



**- Abstract -**

## **The Physics of Theology**

**or**

**How the world was created**

**on negative entropy**

**- the opposite of energy -**

**From net consumer to net producer and back again in the consciousness of mind**

Man is a creature, not a creator;  
Gravity creates Order out of Chaos,  
keeping us alive.

Thus the formula for entropy may have been wrong for 150years,  
and we may have been paddling up the wrong creek in modern society.

None of this is factually unknown.

But has it been seen in context?

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**A Journey to the Beginning of the World**

***I tremble before the cosmos no more than a fish trembles before the tides***

- Terry & Renny Russel, "On the Loose", Sierra Club, 1966

All is connected.

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This is now the Holy Grail:

For I can name the source of life, the reason for unstoppable development into ever more higher forms of complexity; and I can pinpoint the exact location of the eternal fountain of youth, that maintains, and constantly renews, everything in existence; all the while driving the development of the universe relentlessly onward.

They are one and the same.  
 Its location is: everywhere.  
 And we call it "Gravity".

## ***When the universe began***

it was a structureless gassy cloud composed of one or very few elements - and it is irrelevant to the following observations if this was a singular process (a big bang) or perhaps is a continuous one.

This cloud contracted locally, forming stars; in these, about a hundred new and different elements which are known to us were formed; and when these stars burst, they strewed their contents into space as clouds of "stardust" with the consistency of cigarette smoke.

These clouds of new matter then condensed into glowing, liquid planets, on which molecules were formed, from the elements old and new; then, at least on one, organic molecules, then life, then conscious life.

To exist, that life depends on an external source of energy - and a drain for it.

So far, so mundane. But there is infinitely much more to it than, at first glance, meets the eye - and possibly more than to ever to be understood by the limited human mind; as this is not the duty of the universe to be so.

Superficially, the force that still causes interstellar clouds to contract into stellar objects is known by the name of "gravity"; it is an unalterable property of matter itself; wherever there is matter, there is its mutual attraction.

That is all - and that is all that is needed - to bring the universe into the form we today observe.

For gravity is not only the force responsible for the creation of new elements and molecules by the sheer pressure created by matter attracting itself, but also for the energy created by this pressure - more exactly, the energy created by the movement of matter, which is NOT accelerated by the application of energy; a prohibited impossibility in thermodynamics.

The very same energy that then sustains that life which, through the working of the force of gravity alone, matter has created from itself.

And this is the aspect so often overlooked:

While it is almost undisputed that gravity transforms first matter through a thermo*nuclear* process, then through a thermo*dynamic* process (the result of the first transformation could be called different forms of *matter*, of the second different types of *material*), the common feature of both these processes is heat, or energy, which was created out of nothing, thus violating the sacred laws of thermodynamics, which state that no body can ever heat itself up by cooling the surroundings.

But gravitational collapse arguably does just that, causing a galactic cloud of dust and gas to heat up by thermodynamic contraction and concentrating this ever-increasing heat in its center, leaving the surrounding, formerly matter-filled, now empty space at a temperature at or near absolute zero.

Indeed, clouds of hydrogen gas are still contracting into stars; it is said that these are the third generation, therefore each lasting around four to five billion Earth years, as measured by the current length of orbits of the Earth around its central star.

The point to make is that the laws of thermodynamics naturally apply **only** to thermodynamics, and though the *results* of a gravitational collapse are, indeed, thermodynamic, its *process* is not. For instance, Einstein's Formula of  $E = mc^2$  clearly states that in a thermonuclear process, the conservation of energy or matter does not apply; a prerequisite of all mechanical, thermodynamic processes.

Gravitational processes themselves are not subject to the laws of thermodynamics; in fact, they oppose or counteract them.

As a rule, every expression of the laws governing thermodynamics has to be negated to describe a gravitational process; gravitational processes *complement* thermodynamic processes, and - this is important - *precede* them: without gravity, there would be no thermodynamics, as the energy and - this is equally important - the so-called "negative entropy" (*there is no such thing!*), needed to incite a **thermodynamic** process, must have before been created in a **gravitational** one.

Without gravity, there is no energy, and no potential; therefore no thermodynamics, and therefore no life.

In fact, no universe, as we know it. Thermodynamics, according to their own laws, cannot spontaneously come into being; while gravity, being a property of matter, needs no other prerequisite to exert a force on it, and thus create dynamics - which then leads to new thermal conditions.

## Two separate systems

There exist **two** separate systems at work in the universe, the *gravitational* and the *thermodynamic* one; both are intertwined, but reciprocally complementary, with opposing laws; crucially, a gravitational process always precedes - and results in - a thermodynamic one.

Gravitational processes took place before the event of life, and would take place without it; in fact, life is the result of thirteen and a half billion Earth years of the force of gravity transforming the very matter it is a property of; as where there is matter, there inescapably is gravity.

We must abstract from seeing things under the singular, and very anthropocentric, aspect of conscious life; if the universe would exist without life, and it would look **no different**.

Life is not necessary for the universe to exist; but the universe is necessary for life to exist. So, why does it?

**Life on Earth** is a product of the universe in its present age and form, just like everything else it contains; and therefore a self- created product of matter and its property of gravity. And as the material composition of the universe is comparable throughout, and gravity is universal, life, in consequence, is bound to be universal as well.

Indeed, we should not restrict our reception of creation to the wonder of **life**, as the universe, all in all, is so much greater; but if we do consider it, we should at least entertain the thought that life is **not** a *completely random happenstance* on a *singular planet*, or even something *that defies the laws of probability and nature*, thus putting it somehow at fault for existing; but, quite to the contrary, **the inevitable consequence** of thirteen and a half billion years of the matter of the universe constantly re- forming itself, through its very own property of gravity, and therefore most probably *universally in existence* - though the distances in time and space may prevent its communication.

## Negative entropy

Life is neither random, nor is it important for the understanding of the universe and its creation.

The universe formed *itself*, and life is but the latest and local expression of the **current stage of in- formation** on this planet; which itself is neither the *rule*, nor is it the *exception* from the rule.

Indeed, one should focus on the **prerequisites** for life, and everything else, created into existence by the force of gravity.

For instance, the insertion above - that there is no such thing as **negative** entropy - follows from the fact that there is no *negative* energy, or indeed *negative* temperature; and the first definition of entropy is **energy by temperature** or J/K.

[IS there ever such a thing as a mathematically *negative* absolute physical property? Such as perhaps negative mass? Can a real property ever be truly negative? Positive and negative electric charges result from a separation of the two; calling them positive and negative is pure convention as would be up and down or right and left.]

What is meant by "*negative*" entropy or "*negentropy*" is usually "*lesser*" or "*low*" entropy; an **absolute** expression is used for a **relative** comparison, or sometimes even an *event*. In fact, events, comparisons and measurements tumble around in entropic chaos whenever entropy itself is mentioned.

The fact that such a nonsensical expression of an idea is used in serious discussions and descriptions of reality points to possibility that the idea in itself may be flawed; a second pointer may be seen in the plethora of definitions, sub- definitions and counter- definitions surrounding any attempt to look for a clear definition of entropy, and their historical development.

The sources of the original definition of entropy, as formulated by a German physicist called **Rudolf Clausius** to describe the behavior of steam engines - who also, and very cleverly, formulated the laws of **thermodynamics**, which have proven to be universal (again, *only* where thermodynamics are at all at play), have never been properly explained (did he just conjure it up out of the blue?) and it was almost immediately modified by his colleagues: It is described as the "**IN**"- **ability** to do work; a more **positive** description is that of a measure of "**DIS**"- **order**.

A more **negative** description of a physical property has yet to be found.

And, accepting the fact that all *thermodynamic* events have to be preceded and enticed by *gravitational* ones, there are indications that, not only could the definition of entropy be unnecessarily and confusingly *negative*, but that the formula itself is wrong; it possibly (and legitimately) should be **temperature by energy** or K/J.

And it is possible that this inversion would clear up the mess instantly.

Apart from that, however, this inversion of the formula may not be wholly necessary for the acceptance that gravity is the one force that will *reduce* entropy; there may be other mathematical solutions, though this one could work quite simply, judging from some equally superficial and simple applications.

One could just as easily propose and accept the idea that **gravity**, by contracting clouds of matter floating around the universe to a pinpoint (neither *randomly* nor *rigidly*, but following the mathematics of chaos, producing a fractal order of easily recognizable patterns), produces **order** out of **chaos** (and never mind the mathematics of the current definition of entropy apparently does not allow this: Where ever *reality* and *description* conflict, **reality** wins, whether the describer recognizes this or not); and therefore by **one** definition of **entropy** as a measure of "**disorder**", produces "*negative entropy*" or "*order*" on a grand scale.

## In theological terms: Creation

And defining "Creation" as the appearance of **order** through the **collection** and **separation** of matter, as it is described at least in the biblical tale of Genesis, as the gradual appearance of the *hitherto non-existent, material* as well as *immaterial*, is exactly the description of the effect that *matter* has on itself through its own gravity; an observation that allegedly prompted one famous physicist to declare that "Gravity is God".

It is the same force that throws you onto the ground if you stumble, while it also keeps the tea in your cup, and, via the sun, gives you the energy to raise yourself off the ground again.

Yes, this is the universal force of creation, and it is the one that creates its own antagonist.

And all human beings, dependent on a delivery of energy and negative entropy which they cannot create, are on the side of that antagonist.

They always have been, and always will be.

## 150 years ago

**Charles Darwin**, a clergyman, a journalist named **Karl Marx** and a scientist called **Rudolf Clausius** were all instrumental in changing the course of human society around a hundred and fifty years or three great generations ago.

Investigating the physics of the steam engine developed during the century prior, Clausius, apart from formulating the all-important universal Laws of Thermodynamics, which were so instrumental in understanding and accelerating this development, in this context also arrived at the first physical description of entropy; and since then, though not directly to be attributed to his work alone, there has been an explosion in material development, from ox cart to spacecraft, from hunger to overflow.

But it has come at a price to the people who perpetrated and greatly benefited by this development: The loss of certainty. And it could be argued that as there is a connection between the two, there is between the teachings of Darwin, Clausius and Marx. But humankind, unprepared as it was, was subsequently lost in time and space; especially modern, "western" humankind, the first to stumble across that division, had no answer to these new questions, and filled the void with delusional fantasies of grandeur.

And never mind the physicists.

Indeed, one could argue that of the three, **Charles Darwin** at least was right.

But it was HE that started the slide into modern times by dissolving the hitherto *static* world view, and turning it into a *dynamic* one; in which there could be no single act of Creation, no sudden appearance (apart from the appearance perhaps of the entire Universe in a **big bang** - it always creeps back in, doesn't it?), but rather and always an *incremental* development, in which *one* manifestation leads on to the *next* (and as shown here, could be by force of nature alone).

More or less towards the end of his life, Darwin published a mixture of his own and others' travel findings (before these could do so), that the world had *not always been thus*; in fact, its momentary picture was (and is) the result of thousands, if not millions of years of - this is often forgotten - geological, and biological development.

He left it for as late as possible, because he knew that people would instantly and instinctively know what this meant, without it ever being explicitly said: namely, if humans, and the world at large, were the result of natural development, then this development would not have stopped now, just because someone had become aware of it; why should it do so?

As a result, humans looked into the mirror and shrieked; an ape was staring back at them; oh, why not a whale? An elephant? And this humanoid ape was morphing as they watched, towards some hideously unknown destination. And taking their eyes from the mirror, they now saw that all and the world was now dizzily moving.

At once, man chose to be modern and put a stop to all of this random development, by taking responsibility, and matters into his own hands; from now on, forever bereft of the God the Father and Creator, man would take the reigns, and perfect himself inside and out, morally, spiritually, bodily; if need be, genetically!

He would take responsibility for the planet, too, and put a stop to all that uncontrolled, random changing there as well.

Humans would from now on be masters of their destination and environment. The crown of creation would stay with them forever, and they would be masters of their very own future. In all eternity. Amen.

For that, man had to sever all vital dependency from nature.

*No problem*, said **Karl Marx** through his disciples. *Thou art now God*; human society will rule supreme, and human labor alone, with the **means of production** under its control, will provide for all that is worth - while crucially omitting to state precisely under what mathematical and physical circumstances that might be so, and, in consequence, never being able to finish his work, entangling himself in ever more contradictions and inconsistencies, such as the cost of reproduction. Or the distinction between human labor and the means of production.

*True indeed*, said the capitalist mill owners, *no worth without labor*, and oh, no rewards either; all the while stealthily, and openly, replacing **human** labor with **machine** labor, en route to personnel- free production. *Why share, when you can dare?* Of course, this changes nothing, because no matter if a tool is driven by humans, animals, or fuel- burning machines, all are thermodynamic entities subject to the Second Law of Thermodynamics.

*Big problem*, said **Rudolph Clausius** (he didn't). Your thermodynamic engines and machines *cannot*, as my research shows, physically *sustain themselves*, let alone *create a surplus*; they require steady and external input - and a necessary output. Eternal, sourceless motion is **impossible**, sourceless motion with an output even more so. All thermodynamic action comes with an inevitable and irretrievable **loss**.

The scientific community agreed (they didn't) and declared these rules to be sacrosanct, while ignoring their premise; namely, that they apply *only* to thermodynamics; and that this meant, on the other hand, that humans, as biological thermodynamic entities, were also prohibited from sustaining themselves on a physical level, let alone create a physical surplus; they preferred instead to squabble endlessly over Clausius' newly found formula for something he called "**entropy**", rejecting to accept his name for an associated physical unit, and coming to no general conclusion.

In obfuscation there lies power.

Of course, none of these conversations took place literally; they are an illustration of the conflicts in question.

But with that, the stage was set for modern man to take over the world in fright and vanity, a self- declared *independent* and *creative* manager of creation, replacing the concept of God, of Grace, of Daily Bread; replacing the fear of God with the fear of nature and tabooing the fact that, whatever else, humans, as living creatures, will forever belong to the dependent, destructive, thermodynamic side of nature - and not the gravitational, creative side.

Ignoring this will jeopardize their future.

And all attempts at self- perfection will not suffice; it will only narrow their possibilities.

For in evolution, *perfection* is the precursor to *extinction*, and gravity is not a force to negotiate with.

## **Above the atom**

there is one force that forms the universe, and that is gravity. All else follows.

It is *almighty*, meaning that it shapes all other forces and conditions, abstract and concrete. It causes whatever happens in the universe to be *irreversible*.

As a property of the matter, it materializes with it, regardless of whether this happens suddenly or successively; and every form of matter, whether living or dead, contributes to its strength.

- Gravity *reduces* entropy, and *increases* complexity through order, and order through separation; and by so creating **potential**, thus brings forth **thermodynamics**; which, in turn, reduces that potential again.
- With that, gravity is a force that creates, along with everything else, its own **antagonist**; which then seems to rule its creation - familiar though that may sound.
- Gravity *creates* and *forms* all but the earliest forms of matter it materializes with, and so defines the "desired" state of the universe, and everything it contains, in every place at any time.
- It *maintains* all it has created, and *restores* it as far as possible, be it disturbed by its own offshoot and antagonist, the forces of thermodynamics and destruction.
- All the while it relentlessly and ubiquitously *drives forward* the development of the universe.
- Its very *ubiquitousness* makes it so hard for us to see it for what it is.

That we, as humans, belong to the destructive realm of thermodynamics, can be illustrated by the fact that we can indeed make a Stradivarius violin out of a tree, but no tree out of a Stradivarius; and the minute human music lovers are taken out of that equation, the worth of that instrument is reduced to firewood.

The worth we as humans attribute to any commodity is purely fictional.

## Gravity works over time

Real, physical worth, on the other hand, is created by the force of gravity; as stated, it creates order through separation, and, mysteriously, complexity and diversity through order: out of the first, most primitive protons and electrons, it fuses ever more different and ever more complex atoms in its gravitational centers; then ever more complex molecules. This process of producing complexity through form and order, in itself, can be described as in-formation; and this is more than just wordplay. Information relies on recognizable form.

First, the tiny atomic building blocks of stellar objects are created; then, these are formed into solar systems to make up galaxies; and all is done by the same force of nature.

But it does not stop there. For biological DNA to be able to preserve and relay information over time and space, again, first the atoms involved in its buildup have to be created; then these must be welded into distinct and stable organic molecules, where they then can be arranged into long strings of data; to form what we now call a "readable code", which can be duplicated over and over again - a process that took gravity 13 billion years to fulfill in this particular location of the universe (and if this information itself cannot be shared, it could be arrived at separately everywhere else, and most probably roughly in the same time).

But there is even more to it than that. All gravitational processes reinforce themselves, whereby each increment accelerates the next. This creates an excess potential that either accelerates the gravitational process even further or is tapped by a self-diminishing thermodynamics that exhausts the potential - or most often both.

## **Creation and maintenance**

So, in every aspect, gravity *creates* and *maintains* **order** from **chaos**; it cannot choose to do otherwise.

And its outcome is neither *forecast*, nor is it *random*. Any child driving a bicycle through a rain puddle can observe this.

Before such an action, the puddle is clear; and it will become clear again, as long as it is not disturbed again. For, while the (gravitational) elimination of the results of a (thermodynamic) disturbance goes on even during the disturbance, its total erasure takes *time*; time for the scars and traces to fade - no, to **be** faded.

Of course, the elimination of a thermodynamic disturbance can be described as the thermodynamic equalization of potentials, the distribution of energy and entropy, the effect of friction i. e. as part of that disturbance.

And indeed it is so; all of this would take place even under zero-gravity-conditions (in reality there is no such thing; it may be, that at some location in outer space more than one gravitational fields cancel one another out, for a brief moment in time; in planetary orbit, zero gravity is *simulated* by parabolic flight).

However, the end result would be more or less randomized, or chaotic.

In a gravitational field, on the other hand, the result is always similar and can be so recognized and defined; a puddle is the fractal image of a lake.

That is its "desired" state or condition in this location at this moment in time, which, over time, is so created, maintained, and if need be, restored as far as possible by the force of gravity.

Order means *similarity*; it does not mean identity or unimpairedness. And as a puddle being restored to its former form after a disturbance, all happenings on Earth are a mixture of thermodynamics and gravity.

The human reaction to a disturbance is alarm.

## Switching hosts

For living matter to multiply, information must be stored and spread with the help of structured molecules like DNA; as **Erwin Schrödinger**, a physicist, mused in his 1944 booklet on "*What is life*", energy import would destroy their structure and raise entropy in the cell; so he preferred to accept that what is imbibed through nourishment is "**order**" or "**negentropy**" (as stated, in reality there is no such thing as "negative" entropy, since there is no "negative" temperature or energy content; but we'll leave it at that, since for instance "*entropy reduction*" would be just was esoteric).

Right now almost all life on Earth depends on sunlight; but in the beginning, all life on Earth, i. e. the living slime probably created from oceanic clay, was dependent on undersea volcanic outlets for its energy supply (or entropy reduction), i. e. structured molecules storing energy; but then, beginning to devour itself, it floated upward, came into contact with sunlight, and the parasite switched hosts; for, as the sunlight reaches every corner of the globe, life could then spread all over its surface.

With that, plant life was born.

Since plants do not devour structured molecules for their energy supply and entropy reduction, but do so with rays, i. e. photons, which they catch to split & knit, i. e. structure molecules themselves, it is harder to understand that they do not behave very much different than animals, which in turn devour them to access these structured molecules.

For if you separate the intake from the output, and understand that plants have an external digestion system (for instance the foliage), which usually is spread over its outer surface and "digests" the sunlight with the help of mineral water extracted from its surroundings to make sap or sugary syrup, which then travels throughout the plant to make it grow and thus (slowly) move, you can see the point: plants most probably do not violate the second law; and if their foliage does, that could be part of a gravitational process.

That one- cell algae as precursors of leaves have internalized the chlorophyll organelles, does not alter that separation in principle.

It is said the rock that falls on your feet hurts you with the energy you used to lift it.

That ignores the fact that if you lift it high enough, it will not fall to Earth again, but perhaps onto the moon; the energy you invested is now no more contained in the fall. The energy needed to increase the distance from as center of gravity wanes with the distance. This is the flipside of gravitational self- augmentation.

On the other hand, throwing or shooting a cannonball up into the air lifts it off the surface of the Earth to a certain point; at that point, the apex, all the (chemical) energy invested has been spent - it could simply roll onto a precipice, and that would be that (as can be witnesses by the rock, above, falling on the moon; debris from Mars has been found on Earth that most certainly was not shot there, but got caught in the Earth's gravitational field while floating harmlessly in space... thus increasing the information potential on the surface of the Earth.

"Gravity is God".

Hidden in plain sight.

To be continued