they should be mentioned but this has nothing to do with a much deeper sense of lying in all formal arguments. So lets come to this finally.

A short version of the original, that is cylindrical cup explanation in text books goes like this:

The cup of water held by us is a static equalization of all forces. Regardless whether held normally or upside down. The side forces obviously equalize by the rigidity of the cup.

The vertical atmospheric pressures equalize too because the bottom and top experience almost perfectly same pressures from the atmosphere. The bottom is actually a minute more because it has more air column above. So this minute extra force actually reduces the weight of the water but only minutely. The real part is balanced by our force exerted upwards.

This is the style of the Wikipedia articles too. Casually dropped details, convincing assertive tone. Smooth as a baby’s bottom and it’s full of shit just as well.

Observe that this verbal account was actually an arithmetical balance, an equation:

$B + H = T + W$ where B is the bottom atmospheric force, H is the holding, T is the top atmospheric force and W is the weight of the cup and water together now.

The left sides are upward, the right sides are downward.

The added equation is $B = T$ implying $H = W$ or with the casual detail about the minute difference in the bottom and top atmospheric pressure: $B = T + m$ implying $H = W - m$.

You might even say, this is so much simpler and clearer, than the one you wrote above.

Now comes the spirit. The understanding, the thought, the defiance, the anger, the despair.

A poor high school student reads this explanation and instead of feeling good about himself and thus inheriting the “full of shit” condition from the text book, he starts to apply the learnt facts.

He figures like this:

The atmospheric forces almost equalize so taking them out should alter $H = W - m$ into $H = W$.

So, holding the cup first in a normal room and then sucking the air out we might even be able to measure the tiny difference. How nice! But then he thinks: What about upside down?

The card trick was shoved under the carpet as a triviality. But his memory from the actual trick that his grandfather showed him long ago somehow kicks in and he says:

Wait a minute! It shouldn’t work without air in the room. Or would it? No way! His common sense takes over and feels cheated twice. Once as a child and now again.

In fact, he gets an other idea from “nowhere”. What if we don’t suck out the air from the room but instead of water we use ice. So, we take the cup out of the freezer, wait a few minutes, warm it in our hands so that the ice separates from the cup. Then turn it upside down. Well obviously it will fall out. But why? The equation said the forces equalize.

Now we’re cooking! First of all, I did say that my nice derivation itself was a lie. But more importantly I used English narration to chain the derivation. I said that the bottom force is reduced by the weight. The subtraction was correct, $B - W$ became the force from the bottom.

But this chain of calculations can not be detached from the physical meanings and regarded as merely equations. In equations as mathematical formulas we can take quantities off from both sides, alter minuses into plus on the other side and so on! But if there is no air in the room then there is no B to subtract from. So these mathematical truths like simply taking of the equal B and T from an equation can not be translated to the physical meaning that we can simply disregard the atmospheric pressure.

This simple example shockingly proves that physics is a mysterious and much less understood field than the old fashioned math of equations. And yet, we use these primitive formulas as a “spine” of our physical reasonings because we have to calculate the values too.

But the really shocking fact is that these calculable values will be also the final experimental verifications of the whole physics as science. But if those formulas are so misleading and meaningless in themselves then how can the verifications be depending only on them?

They are not! The actual experiments are interpreted measurements by experts. So there is a top authority that is perfectly aware of these contradictions and ambiguities we encountered. They are simply not involved in educating and revealing the truth.

Actually, there is a third use of the formulas beside being the mathematical spine of understanding and provide measurable quantities by experiments, namely to be put on T-shirts or used in popularizing science programs.

The most typical example is $E = m c^2$ where again the more tricky point is not the quantitative surprise between energy and mass, rather their new physical relationship.

The lesson from all this is that you shouldn't believe a word you read in text books.

Why didn't I just say physics text books? Because mathematical lies exist too. Not as easy to pin down as the physical ones though, so they are much more dangerous too. In math, the verification is proof. Again, only the experts can verify these if the proofs are too complicated.

A real life drama that turned into a historical social lie, directly relating to these hidden but crucial points is the Nobel prize.

Nobel hated mathematicians and was a narrow minded person. The two has no direct relation.

He intentionally excluded mathematics as a rewardable field and he tried to justify this by a wider principle of to award only those who forward humanity directly.

He completely ignored rewarding those that educate, which is the most direct advancing of humanity. This proves his narrow mindedness and pretentiousness.

You might say that education is hard to evaluate being successful. What about literature?

There is no excuse! Education was not important for him. Just as it wasn't for religions or any social movements before.

Instead, he perfectly continued the line of Academia that from elementary level encourages individualism and success against others. Pretending to educate without educating to educate.

What a simple self contained contradiction.

So, Academia had to be the decider of the prizes but obeying Nobel's wishes. But times have changed and the prizes now include Economy. A very limited mathematics in disguise.

But are these Economy Nobel prizes directly verifiable advances in humanity? Give me a break! That's why we had the financial crises after all these Nobel prizes. So, time is eating out the self contradictions. The emperor is naked and we all see that for ages but our mouth can not say it!

The real question is why wait to see the lies that are hypnotizing you right now.

So we have to get back to physics.

The two crucial questions left unanswered are:

What is the role of the card and what happens with ice used instead of water.

Obviously not ice frozen into the cup rather detached. This should not require a card because the bottom of the ice is solid already.

First some confusing diversions!

Amazingly, the same trick works with the cup not being full, that is having air above the water when it becomes upside down. This seems to destroy the whole explanation. In fact, even subjectively we know that to separate water was much harder in the syringe than just pulling on some enclosed air. Indeed, this would simply depend on how much volume increase we achieve. If we double the volume this means half as many hits from inside on every square centimetre in every second, in short, half pressure from inside than from outside. One per cent volume increase is only a per cent decrease in pressure which sounds nothing, but actually it is one dekagram per square centimetre. This is still more than the weight of ten centimetre water and most cups are

shorter. So, a minute lowering of the water level could achieve this air decompression above the water. The card and the rim of the water can separate a little because the water between will not spill yet, due to the external pressure there directly coming from the air.

If we experiment a bit we'll see that this open section can not be widened and it acts as a sealer.

The smallest side force on the card slides it off easily. But this is not an absolute necessity!

Some "cards" like beer coasters with plastic on one side, used with very non cylindrical cups like coffee cups, will rather allow a few drops of water to leak out and then seal perfectly to the rim.

The "card" is not moving sideways at all! Here this decompressed air inside is a static state.

In reality of course, the atmospheric pressure, that is the air hits on the card has a crucial not negligible part on the rim now. The rim and the plastic are like rubber sealing used for suction devices, I mentioned earlier to replace the surface to surface unreal vacuums.

Why the suction itself happens with certain non cylindrical cups through letting out a few drops of water at the bottom but keeping the air inside, is not quite clear to me yet. But the result is that:

We can turn the cup upside without holding the "card" and the "card" is still stuck. So now we can turn it upside down again without holding it at all! In fact, the more times we do this turning upside, and back, the sealing becomes more and more perfect. This is again a balancing process that nature likes and this makes also the best, most reliable form of the trick.

But all this still hides the real necessity of the card.

The cause is simply that not only air but water too contains particles. These are not free to fly and bounce, rather they roll on each other. The forces were all okay to keep the water there but the individual hits of air particles would have to keep all the individual water particles there.

Due to the randomness, some water molecules are always unsupported and start to roll and fall.

Due to gravity this would spiral into bigger and bigger spills. This of course happens in a flash.

Amazingly, an even simpler, yet more ingenious experiment still avoids the use of any card.

You need a big tub of water. Simply take the cup under the water, turn it upside down and pull it above the surface but keep the bottom, which is actually the rim of the cup still under water.

The filled cup remains filled. Here the equalization inside the bottom is obviously perfect because the water molecules transfer in all directions among each other. The transference of pressure from air to water now happens outside, on the surface of the tub. Here the equalization is again perfect because gravity pulls back the unsuppressed water molecules. So, molecular "spill" upward is still happening but it can not spiral out. Gravity is stopping, not accelerating a chain reaction.

The actual size of the atmospheric pressure as a kilo per square centimetre means also that it is the same as a ten meter tall water column. Indeed, this ten meter is hundred little ten centimetre sticks. These can be placed on a ten by ten centimetre square and thus we get a ten by ten by ten centimetre cube, that is one litre water. So our cup trick can only work up to ten meter tall cups even with the perfect tub sealing. If a cup were fifteen meter tall, then the water would drop back to only ten meter inside, leaving five meter vacuum above. This is too difficult to demonstrate but luckily, using mercury, we only need a meter long glass tube as cup. Mercury drops always to 760 millimetre and above remains vacuum. This shows that vacuum is really nothing. It doesn't suck and more vacuum sucks not more. It's the outside pressure that gives the false illusion of sucking inward. The same way, cold is an illusion too. Only heat exists that goes towards lower temperatures. So the cold doesn't rush out from the fridge, rather the warmth rushes in. Also, the cold is not coming to our fingers that we sense, rather the heat is leaving and our nerves feel this. Only our brain tells that we felt cold. But our brain can step further and realize that it was wrong. Then it can step further and realize that these corrections are beyond matter like all thought.

The finer details of our arguments show that this nothingness of the vacuum is a tricky thing!

Remember the start of our whole investigations. I explained that gluings actually involve the pressure from outside. That's all very nice to believe but why is it so hard to prove?

The proof is in the pudding but pudding sticks, so hides again.

More important was the surface to surface problem. Perfect surfaces would stick without glue because the outside pressure is huge and yet we don't experience this, I simply blamed the surfaces that they are not perfectly matching. But I also said that a little left space and sucking out some air is perfect because it is self sealing on the perimeter.

Nature likes these continuous balanced situations. Absolutes are impossible by deeper details that always must come about. But the vacuum seemed like an absolute. Above the mercury we have perfect vacuum. Inside the pulled out syringe the bubbles were actually perfect vacuum.

Compared to a surface to surface contact these are not perfect. Indeed between such surfaces we would have nothing. No volume so absolutely nothing. Above the mercury or inside the syringe who knows what can hide. And indeed it hides. The mercury atoms are jumping out from the surface. They usually fall back but the fact that they can jump out is there. So in truth a tiny layer of mercury vapour is above the liquid. In fact, this gradually becomes the vacuum.

There is no sharp vacuum. This must be true not just in space but in time too!

So, the original cup and card trick with full water and the one with some air above, also must melt into each other. First this seems impossible. From no air to air is an impossibility and so, the force transfer from water to cup can neither change into water to air to cup. But actually a tiny layer of vacuum can be itself the transition. This sounds even more contradictory because vacuum has zero pressure and so the water should transmit the big pressure through a zero pressure zone. But that's not true because this tiny layer of vacuum is actually a water vapour with very big pressure.

In fact, if you realize that water itself is compressible, then this is the only reality.

But remember that these continuities still connect very diverging alternatives.

The lowering of the water with some cards and cups while the perfectly sealing situations with the mentioned beer coasters.

The following theoretical continuity of situations is interesting too:

Suppose, we have a p proportional hole on the bottom of the cup. If $p = 0$ we have the normal trick. If $p = 1$ we have a simple open tube and the water should just drop through.

The original logic is obviously only valid at the initial moment because after that, air goes into the cup and things change. But it's interesting to see how this initial moment can be described.

The air's force on the cup from above is now only $T(1-p)$ because the p portion is open.

This p portion instead pushes the card just as the water's weight. So the total force on the card is now $B - W - T p$. But the transferred force to the top, if we assume that only the water does this and not the wall, will be again in $1-p$ portion. So the H holding that again conquers C and the forces on the cup will be:

$$H = C + T(1-p) - (B - W - T p)(1-p) = C + T - T p - B + B p + W - W p + T p - T p^2 = \\ C + T(1-p^2) - B(1-p) + W(1-p).$$

And indeed at $p = 0$ we get $H = C + W$ because $T = B$ while at $p = 1$ we get $H = C$.

The ice has its own problem of continuities.

Obviously, an ice cube in the water should not affect the original trick. But bigger and bigger ice cube means a card lying under the solid ice block. The equalization role is useless here. But the rim role, the tiny lowering is also being interfered. So we will see that the trick sometimes works and sometimes fails. Just as big pots of pudding sometimes stays but sometimes drops.

The avoidance of the card then will bring in a new role for the cylindricalness.

The ice can only stay in such cup! Indeed, if it is not frozen in, rather a tiny water layer is separating it from the cup, then the water layer itself will carry the external pressure into the cup and so the transfer of the bottom pressure to the cup is not true. In the non cylindrical cup the initial fall will spiral out because air enters. A cylindrical cup still can hold the ice because it behaves as a syringe. That's the subjective feel but in truth now the fall is not spiralling out, rather can be counter balanced because air doesn't enter and so a tiny layer of vapour vacuum can hold the ice. Or rather, create a lower pressure than the bottom.

Happy experimentings, and thinking!

If you want to see the miserable state of our world, then go on the net and look up the stupidity about the atmospheric pressure. Thousand after thousand of sites all copying the same false and empty “explanations”. Not even questioning any of the details that I explained above.

From all these amazing clarifications, my favourite is still the simplest, the Chinese lady delicately flapping the fan that has hundreds of kilo force on both sides. Especially if we continue to look at the birds, delicately flapping their wings and fly. What’s going on?

Obviously, the birds use some part of these delicately balanced forces. In other words they delicately unbalance the two sides of their wing pressures. Or are they merely using what the Chinese lady is using, the simple pushing of the air? The reason these questions are so hard to answer, is that nature is mixing up these things too. Air resistance and unbalancing of atmospheric pressures are delicately mixed themselves and remain hidden.

Poor Leonardo was watching the birds day and night and had no clue what’s going on.

But then physicists had no idea either that we could actually fly too, even better than birds.

It was not systematic application of science, rather experimentation that finally allowed flight.

Now, hundred years later a renewed chaos filled up the internet.

A valid criticism of earlier over simplifications that actually hides even deeper deceptions.

So, lets start from the bottom.

Anybody who ever struggled with an umbrella in the wind will tell that it is not merely the wind that changes direction and gets inside umbrella that screws you. The wind above the umbrella is actually sucking it up. Sometimes! Sometimes it pushes it down. Now why is this so surprising? The wind can also pick up the newspapers from the ground. Sometimes! While sometimes it pushes them down. To avoid the obvious third possibility that actually the wind goes under the paper is easy. We glue down the edges of a sheet of paper or rubber. Then we can experiment with a hairdryer. Obviously if we blow a bit downwards then we flatten. When we blow horizontally then we still sometimes flatten but sometimes make a bump that is suck upwards, which of course is a phantom so actually decrease the pressure and the normal bottom pressure pushes up. Most text books lie and declare that there is always a suction. Then they lie even more and claim that this is a well known law of Bernoulli. Bigger speed less pressure. First of all it doesn’t make sense because more air going above should try to expand everywhere and thus downward too. We can of course reason that actually the amount of air is not more or rather it equalizes instantly and only the speeds of the particles are bigger in the wind direction. Then we can even further argue that maybe this extra group speed is not added to the random speeds, rather those random speeds sacrificed a part of them to achieve the extra common group directional. That would explain the reduction of the side kicks. Now comes a totally unrelated thought experiment.

Imagine a narrowing device, commonly called a funnel. One tube goes in the wide opening one into the narrow. Now let a gas or liquid flow into the wide and obviously leave with a much bigger speed through the narrow. What happens to the random kicks? Well, they will bounce into the narrowing and more will get directions forward then backwards. So indeed, exactly happens what we predicted. The group speed is created from the random speeds. The pressure must decrease.

But before we shout “eureka’ we have to realize that this is not our previous situation.

The wind blowing above the newspaper, or above a chimney, or we blowing above a bottle is not an increasing speed of a fix flow between two points, rather an increasing speed in time at a fix point. This shows again that physics is not formulas but their application to specific material conditions. In fact, to say that winds or flows always create a lower pressure is meaningless without telling that “relative to what?”. The wind above the chimney and the fireplace inside the house will only become meaningfully connected if we tell how the creation of the wind and the inside of the house is connected too. That I am not talking bullshit, becomes obvious by realizing that all of these applications are problematic. The paper is not always picked up by the wind, the chimney can blow the smoke back and blowing above a wide bottle will not suck up the liquid.

A perfume spray indeed works by blowing above a tiny tube and thus lifting up the perfume first and then vaporizing it. Of course, actually the outside pressure pushes the perfume up because above the tube the pressure is decreased. But then why doesn't this work for wide tubes? Surface is irrelevant if we know the fix pressures. Because these are not closed systems. Blowing above a wide tube will suck in air from outside and everything changes.

To even start, or try to explain flight, we have to go away from the problem, so we can see the bigger picture. Imagine any flying device without any knowledge of its internal working and try to learn something important about it, keeping that way, that is not analysing it rather placing it into the bigger world that surrounds it. This is possible, in fact that's how physics works. The deepest details of matter are always ignored! In our case the crucial thought is to cut of a big enough but still small box around the flying device relative to the infinity of space. Not to interfere with the flying ability, we imagine that this box is very light but rigid and is attached to the flyer by some also light beams. So we have a super balsa wood frame of a cube attached to rods from the corner towards the centre where a harness is used that we place for example on a pigeon so that it doesn't affect its flying. Finally, we also imagine that the box is closed by gluing thin paper on the surface. As the pigeon flies it would carry the whole surrounding box with it. Now, the big surface means that a big air resistance is encountered but that is not the worst point. The really bad thing is that the whole enclosed air would have to be moved. The pigeon flies in the air using it as a medium. Okay then lets open the front and the back. So, we merely surround the pigeon in its horizontal flight. Using a black cover and imagining other flying mechanisms that can carry arbitrary heavy objects, we get into a slight contradiction. This "black tube" does nothing to the environment. The air that flows in flows out. We don't even do any work. We are not lifting up heavy weights. A book lying on a table is also a static force. The table can keep it there forever. Now, hovering in air for ever, that is avoiding the table is different. It doesn't contradict the conservation of energy but we feel that using the particles of the air to replace rigidity requires some energy. There is no physics of this energy to force conversion but we feel that it is time dependant. The longer we hover the more energy we need. That's the easy part. The much trickier part is that there has to be a space dependence too! Namely vertically. The black tube's bottom and top can not be neutral, completely balanced. The energy we use for hovering might not alter the horizontal particle speeds outside, but we have to alter the vertical ones continually from the ground to the top. Namely, the heavier object hovers, that is the more unbalancing is achieved in the top and bottom particle hits, the stronger this gradual horizontal alteration of the whole atmosphere must be. This simple vision can help you to reject some trivially false explanations of flight. And yet there are counter processes that help to numb your mind and accept false explanations for flight easier.

The first is Newton's first law, that actually introduced his whole vision of forces by saying that if there are no forces at all, then an object actually would fly forever by itself. A stone, or a big super balsa box with a pigeon inside would fly forever once pushed in empty space.

The second counter process to our thought experiment is that we believe in crazy things by subconsciously filling in the holes and make sense. That's what we do in dreams and in legends. The new legends of Hollywood try to smoothen out these missing details too and make the impossible seem possible. The apes and the terminators can think. The fact that we don't detect any internal contradictions in these scenarios is achieved by avoiding the avenues of thinking itself. Thinking further. The much simpler case of flying with contradicting the boundary tube implausibility is achieved by pushing the "solution" way down in our sub conscious. So, just referring to the latest crazy flight I saw in "Cowboys And Aliens", if I ask someone how those solid metal objects flew, then the viewers will split. Some will say that they had an anti gravity device and only some would say that they used the air somehow. Strangely, the tiny wings seemed to indicate this too. Then of course, what was the interaction with air and how far vertically.

But Hollywood shouldn't be blamed! The millions of douche bag business men and business women, who board the airplanes don't care about the details of what really happens either. The fairly big wings suggest them that it is not anti gravity, rather the use of air that matters, but they also feel that these wings not flapping and not being big enough can not be either some simple

copying of the birds. So, they do have a gaping whole in their understanding but they don't care. They rather make money.

In my song I wrote:

Vinci's out the cinema, going home for enema, constipated from his codes.

He looks up the sky where all the airplanes fly. How the hell they do that, no one cares.

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

Well, Newton was at least angry and even reluctant. Not only to put in the picture of his canon but even to publish his whole book. He knew that things will be misunderstood.

And yet he was wrong! You must tell what you think! You must rethink what you want to tell!

The good news is that there exists Didactics and the even better news is that:

Everything in physics can be understood without math! More exactly, without the formulas or equations. This at once reveals most of the old airplane explanations as lying manipulations. They used the Bernoulli law that higher speed means smaller pressure to jump through everything else.

As I explained with the funnel, the narrowing of a stream is stealing from the random speeds to create the group speed, so it is a totally plausible and trivial fact that the pressure becomes smaller in the outflow, in the faster stream. But this is not usable for an airplane wing even if you can show that above the wing the airflow is faster than under. Then the showing of this itself can be faulty and maybe it might even be not true at all. So, lies double lies, triple lies and deceptions were used from the start. But now a decade ago, these old explanations were finally questioned by more and more new authorities. These new professionals admitted on one hand that airplane flight is much more complicated than the Bernoulli Law but said "trust us" we know the real explanations perfectly and they involve vortexes, complex streams around the wing. The real importance is not the upper speed being bigger, rather the "angle of attack". This new buzz word entered. In truth, some simple old lies became replaced by a lot of complicated new ones. The reason why this is so, is very simple. They never destroyed the fundamental parts of the old lies.

I only found one article on the net from the thousands that said out the only sanity that is fix and unquestionable. What is this fix point? That assuming we don't use anti gravity in our flights, the only force that can keep an airplane up must come from the molecular hits being more on the bottom than on the top. This is true even with the basic duality of the air pressures. That is for the force we feel at flapping a fan and also for the yet mysterious unbalancing of the two huge forces on the fan that nature keeps hidden.

If you drop a stone, it should encounter more hits from the bottom because it runs into more air. If the compression of the air under the stone is shown to be minimal or if we can show that even this minimal compression is irrelevant because the individual speeds decrease in compression, then this air resistance is even more complicated. So, not just the hidden balanced forces of the atmospheric pressure are mysterious but the seemingly obvious flappings of wings, air screw or a propeller carving itself in the air are also complex. Of course, we all see the dry leaves or a sheet of paper falling slowly and so we assume this air resistance as obvious. But it is not. And yet there is a certain simplification but even this has a twist, a paradox.

Whether the falling stone or leaf will encounter more air right under itself or not is not important. If the air under is practically not compressed then that air will have to move the air beneath itself. So the end result is that more and more air molecules are moved as group. Now comes the paradox because by a stupid and false application of Bernoulli we then could imply a decrease in pressure and so actually less force from the bottom. But this is not true because we give the group speed and not create it by a narrowing. This slowing down because we give group speed to newer and newer molecules is limited. The crucial first thing to see is that the already sped molecules under us will not slow us down. This is Newton's mentioned introductory first law. The speed of those already sped up parts would remain naturally so and thus will not slow us more. We need more and more new victims to bump into. But they go sideways. So the air resistance has a limit and then we just go faster and faster due to the accumulated speed, increased by gravity. Then a totally new effect becomes more important. Namely, that the falling body and the air pushed in front of it gets the accumulated hits. But the hitting ones go away. This is how friction heats up

the body and it burns. We don't see this with falling leaves and papers but we surely see it with stuff coming from space. Luckily, they never reach us because of this burn up process.

Here, the slow down part by giving speed to newer and newer particles was limited but an opposite directional application where we use it not to slow down rather speed up in opposite direction, is unlimited. Indeed, we go the other direction and so we can give speed away regardless the confronted new particles. Of course, if we are not using our own speed then what can we use to give speed to the particles? We can imagine little fairies attached to our flying machine who will hit the particles outside with their tiny paddles and thus we will go faster and faster. Okay, so we discovered how rowing works. In water, the big difference is that the paddle moves almost hardly any water backwards. We can see that the reason of this is not that the river is like solid body, rather that water is heavy and a paddle of water has enough mass to propel us. So, it's not just giving away speeds that counts but giving it to more massive parts.

The combination that is the product of mass and speed is the momentum. This is what really propels us. The impracticality of using air particles to propel us because they are not massive enough, leads to the most amazing idea that goes back to the purest form of Newton's mechanic and also to the purest form of flying. Indeed, if the air is so useless then why don't we carry with ourselves our own particles that we will throw out? In water, this idea would mean that instead of using the paddle to push the water, we simply throw away the paddle. Well, it will move us but then what do we throw next. If instead we cut the paddle into pieces and throw them with much bigger speeds then the same paddle can get us further. As stupid as this sounds in water, this same idea is perfect in air or even in empty space. Voila, we have the rocket principle. The principle that Verne missed not only as a better, or practically the only way to get to the moon, but that would have shown his false views about weightlessness too.

The perfection of the rocket principle and the uselessness of the air particles to be sped means that when we see the space rockets spewing out their fire and slowly lifting up, then we shouldn't imagine that somehow this fire is moving the rocket by pushing against the air. The air is irrelevant! This same rocket would lift on the moon too. It is pushing against the spewed out particles themselves. It uses its own particles to burn and thus be thrown out. And this seems to work perfectly, making us believe that the huge speed we use, opens up the sky. But this is not so. It's hard to increase the speed of fire and so instead we must burn large enough mass. By the time the rocket goes up just few kilometres it has to burn a considerable portion of its initial fuel.

Once the gravitation is conquered, the new speed ups are easier and easier. Then in empty space where we just need to waste our mass to go faster and faster, it is the big distances to other stars that lead to the limits of our rocket fuels. They are useless to go far enough in human times.

But this is just an interesting human factor. In theory, the rocket principle is pure and perfect.

So, lets see how this obeys the earlier mentioned surrounding principle. The tube is clearly irrelevant here and for a second we might think that complete boxing would be possible too. But this not so. The rocket principle involves the whole universe! No matter how big box we use, the thrown out particles will bump into the back wall and slow us down.

Our more restrictive vertical dependence of flight in the atmosphere, doesn't mean that a localized description of the pigeon or airplane flight is impossible, but it tells that such local description must involve the whole vertical direction. This is strange because earlier we saw that the simple air resistance is limited. Pushing down air against the air is useless. It will go into the rocket principle. And yet a smooth gliding without vertical disturbance is also impossible.

And indeed, airplanes move a lot of air vertically and this is finally emphasized by the new descriptions correctly. But this is not explaining the lift force yet. In fact, can lead to misconceptions. The air moved down is not causing air push and not enough for rocket principle. The lift force remains what it has always been, the "simple" unbalancing of the upper and lower particle hits. The vertical air movements are side tricks. But this is a very good news! This means that the douche bag first class airplane passengers have no excuse not to understand how we fly. Everybody can and should understand flight.

It is simply caused by the huge atmospheric pressures that are almost always hidden and balanced.

Yet, in motions can very complicatedly, become unbalanced. Just a few per cent more molecular hits from one side means huge side forces. So the spinning balls that curve, simply get more molecular hits from one side just as the airplanes get more from the bottom.

Seeing this is understanding. Not seeing this and blubber about abstract details is simple stupidity.

Seeing this but not telling this, rather blubber about details is a more complex stupidity.

Understanding in general, has this black and white feature. It is always perfect and total.

We can't know everything! That's the self defence of the ignorants. Unfortunately, those who know a lot do not understand also a lot of even more important things. These new flight gurus explicitly say in their over complicated internet "bibles" that: "It is not particles any more, rather streams and vortexes." Well you are wrong!!!

Flight was and always will be about particles. Molecular hits are keeping us in the air. Vortexes and streams are only abstract tools to derive the hit unbalancings.

The worst thing is that once somebody has an agenda, a mission and wants to tell abstract details before the simpler concrete facts, then a whole "stream" of lies follow. The abstract details turn into abstract lies.

The old basic claim, that a wind, a flow is a lower pressure due to Bernoulli, therefore it wants to suck, is a triple lie. Firstly, Bernoulli is about points of a flow. Before the funnel after the funnel. Secondly there is no suction. Some outer pressure must push. Thirdly, it is not even true that a flow always sucks in the surrounding. The wind does not always pick up the newspaper.

But new confusions and lies entered the scene too.

Blowing onto a soft drink can, we separate the flow but behind it usually the flow will again combine. A natural explanation is that the flow, that sucks but can not move the rigid surface, will instead itself be sucked, that is the flow will bend along the surface. As I said this suction is not a precise concept and not even universally true. Strong enough flow will not bend.

This bending to surfaces became a fashionable key word as the Coanda effect. Of course, getting patents does not mean that someone discovered a true original principle. The good side of it is that at least they don't use Bernoulli falsely, but this "anaconda" became an even worse snake.

First they said that this is the true cause of flying because only this explains why the upper stream follows the curving of the wing. And of course they still called in the ghost of Bernoulli. Then they even claimed that the water pouring along a bottle or along a spoon, or sucking in the spoon are this same effect too. Others who realized that this is insane because a flat surface keeps the running water to itself too, shouted: "No, these are merely surface tensions."

The fundamental fact that hundreds of kilos are pushing the water flowing from the tap too, is completely forgotten. The miraculous balancing of nature is easy to reveal by the mentioned experiments like the cup and card but we have to keep thinking this way. Of course, these internet cowboys are just parroting each other. They don't talk about how to see and most of them don't even see. This of course is hard to prove but it becomes apparent from what they don't talk about. The simple questions they don't ask. Like the role of the card. As I explained, this is complex because the water breaks complicatedly. But always! Proving the simple molecular picture.

A water flowing from the tap replaces itself, and thus we don't have the same breaking chain reaction. So, this flow bending to the spoon is simply the atmospheric pressure pushing the water to the spoon because there is no gap and thus from the spoon there is no balancing pressure. Increasing the angle, but keeping the flow speed, the break up appears again. But experiment! Alter the flow speed, use a cellophane tube around the water and you'll see what happens.

The whole point of these detours into physics are the two didactical points:

Both the tides and the atmospheric pressure are directly visible trivialities.

Since gravity is decreasing with distance, any object under gravity will have different gravitational forces experienced by its parts. The ones closer to the external source of gravity will feel bigger, the ones farther will feel smaller. Usually, these gravitational tensions within a body are so small that the body easily conquers it by its rigidity. If the body is big and has soft parts then these will obey the tension and become elongated. The rest is obvious. The oceans bump up, the magma too.

Falling into a black hole even rigidity is conquered and the objects are pulled apart by these tidal forces.

The weight of our atmosphere is big and it compresses air itself. This pressure is actually the hits received from the air particles. Though they are random, they perfectly equalize due to the huge numbers of particles involved. In theory, randomness means that it has a chance that all air particles would go from one room to the other that is equalization would fail, but the low chance of such significant inequalities are beyond astronomical. So, these could never be encountered even in cosmic times. Even the shapes and crevices of objects are used to equalize the total forces to be zero. This is only true for standing situations. If the air or the object moves then minute inequalities will come about and stay continually so. This has to do with these speeds interrelating with the random particle speeds. The end result is that the random hits from the different sides are not equalizing and so the atmospheric pressure will reveal itself. This is the main cause of bird and airplane flight. These flight situations lead to call this force as lift, though sometimes it is sideways like for a spin ball that causes the curving of the path. This lift force was not recognized for long because there are more obvious forms of pressure differences that covered our attentions. One is air resistance where we simply bump into the particles and they reduce our speed. Used in a trickier way like by an air screw we can use this to move forward. The other is buoyancy. This means that an object has bigger pressure at its bottom because it has more air above in the atmosphere. Of course for a brick, the bottom is only a few centimetres lower, so this buoyancy force from the bottom is minute. For a balloon, it is enough to lift it up. In these old fashioned flying devices it is still the particle hits that move us but in the lift force we can not clearly see what particles are actually taking part in the hit changes. A totally false picture would be to think that only the ones at the surface of the body, but how far they are involved is hard to see.

Not all understandings boils down to simple visible realities like these two phenomena.

This makes it even more criminal to hide or over complicate these two.

To act in certain circumstances always brings about an understanding of what we do.

A shoemaker feels how he has to bend the leather. These particular abilities are still melting into the universal humanly learnable abilities. Plus these abilities always interrelate.

Some abilities involve not merely the infinity of continuous circumstances like softness of leathers for the shoemaker, rather black and white infinity of symbolized situations.

Simplest two such abilities are literacy and numeracy. In theory, we can operate an infinity of symbol combinations.

To see how mystical these abilities are, the famous situation of an Indian can be regarded.

A missionary learning that the Indian has two brothers, writes this on a paper and sends the Indian with the paper to a fellow missionary. He looks at the paper and says "so you have two brothers".

The Indian thinks that these missionaries have supernatural powers.

The Indian was already thinking so he possessed supernatural powers already.

No animal can learn such infinite abilities and the appearance for humans is spontaneous.

A child after learning the elementary rules of chess will instantly be able to play on any board.

This is more important and bigger jump than to become a chess champion.

An animal can never transfer a rule system to different realities.

We humans possess infinity as a universal potential possibility applied to all different abilities.

So the learnt abilities are crucial. After literacy and numeracy we should continue to learn more but the social system of our culture intentionally stops the spreading of these abilities. The goal is to create a race of literate and counting animals. The pretence is the importance of education. But in truth, it is regarded merely as a road to social success, namely advantage and not understanding.

The strive to understand still awakens in many and they try to learn.

Since the successful methods of understanding are not rewarded and accumulated, the only way to understand is to learn the abstract and make it our own by self alteration.

The recognition that society is a lying system occurs in everybody at some level.

The generational rebellion at puberty is the most typical example.

The recognition that understanding is a taboo is very rare. Most who learn the abstract forms and never turn them into understandings will not get into conflicts. Even those who know that their understandings are totally different from the learnable abstract forms, will accept that the transition to understanding is a private matter and the abstract forms are sufficient as social form.

I showed that physics and mathematics has a peculiar relationship.

The mathematical part of physics, the equations and formulas are a totally narrow skeleton that don't provide even a minimal understanding, in fact lead to total confusions. And yet they provide the measurable and thus final verifyabilities. Within mathematics the situation is even worse.

These absolutely black and white and irrefutable lines are the Didactical or rational road for an awakening from the spell of society. But as I said, a certain rebellion is natural without any of these, in almost everybody. Now the really sad or shocking fact is that this short or narrow natural road for awakening is usually closes by itself. Then everything else will burry it even more!

The good news is that this natural anti social sentiment is still superior in its quality over the meticulously rational road of Didactics. Now you might say that if this natural stuff is always lost and fails, then what difference does it make whether it is so superior in its qualities or not.

This is indeed the console of the future, A very distant future. But this is where being an idealist becomes important. The final proof of idealism is in the future when intelligence will reveal itself directly, but this spark of idealism being in each of us right now will stay continually. So the disfunctionality of society accepted as the bitter and temporary loss of humanity is the continuous guide to relate to others. So the Didactical eye that I was born with, will now combine with a moral code and thus can create a solid and accumulating movement. Thus, the underlying idealism itself is not a doctrine, not a religion. It remains free. God, soul, after life and all the things that you would like to hear about, will be revealed by itself. This is so, because you are hypnotized and so you don't really want to hear about these yet. The first step is to be un hypnotized, dissocialize.

So the final picture is very simple.

My four pillars are: mathematics, idealism, didactics and dissocialization.

This last is what I will explain from now on.

Socialization is unavoidable for human intelligence. Let the children watch as much TV as they want. In fact, the more they watch they become easier detached by themselves later.

The noise doesn't hypnotize us only the underlying message and that is unavoidable even if you try to be a puritan. The really crucial question is this:

Can you wake up from the dream by yourself, or you need a chemical like LSD?

Thousands woke up by the help of LSD, who were completely deluded by their lives.

This is a simple historical fact, that probably history itself will fade into some empty data.

As it is also probably depicted by the Wikipedia articles. Not because Wkipedia is against LSD. But simply because Wikipedia is materialist and so the part of spirit is not recognized.

Now comes the really surprising part:

The role of LSD in those awakenings was particular. To put it even more surprisingly, that age had made the role of LSD perfect and unavoidable. The fact that the awakenings were from their lives makes some connection possible but then we can still go back to the original question whether chemicals in general are needed. Then the answer is more logical as the periodic necessity of chemicals or other material brain influencing methods.

The present is a sensory overload. LSD can not work today to short circuit the social lies, simply because LSD is not a universal method of mirroring the lies. Or to go just a bit deeper, what the mirroring the LSD did then, is already built into the lie system of today.

Why it was so perfect for the hippy era is a question way above our level.

But we have to at least peel of the lies from what happened then in general.

Timothy Leary is mentioned as the guru of LSD and then "cosmic consciousness", "social tension of the Vietnam War", "turn on, tune in drop out" and a cocktail of other slogans are served to us.

Or some theories of consciousness is sketched as scientific background.

So the primal and eternal chain why Socrates was forced to drink the poison cup, why Jesus was crucified, why Nixon regarded Leary the most dangerous man in America is missing.

Socrates messed with the business of Athens by widening the natural young rebellings against the fathers into a better life style, new reality. That was real rebellion. Just as Jesus rejecting the rebels to work with them against the Romans and instead showing a deeper slavery he became the real Rebel. But Leary had to go much deeper. Not intellectually, but simply in seeing through the lies. His speech at the yearly Psychoanalytic congress just before he turned on, is a shocking contrast to what he became in few months. Instantly, just by the grace of LSD. Albert Hoffman the discoverer of LSD saw the light too, without becoming a guru.

The guru role was merely the admitting of the mistakes. You see the light and you admit your own lies. The catch phrases are merely to depict what you see. So, “turn on, tune in, drop out” is really just one message. If you don’t “turn on” it’s irrelevant anyway. “Tuning in” is just to say that you’re not alone, others feel the same. Finally, “drop out” is not an order because if you feel differently nobody will force you.

The simple message is that social roles are lies and you can see this at once.

You will not convince the Nixons that they are liars neither the dozens of TV hosts that interviewed Leary while being turned on.

The final word “drop out” is even better emphasized by the phrase he used for this new visible evil behind society, the “establishment”.

It’s perfect. Non political, non governmental or private, socialist or capitalist. It’s a soft power above your mind, that is harder to break out from than any prison. The place, the freest country of the world of course puts the whole thing in prospect. Those who regarded communism as the direct imprisonment of people could not even conceive that there is a deeper prison. Just as the rebels against the Romans couldn’t understand what can be more important than fighting the trivial enemy.

So, only a few really saw the devil. Some just saw the colours, some just heard the music, some just became approached by animals as never before. And these are all okay!

I wrote a song after my first trip that has the lines:

I thought I let myself go away and let my room awake.
 All the things I owned, started laughing at my thoughts.
 I thought I have nothing to loose and I stepped outside barefoot.
 As my skin has touched the ground one more soul was saved in town.

Nowhere a word about society! Yes that’s why art is deceptive.

The existence of art is the clearest proof of the spirit, especially for the artist itself.

But very few artists admit that they become mediums and the spirit is simply coming through.

That’s the basic deception by the artist itself. The deception by the spirit is not the artist’s fault.

Then the two combine and allows that the lies become vibrant, spiritfull and yet hypnotic.

Consumption of foods, appealing to our taste buds and possession of objects are the primal delusional satisfactions starting in childhood. The secondary are abstract learning and hypnotizing entertainment. These actually reveal to us that the primary motivations are false and the secondary are inconsistent, contradictory. The “shake up” is happening in puberty. That’s the natural rebellion against society but it always ends with even deeper lies. The late maturing of erotics can be “explained” by simply biology that is identifying with sex urge but music and humour, maturing at he same time are already a sign of a mystery.

But the real mystery is the fourth, Money consciousness.

These four, sex, music, humour and money are new motivations. Known delusions and yet the need of their continuous realization are deeper traps than anything before. Society uses this to hypnotize us further. Namely, to make us actively step into the arena, become players in the bigger adult games.

These are not new features. The Roman’s “circus and bread” meant the full picture already.

Just as then it had the pejorative tone, today too we try to wiggle our way out from the lowest common denominator by collecting books, selecting the films we watch, the music we listen to.

We call the entertainment culture and the consumption as being civilized. These escape arguments can work because art and science truly infiltrated the social deception.

The hippy era was a last recognition that culture and civilization is poisoned.

The idea of a “counter culture” was formed and the falsity of “selling out” too.

But these lost their meanings because a deeper cynicism became part of the picture.

The cynicism was always there behind the four factors that sugar coat the rotten world.

Sex, music, humour and money. They merely escalated quantitatively. Sex became more external less situative, so moving toward purely visual erotics to validate real sex as real.

Music is the most strikingly revolutionized spiritual yet material motivator.

It became the most delicately hiding the other two sex and humour.

While humour became more abstract, to accommodate the false intellectuality.

Money became globalization.

Sex, music and humour are directly spiritual entities. So, we have these deep partners in crime that can hypnotize us easily. The “serious” business of legitimizing the money deception is left to the people I call the “New Economic Demagogues”. The fundamental lie that these demagogues use is the unquestioned acceptance of the “Market Base”.

The “True Base” of any social philosophy should start from happiness as the goal of human existence. Then it may jump and declare family, security, learning, blah, blah, blah, but still wouldn’t jump to accept the modern consumption based economic system as base.

But most amazingly, these social reflections disappeared by today. The spreading of the “Market Base” as reality wiped out everything else as irrelevant, artificial or straight out ridiculous.

Capitalism of course is based on markets and so automatically on the lowest common denominator or simply the “circus and bread”. But the fact that social concern doesn’t start at the bottom, rather accepts that whatever a free production system can tempt the masses, should be the standard, is quite unbelievable! This means that these economic think tank morons are not even contemplating the possibility that a self regulating system could be self contradictory, that is doomed from the start. They try to improve or better the system, to tinker with it, but refuse to contemplate its base. So, to put it quite simply:

Lets give the people whatever they want but we are worried that some parts of the world or some sections of societies are in economic troubles and can not get enough of the crap they want.

Behind this stupidity lies an actual elitism. I am better than the average. I want real art, good books, healthy home, healthy food but I can not dictate what people should desire. Let them grow to the same level as I am slowly. But why is a “healthy” consumption so impossible for all when innovation is continually increasing the productivity? Some “worriers” do mention the limitations of resources and population problem. But not connecting it to a meaningful consumption, makes this even more immoral. We can not support so many useless consumptions, so we should be less.

A perfect example of the economic demagoguiness was Moyo’s argument against Bono.

Bono did not regard any economic points, merely felt bad that millions die of hunger in Africa.

I am sure Bono consumes a lot of unnecessary crap and maybe this helped his conscience too.

Dambisa Moyo is an African born economist who is regarding the aids as a deterrent to real development and instead suggests to help entrepreneurs. So, let free capitalism go in and do its “magic”. But this is not the end of it. She is also the author of a book “How The West Was Lost”.

This “garbage” tries to convince poor America that they shouldn’t give up, rather reclaim their deserved place by increasing innovation. Statistics are brought in to show how western education levels declined relative to the new Asian countries and it’s all just self esteem and will power that is needed. Of course, education was always bad and is still bad everywhere in the world. What can we expect in a world where education as such, the transmitting of knowledge is not even part of education itself. From the start to the very top. Elementary schools are already promote individualism. Teachers are not taught how to teach, rather learn stuff that they will never encounter. Then at the highest level, the Nobel prizes value peace efforts but not potential educational breakthroughs. The lie goes from the bottom to the very top.

Can somebody be that blind not to see that the problem is not the wasted aids rather the thieves who steal it. The same thieves are lurking behind free market capitalism, the institutionalized Academies, Media, Politics or lets just put it as it is, behind all “establishment”.

Before I continue to dissect these demagogues and really show what a deceptive yet straight out liars they are, I want to come to a personal detour. As I said, I want to be honest and reveal my personal struggle as much as possible. And right now some deeply emotional stuff happened.

I sent the article up to this part to my older brother Peter. I told him about the educational points before on the phone and he was keen on seeing these. So, he pretty much jumped into the “cup and card” trick part. Few days later I called him up again on skype and to my shock he didn’t see the crucial difference in how I explained the trick and how others. In fact, he repeated the idiotic cancellation of the atmospheric pressure from above and under. Of course, the whole point is that they don’t cancel out physically, only when the cup is under. When the cup is upside down then there has to be an external extra force from which we can subtract. Mathematically, the two situations are the same if we freely regard the quantities as an equation. The total force has to be zero. But I clearly explained that the form $T - (B - W) = W$ is the misleading but also revealing essence. These two subtractions are not merely mathematical operations but hide the English narration that follows the actual forces from the card to the cup. The force we have to push the cup up, to equalize the two big forces on the cup, is the same as the weight of the water. But we are not holding the water at all. I even explained that this is the general case. Formulas, equations mean almost nothing and physics is a mystery. Only plausible understandings make sense of it but these are not formalized at all. Now, this is an earth shattering news. It reveals not only why the understanding of physics is so difficult, but much more importantly how the understanding is avoided in schools. This is very important here that I used the word “how”. These physical examples that I explain in this article are all individual “how”-s. Not the “why”.

The “why” can not be understood from showing how these individual simple truths are covered up. In fact, it makes it more puzzling. After all, if it’s that simple then why can’t they do it right.

Of course, the philosophical parts, my whole anti social attitude is explaining the big conspiracy of society against understanding or in even wider sense, the conspiracy of matter against spirit.

Back to the personal facts, I at once asked my son Daniel, to read also the “cup and card” section and he struggled too. First of all, he made some suggestions to make clearer the point but these were minor changes. The fact remained that the whole importance of how the false formal explanations avoid the understanding was missed. When I showed him physical subjects earlier it surprised me how clearly and correctly his intuitions work. And now I saw it again! Merely, the whole thing is irrelevant to him. He simply doesn’t care! He emphasized this quite explicitly too. The whole world is fucked up, idiots rule the scene and nobody will care about your deep truths.

I never forced him to learn math or physics. In elementary school I showed him how to solve equations and word problems and he was reluctant to help even his classmates.

I allowed him to watch any films he wanted and he turned to this direction. Now he has his masters degree in film but is looking for any jobs he can find. He has a perfect eye! Sees the lies, hates the manipulative patronizing blockbusters of Hollywood. But much deeper too, he sees the lies on TV, in the politicians and quite simply in the whole “establishment”. I always wonder where this will end. Will he become a douche bag, a sell out even though he never even made it to come to sell out? Some weird coincidences happen always and gets him fail even the minimal social success. Is this a subconscious self defence to avoid conforming with stupidity? Or just his weakness, and in truth he would be very happy to conform. I can see him becoming part of a team or some film project that is totally opposite to his views but still making him happy to be part of it. Or is his strong and very accurate criticism really that deep that it goes into his cells and steers his “failures”? Sometimes I wish for this, sometimes for the other.

A loving father should want social success for his son! This is the stupidest and most mediocre slogan and yet somehow I feel part of it being true for me too.

At the same time his cynical rejection of any grand and serious consideration about the world fills me with hate. So, I hate his generation! I know that his generation is a victim, so I know I should

feel sorry for them. And this is complicated when I regard him who was given the opportunity to see how much actual truth lies in those grand and serious considerations.

So, when I see him travelling with me “I phone numbed” on the bus and missing not just the reality of looking out and hearing the noises but talking to me, then I am in despair. A new app can excite him. A new film, a new information about films or stupid bands is important enough to search the net. But my articles are a “chore”.

Things complicated even more because this year after I returned from Europe something changed in me too. In fact, the change started before I even flew into Hungary, at the Helsinki airport.

So, the month that I spent there was actually a total crystallization of a simple seed.

This is almost unexplainable because it was realizing things that were not obtained, rather freed from the spell of my own stupidity. The two crucial factors were that I have to return to Europe and I have to express my big message about the social lies artistically, namely by films first.

When this became clear then the coincidence that Danny is a film director, was so natural that consciously I didn't even notice it. So when it finally became conscious, I didn't even contemplate that Danny could fail even in this and not regard it as fate. But this became the truth.

His disbelief grew like a cancer and now he carries not just the burden of me being his father but the burden of missing the only way out. This realization that he actually is unable to believe even when there is no serious commitment required to act, came only a month ago. I had to deduce the only possible consequence that then this disbelief is actually a destructive force. So the cynicism “escape clause” is bullshit. He doesn't want to believe. This is the only clear meaning. Because he sees all he has to see and the belief as an abstract hidden force makes no sense.

If you want to cross the river and you see the bridge then you might be weak to walk but if they give you a donkey and you still say “I don't know”, then you simply have a force that wants you to stay on this side.

And there is a simple alternative interpretation of this big black hole. Not to do the right thing when it is offered to you on a silver platter. Namely, that this growing disbelief, avoidance of doing the minimal right action is actually the intentional creation of a future bad situation.

He needs a manipulating wife, a stupid but well paying job and laughing friends who tell him what he likes to hear. He hates all these but he still needs them.

The proof of this sad scenario is watching the details and seeing how he gradually accommodates all the elements. Not awakened by the signs, the manipulation of the girlfriend, a meaningless job, the laughing friends. Rather becoming more and more hypnotized by these. So, the non action against the things that we “hate” in theory, is actually a wanting of those.

In the end of course, some inventory is made and the self pity, the self hate, the aggression, the irrational blames will kick in. Or maybe that post-inventory state is the real purpose?

Right now he is in weekly cycles of new “most important” things to do! First new skins for his I phone, then starting to skate board. Today he spent twelve hours out, to become “better”.

I am beyond the personal pain of seeing all these in my son. They are just guides to watch out for the same black holes in others and sail as far from them as possible.

The live updating of this article is now becoming even more interesting!

I realized that my brother Peter simply had a problem with English. He jumped over parts and that is unacceptable in scientific matters. But most importantly I was a total idiot because I should have realized the truth. I speak fairly well German and yet a German math or physics article just as well could be in Chinese for me.

So I sent him Hungarian versions of the cup and card trick and everything became clear.

Even more amazingly, he draw my attention to a major error in my whole elementary explanation. Namely, the card is transferring its force not just to the water but to the cup's rim directly too. Of course, they both go up to the bottom of the cup but that's even more reason to take care of this factor. I fixed up this already as you could have seen it.

He made an other very interesting remark in our phone conversation when I tried to sketch him the new amazing complexity of the lift force. I mentioned that the primitive molecular vision of the air as billiard balls is obviously false because we have four transferences. Namely, the actual motion of the particles from one place to an other thus equalizing density. The probably even

faster transference of pressure. The very slow transference of temperature. And the most mysterious waves of pressures, we simply call sound. Then he mentioned that the individuality of the particles is an interesting question itself and the slow transference of odour is related to that. This was even more important to me because it proved again what I realized repeatedly since my last visit to Hungary this year. Namely, that I had a completely false character picture of Peter. I thought he lacked abstraction just because he was a practical person, an electric engineer and had a lot of problem with math at uni. The truth is exactly the opposite! He is too easily jumping to abstractions and these new didactical points were pushing him toward seeing that abstraction can be dangerous. I mentioned above that my son Daniel has a very good scientific nose and feels missing points in explanations at once. His abstraction ability is much less than Peter's which is evident from his affinity toward films too. But what I noticed is that this lack of abstraction has a relation to his cynicism. Not the humour side of it which is very abstract rather the unimportance of the truth. These categories are difficult because probably some much deeper points are missed. In my Hungarian e-mail to Peter, after the physical parts I tried to progress to the bigger points and I explicitly wrote him that I only be happy when he'll see that the world is in a war. The sixties was the last time the "war" against society was declared. But this is not the war that I meant. Now the war is against humanity by the new demagogues. The "new" means that these are not the old conservative, trivially selfish and lying characters. These new demagogues are "well intentioned" seemingly leftist blind idiots. Like Moyo, Oprah, Bill Gates. The root is the "delusion of adequacy" being afraid to ask the big questions and therefore denying the trivial lies around them. Justified by being practical or pragmatic but simply accepting the status quo of absurdities.