

# Science, Economy & Religion

The Thermo-Dynamic Society

## Ex nihilo nihil fit.

(Nothing happens by itself)

The enlightened society has had an **unsolved problem** for **150 years** now - **more than one**:

It has never fully re-oriented itself.



When the past no longer illuminates the future, the spirit walks in darkness.

Alexis de Tocqueville 1805-1859

A contemporary of

Charles Robert Darwin 1809 - 1882

Karl Heinrich Marx 1818 - 1883

Rudolf Julius Emanuel Clausius 1822 - 1888

Note the dates.

"The LORD giveth, and the LORD taketh away" - "European" man until about 1870.

"The Lord can stay where he is. I can make it all by myself" - "European" man after about 1870.

In their hubris, "*Westeners*" of all denominations overlook the fact that they do not "*make*" anything, but only *transform* it, so that their work is subject to **entropy**; the one thing humans can "*make*" is something immaterial like money, i. e. invoke **debt**.

A glance out of the window will show two things:

First, man has not *created* his surroundings; and secondly, the universe is by no means sinking into **chaos**, but has blossomed every day anew since the beginning of time - according to our own timeline around 13.5 billion years ago - in "*divine*", i. e. *not man-made* order; an order that we *feed* upon (Erwin Schrödinger, *What is Life*, 1944) and is not subject to entropy.

#### Is that important?

It is essential for survival. Modern man has put himself in God's place, but cannot meet the requirements; as noted, his work is subject to *entropy* and is therefore dependent on *external sources* - a fact he has more or less tried to ignore and deny since 1850.

Unlimited energy leads to infinite exhaustion, and after only three great generations, the old religions return.

But how, if not through God, but purely physically, does this vital order arise?

You will find my thoughts on this here, and I've been feeling like Icarus for some time ...

## In the beginning, there was fire

## (The Second Promethean Revolution)

Some 25,000 years ago, man tamed *fire*, to keep warm, prepare his food, and slowly change the makeup of his surroundings.

Some time later, around **250 years ago**, in the **mechanical industrial revolution**, culminating in the development of the **heat**, **fire** or **combustion engine**, Europeans in the recently-global "*West*", brought about a social upheaval which seems to have settled without ever having been fully understood; indeed, the next revolution, digital or biological, may hit its society unprepared.

Unbelievable benefits were reaped in an incredibly **short time**; but every medal has its flipside, with consequences perceived as **unpleasant** and **dangerous**; and the quest to escape these has led to a constant flight *forward*, seeking to find solutions for current problems in some unknown **future**.

Up to then, for thousands of years, mankind had lived in a system where known solutions from the **past** could be re-tried; but the situation had changed so thoroughly that these were no longer viable.

#### What was lost was never replaced.

#### Not that it wasn't tried:

A hundred years after the decisive development of the **steam engine** by **James Watt** in the years **1769** and following, it seems the people in the **industrialized nations** began to realize what *unprecedented*, almost *limitless* potential lay in these new machines; in and around the two decades of **1850** - **1870**, some endeavored to get a *theoretical grasp* of the new situation they **as humans** now found themselves in: among other things, they would, from now on, be active as **producers** and not just as **recipients**; this put into question the necessity of **God** as a *creating* and *giving* being.

The second expulsion from the **Garden of Eden** was taking place, but this time voluntarily, *out* of misery and *into* **self-created abundance**. An *emancipation* (or *was* it one?), the *reason* for which had yet to be determined; and that from an ever increasing accumulation of newly found knowledge.

These deliberations covered the areas of **religion**, **economics** and **science** - which necessarily overlap: **science**, roughly spoken, examines what *holds* the world *together*, **economics**, what *actions* in it are necessary, **religion** ensures the *cohesion* of the community.

All three are basically superfluous, as any anthill will show; however, humans, due to their intellectual makeup, are dependent on them to function socially.

That said, and each in their own field of research, it was <u>Charles Darwin</u>, <u>Karl Marx</u>, <u>Rudolf Clausius</u>, among others, that set out to form a **new world view** from the leaps and bounds of scientific and technical progress of their time; and while **Darwin** and **Clausius** were *scientists* in their own right, if so in *new* areas of research, **Marx** was a *journalist* and *philosopher* out to *interpret* (and as he said, *change*) what he found wrong in modern human society.

The decisive impact of these three influential contemporaries will be discussed in the following.

Strangely enough, and to this day, while their ideas were often *accepted*, they were not **really** and **consistently implemented**; and where they were, they often showed themselves to be *incomplete* to the point of **inusability**, and their consequences to be **paradoxical** and **destructive**, while people held on to their **superstitions**.

Despite the unprecedented new possibilities, Utopia did not arrive.

## What had gone wrong?

In **1859**, <u>Charles Darwin</u> published his observations on the **origin of species**, which introduced the concept of **evolution** into the social discussion: not only in the field of **biology**, but, as a side effect, in **geology** as well; the world was no longer *static*, a *completed* creation, but a *dynamic* one, constantly evolving; or at least it had been in the **past**.

However, **Creation itself** was still in some way considered to be *complete* and *static*, at least as far as it was projected into the **future**; meaning that evolution may have been the way things had developed *up to the present*, but *no further*; the question why this should be so was carefully avoided.

This is just one of the many unsolved paradoxes and mysteries resulting from the incomplete implementation of the discoveries made during the era of industrialization: **If** the world and its human inhabitants are the result of an evolutionary process, **then** that process is *ongoing*; and if it is *ongoing*, it is *unfinished* (and always will be).

How can this then form an **image**, unless the **process itself** is the image? And if it is **in the image** of a **creator** to be worshiped, is this creator then *unfinished*? Does the process have a *goal*?

Even if such questions do not surface to the level of **consciousness**, they do not *disappear*, but subconsciously *erode* human self-confidence, either binding **individual** resources to suppress them, or *dissolving* the assurance of **collective** worship.

#### But there was more:

The **Theory of Evolution**, discarding the idea that "*things had always been thus*", put into question the accepted point in time of the **creation of the world**, and with that its temporal and spatial expansion.

And **man**, having just climbed upon the throne as apparently no longer as **dependent** on the world as before, but as its ruler through **industrialization**, by the same token of "*progress*" found himself at once reduced by **Darwin** to a close relative of the monkey, thrown back onto his pre-human *animal origins*, much further than before - and more dependent than ever.

*Invention* and *mechanization* was a form of *evolution*; one could not be accepted without the other. So how was it possible at all for **man**, an **animal**, to be preparing to **control the elements** which, until then, *he* had been ruled *by*?

#### And there was yet more:

As a descendant of *animals*, **man** was *subject* to the laws of *nature*, even more than to **God's** law, if such there be; thus the hitherto **clear boundary** between **man**, as a **ruler** in the image of **God**, and the **animals ruled** by him, became **blurred** in both directions. And to date, the problems that this causes have not been solved; in fact, they are *increasing*.

In consequence, and perhaps without aspiring to do so, **Darwin** had declared any *earthly* likeness of **man** to **God** - which had *just* seemed to have been achieved - and the idea of a **creation complete**, with man at its pinnacle - to be an **illusion**.

Just a decade after **Darwin**, in **1867**, <u>Karl Marx</u>, consciously or not, (re-) instated the idea of **human divinity** by declaring **human labor** within the production process to be the **sole creator**, more or less, of what he named "*added*" or "*surplus value*", and therefore *value* per se.

This **extra value** was then, as he proposed, extorted from its **producers** by the **exploiters** of labor as something called *money* or *capital*; and this forever until the exploiters would be done away with, and the *means of production* (machines et al) were *socialized* into the *collective of laborers*.

Now, if **humans** are the **sole creators** of value, then this **exploitation** of labor can affect only **humans**, not **animals** or **powered machines**; even though the latter "*means of production*" were at the time just beginning to *replace*, not just *complement* **humans** as a main factor of **production** (as had hitherto animals - all three requiring an **input** of **energy**, often in the form of similar **carbohydrates** - but then these concepts were still widely unknown).

The work of humans, animals and machines is physically indistinguishable. And of course, **humans** *did* exploit **animals**; but no-one would have seriously thought of letting them keep their self-generated **added value** - or even of *defining* it; and, at the same time **man** became the "*exploited*" extension of **machinery**, he was equivalent to an **animal** in the exploitation of his labor.

But all the while *humans* were becoming increasingly similar to *animals* and *machines* as means of production - and might even perform the same labor resulting in the same product - the idea of *exploited humans* as the sole creators of *value*, and therefore entitled to its possession, reinstated in them that earthly likeness to **God**, by which **man**, to this day, continues to first "*create*" **values**, and then **money** - the latter, it seems, actually "*from nothing*", i. e. by fiat.

Every attempt to turn the consequences of this doctrine into "*pure*" economic practice, i. e. as *socialism* or *communism*, paradoxically has so far resulted in poverty, and often in mass death; the simple idea that **human labor**, *exploited* or not, creates **value** is obviously deficient - were it otherwise, owning slaves would be a sound economic model, and no free, working population would ever be poor.

Even more intriguing, its *de facto* counter-doctrine, the *capitalist market economy* - while being far more productive - is run on the same basic principle, namely, that *added value* is generated by *work*; beyond that, it has a rather more pragmatic, on the issue of wealth creation and its distribution almost *Darwinistic* approach, and as far as possible lets (and let) **machines** do the *value adding* work.

Even more *paradoxically*, the more successful *capitalist market system* seemed to be "*unsustainable*", in the way that it could **not** be kept **stable** over a longer period of time; it seemed to rely on (*real* or *imagined*) "*constant expansion*" to *outrun* its self-generated problems, destroying vast sums of the self-generated money along the way; sometimes even, as in **war**, an instrument of mass death all by itself, the accumulated **physical** wealth.

Furthermore, and inexplicably in *both* systems, **debt** built up regularly; for this, too, there was no *convincing* explanation - where did all this debt come from, when added **value** was being produced, by **machines** obviously even more easily than by **humans**?

Now, if the two *post-industrial economic systems* as antagonistic as **Capitalism** and **Communism** bring about similar *undesirable* and *detrimental* results, to the point of seeming to "*converge*", then these "*side effects*" should have a *common cause*; and the common basis of *both* systems is the idea that *value* is created by *labor*, human or otherwise - an idea fraught with **internal contradictions** and **unexpected consequences**.

**Marx** himself seems to have noticed that, for he and his successors made "*discrepancies*" and "*contradictions*", which would then have to be resolved *socially*, a central subject to their **theory**; but no coherent solution could be found for them, as they turned out to be as *real* as they were *insurmountable* by humans in **practice** (and as will be shown, in *principle*).

## But - why was that?

The question of **value enhancement** through **labor** was inadvertently addressed by **<u>Rudolf Clausius</u>**, who in the time of **1850** - **1865** published his **physical theories** on the constantly evolving steam engine and its mechanical progeny.

Less well known publicly than **Marx** or **Darwin**, he studied the physical basis of **heat** or **combustion engines** and formulated the laws of **heat mechanics**, partly known as the **first** and **second law** of **thermodynamics**.

Above all, these stated that real "added value" could **not** be generated by such a machine.

[And, to be clear, man, as any animal, is one]

## <u>On the contrary:</u>

The operation of a heat engine alone generates a *physical*, i. e. *real*, loss – and this **relentlessly** so; work always creates an **inferior** or **subtracted value**, as compared to the initial situation.

Every step along the way *worsens* the preconditions for the next; resources that **cannot be replenished** by **work**, after having undergone the **work process**, are physically **worth less** than before.

Always and everywhere.

On the **one hand**, the scientists involved in these studies recognized that their newly- discovered natural laws were valid throughout the **universe**; its very existence depended upon this being so. The physical balance of **work** performed was always negative, everywhere.

On the **other hand**, these laws seemed elusive in a way; they could not (to this day) be formulated *definitively* and *unambiguously*; this was especially true of the term <u>entropy</u>, which was introduced by **Clausius** in **1865**, and which in further course was subject to several changes.

In the end, a **mechanical invention** of **man** had been examined for the *physical* basis of its *profitability*; the result was a **law** that was valid throughout the **entire cosmos**, stating that **nothing** comes from **nothing**.

Then where did it all come from, if not from **God**?

As it was clear now, **no mechanical process**, if only because of the previously "*to be neglected*" friction, was ever really **reversible**; thus it was **unable** to even **sustain** itself, let alone **ever** to yield a physical **gain**.

And, that should be emphasized here, *life* is such a process.

So, if this law applied to *machines*, then it applied to *animals* and *humans* as well, consciously or not; so similar were they in their requirements - and their performance.

Was Marx, along with the "capitalists", thus disproved?

And would this imply that **all events** in the **universe** were not only *dynamic*, but, due to their *irreversibility*, also *directed* in their dynamics? Or perhaps even *purposive*?

Once again, the question was raised of the closure of Creation.

Up to the event of **industrialization**, a rigid, albeit slowly changing world view had prompted a **mitigated hierarchy** just as rigid:

- **Man** was in the image of **God** upon this world, but dependent on the whims of both; he was lord over the animals, but ultimately depended on them, and plants as well.
- Man had to work hard for his daily bread, but without God's grace there would not be even that.
- Man was the **crown** of **Creation** that had taken place *some time ago*, but still dependent on it like an infant.

And so on.

Despite these and other paradoxes, this world view, as a whole, was coherent - and still is.

But with the advent of **mechanized**, **industrial mass production**, this perception changed *fundamentally*, though not *completely*.

In the relevant areas of religion, economy and science, new and fundamental questions arose:

- Is man in the image of God *or* just a whim of nature?
- Is man the worldly creator of all values or just their consumer?
- Is man dependent *or* free? (And from what?)
- Is the universe nothing but an accumulation of randomized events, *or*, combined with universal evolution, a purposeful, *irreversible* affair?

And again, so on.

Without the frame of the prior rigid order, which found its justification in limited resources, man was thrown back on *himself*; he could only, temporarily, **choose** *one* of these alternatives and regularly **lose** the *other*.

But the result of such a choice is still only on the **mind**; nothing changes in **reality**, except perhaps one's own behavior. This *could* indicate that these **alternatives**, *in reality*, are not **alternatives at all**; and that an "**and**" may apply instead of an "**or**", sometimes.

Until about 1850, and in ancient religious systems even today, the general view could be described as follows:

The universe is *static* and *eternal*; it has an *external source*, **God**, who through **Creation** is the source of *all* things, such as resources; and therefore the distribution and allocation of the same is the responsibility of his worldly *deputies* and *agents*; and it is up to the people to prove themselves worthy of this allocation. Etc.

The result is *coercion* and *oppression*.

After about 1850, something like the following applied in the "West":

The universe is *dynamic*, *temporary*, it has *no external source*, **God** exists solely as an *internal construct* for one's self-orientation; the *origin* of all things is *unknown*, and therefore their distribution and allocation can rely solely on *collective decision*, while it is up to the individual to *manufacture* the necessary goods, etc.

The result is *forsakenness* and *panic*.

Even worse, overwork and exhaustion - and as a result, severe depression and mental derangement.

One could refer to the fields of **religion**, **economics**, and **science** as the "<u>Three Sisters</u>" of society, a seafaring expression - as the three areas of **fatal**, **cardinal errors** *inundating* the

Philosophy of Modern Man:

**Evolution, Revolution, Entropy** 

1) In religion, the modern world view fails to *seriously* and *consistently* apply the discoveries published by Charles Darwin in 1859; above all to humans themselves.

By not accepting that Creation, especially that of biological species, is an evolutionary, dynamic, *eternal* process, it looks upon it in a *pre*- Darwinian manner as *static* and *homocentric*, something to be *preserved* or *changed* (exclusively by **man**).

By now *contrary* to better knowledge, it still sees the world (and man) as *fully evolved*, albeit flawed, and optimizable only in the context of "*self-optimization*" with **self-set** goals, in **one's own** sense - so far (and probably henceforth as well) with very dubious results.

Before, in *pre-Darwinian* times, all and everything was in the end **made** and **given by God** (and regally assigned) and therefore stayed within His responsibility.

This world view was consistent in itself; but now that man is actually able to directly intervene in the process of creation, for example in nuclear physics and biogenetics, it no longer applies; **God** no longer sets the **goals**, but **man**. And indeed, paradoxically, in an open, uncontrolled system, an *emancipated* position (emancipated from *what*?) cannot be defined, neither in absolute nor in relative terms; only a **godlike one**.

This results in a *religious disorientation*, individualization and isolation.

Religion can thus no longer fulfill its aforementioned task; the community crumbles, as it no longer exists.

And as nothing anymore is given, "creativity" is required.

Not only is there no longer a belief in a **Creation completed**, but not even in an **evolving** one; except in one's own (and *self*-) **creation** - and, indeed, **evolution** - which then regularly, with the death of the individual, ends with the **annihilation** of all **progress**, continually destroying all that has been achieved.

Thus, eternity is reduced to a lifespan; and a lifespan becomes eternity.

2) In economics, the *modern world view* fails to apply the **laws of thermodynamics** (especially the second one) to **humans** and their **actions**.

As formulated by **<u>Rudolf Clausius</u>** in **1850**, every **thermodynamic work process**, in order to take place *at all* (and **any** energy-driven, material, economic process is **necessarily thermodynamic** due to these very properties) **must** render an **inescapable net loss** (and even the re-production of one's own self, in a twenty-year *production process*, must be so defined).

This necessary loss accumulates down the labor and food chain, at the **beginning** (!) of which it must be compensated for, and that *free of charge*, or else this chain will immediately break: In the real, material, physical world, there is no such thing as "**debt**": something exists, or it does not.

What is **missing** in the end must be **superfluous** at the beginning - not just *balanced*; this **primary surplus** then *limits* the net outcome of any **work process**.

As long as this *inevitable* thermodynamic loss occurred "*only*" within the **food chain**, it was self-evident; a man had to be worth his bread, or he would starve.

Humans, in general, must take in **2-3** times the energy they can put out - which is around *l* kWh per day, currently worth around \$0.50 (and the results of comparing human decision costs to those of IT electronics are even far worse).

However, in **industrialized societies**, humans pay each other sums *vastly higher* than their **physical comparative** worth would justify - precisely because the **primary input** is for **free**, and its deployment costs are **comparatively low**; while in *non*- industrialized countries mean labor is still often compensated for by the proverbial "*dollar a day*", which barely keeps a human being alive; but, due to thermodynamics, even so is *more* than that being can deliver, running up deficits even there.

With the invention of the **steam engine**, that necessary **thermodynamic net loss** could be **externalized** (at least in part); and <u>Karl Marx</u>, as described before, *in line with his adversaries*, declared the same **working people** that were tendencially being made **obsolete** by this externalization - and not, for example, the **working horse** - to be the *producers* of *physically non-existent* **gains** - in the physical world, a **loss**; which, in the end, has to appear in the balance sheets as some sort of **debt**.

In truth, monetary **wealth** and **debt** always cancel each other out, and the *reduction of debt* is the easiest way to *reduce monetary wealth*; together they reflect the **thermodynamic net loss** of industry and labor, with its inherent and *necessary* **mutual overpayment**: This running debt must be "*just high enough*" (Ronald Reagan) to reflect a country's net ability to **perform work -** i. e. run up a **deficit**.

The result of this is *economic disorientation*, confusing abstract **monetary** wealth (*used* resources) with concrete **material** wealth (*unused* resources).

Though the various *schools* and *teachings* of industrialized economics will be taken as *alternative religions* (replacing the ancient *God-givenness* of things), they can, as such, provide no more than the same **cryptic** and **uncertain future forecasts** as did the former; on average, their *prophecies* and *instructions* may lead astray in every other case as well, making them as valuable as random ones in that respect.

And as before, apart from a few financial *cult leaders* and *gurus*, those win the game who recognize it as one and come to master it.

3) Within science itself, ever since 1850, the modern world view fails to apply its newly- found laws of thermodynamics to existence as a whole, not just to particular processes.

For if *every* thermodynamic process needs a **source** and a **sink** to level out the **potential** between these two, but cannot *produce* that potential precisely because of this, then the *origin* of all sources and sinks cannot be *thermodynamic* (this would violate the prohibition of a <u>perpetuum mobile</u>).

How, then, did energy and movement come about in the universe?

As long as **God** could be taken as the external, *non-physical* source of all being, all events, all life, order and creation, there was nothing to think about; the **omnipotence** of **God** was the answer and solution to every paradox.

However, when science itself came up with the demand for a **purely** scientific, *secular* view of the world, it became in need of a different explanation; but instead of directly addressing the issue of the **universal** generation of **order**, of **sources** and **sinks**, science went into detail, dismantling matter into ever smaller particles, in search of a (possibly non-existent) *world formula*, i. e. for *secularized*, *absolute knowledge* and thus *god-like power* - which closed the circle to **religion** at this point, but in reality left a void.

## The result was scientific disorientation.

As someone once put it, scientists are reluctant to ask questions for which they don't have, at least, a *general idea* as to where the right answer might lie; in fact, anything else would be uneconomical.

They are therefore, like any other group, trapped in **paradigms**; and again, seen historically, over time, about half of their views have been proven to be *wrong* as well; indeed, *proving itself wrong* is science's core business.

However, this error rate has been distributed unevenly across the individual sciences; it may well be that abstract mathematics has so far been the one field that has remained without a major revision. But even within physics, up to now, old views have had to be discarded, such as those of *reversible mechanics* and *absolute time*.

In any case, the quest for the **source of all existence** proved to be difficult, and many scientists preferred to pursue it privately, if at all - probably in part so as not to mess with the "*powers that be*" which they also served; there was nothing to gain, as the results could not be *proven*. Instead, as everywhere, there were several, *contradicting* ideas in rapid succession, a *commitment* to any which one helped to differentiate oneself from the others.

Only a handful publicly dealt with the notion that, according to one valid assumption, **reality** can neither be **empty**, nor **contradictory** or **paradoxical**; if it *seems* to be so, the *error* is therefore to be found in its *description*: Something is missing - or superfluous.

Those who did dare venture there, like perhaps <u>Schrödinger</u> and <u>Hawking</u>, among others, were prone to receive the status of outsiders, who may have wandered a bit too close to that fine line between genius and madness.

For, *according to rumors*, the "*scientific community*", like any other, tolerates no deviants; and here and there pressure is said to have been exerted to recant certain incriminated passages that "*conflicted*" with the accepted view - such as <u>Schrödinger</u>'s thesis that, with food, not **energy**, but rather **order** and **structure** (or **negentropy**) is imbibed, to counteract physical decay, especially that of the body cell's DNA; an approach that can be expanded to include the idea that the release of energy is a *secondary* effect, evoked by the dissolution of the structure containing it; and in fact, the effect of **energy**, directly exerted on living beings, is often **detrimental** - and *not nutritious*.

It seems the failure to fully comprehend and implement the implications of the discoveries of the **industrial age** can lead to some very paradoxical results.

To make matters worse, there may have been a tactical error made - explicitly only *possibly* made - in the since then revised definition of **entropy** of **1865** that *itself* was never revised; and, to this day, may prevent the equation *to be solved in reality*:

## S = Q/T; S = T/Q

This *may* result in an inability to theoretically describe the initial state of the universe correctly, especially on the point that **order** *can* arise **from chaos** - which the history of the universe, as far as we know it, *does* show.

After all, beyond any creed, the question of all questions is:

What created, purely *physically* created, from of a cold, dark, swirling cloud of dust, complex **humans** on a tiny glowing liquid drop of matter in empty space, orbiting the nuclear furnace of a star - and what keeps them there alive?

It cannot be their own *harvest work*; for that is minute in comparison, and relies on an external supply. Life cannot create its own surroundings; its balance is negative.

The answer is plain and simple: Gravity.

*Physically*, **gravity** is the *only* **arranging** and **shaping force** we know of in the **universe**; and it is active all the time, **always** and **everywhere**.

It quite literally not only *holds the world together innermost*, as Goethe's <u>Faust</u> demanded, but also gives **direction** to the overall event; it is the reason for the *statics*, but also for the *dynamics* in the universe, and thus for the origin and preservation of **life** - and that throughout the whole of the **eternity** and **infinity** of the universe, wherever **matter**, and therefore *mass*, exists.

With this in perspective, let's have a look at the **three cardinal errors** of modern philosophy once again, but this time under the aspect of **their possible solution**.

A. Creation, **physically speaking**, is a *directed*, *dynamic*, **continuous process** from the *beginning* to the *end* of all time, of which **humans** are just a **temporary**, **local expression**; but in being so they are still, like everything else, from the galaxy to to the atom, created in the **likeness** of Creation - or of the **Creator**, if God is accepted to be greater than his *human visualization*.

The **existence**, the **shape** and the **dynamics** of the universe, including its *conscious content*, is based on **rules** which have been portrayed in various **creation myths** - especially in the **biblical** one - which, most likely, were shaped by *observations*; most notably those of **creation** through **order**, and of **order** through **separation**.

This *arranging*, *separating* and *creating* force is **continuously** (!) active as "**gravity**", in *every second* and for *all eternity*; if not, and wherever not, the structure of the universe would immediately **dissolve** and **fly apart**.

And while it makes no sense in this context to fix absolute time (or space) of its own, as what we regard as **present** is *relative* not only in terms of *time*, but also of *space* - we cannot even recognize the present when we look into the night sky - **everything** that **is** has been brought **into being**, in the approximately 13.5 billion years of its existence, from the interstellar primordial soup, via *atoms*, *elements*, then *molecules* and *organic compounds*, in ever increasing levels of complexity and order, *exclusively* (!) by **gravity**, the **mutual attraction** of **dead matter**, and it is being held together at any time by this force: "*Gravity is God*".

For **gravity**, by holding it all together, not only separates **something** from **nothing** and thus **darkness** from **light**, it also *constantly* creates new materials and compounds, down to living tissue, keeping that alive through *constant renewal* via new, preserved, and strengthened **sources** and **sinks**.

In doing so, **gravity creates** the **original wealth** we all *feed* and *depend* upon - which in turn touches on our imagination of *economy*.

In that context, **gravity**, as the long sought for physical **Source of Life**, the eternally *self-renewing* (and selfannihilating) **Fountain of Youth**, is not to be found *in* humans, nor in a specific location *outside of* them, but in every dimension *in* and *around* them; we find ourselves immersed *in* it like amoeba in the ocean; it permeates us, and we contribute to it, as do ants, with the mass of our bodies, as a part of the whole.

That, most probably, is why it is so difficult to recognize as a source.

**Man** on **Earth**, like the ant and anything else, is therewhile neither *goal* nor *coincidence* of the **gravitational process**, which includes meteorite impacts; but instead, an **inevitable**, though not the sole **consequence** of order and creation *continuously* taking place *everywhere* in the universe, due to (uninterrupted) **gravitation over time**:

Its resulting *steadily* and *exponentially increasing* **material complexity** over time *almost inevitably* creates, in comforting consequence, first *life*, then *conscious* life, in all those locations where ever this is at all possible - which of course then remain isolated from one another by insurmountable distances.

In fact, Creation may already have surpassed the *local, momentary* expression of **itself**, somewhere else in space, and possibly a long time ago; but then, perhaps not too much, for, though influencing it, **gravity works over time**.

And **man**, along with his co- inhabitants, as a *local* and *recent* expression of this Creation, holds no "*task*" over it - how should he?

However, humans should know about the **forces** and **rules** to which they owe their existence, and their dependence on **time**, to serve them as orientation.

B. The second law of thermodynamics is in force everywhere and always.

Any thermodynamic work process - and every economic process is necessarily thermodynamic, since matter is always moved under the participation of entropy and energy - contains a *necessary*, *inevitable* loss.

However, this loss is not reflected in the **economic** balance sheets, except as a price for *resources*; and even then only as the cost of *thermodynamics*, i. e. as the **costs** for their **procurement**.

If there are no *resources* there, then there is no *profit* to be made in mining; but the resources *themselves* are always free, be they oil, ore, or moving air (the reversal of this view states that the nonexistent price of a resource does not reflect the cost of providing it).

At the beginning of **every** economic chain, something therefore is for **free** - and this **something** is created by **gravity**, and is provided for *free of charge*; be it **ore**, **sunlight**, **geothermal energy**, or the sheer **existence** of the Earth, as an accumulation of matter in emptied space, for economic processes to take place upon. It does not have to be *made*.

Since ultimately **everything** is based on resources, **everything** ultimately is for free; no product without material and fuel; costs arise only in their *use*. And these **economic processes** of **usage**, as part of Creation, are *directed* as well:

One can from make a *chair* out of a *tree*, but not a *tree* out of a *chair*. You can let iron rust again to iron oxide, but this happens "*by itself*", and the primary and secondary loss of smelting is always thermodynamically **irretrievable**. Even the first opening of the aforementioned tree with the saw cannot be *undone*; it can only heal *again*. Here, too, time, entropy and energy flows are **directed**.

All processes, and with that all *economic* processes on earth as well, are a compound of **gravitation** and **thermodynamics**, and both, directly or indirectly, are the result of a **gradient** invoked by *gravity*; gravitation always comes *before* thermodynamics.

Without **gravity**, there is no *potential*; without **potential**, there are no *thermodynamics*; and without **thermodynamics**, no *life* or *economy*.

The *food* and *respiratory* chain on which we, as living beings, are directly dependent upon shows this very clearly:

As an aftereffect of processes that are set and held in motion by the Sun's own **gravity**, **plants** grow on this planet - which is *itself* held together by its very own force of *gravity* - that directly or indirectly serve humans as a *source* of *life*; this at an overall, but *necessary* loss, over the food or energy chain, of perhaps over 90%.

And as part of that chain, all humans, animals or machines must *necessarily* always require **more** than they are able to deliver, and so cost more than they earn; even as slaves or self-employed.

Any society on the economic level of **hunters and gatherers** is acutely aware of this; they know the *time* it takes to repair an economic "*damage*" - their own "*gain*" of *harvest* or *prey* - by the ongoing process of *creation*.

This consciousness not only serves them as orientation; their very survival depends on it.

C. The **laws** of **thermodynamics**, which govern *movement* through *heat* and heat through movement, apply **universally** in time and space.

However, they apply *only* if it actually *is* a **thermodynamic** process, where *mass* and *energy* are *preserved* - in **nuclear** processes, for instance, they are **not**.

Where applicable, these laws state that - contrary to the former concepts of *ideal*, *eternal*, *reversible* mechanics (*action* = *reaction*) - processes **in reality** do *not* proceed without a **loss**.

The universe is **not** *symmetrical*; as stated, it is *directed*, especially in terms of **time**. All (esp. all thermodynamic) operations, especially all *processes* of *life*, are **deficitary** and **irreversible**.

These *inevitable* losses must be *compensated* for, **before** they even arise. Since *material thermodynamics* cannot function in the **negative**, with *less* than nothing, their losses must be overcome by a **surplus** *in advance*, for anything to happen *at all*, and therefore anything to be even created *at all* - in a purely *thermodynamic* setting.

Once again, if the emergence of the universe had been a *thermodynamic* process, as is life itself, it would have been possible only with a **source** and a **sink** *outside* of the *universe*, a potential **greater** than its entire energy content.

And even *after* the manifestation of the mass of the **entire universe**, the *act of creation* would have come to an immediate standstill, if there was no such external potential, for which once stood the **omnipotence of God**.

However, within the universe, such gradients exist for real, *spontaneously* and *continuously* arising from gravity itself; and with these, so does the act of creation, again within the universe - as long as this contains mass.

For as matter mutually attracts matter in space, it **accumulates** itself in one location, in which it *further increases* its gravitation; and the surrounding space is **emptied** of matter, which *further reduces* the gravitation there.

The emergence of a **gravity gradient**, therefore, is driven by a process of continuous **self-reinforcement**, which is **completely forbidden** in the range of thermodynamics; a <u>perpetuum mobile</u> is created, of *eternal*, *self-augmenting movement*, in extremis leading to a *black hole*.

This **self-enhancement** generates the necessary *surplus potential* which *must* be introduced as an **advance** for subsequent **self-reduction** - of that potential - in a thermodynamic processes thus made possible *downstream*, where it is extracted and booked as **profit** (*minus* the technically necessary remainder, of course).

**Gravitational** events are therefore, in the *thermodynamic* sense, **profitable processes**, but *upstream* of **thermodynamics**, that feed themselves (in stars) off the annihilation of **matter**  $(E=mc^2)$ .

These **gravitational processes** create not only *material* things, such as **light** and **energy**, but also, and above all, *abstract properties* such as **order** and **complexity**; and thus the **potential** offered, free of charge, at the beginning of every utilization chain - and with that, the basis of **all wealth**, including bare life itself.

## Summary

To summarize the self-organizing creative effect of matter via its own gravity one final time:

Due to its very own property of "gravity", matter in the universe mutually attracts and accumulates itself in confined spaces, leaving nothing or emptiness behind.

Thus, on the one hand, it *concentrates* empty **space** (regardless of whether this *expands*, *contracts* or *neither*); and on the other hand, matter transforms **itself** by **nuclear reaction**, in its resulting **centers of gravity**, and over **time** with exponentially increasing speed, raising the number of **elements** from just a few to the count of about 100 which are known to us; then it scatters these explosively into empty space again.

These new elements then condense *themselves* into new, if smaller **centers of gravity**, where, by **chemical reaction**, *millions* of different molecules are formed with variants and mixtures; from these, if possible, living tissue is created by **biological reaction**, which raises the range of variations to *infinite*, while keeping the tissue alive with an outflow of *energy* (and, according to <u>Schrödinger</u>, *order*), from these and other gravitational centers.

In doing so, and where it has done so, *dead matter* generously supplies the *living matter*, which it has converted *itself* into, with everything possible in that particular time and place: **material**, **resources**, **order**, **complexity**, **diversity**, **light**, **heat**, **energy**, **potential**, **movement** - all *completely free of charge* and *without external input*, while gradually destroying itself.

All things, *material* and *immaterial*, except matter itself, physically result from an immutable property of this dead matter - **gravity** - and nothing else.

So it is **dead matter** that creates and performs all of that which we ascribe to **our own actions**.

That may also serve as a guide.

## Epilogue

So much for a brief outline.

If the "*West*" cannot cope with its own findings, the old religions come again. 150 years are roughly the three *great generations* it takes to manifest a new social condition.

And such disorientation is definitely not "sustainable".

As shown above, however, **religion**, **economy** and **science** only *seem* to contradict one other; this becomes increasingly clear when all three concern themselves with **reality** and not with **products** of **fantasy**.

To which, on 'Potterism':

https://www.youtube.com/watch?v=tHGNf6nWUm0