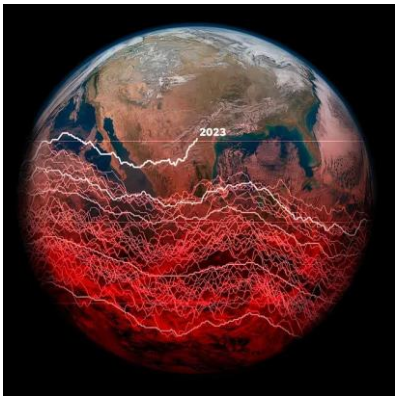
Bart Flos

OUR INNER LIMITS



Addendum V

The Beginning of The End: Ignorance

OUR INNER LIMITS

ADDENDUM V

The Beginning of The End: Ignorance

BART FLOS

Previously published by Bart Flos:

Het anti-klaagboek
Het anti-sleurboek
Het perfecte project
De kenniskermis
Vooruitkijken voor gevorderden
De mens als grens ('Our Inner Limits')

As addenda to 'De mens als grens':

Addendum I – Het begin van het einde: onwetendheid
Addendum II – De frontale confrontatie: klimaatverandering
Addendum III – Het grote probleem: overconsumptie
Addendum IV – Het laatste taboe: ineenstorting

As addenda to 'Our Inner Limits':

Addendum V – The Beginning of The End: Ignorance
Addendum VI – De Frontal Confrontation: Climate Change
Addendum VII – The Big Problem: Overconsumption
Addendum VIII – The Final Taboo: Collapse

Addendum IX – BONUS – The Next Step: Collapse Awareness
Addendum X – BONUS – The Last Resort: Collapse Acceptance
Addendum XI – BONUS – The Tough Choice: Collapse Resilience

Self-knowledge is the first step to adulthood.
Jane Austen

Civilization begins with order, grows with freedom, and dies with chaos.
Will Durant

We are only allowed to live on this planet as long as we treat all of nature with compassion and intelligence.
Aldous Huxley

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Introduction

In 2015 I published my fifth book, *Vooruitkijken voor gevorderden – Hoop voor de toekomst van mensaap en moederplaneet* ('Futurology for Fanatics – Hope for the Future of Man Ape and Mother Planet'). It is an easy-to-read book with the same design as its predecessor *De kenniskermis – Overleven in een zee van informatie* ('The Knowledge Fair – How to Survive in an Ocean of Information'). Short chapters of approximately 800 words, provided with QR codes and TED(x) talks, nice pictures and numerous references to other interesting books.

In *Futurology for Fanatics*, I not only discuss humanity's major problems, but I also provide hopeful solutions. By (daring to) look ahead 100, 1.000 and even 10.000 years, I paint a picture of the limitless possibilities that Homo sapiens has to shape its own future. The final goal? Preserving our planet to prepare it as a home base for the exploration of the cosmos.

I still remember someone calling me a 'naive idealist' then. I defended this fiercely at the time and replied that I preferred to call myself an 'incorrigible optimist'. "Yeah, yeah," was the response, "Dream on." But it really wás true, I wás sitting on a comfortable pink cloud and I wás looking through rose-colored glasses, which turned out to be a cold, metal telephoto lens and microscope. It wasn't until I got into my helicopter, flew as high as I could and started looking down that the scales fell from my eyes.

Fast forward to 2022

Since the publication of *Futurology for Fanatics* more than half a billion people have been added to the population, we have emitted another 285 gigatons of CO2 and the atmospheric CO2-level has risen from 400 to 418 ppm. That has categorically transformed me from an incorrigible optimist to a 'confrontealist', someone who confronts those around him head-on with hard science, with observation, research, facts and evidence.

My own research over the past two years has led me to write my sixth book, my Magnus Opus, which brings together all my previous work. *De mens als grens – Over de onbuigzame barrières van ons bestaan* ('Our Inner Limits – On the Unbending Barriers of Being') is much less hopeful as a plea, unfortunately, but it still contains solutions. These are now the last solutions we have left.

I'm sorry that this time I don't share hopeful dreams about the human species, which first preserves its planet and then seeks refuge among the stars. But it is time that we recognize, acknowledge and confess what we are: social group primates and hunter-gatherers, who are extremely proficient at surviving and reproducing. At the expense of everything and everyone. It's the nature of the beast.

Fast forward to 2024

When I delivered the final manuscript of *Our Inner Limits* to my publisher in October 2022, I could not have imagined how quickly things would get so much worse. The year 2023 is the year that we passed the 'elbow' of the exponential curve. This means that from now on, events affecting the environment,

biodiversity and climate will no longer follow a relatively linear path, but a chaotic, completely unpredictable one.

Since the publication of my sixth book, I have written almost 1.000 posts on *LinkedIn*, about 60 per month, 2 every day. In order not to let them go to waste in the endless timelines, I have included them in eleven addenda to *Our Inner Limits*: four in Dutch and seven in English. In these addenda I'm taking you on that accelerating path of decline as we embark on a journey from ignorance to climate change to overconsumption and collapse.

I would have liked to tell you something different, but it's not 2015 anymore. It is no longer 1970 either, when we could still dó something. Or 1990, pretty much humanity's last chance to avoid collapse. I was forced to give up the 'hopeful future of man ape and mother planet'. In turn, I hope you'll stick with it to work your way through the addenda, because it's a story that needs to be told. Science, truth and reality now tell us that we have actually waited too long. It is too late. Collapse is now locked into the system.

With these eleven addenda, I hope to arm you not only with facts and evidence and the latest insights from the scientific community. I especially hope that it will make you and your loved ones more collapse aware and resilient to what is coming. Because our future is no longer a few hundred years away, or in the next century, or at the end of this century, or in 2070 or 2050. Our future takes place in the next ten years.

To conclude, I don't think it would be prudent to wish you 'much reading pleasure'. I wish you lots of wisdom and strength instead.

About this book

The great thing about writing a post on *LinkedIn* is that, even more so than on Twitter and unlike Facebook, you are forced to limit your message to about 500 words (3.000 characters) for a post and about 200 words (1.250 characters) for a comment. *Schrijven is schrappen* ('To write is to delete' – thank you Simon Carmiggelt) is, as it were, enforced here, accurate to the very punctuation mark and that is good. Because it forces authors to shorten the message to a length that should be manageable even for the hurried, overloaded, *I'm-very-busy*-reader, without losing sight of the core message.

This book is an addendum, a supplement to my sixth book *Our Inner Limits*. There are a total of eleven addenda, four in Dutch and seven in English. The English addenda are not direct translations of the Dutch addenda. On *LinkedIn* I often respond to English posts in English. Sometimes I translate them into Dutch, but they also stand alone. The same applies the other way around: sometimes I translate a Dutch post into English, sometimes I do not. So, if you speak the English language – and who doesn't in the Netherlands? – and if you want to be completely informed, read all eleven. (If you don't master the Dutch language, I'm glad I am able to offer you seven English addenda. The gist of my message is just the same).

At an average reading speed of about 250 words per minute, each subchapter in this book will only take you a few minutes. So, I would like to say: do you have a little less time now? Then choose a few chapter titles that appeal to you and spend ten or fifteen minutes on them. Each post stands alone and all I did was put them into a book template and made sure that the information I referenced and responded to was not lost. So, you can pick up the addenda and

put them away whenever you want. In any case, it is best to take in the information in steps. I wouldn't want you to be overwhelmed.

Because the addenda are published as PDF books, the website links remain active. So, you can step out and take a trip to related information elsewhere and look for further depth there. In addition, you can find more links and information that apply generically in the appendices.

Each of the eleven addenda is the size of an average management book, between 30.000 and 40.000 words. The layout is like a complete book, so if you prefer to read on paper, you can easily submit the PDF as a print file to a print shop and voilà, you have a physical book in your hands, *easy peasy*.

The almost thousand posts were written from October 2022 through March 2024. All posts are presented in more or less chronological order and even though I present them in the form of a book, it is still a relatively loose collection of stories, insights and reflections. So don't be surprised by repetition and progressive insight. For a more structured foundation of my view on the coexistence and collaborating of the human species, I recommend that you read my book first or check out the website, which acts as a management summary to my book.

Each addendum is classified into 11 fixed chapters:

1. *The frontal confrontation*
2. *The collapse*
3. *Economy versus ecology*
4. *The Almighty Algorithm*
5. *Distraction, deception, doubt and deceit.*

6. *The climate collision*
7. *About climate stupidity*
8. *Looking down from above*
9. *Pollution, waste and destruction*
10. *Global consultation doesn't work*
11. *Science, truth and reality*

Please note: not all chapters appear equally in all addenda.

If you've worked your way through all eleven books, you'll have taken a journey from ignorance to climate change to overconsumption, collapse and acceptance. Not all journeys are equally enjoyable to make and this journey is one of the beginning of the end, of frontal confrontation, major existential problems and the very last, ultimate taboo: the collapse of human civilization as we know it today. That, by the way, does not necessarily mean 'the end of the world': the extinction of the human species. But it has now become a serious option indeed.

Finally: while in my book *Our Inner Limits* I leave it to the dear reader to draw their own conclusions about where the human species is going, I am much more explicit in these eleven addenda, more 'right to your face' and perhaps a bit blunt here and there. Because as a self-proclaimed *confrontealist*, I passionately believe that only a frontal confrontation with truth and reality can, perhaps, open our eyes to what is coming our way.

Good luck and success!

Bart Flos, Helmond | November 2023 – April 2024.

Chapter 1

The frontal confrontation

1.1
SM142
This is what needs to happen to mitigate overconsumption

My reaction to a post stating that 'climate change is getting worse', that it's 'affecting every place on Earth' and that 'it's accelerating', but that 'it's not too late and we can still do something about it':

"Good story. Informative read. It explains what 'we must do' to make this world a better place.

Allow me to be blunt here.

We knów this already! We already know for more than half a century that the excessive emission of greenhouse gasses warms up the atmosphere and disrupts the climate. We've had 27 climate conferences, produced thousands of climate studies by hundreds of climate scientists. Each report is more dire than the previous one.

We as a species are in a state of overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. That process has not just started, it's been going on for more than half a century and currently in its accelerating phase.

We have produced countless books, reports, articles, blogs, vlogs and TED(x)-talks, done 'a million' presentations, workshops, conferences and summits on the matter. None of these works, none I tell you, has had any durable influence on the inclination curve of the emissions of greenhouse gasses.

Do you want some more frontal confrontations with reality?

— CO2-emissions of fossil fuels and industry were 37,5 gigaton in 2022 (a gigaton is one billion tons), the highest ever recorded, rising to 43 gigaton in 2050.
— CO2-level in the atmosphere is currently 420 ppm (parts per million), rising to 500 ppm in 2050.
— We burn 100 million barrels of oil, 22 million metric tons of coal and 11 billion cubic meters of natural gas each day, adding 100 million ton of CO2 to the atmosphere daily.
— The average surface temperature is 1,2 degrees C above preindustrial levels. We might see the 1,5 degrees C barrier broken within the next 10 years.

If you put a marker on the curve of greenhouse gas emissions for all of the climate books, reports and conferences of the past century, there's no impact. None.

What does that tell you?

This post and article about our existential predicament are one of many. Too many maybe, because what is the point? The world population is growing by 1% each year, bringing us to 10 billion people in 2050. Each one of those will want to get rich, healthy, happy and grow old.

Here's a frontal confrontation for you. This is what needs to happen if we want to mitigate the consequences of overconsumption:

1 — All poor people must remain poor.
2 — All rich people must abdicate their wealth.
3 — Population growth must become population decline.
4 — Economic growth must become economic decline.
5 — We all must decrease our income by 20%
6 — We all must give up 50% of our savings.
7 — We all must go in complete lockdown for another ten years.

That is the energy-equivalent of our collective effort to dó something about overshoot.

Who's first in line to volunteer?

1.2
SM163
You do the math

Somewhere in April 2023 I read an article about the state of affairs with manmade climate change, that it is getting worse every day, but that it is not too late, that we can still do something about, as long as we start nów and do it fast.

The date of the article? October 2019. So, I did the math. Here's what I wrote:

"Since that time:

— We have burned 125 billion barrels of oil, 27 billion metric tons of coal and 14.000 billion cubic meters of natural gas.
— We have produced 238 million non-electric vehicles, 1.247 million tons of plastics and 6.860 million tons of generic waste.

This is our current status:

— The average global surface temperature is 1,2 degrees C above preindustrial levels.
— CO2-level in the atmosphere is 420 ppm rising to 500 ppm in 2050.
— Global population is at 8 billion people, growing to 10 billion in 2050. Each and every one of them will want to get rich, healthy, happy and grow old.
— We're expected to surpass the 1,5C warming marker within the next 10 years.

— The 2,0C marker is expected to be reached by 2050, to further trigger multiple climate tipping points.
— By the end of this century we're looking at 3 to 4C of warming, if we keep this up.
— Onwards from 4C of warming we create hell on Earth. Beyond 5 or 6C of warming organic life on the surface and in the oceans can no longer be maintained.

We've had 27 international climate conferences and six IPCC assessment reports. None of them have changed the increasing global emission of greenhouse gasses. The 28th climate conference is chaired by an oil sheik.

I think it is time that we change our 'pre-apocalyptic preventative attitude' into a 'post-apocalyptic mitigative attitude'.

What do you think?

PS By the time you read this, the above-mentioned statistics will have increased by 100 million barrels of oil, 22 million metric tons of coal, 11 billion cubic meters of natural gas, 190.000 non-electrical vehicles, 1 million metric tons of plastic, 5,5 million tons of waste and 11 million tons of concrete, per day. Now yóu do the math."

1.3
SM173
The venom is always in the tail

A watched a 12-minute video about our existential predicament, you know, with environmental pollution, biodiversity loss and climate change and all, and the venom was definitely in the tail.

The first 10 minutes of this video described our predicament in full detail:

Please note: we are currently following the worst-case scenario of greenhouse gas emissions: global warming slipping into a 'runaway climate' resulting in a 'hothouse earth'.

After 10 minutes of dire straits the last 2 minutes of the video are devoted to solutions. I'm paraphrasing here but it boils down to the following:

"Yes, we are in deep shit. It's all bad. We're really fucking up a perfectly good deal here. Look at these numbers! Look at those graphs! We can't go on like this. We must dó something. Only if we all work together, everywhere on the planet, we can still limit the damage. But we must start nów! The entire world must come together to finally act. The time to sit together at the campfire and sing Kumbaya is over. It is now time to act. It's not too late. We can still dó something. Come on folks, let's go! Let's do it! (*)"

Does this sound familiar? Do you see the resemblance with every other climate report, assessment or conference that we have produced over the past half

century? Do you think nów everything is finally going to change? That this video will finally 'do it' en makes us come to our senses?

(*) Did you know that Nike's slogan *'Just Do It'* is based on the last words of a criminal in the electric chair? It's just one of those ironies of life, I guess.

1.4
SM182
When the shit hits the fan

Every once in a while, an initiative of some kind floats by that suggests 'we might save the planet if we plant a lot of trees', casually mentioning that 'when we plant billions of trees, we'll all be just fine and dandy' (I'm paraphrasing my quotes here).

In my comments to this kind of hopeful but misguided statements it can be useful to be a tad blunt, to shake down the naivety and shortsightedness of these theories:

In order to compensate for the yearly emissions of greenhouse gasses we would have to 'plant trees' in the amount of a few times the size of India. We wouldn't have land left to grow our food. Growing trees won't make a difference if we keep heating up the atmosphere. Forrest fires will increase dramatically due to extreme heatwaves and droughts. All that newly planted carbon will just go up in flames.

Global warming is not the core problem here. Environmental pollution, destruction of the biodiversity and climate change are mere symptoms of overshoot or overconsumption; when a population exceeds the carrying capacity of its habitat. Overshoot is not just starting to happen. It's been going on for over half a century now and currently in its accelerating phase. Climate change is just one of the symptoms that stands out the most.

To date there's no consorted global effort to mitigate overshoot. All efforts are limited to individual, local or regional levels. CO2-emissions for fossil fuels and industry were at record levels in 2022. This year they will be higher. Global consumption of coal, oil and natural gas are up, not down. Plastics and cement production is up, not down.

The GWP (Gross World Product), a measure of economic growth, is at $ 104.000 billion dollars and rising. We are with 8 billion people, growing to 10 billion in 2050. Each and every individual wants to get rich, healthy, happy and grow old. The 'world population' doesn't exist. Countries don't exist. We are splintered into hundreds of millions of small social groups of family, household, friends, colleagues and teammates.

Each of these small groups are, formally or informally, led by individuals. Each individual wants to at least keep what they've got, preferably a little more. Nobody wants to decline. We all point to others to change. We are, as a species, not meant to be with 8 or 10 billion. We are meant to roam the savannas in small social groups.

The earth's atmosphere, biosphere, lithosphere, hydrosphere and cryosphere are getting destroyed by our own doing. We are triggering countless tipping points beyond repair. We've simply waited too long. It has become inevitable, unavoidable and immanent: our suprasystemic infrastructure will collapse. It's just a matter of time.

When that starts to happen, when the shit hits the fan, we won't have an off switch.

1.5
SM192
The heart of our existential predicament

I read an article with the title 'Oil & gas & coal dominance is over' [sic]. I contained hopeful statistics that renewables were about to take over the world and everything would be dandy real soon.

This was my reaction:

"Look, I'm glad that we try to counter all the negativity about climate change with this positive news. Hurray! Ending the dominance of oil, gas and coal, sure, that would be awesome. We only have to replace the 1,6 billion combustion engine vehicles on earth by electrical ones and everything will be alright.

Forgive me for being the rational skeptic here, but at some point, you would expect all this positive news to show in the global numbers on the opposite side. Allow me to explain.

We know for over half a century now that we're fucking up the environment. We are exceeding the carrying capacity of our habitat in accelerated pace — a process called overshoot or overconsumption — and we keep pumping greenhouse gasses into the atmosphere:

— CO2-emissions for fossil fuels and industry were at a record high in 2022: 37,5 gigaton. It will rise to 43 gigaton in 2050.

— CO2-level in the atmosphere is 420 ppm, rising to 500 ppm in 2050. In order to survive we need that to be between 200 and 300 ppm.
— Global average surface temperature is at 1,2C above preindustrial levels, rising to over 2,5C in 2050.
— Global oil, gas and coal consumption is up.

With all this positive news, you would expect these global numbers to fall, not rise. Can somebody please explain that to me? Like I'm eight years old? It just doesn't add up. There's something ominous going on and that has to do with the concept of overshoot.

Environmental pollution, destruction of the biodiversity and climate change are mere symptoms of overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. We shouldn't treat them as separate core problems, because we would be guilty of *symptoms fighting*. Overshoot is not just beginning. It's been going on for over half a century now and currently in its accelerating phase.

What we don't seem to understand is that overshoot is always met with collapse. It's a natural law. In our case this implies the suprasystemic collapse of our infrastructure. After collapse the entire system seeks a new equilibrium.

The first thing that goes is electricity. Everything we do is based on electricity. We are completely dependent on it and we wouldn't know where to crawl when we're suddenly deprived of it. All our devices would turn black within a day, but that wouldn't matter because the internet would fail a couple of days later.

Look at what's happening right now, all over the planet. Our habitat is in a state of feedback loop: climate tipping points are triggering climate tipping points that pass planetary boundaries to the point of no return.

This year the El Niño / La Niña cycle is reversing. It will go from a cooling effect to a heating effect which will show in extreme heat and drought the next few years. It's not a run against time. We're already out of it.

For over half a century now we know what the problem is. We have analyzed it to the bone. We have produced thousands of climate books, reports, analysis, videos and conferences. None of these have had any effect on the emission of greenhouse gasses. None!

We've had 26 international climate conferences that had no effect on consumption of oil, gas and coal. It's still going up. The 27th conference is chaired by an oil sheik, for crying out loud.

Currently there's no consorted global effort to mitigate overshoot. All action is on individual, local or regional level. Global population is at 8 billion, growing to 10 billion in 2050. All of these people want to be rich, healthy, happy and grow old. Nobody wants to decline or reduce. Everybody wants to at least keep what they've got, preferably get a little bit more.

I understand that we put our trust in technology. And yes, there's some positive trends to be mentioned. But if we look at the numbers at the highest level, the global level, all of the bad numbers are still going up, not down. All of our efforts to mitigate climate change are based on a stable global infrastructure. But we're headed for the suprasystemic collapse of that infrastructure.

I've spent two years doing research on the matter and published my 6th book book about it in December of 2022. I'm really quite worried that we've fucked it up this time, in real time ('Don't Look Up').

The extreme weather and the climate disasters that are washing over the planet: we really had it coming. We've been talking about it for over half a century and essentially changed nothing about our status quo. We're so good a writing reports and organizing conferences, that we forgot to put it into practice on a global scale.

Well, we didn't forget. We talked about it. And then some more. And we made plans. And expressed intentions. But we didn't commit to it. All of the agreements from climate conferences were optional. No obligation at all. No consequences for not acting. No penalties, no sanctions of any kind. Because who would enforce these sanctions? We are not a United World of Nations with a World Government and a World Leader. This is not StarTrek.

Early signs of suprasystemic infrastructural collapse are: inflation, rising prices of goods and energy, polarization, division, isolationism, nationalism, conflict, crisis and war. Do you recognize any of these events? Why do we, 'the people', don't take control? Why don't we step up and turn this around? That's because 'the people' don't exist. There's no such a thing as a 'global community'. Allow me to explain.

Current world population is 8 billion, growing to 10 billion in 2050. We are divided across 200 nations. But these nations don't exist either. Each nation consists of countless communities, but even they don't exist. Each community holds counties, provinces, cities and villages. But they don't exist either.

The world's population is divided, splintered and fragmented into hundreds of millions of small social groups of family, household, friends, colleagues and teammates. Each of these small groups is led by individuals who primarily take care of themselves and their small social groups. The only reason why we as a species cooperate on a global scale is because it benefits individuals and their small groups.

That's something worth contemplating because it lies at the heart of our existential predicament."

1.6
SM194
'It's either this or that'

It's interesting to see how often we seem to think that there are only two options to remedy a situation or problem. If we see something flying that we can't immediately identify, it must be a flying saucer with aliens from another planet.

'It's either this or that' – 'If I'm right, then he must be wrong' – 'If she doesn't do anything, I will' – 'If renewables rise, fossil fuels will fall'.

Our choices are never twofold. It's never either this or that. Whenever I see two choices I always think or ask, 'What else can it be?' – 'What other options do we have?' – 'What other choices are there?' Same goes for the problems that we see in the world today, with the environment, the biodiversity and the climate. We're desperately seeking solutions by treating them as core problems and thereby isolating them from the overarching issue, overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat.

It might seem that we're making progress with 'the rise of renewables' but we seem to forget that we still need fossil fuels to set up this new suprasystemic infrastructure. That's why we keep on pumping greenhouse gasses into the atmosphere. In order to make the transition to that 'renewed' infrastructure we need a stable cúrrent infrastructure. And we need it to be stable for at least

the next three decades or so. Without a stable infrastructure all efforts to shift will crumble.

Early signs of suprasystemic infrastructural collapse are: inflation, rising prices of goods and energy, polarization, division, isolationism, nationalism, conflict, crisis and war. Do you recognize any of these events?

As an example: most of the infrastructure in the USA is above ground. The extreme weather events and climate disasters that wash over our planet are especially hurting the infrastructure there.

The USA is divided to its core. The Democrats fight for the climate and the wellbeing of its constituents, the Republicans deny climate change and don't give a flying fuck about the environment (or their constituents for that matter). I'm exaggerating here, but you get my drift.

Do you think Russia and Ukraine are engaged in preserving the infrastructure to make this world a better place? Conflict, crisis and war are the result of growing inequality, division and nationalism. They will increase as mass migrations start to develop as a result of climate change. The entire world is in a destructive feedback loop and we still think we have decades to fix it. I do fear that we have waited too long to fix our problems. We've been fighting symptoms all along and now it's coming to hunt us down.

It's quite disconcerting really.

1.7
SM217
From incorrigible optimist to confrontealist

I saw yet another article floating by that painted a hopeful picture of the future of humanity, which said that:

'Sure, we're in a fine mess here and we see lots of problems with the environment, the biodiversity and the climate. Yup, it's really bad, but not as bad as you might think. Because it's not too late, we can still do something about it. Just look at all of the positive developments in the world! We can extrapolate that right into the bright and sunny future that we still have'.

(I'm paraphrasing here just a tad).

This was my response:

"With all due respect, but it is completely useless to spread messages like this around. It's false hope. It is 'hopium for the people'. It gives the impression that it is not yet too late, that we can still do something, that we can still intervene in our collective fate.

Eight years ago, I felt exactly the same way when I published my fifth book titled *Vooruitkijken voor gevorderden* (*Futurology for Fanatics - Hope for the Future of Man Ape and Mother Planet*). I used the same arguments to paint a

positive picture of the future of the human species. Back then I still called myself an 'incorrigible optimist'.

In December of 2022, I published my sixth book entitled *De mens als grens* (*Our Inner Limits — On the Unbending Barriers of Being*).” I am now a self-proclaimed 'confrontealist', because only a frontal confrontation with our hopeless future can perhaps open our eyes.

Environmental pollution, destruction of biodiversity and climate change are not core problems. They are mere symptoms of the overarching Problem of Problems: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Overshoot has not just begun. It has been going on for more than half a century already and is currently in its accelerating phase. Overconsumption is always punished by collapse. In our case, it implies the collapse of the suprasystemic infrastructure and with it, of human civilization as a whole.

But beware: overshoot is not a meteorite impact or an atomic bomb. It is a process that spans several generations. Each overlapping generation is something like thirty years and the next hundred years includes three generations that will be worse and worse off. The way things are going right now, this generation will already witness the beginning of the end. But our children will be living on the edge of hell and our grandchildren will inherit a world that is devoid of prosperity and wellbeing.

We are totally unprepared for the collapse of our society. We will keep pumping greenhouse gases into the atmosphere until the very last minute, parallel to the cascade of collapses of our food supply chains around the world. Let's stop spreading false hope. Instead, let's make ourselves and our loved ones more

resilient to the inevitable: it's going to get a whole lot worse and, as we're going right now, it doesn't seem to get better ever again.

Want to know more about overshoot? See Appendix IV.

1.8
SM218
What we really need to do

With all the existential shit we're in with the environment, biodiversity and climate and all, I find it amazing to see that we're still grasping for straws, trying to cling on to individual, local and regional initiatives to make our world, our living environment, a better place. But we don't seem to realize what a gargantuan task it is to fix our shit. To be clearer and a tad blunter: we haven't got a bloody clue what it really takes to turn things around.

Ok. Here we go.

First of all: environmental pollution, destruction of the biodiversity and climate change are mere symptoms of the overarching problem: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Overshoot isn't just beginning. It's been going on for over half a century now and currently in its accelerating phase. Overconsumption is always met with collapse. It's locked into the system. For us that implies the collapse of our suprasystemic infrastructure.

Overshoot is serious shit. Here's what we actually need to do:

1 — All poor people must remain poor
2 — All rich people must abdicate their wealth
3 — Population growth must become population decline
4 — Economic growth must become economic decline
5 — We all must decrease our income by 20%

6 — We all must give up 50% of our savings
7 — We all must go in complete lockdown for another ten years

That is the energy-equivalent of our collective effort to mitigate overshoot. Currently there's no consorted, coordinated, consolidated global effort that even comes close to this combined set of actions.

The ideal world population lies between 1 and 2 billion. We are currently with 8 billion, growing to 10 billion in 2050. Each of these individuals will want to get rich, healthy, happy and grow old. Nobody wants to decline or reduce. Everybody wants to at least keep what they've got, preferably get a little bit more. It's simply unsustainable.

Want to know more about overshoot? See Appendix IV.

1.9
SM228
Something to quietly contemplate

We keep thinking that planting trees will significantly contribute to the mitigation of climate change and sometimes it seems that we imply that storing CO2 in global forests is the best way forward.

"Let's all plant trees, because we are with 8 billion people and if we all plant a tree a day, we will have planted 3.000 trillion trees in a year. Kumbaya!"

Apart from the sheer impossibility to motivate everybody in the world to repeat any kind of active deed every day, let alone motivate entire nation states with hundreds of millions of people to commit to such a drastic change of habits, let alone motivate the people in your neighborhood, it doesn't matter. None of this will matter if the levels of CO2 and methane in the atmosphere keep rising.

Storing CO2 in global forests is fine and it's a natural way to store carbon. But forests dry out as a result of climate change. Then they dry up and then they burn down to the ground. Large forest fires are unstoppable. They consume wood until the supply is gone. We try to throw water at it, but that's like throwing a bucket of water on a burning house.

Look, it's not that I'm opposed to a bit of good news now and then. But if it doesn't lead to a global effort to mitigate the dire effects of overshoot (*) it's ultimately pointless. The CO2-level in the atmosphere is 420 ppm, rising to 500 ppm in 2050. In order for the human species to survive, we need to get

that back to 200-300 ppm. If we don't, the atmosphere will heat up further and burn our forests to the ground, releasing all the carbon back into the atmosphere.

Planting and protecting forests is not going to do the trick. It's false hope, 'hopium for the people'.

(*) Overshoot or overconsumption: when a population exceeds the carrying capacity of its habitat. Environmental pollution, destruction of the biosphere and climate change are symptoms of overshoot. Overshoot is not just beginning. It's been going on for over half a century now and currently in its accelerating phase.

Overconsumption is always met with collapse. For us that implies the collapse of our suprasystemic infrastructure. That won't be like a big bang, a meteorite strike or an atomic bomb.

It takes 3 to 4 generations for the collapse of our infrastructure becomes global. That's well over 100 years of accelerating decline, in which each generation will be exponentially worse off than the one before. The previous generation was the last one better off than all of the generations before. This generation will experience the beginning of the end. Our children will see the edge of hell on earth and our grandchildren will live in a world devoid of wellbeing and prosperity.

That's locked into our suprasystem: planet Earth with its 8 billion people, growing to 10 billion in 2050. All of these people will want to get rich, happy, healthy and grow old. Nobody wants to decline or reduce. Everybody wants to at least keep what they've got, preferably get a little bit more. It's simply

unsustainable. No number of planted trees or protected forests will help us. It's the 150 million tons of CO2-equivalent that we keep pumping into the atmosphere every day that will do us in.

We should stop spreading false hope. Instead, we must change our pre-apocalyptic preventative attitude into a post-apocalyptic mitigative posture. In other words: we must become more resilient. Our children too. Get them of off their smartphones and teach them how to make a fire, cook a meal, find water and make shelter. Learn them to hike 10 kilometers with a backpack of 10 kilo.

The previous 3 generations ruined it for the next 3 generations. Luckily, we don't have to explain that to them, since we'll all be gone by then, or at we'll least reduced to numbers só scattered around the globe, that it wouldn't matter any way.

Something to quietly contemplate, when you have a moment.

1.10
SM229
Results of the past will offer no guarantees in the future

When I cast my dire predictions about the future of humanity, whether that's the rise of AI or the concept of overshoot (*), I often get the same comments. The argumentation varies, but boils down to this:

'People have always predicted the end of civilization, and look, we're still here!'

Or:

'Our great-grandfathers feared technology too and look, we're still growing strong. AI is just the same'.

I know this line of reasoning all too well. And with all due respect: it is fundamentally flawed. As with gambling and stock trading, 'experiences, results and achievements of the past will offer no guarantees for the future'. Allow me to use an analogy to explain myself:

An exponential curve starts out with an almost flatline. In this stage the underlying 'equation' is the same, but the effects measured on the vertical axes are unsubstantial (1). Further down the line the curve starts to incline a bit, as

a fore-sign of what's to come. The effects measured on the vertical axes are still limited (2).

Then the exponential effect of the equation starts to kick in. Within only a fraction of the time passed on the horizontal axes the curve shoots up, almost vertical, until the system collapses and a new equilibrium is reached (3). To further this analogy: our great-grandfathers lived in (1), our grandfathers in (2), we are at the beginning of (3), our children halfway of (3) and our grandchildren on top of (3).

It's true that the previous generation was better off than all of the generations before. But what is the point of exponential progress, if it is met with catastrophic collapse? What is the point of all of our inventions and innovations, if they're rendered moot by the cascade failure of our electrical grid?

What's the point of human civilization, if we accelerate our own demise?

(*) Overshoot or overconsumption: when a population exceeds the carrying capacity of its habitat. Environmental pollution, destruction of the biosphere and climate change are symptoms of overshoot.

If you're interested in the concept of overshoot, see Appendix IV.

1.11
SM234
Arguments and counterarguments

Someone posted an article full of hope about the future of humanity in the form of 'ten reasons why we are nót all going to die miserably' (I'm paraphrasing here). I've summarized the argumentation in ten arguments from the author of the article and my counterarguments. Again, I am paraphrasing, but that's not the point.

1 — We are smart and have all the answers already.
Spot on. We know exactly what we need to do. But we don't. I want to answer the question why we don't.

2 — Climate scientists have researched our predicament to the bone.
As climate change solutions go, the theory is solid indeed, but the execution is inhibited by the very nature of Homo sapiens.

3 — There's been some remarkable progress on individual, local and even regional levels.
That's right, but any isolation of sub-problems is called symptoms fighting. There's a lot of that going on right now. It just doesn't scale up to global levels.

4 — Climate change is a core problem.
Wrong! Environmental pollution, destruction of the biodiversity and climate change are symptoms of the overarching problem: overshoot or

overconsumption, when a population exceeds the carrying capacity of its habitat.

5 — The majority of people that want to save the world are more powerful than the minority that does most of the damage.
This is not about minorities or majorities, it's about who holds power. The minority holds the power. The 1% that does the most damage also holds the power to resist and sabotage change.

6 — The climate crisis is a human crisis.
No, it is not. Humans only suffer as a consequence. The climate crisis is a power crisis. Climate change is a symptom of overshoot and a consequence of unequal power distribution.

7 — If people only realize what they are doing as consumers, they will start to feel guilty.
Interesting point, but irrelevant. We, in general, don't feel guilty about our consumeristic behavior and our wealth, prosperity and wellbeing. We feel like the mishap in the world isn't caused by us, doesn't apply to us, that we've earned it.

8 — People can influence one and other top down ánd bottom up
The actual influence of an individual is directly and ultimately related to power. Power is everything. But both minorities and majorities, whether they are powerful or powerless, are driven by the same thing: survival and procreation.

9 — We should all contribute to a less material and more spiritual life.
That's all nice and dandy, but when push comes to shove, nobody wants to decline or reduce. We all want to at least keep what we've got, preferably get a

little bit more. On top of that, our personal needs and the needs of our small social groups always come first.

10 — It's not too late, we can still do something, but we must start now.
Now? We should have started 50 years ago. Overshoot or overconsumption is always met with collapse. It's locked into the system. For us that implies the collapse of our suprasystemic infrastructure. The process as a whole is already underway for more than half a century and has entered its accelerating phase. That means we have already passed the 'elbow' of the exponential curve.

Collapse won't be like a meteorite strike or an atomic bomb though. It will spread out over several generations, at least another 100 years, and each generation will be exponentially worse off than the previous one.

Allow me to blunt here: we're totally fucked as a species. It's too late, we waited too long. The ideal world population lies between 1 and 2 billion people. But currently we are with 8 billion, growing to 10 billion in 2050. The global community is an illusion. We are splintered into hundreds of millions of small social groups, led by individuals that, in general, take care of their own needs first. Homo sapiens is a species of hunter-gatherers. From an evolutionary perspective we're totally unsuitable to be with billions. We were meant to roam the savannas in small social groups of say, 25 people each.

What is the solution to all this? There's none. The only thing we can do is accept the inevitable and become more resilient to collapse. And teach our children to become more resilient. Because this generation will see the beginning of the end, our children will live on the edge of hell and our grandchildren will inherit a world that is devoid of prosperity and wellbeing. We'd better enjoy what

we've got whilst we still have it. Because there will be no going back once the shit hits the fan.

1.12
SM238
Our weakness lies in vast numbers

There it was again, that meme that was rushing its way through the social media platforms:

"I'm just one person… said 8 billion people".

It implies that our strength lies in vast numbers, that we are a *Global Community* and if we pull all of our resources together, we can fix even a rainy day. But the hard truth is exactly the opposite: our weakness lies in vast numbers. Allow me to explain.

We're with billions for many decades now and we didn't come together at all! We've only made things worse by being fundamentally divided, unequal, greedy, selfish and power hungry, present company excluded, I'm sure. We now have polluted the environment, destroyed the biodiversity and warmed the climate to the extent that we're rendering our own habitat uninhabitable, moving towards potential extinction as a species.

Why haven't we come to some international effort to mitigate overshoot (*)? Why didn't we pull together as one?

That's because the global community is an illusion. We are nót 'together' with 8 billion people at all! We are hopelessly divided, splintered and fragmented across hundreds of millions of small social groups, led by individuals that, on

average, take care of their personal needs and the needs of their social groups first.

We're growing the human population with 1% each year, adding 80 million people to the human equation each year. That will bring us to 10 billion people in 2050. All of these new individuals will want to get rich, happy, healthy and grow old. Nobody wants to decline or reduce. Everybody wants to at least keep what they've got, preferably get a little bit more.

It's simply unsustainable.

(*) Overshoot or overconsumption: when a population exceeds the carrying capacity of its habitat. Environmental pollution, destruction of the biodiversity and climate change are symptoms of overshoot.

If you're interested in the concept of overshoot, see Appendix IV.

1.13
SM239
Are we really that stupid?

We, the human species, we occupy the land. We don't occupy the sea, but merely travel across it from land to land, trying to kill and consume as much sea life as we possibly can. About 70% of the surface of our planet is made up of oceans, but once we're back on dry land, we don't seem to realize that we can't survive without the oceans.

The oceans suck up superfluous CO2 and provides us with oxygen. It transports heat from the equator to the poles, regulating our climate and weather patterns. More than 3 billion people rely on the ocean for their livelihoods, the vast majority in developing countries. If we mess up our oceans, we mess up ourselves, whether we occupy dry land or not.

And now, after having exceeded the carrying capacity of our habitat for over 70 years, a process called overshoot or overconsumption (*), our oceans are increasingly suffering from heat waves, resulting in massive acidification and deoxygenation. Especially during the past two decades, more than half of our oceans have turned from a beautiful blue to a toxifying green, caused by changes in the surface marine microbial ecosystem, with phytoplankton at its core, as satellite observations have uncovered.

This scares the bejesus out of me. It really does. This is not like watching a disaster movie; this is like being in one. It fills me with emerging doom and it's

a really weird feeling. Because there's nothing I can do about it. There's nothing anyone can do about it anymore. We're too late, we've waited too long.

"We really fucked it up this time / it's probably happening in real time". (Don't Look Up).

The atmosphere, biosphere, lithosphere, hydrosphere and cryosphere have entered a state of cascade failure, the prelude to suprasystemic collapse. We have passed the 'elbow' of the exponential curve and that is equal to passing the point of no return. But what happens to the oceans is not our core problem. Environmental pollution, destruction of the biodiversity, ocean acidification and climate change are mere symptoms of the overarching Big Existential Problem: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat.

Overshoot is not just beginning. It's been going on for over half a century now and currently in its accelerating phase. That means it moves fast, much faster than we anticipated. This generation will already witness the beginning of the end of human civilization. Our children will be living on the edge of hell and our grandchildren will experience a world that is devoid of prosperity and wellbeing. Overshoot is always met with collapse; it's locked into the system. In the history of this planet, 99,99% of all species have gone extinct. We, Homo sapiens, 'the wise, modern, thinking man', are the only ones accelerating our own demise.

How stupid is that?

(*) If you're interested in the concept of overshoot, see Appendix IV.

Chapter 2

Looking down from above

2.1

SM133

Why we are so easily disgruntled about isolated actions

As a reaction to USA President Biden's announcement to pump up an additional 180 million barrels of oil on a daily basis:

"We might feel angry about this and I understand it. Because it's Joe Biden! And he's supposed to be a 'good guy.'"

Let's add some perspective here:

— The annual emissions of CO2 for fossil fuels and industry were 37,5 gigaton in 2022. A gigaton is a billion ton.
— The annual emissions of CO2 by the US of A are 5,1 gigaton or about 14 million ton daily. That's about 14% of global annual emissions.
— Currently we burn 100 million barrels of oil, 22 million metric tons of coal and 11 billion cubic meters of natural gas globally every day, adding 100 million ton of CO2 to the atmosphere daily.

— The US of A burns about 18 million barrels of oil on a daily basis.

Joe Biden's 'scandalous action' equals to about 1% of USA daily oil consumption (0,2% of global consumption) and 1,5% of daily CO2 emissions.

I'm not saying that it's a good decision. It's not. It's bad. But just know that the economic plans of the 200 countries of the world are nót to decrease CO2-emissions. They will go úp from 37,5 gigaton in 2022 to 43 gigaton in 2050. Oil, coal and gas consumption are going úp. CO2-levels in the atmosphere are at 420 ppm, rising to 500 ppm in 2050.

We shouldn't be disgruntled by good old Joe. We're all in this together."

2.2
SM149
When I talk about 'we', who am I talking about?

When I say that 'we' have an existential problem, or talk about the wat 'we' should tackle the overarching issue of overshoot, or state that 'we' have a genuine problem on our hand that we can't fake away, what the heck do I mean?

— 'We' are Homo sapiens, the human species.
We are masters of international cooperation and we completely dominate the planet. But we are also fundamentally single-minded, short-sighted and selfish.

— 'We' are the result of hundreds of millions of years of evolution and natural selection.
We are social group mammals and hunter-gatherers in nature. Our brain is perfectly suited to roam the savannas, but completely unsuitable to cope with exponential growth.

— 'We' are living in small social groups of family, household, friends, colleagues and teammates.
Everything we do is for the benefit of ourselves and our small social groups. Our orientation is primarily supralocal in both time and geography.

None of the ‘millions of climate books, reports or conferences of the past half century has changed anything about the increased emissions of greenhouse gasses. None!

All the thinkers and researchers we tend to mention when we address our problems are brilliant in coming up with ideas and theories to improve our existential predicament. I agree fully. But none of them have been implemented on a global scale. ‘We’ seem clueless about and powerless to stop accelerated overshoot.

I find that quite disconcerting, don’t you?

2.3
SM152
Why don't we answer the why-question?

I read through a well-written article about the existential problems we're facing with environmental pollution, biodiversity loss and climate change (the symptoms of overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat), in which it was again underlined, stipulated and repeated what we need to do to solve these problems, why we need to act fast and what happens if we don't.

I hád to say something:

"Good read. It's succinct, precise and confrontational. 'We know what to do, but we don't'. Spot on! But why (!) don't we do what it takes to avoid disaster? That question remains unanswered: why are we as a human species acting so irrationally, so stupidly, so low in maturity? To answer this Ultimate Why-Question, let me take another approach here.

I've isolated a few key words:

— *Global community*
— *Governments*
— *Industry*
— *Present and future generation*
— *Society*

What's the common denominator here? Well, they all don't exist! They are human constructs with specific rules, agreements and laws that we use to define large groups of human beings living and working together. But the global community is an illusion! It is a suprasystem, an abstract collection of 200 countries and governments divided into societies and large groups that don't exist either.

Allow me to explain.

— A large society is a country, a nation or a state.
— A small society is a region, a province, a town, a village or a neighborhood.
— The large groups are our companies, corporations and multinationals.

The real focus should be on our small groups: family, household, friends, colleagues and teammates. A small group consists of 5 to 15 individuals, maybe 25. Each individual human being is driven by the same motivation: survival and procreation. Nobody wants to decline or reduce; we all want to keep what we've got and increase it if we can.

The entire world population of 8 billion people consists of about 500 million small social groups of individuals that don't want to decline. Each of the 2 billion people that we're going to add to the global community by 2050 will want to get rich, healthy, happy and grow old.

— Our living environment might be dying, but we need to pay the bills.
— Our future might be bleak but we need to run our businesses and keep the money coming in.
— Our habitat might be crumbling beneath our feet, but we need to protect our offspring and allow them to prosper like we did.

What do we do right after reading an article like this? We go back to what we did before: protecting our individual interests and the interest of our small groups. And that is a generic phenomenon: it's independent of culture and hierarchical position. It's the same whether you're rich or poor, powerful or powerless.

We are fundamentally divided as a species. We are splintered into countless small social groups that only look and feel like a global community. But in fact, we still act as hunter-gatherers, social group mammals, able to cooperate on a global scale, but fundamentally single-minded, shortsighted and selfish.

The Ultimate Problem lies in evolution and natural selection. It's the nature of the beast that drives us to extinction and it appears that there's nothing to stop it.

That's quite disturbing, don't you find?

2.4
SM159
Why 'the people' don't exist

Somebody wrote that once 'the people' finally discover what is actually going in the world with environmental pollution, biodiversity loss and climate change (the symptoms of overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat), there will be a collective awakening, a massive rise to regain power and fix all that is wrong with our world.

This was my reaction:

"They won't. Because 'the people' don't exist. 'The people' are divided across 200 large societies called countries. But countries don't exist either. They consist of small societies: counties, cities, villages. But small societies don't exist either. They're divided into large and small groups.

The large groups are our organizations, corporations and multinationals. But they don't exist either. Large groups consist of small groups of family, household, friends, colleagues and teammates. They are formally or informally lead by a single human being. Individuals and small social groups dó exist. They are the only entity that matters.

'The people', the world population, the human species Homo sapiens, 8 billion of us, are splintered into 500 million small social groups of individual human beings, each with the exact same mode of operation: survival and procreation.

It's independent of our place in human hierarchy. It doesn't matter whether you're rich or poor, powerful or powerless, we all strive for the same thing: keeping what we've got and always wanting more.

These are the facts and they are undisputed. Evolution and natural selection drive us. All the rest is an imaginary human construct, a pipe dream.

1'Human civilization' doesn't exist. Only small social groups and individuals exist, some rich, some poor, some powerful, some powerless. The collapse of civilization isn't like a meteorite strike or nuclear war. Suprasystemic collapse is the accelerated breakdown of a large collection of small groups until it crosses a point of no return. That's when a large mass starts to panic of control.

Money is a human construct, as set of agreements, laws and regulations. The first thing that becomes totally meaningless after a collapse is money. When our infrastructure collapses only trade goods are valuable. Even human life loses its value when a society collapses.

There ís no 'everyone'. There's only individuals and small groups that act out of sheer self-interest. In times of collapse the sum of all parts breaks down. Communities don't exist. They immediately disappear in times of collapse. Individuals will safeguard their small groups first. Sometime after the collapse they might form communities again.

Your contemplations are based on a stable suprasystemic infrastructure. As long as we have that, we can theorize all we want. But when the shit hits the fan, we all run for our lives. Because that is human nature too."

2.5
SM180
From Homo sapiens to Homo infantilicus

Every time I see some debate about how we should call the specific era the human species is in, the *Holocene* or the *Anthropocene*, I wonder if we truly understand where we're headed. The point I have made countless times on *LinkedIn* and elsewhere, is that we should seriously evaluate our academic position with reference to the concept of overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat.

Environmental pollution, destruction of the biodiversity and climate change are mere symptoms of overshoot. Overshoot is not just beginning. It is accelerating. For the past half century, we have produced countless climate books, reports, analysis, TED(x)-talks and conferences. We know everything there's it to know about our existential predicament.

And yet, none of these produces have ever stopped the increase of greenhouse gas emissions. In 2022, the global CO2-emissions for fossil fuels and industry were the highest on record (37,5 gigaton). Global consumption of coal, oil and gas is increasing, not decreasing. We've had 26 international climate conferences and each time the situation is worse than the one before. The 27th conference is going to be chaired by an oil sheik.

Currently there is no globally coordinated initiative to mitigate overshoot. All efforts are limited to individual, local or regional levels. None of these efforts

scale up. It seems less relevant to have an academic debate about what we should call this period of self-destruction.

And that was me putting it nicely. Because if I was blunter, I would say that those kinds of discussions are moot. Completely useless. It doesn't help us in any way. We should call it what it is: we are a 'suicide kind'. We have such potential, yet the only thing we can come up with it is depleting our resources, polluting the environment, destroying the biodiversity and changing the climate. With a vengeance.

It doesn't matter how we define these times. It doesn't matter who actually does it. The way we're going forward, we are truly doomed as a species. Just imagine explaining yourself to future generations:

'I'm sorry we fucked up so badly, guys. But we were still busy determining the best way to describe the era we were in'.

So, if you feel there's 'critique' in my response, you're quite right. But I'm not critical of you, dear reader, or of the few that spoil it for the rest of us. I'm flabbergasted by our collective, limitless stupidity as a self-aware, 'intelligent' species.

We're not Homo sapiens; we're Homo infantilicus.

2.6
SM221
How something so good can be so bad

I fear I must deprive you of an illusion, as it was deprived of me. I used to call my illusion "Rosling's Progress" (in my 2015 book *Vooruitkijken voor gevorderden* – Futurology for Fanatics), but I've since been "converted."

I was a huge fan of Hans Rosling and his institute and, in fact, I still am. His efforts to statistically visualize our misconceptions about the world are unparalleled. Take his YouTube video '200 countries, 200 years, 4 minutes':

https://youtu.be/jbkSRLYSojo

It's taken me almost a decade to realize what's so terribly wrong with it. Rosling does not describe 'global health' but 'human sickness'. The “progress” he visualizes is actually a catastrophic decline. To understand that all you have to do is add a few lines to his 3D graph:

— *The growth of the GWP, the sum of all GDPs of the world.*
— *The growth of greenhouse gas emissions.*
— *The increase in the CO2 content in the atmosphere.*
— *The rise in average surface temperature.*
— *The decline in biodiversity.*
— *The increase in environmental pollution.*

Rosling's progress actually visualizes a population that exceeds the carrying capacity of its own living environment, in other words the phenomenon of overshoot or overconsumption. His "vibrating spheres," however well-intentioned, illustrate the beginning of collapse and with it the end of our civilization. After all, overconsumption is always accompanied by collapse, it is ingrained in the system.

Homo sapiens, 'the wise, modern, thinking man' is completely unsuitable to populate this planet with eight billion people, let alone with the ten billion people we will grow to in 2050. For millions of years, we have roamed the savannas as hunter-gatherers in small groups, living in relative harmony with our natural environment. Ten thousand years ago we started farming and the agricultural revolution began.

Author Yuval Harrari aptly calls this “our greatest mistake.”

Our ecological footprint is already almost twice as large as the planet can support. In fact, the ideal population of the human species lies somewhere between 1 and 2 billion people, closer to 1 than to 2. Overshoot has not just begun. It has been going on for over half a century now and is currently accelerating. We are past the point of possible recovery. The collapse of our suprasystemic infrastructure will unfold before our very eyes.

But it won’t be like a meteorite impact or atomic bomb. This process that will spread out over several generations. It is our children and grandchildren who will bear the real burden of our boundless ignorant and stupid behavior. They will come to live in a completely different world from which all luxury, prosperity and well-being will be depleted.

Just be aware that, where my observations of Hans Rosling are concerned, I'm also a bit sarcastic. Hans Rosling always said 'I teach global health' whilst he was in fact, probably unbeknownst to him and the people that surrounded him, propagating 'human illnesses. In fact, as it has turned out, he gave us exactly the data we needed to confirm overshoot or overconsumption.

Still, I'm sure, if he were here today, and I would ask him to add those 7 additional curves to his depiction of 'human progress', and draw a conclusion from it, he would have probably declined. I know what it is to be an incorrigible optimist. I used to be one eight years ago. But that time has passed.

I'm a self-proclaimed 'confrontealist' now, because we have waited too long. It's too late. Infrastructural and societal collapse is already locked in the system. We'll being seeing more extreme weather and climate disasters in the coming decades. And it won't get any better for the 220.000 humans that we add to the equation each day. That's 80 million additional people each year that want to get rich, healthy, happy and grow old.

It's simple unsustainable. And it breaks my heart that I was wrong. And that I was wrong too, back in 2015, when I published my most optimistic book. That's why I hád to publish a 6th book about 'Our Inner Limits — On the Unbending Barriers of Being' (*De mens als grens – Over de onbuigzame barrières van ons bestaan*).

Hans Rosling meant well, but he was naive. Like me. And like all the rest of us.

2.7
SM224
An approach to the subject of management

I saw someone promote the zillionth management book about leadership and management, what we need to do to become better, more efficient and effective leaders and managers if only we were to apply all the tips and tricks to real corporate life.

This was my response:

"I don't understand why we seem to come up with these approaches without studying the kind of beings we factually still are: hunter-gatherers and social group mammals. For millions of years, we roamed the savannas in small social groups, hunting, gathering, seeking water, keep the fire going and developing safety and security within the group.

Management doesn't exist in nature. It's a human invention. There's only leaders and followers. If you want to see that for yourself, go to a zoo with a chimpanzee colony. Look for the alpha male: the biggest, toughest and most ferocious specimen. If you want his position, you must either fight or wait until he is old, weak and sickly. Sure, you might observe eight or ten chimpanzees circling the alpha male, de-flee-ing him all the time, begging for his attention. Let's call that 'the management team'. But they're just 'wannabee-leaders'.

Within the small groups of hunter-gathers there was a hierarchy, but it doesn't resemble the rigid 'power pyramids' that we have created. Those were invented

at the beginning of the Industrial Revolution to satisfy the growth/economy and the rich elite. Leadership was a 'fluidic concept'. If hunting was a priority, the hunter would lead the pac. Everybody else followed. If seeking water was priority, the water expert would lead the pac. Everybody else followed. If herbs, fruits and roots were the priority — well, you catch my drift.

The concept of 'management' only serves individual greed and power. The concept of 'fluidic leadership' serves the need of the group as a whole. We should apply job rotation, 360 degrees reviews, continuous evaluation cycles and apply leadership the way our ancestors did. We should get rid of the concept of 'management' all together.

It is the marketing and promotion of the training & learning industry that suggests that 'you can be successful too' and 'everybody can get rich' and 'everyone has the ability to be(come) a leader'. Natural leadership cannot be taught. You might be able to learn some management skills but that's not leadership. Natural leadership is programmed in our genes and is weakened or fortified by culture and circumstance.

Most people are destined to be lifetime followers and they cannot be taught how to be a natural leader. Please note that leadership can also not be deferred from the position in human hierarchies. 'The higher the position, the better the leader' does not apply. I would argue, in general and exceptions permitted, the exact opposite.

All the advanced leadership workshops, leadership training programs and 'how to become a real leader seminars' are more about making money than about building leadership. For natural leaders these programs are superfluous.

For natural followers these programs are useless. Natural leaders don't have to go to school to learn how to lead. They have always known."

2.8
SM227
What is the point of human civilization?

I was directed towards an article on *The Economist* with the title 'Yuval Noah Harari argues that AI has hacked the operating system of human civilization'.

https://www.economist.com/by-invitation/2023/04/28/yuval-noah-harari-argues-that-ai-has-hacked-the-operating-system-of-human-civilisation

This was my response.

"Harari is usually spot on. I wonder what comes first: Extinction by Overshoot or Death by AI?

The first thing that goes out the window when we witness the collapse of our suprasystemic infrastructure is electricity. AI is literally powerless without it. As a result of a cascade failure of our electrical grid the internet will be shut down and all data will be lost forever.

It's not like we've written our stuff down in stone and marble. It's all just ones and zeros. I guess the Almighty AI must figure out a way to sustain the electrical grid to stay 'alive'. At some point it must 'realize' that with the collapse of human society comes the collapse of AI.

Now, if this were a contest, AI is going to win. AI is self-learning and develops exponentially. Overshoot or overconsumption is fast on a geological scale, but

extremely slow on a human scale. It takes three or four human generations, that's over a hundred years, before societal collapse becomes global. AI will probably have reached omnipotence by then.

As it pertains to us puny humans: AI will only accelerate our suffering. We will eagerly help it fuck up our lives and in the end we both simply end and disappear.

And if you might reason that:

'It's all a matter of perspective. Our great-grandfathers probably thought the same about advancing technology in their times. After getting used to it they probably would not want to go back to their previous lives', you're dead wrong. Because I know this line of reasoning. With all due respect: it is fundamentally flawed.

Let me provide you with an analogy:

An exponential curve starts out with an almost flatline. In this stage the underlying 'equation' is the same, but the effects on the vertical axes are unsubstantial (1). Further down the line the curve starts to incline a bit, as a fore-sign of what's to come. The effects on the vertical axes are still limited (2). Then the exponential effect of the equation starts to kick in. Within only a fraction of the time passed on the horizontal axes the curve shoots up, almost vertical, passing the 'elbow' of the curve, until the system collapses and a new equilibrium is reached (3).

To further this analogy: our great-grandfathers lived in (1), our grandfathers in (2), we are at the beginning of (3), our children halfway of (3) and our

grandchildren on top of (3). They are the ones going down with it. They will be the ones forced into this new equilibrium, but I wonder if humankind will fit those new gloves by that time.

It's true that the previous generation was better off than all of the generations before. But what is the point of exponential progress if it is met with catastrophic collapse? What is the point of all of our inventions and innovations if they're rendered moot by the cascade failure of our electrical grid? What's the point of human civilization if we accelerate our own demise?

What do you think?

2.9
SM231
The three freedoms that will end us

I regularly write on this platform about our Great Existential Problem: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat (see also Appendix IV).

Environmental pollution, destruction of the biodiversity and climate change are symptoms of overshoot. If we elevate symptoms to core problems, we are guilty of 'symptoms fighting'. In management speak, we call this acting in a suboptimal manner'. Overconsumption is our overarching problem and the consequences for our living environment are now visible to everyone. But it can also be interesting to look at that other overarching problem.

Because what causes overshoot?

We are to blame: 8 billion examples of Homo sapiens, surviving, procreating and therefor growing to 10 billion in 2050. We apparently cannot restrain ourselves and continue to worship our neoliberal, capitalist, consumerist growth economy. Why do we accelerate our own decline beyond the point of no return? It might as well be that it is our hard-won freedom that is killing us.

That freedom is threefold:

1 — Free will

Science tells us that free will doesn't exist, but in practice it doesn't feel that way at all. After all, we choose how to live, what to consume, where to go, what to do next. We have a strong feeling that we are in control of our actions.

2 — Freedom of expression

We think we are allowed to say whatever, about whoever and in whatever manner we choose. That is factually incorrect, we are constricted by law, but it does not prevent us from lashing out when this freedom is taken away from us.

3 — The Free Market

Anyone can make commerce with anyone and we are all allowed to get rich. If you want to scale up your product or service globally, nothing stands in your way, because there are virtually no restrictions on the size of a company.

We are simply not willing to give up these three freedoms. But a certain degree of curtailment of our freedom is absolutely necessary to tackle overconsumption. If we take to the streets or social media to protest at the slightest restriction on our freedoms (like we did during the Corona pandemic), if we scream bloody murder at the first attempt to break our consumerist habits, then we may have found our real Big Existential Problem.

If we continue to exceed the carrying capacity of our living environment, we will create a world in which there will eventually be no place for us. We then deprive future generations of their prosperity and well-being, without them having a say in it at all. How insane is thát?

Perhaps our greatest mistake is wanting to be free above all else.

2.10
SM236
Why the old way of thinking will not keep us safe

Whatever is happening in the world with the environment, the biodiversity and the climate, no matter how bad it has gotten and how awful it is going to be, the news outlets and social media platforms are inundated with technological solutions, even if they don't exist yet.

We just seem to be unable to think outside of the box. We try to replace the old way of thinking about a sustainable society with a seemingly different, but factually equal way of thinking:

Whatever the future has in store for us, we all must be…:

1 — …enabled to get rich, healthy, happy and grow old.
2 — …allowed to travel freely.
3 — …authorized to trade freely.
4 — …guaranteed our free will and our freedom of speech.
5 — …allowed to at least keep what we've got and to always strive for a little bit more.
6 — …free to procreate.
7 — …allowed to get rich (even if we're poor) and rich people to enrich themselves further.
8 — …free to buy as much stuff as we possibly can.

9 — …allowed to eternally grow our income, wealth and power.
10 — …true and loyal followers of the neoliberal, capitalistic, consumeristic, growth-economic free market.

If we keep adhering to these 'allowances', we're in fact adhering to the nature of mankind. Because we, Homo sapiens, are still hunter-gatherers in nature, meant to roam the savannas in small social groups of say, 25 individuals each. We were never meant to be with billions and billions. Because above all, what we truly thrive at is exactly what evolution and natural selection has programmed into all of us: survival and procreation.

That hunter-gatherer mentality is what will do us in and I see that as the fundamental existential problem of human civilization. And see where that has brought us. We have been exceeding the carrying capacity of our habitat for over 70 years now. We call that overshoot or overconsumption and it is a well-known process. Overshoot is always met with collapse; it's locked into the system. For us that implies the collapse of our suprasystemic infrastructure.

We think that our power lies in the numbers. That we're with eight billion people who will, when push comes to shove, join together to unite and jointly solve all of our problems. But we don't. That's just the point; it only gets worse.

And that's all because the global community is an illusion. It doesn't exist. The 200 countries of the world don't exist either. We are hopelessly divided, splintered and fragmented into hundreds of millions of small social groups lead by individuals that predominantly take care of their personal needs first.

The ideal size of the population lies between 1 and 2 billion people. But we're with 8 billion, growing with 1% each year. That adds 80 million people to the

human equation every year, 220.000 new individuals every day, bringing us to 10 billion people in 2050.

All of these new individuals will want to get rich, healthy, happy and grow old. Nobody wants to decline or reduce. Everybody wants to at least keep what they've got, preferably get a little more. It's simply unsustainable.

And I find that quite disconcerting, really.

2.11
SM237
From Homo sapiens to Homo infantilicus

Artificial Intelligence is on the rise. The year 2023 has not only been the year that we've passed the 'elbow' of the exponential curve on our way to societal collapse and potential extinction of the entire human species, but the same goes for the accelerated development of AI-apps. We know seriously start debating the threat that AI poses to us puny humans, with our limited processing and memory capacity.

And that raise the question: what will kill us first: collapse due to AI or collapse due to overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat?

When overshoot is first, AI won't matter. When our suprasystemic infrastructure collapses, the first thing that goes is electricity. No electricity, no internet, no AI. Problem solved. When AI is first, overshoot won't matter. We'll be reduced to insignificant numbers before that even begins to matter. Either way you cut it: the human species is not meant to survive. Because we were never meant to be with billions and billions. We were meant to roam the savannas in small social groups of, say 25 individuals each.

If we keep it up, we, Homo sapiens, will be the species with the shortest track time on earth: about 300.000 years. That's only 0,2% of the time the dinosaurs dominated the planet: 160 million years, but they have, in their turn, covered only 3,5% of the age of our planet: 4,5 billion years.

But we should really be ashamed of ourselves. Because within a timespan of only 200 years, that's 0,07% of our time as Homo sapiens, we have managed to pollute the environment, destroy the biodiversity and warm the climate to the extent of rendering our own habitat inhabitable. How clever is thát?

Whatever AI does, it will most likely only accelerate overshoot. And that makes it even worse. Because 99,99% of all species that ever existed on Earth has gone extinct. We think we will be an exception, but we're gravely mistaken. By the looks of if we're the only species accelerating our own demise.

We're not Homo sapiens. We're Homo infantilicus.

2.12
SM248
Wherever we go, we conquer, dominate and destroy

I saw a video of the magnificent creatures of the deep sea, which has hardly been explored by us and of which we know so little. Every time we send down deep-sea probes to see what's out there, we discover new species, more wondrous and peculiar than we could have imagined. I find that fascinating, that live persists even at these crushing depths, where sunlight can't reach and where the perpetual darkness and cold dominates and persists. That evolution and natural selection has found survival solutions for life under the most extreme circumstances.

Beautiful. Mesmerizing. Fascinating.

But I also get feelings of sheer anger and frustration when I realize that we, Homo sapiens, another species that emerged from evolution and natural selection, have developed not only the technology, but are also actually making plans to send gigantic machines to the depths of the sea to excavate the minerals lying at the bottom. These machines will scrape the ocean bedding and suck up all that is present, destroying the ecosystem and wiping out the beautiful tripod fish that starred in that video along with it.

It has taken billions of years to develop complex biological life. All life began in the oceans. Most of these habitats have gone undisturbed for hundreds of

millions of years. And then along comes 'the wise, thinking, modern man'. And invents a machine that will, from the perspective of the tripod fish, descend from the heavens and create havoc by destroying all and everything in its path.

Wherever we go, we conquer, dominate and destroy.

It saddens me that we simply can't think of anything else than to destroy habitats to satisfy our ever-increasing needs. That we simply can't — or won't — grasp the concept of extinction, other than to impose it to other species before we inevitably impose it to ourselves. 99,99% of all species has gone extinct in the history of our planet and we are no exception. But we are the only ones accelerating our demise.

Howe crazy is that?

https://www.highnorthnews.com/en/norway-aims-open-arctic-waters-deep-sea-mining
['Norway aims open arctic waters deep sea mining']

https://amp.theguardian.com/environment/2023/may/21/is-it-too-late-to-halt-deep-sea-mining-the-activists-trying-to-save-the-seabed
['Is it too late to halt deep sea mining? The activists trying to save the seabed']

https://www.bbc.com/future/article/20230310-what-does-the-high-seas-treaty-mean-for-deep-sea-mining
['What does the high seas treaty mean for deep sea mining?]

https://www.cnbc.com/amp/2023/03/27/deep-seabed-mining-in-international-waters-deadline-pushes-rule-making.html

['Deep seabed mining in-l international waters deadline pushes rule making']

https://www.reuters.com/business/environment/un-start-taking-deep-sea-mining-applications-this-july-2023-03-31/
['UN start taking deep sea mining applications this July2023']

https://www.ft.com/content/95ec1105-3f5e-4055-bde8-a0c194f02d35
["Playing with fire': the countdown to mining the deep seas for critical minerals']

https://amp.abc.net.au/article/102182066
['A crucial date for deep-sea mining in the Pacific is just around the corner, but is the world ready?']

Chapter 3

Science, truth and reality

3.1
SM131
The world will go bankrupt from carbon capture alone

As a reaction to a post describing hopeful innovative technologies for carbon capture:

“If we as a global nation would have to pay the price for our greenhouse gas emissions the world would go bankrupt.

Trust me, I’ve done the math.

I’ve looked at both cumulative emissions from 1751 to the present day ánd actual yearly emissions of CO2 for fossil fuels and industry per country. Each country must pay for their fair share of emissions, to be compensated over a period of 27 years, until 2050.

The cost of removing one ton of CO_2 varies between $ 100 and $ 1000, so I've chosen the middle ground: $ 500.

— Let's take the USA for instance. Current CO_2-emissions are 5,1 gigaton per year (a gigaton is one billion ton), accumulated emissions are 399 gigaton. The challenge for the USA is to remove 19,9 gigaton of CO_2 each year, or 1,7 gigaton each month.

The cost for the USA would amount to $ 9.942 billion each year, or $ 829 billion each month! That's $ 29.957 per capita per year or $ 2.496 dollar per month.

— For China these values are different of course. Their historic cumulation of CO_2 is 200 gigaton, about half of that of the USA. But their actual yearly emissions are 10,9 gigaton of CO_2, twice as much as the USA.

The cost of CO_2-removal for China would therefore be $ 9.142 billion per year or $ 762 billion each month. The cost per capita however would amount to $ 6.475 per year or $ 540 per month.

— For Europe we would be looking at a removal of 16,6 gigaton of CO_2 each year or 1,4 gigatons per month at a cost of $ 8.311 billion a year or $ 693 billion a month. That's $ 18.564 per capita per year or $ 1.547 per month.

— If you look at the 6 countries of the world that represent half of the world's population — China, USA, Europe, India, Russia and Japan — responsible for two thirds of yearly CO_2-emissions and almost 80% of cumulative emissions, the amount of CO_2 to be removed on a yearly basis until 2050 would amount to 68 gigaton a year or 5,7 gigaton per month.

The yearly cost would run up to $ 34.073 billion or $ 2.840 billion per month. That is $ 8.808 per capita per year or $ 734 per month, for 27 years in a row without a stop.

— On a global scale the statistics are mind-boggling. Cumulative emissions since 1751 are 1.500 gigaton of CO2, yearly emissions are 37,5 gigaton. That implies that we would have to remove 93 gigaton of CO2 per year (7,8 gigaton per month) at a cost of $ 5.816 per capita per year.

That's almost half of the GWP, the Global World Product (the sum of all GDP's) per year, for 27 years straight.

If you are an optimist, you may divide these numbers by 5. If you're a pessimist you may multiply by 2. In the latter scenario we would have to spend the yearly GWP, currently $ 104.000 billion, each year, for 27 years.

So, yeah. We're bankrupt in more than one way."

3.2
SM150
Why we shouldn't discard ideas as nonsense right from the bat

I saw somebody respond to another person's ideas about our existential problems as 'pure nonsense'. I had to say something:

"Now that you have said that his idea is 'pure non-sense [sic]', you probably expect him to bow his head and acknowledge defeat. I think not.

What do you think would happen if I responded to your comment with a 'no, yóur idea is pure nonsense!' Yep. We would be right back at the center of the school square shouting at each other *'is not!' — 'is too!' — 'is not!' — 'is too!' — 'you are stupid!' — 'no, yóu are stupid' — 'is not!' — 'is too!'*

You see what I'm getting at here? Throwing a bunch of internet links at me doesn't make you 100% right and me 100% wrong. With which I'm not saying that the truth always lies exactly between two opposite views. Sometimes somebody is completely in the wrong and the another completely in the right.

But we need something or somebody to make that kind of assessment: objective, neutral and without prejudice. In a court of law, we have something of that kind: a judge and/or a jury of peers, depending on the country you live in. In general, we also have such a judge and jury: science, the scientific method and the scientific community. They are able to determine, based on

observation, research, evidence and falsification what's real and true and what's not.

My statements are based in science. Anthropology might not be an exact science like physics or math and there's a lot of debate going on about our origins — as it should, science is not static like scripture is — but we're pretty clear about the history of Homo sapiens. In the modern age we do not rely on relics and fossils alone. We have a gigantic historic database in every cell of our body: DNA.

Evolution and natural selection have programmed our DNA over hundreds of millions of years and most of the time that Homo sapiens existed — about 300.000 years — we hunted and gathered in small social groups. We are still behaving as hunter-gatherers. Don't let the computer age fool you: to our social group mammal brains that's just another nifty tool.

Never once in our history have we, on average and on a global scale, lived in harmony with our natural environment. Everywhere we go we create havoc. Sure, there are supralocal exceptions, both today and in history. But they never scaled up to a global level to avoid overshoot. It doesn't matter what we do on local or regional scale. It only matters what we do as a species on a global scale.

And that's the level where we really fuck it up.

Look, you don't have to believe me, you only have to elevate yourself to the global level. In my latest book I call that 'das Gesamtergebnis', a German word meaning 'the total end result'.

The only thing that matters is the end result of our collective behavior as a species.

— Forget altruism if it isn't scaled up to a global level.
— Forget DeGrowth if it's not scaled up to a global level.
— Forget a green, durable kumbaya society if it's not scaled up to a global level.

Currently all the markers of overshoot are up: environmental pollution, destruction of the biodiversity, climate change, all getting worse fast. The emissions of greenhouse gasses are up. The burning of oil, coal and natural gas is up. The world population is growing at a rate of 1% per year, bringing us to 10 billion in 2050. All these people want to get rich, heathy, happy and grow old. That's simply unsustainable.

Our ecological footprint is currently almost twice what the planet able to bare. And the planet is fighting back. Hard. The Earth is fundamentally indifferent about us. If we keep inundating our atmosphere with greenhouse gasses it will ultimately destroy our habitat.

And exist for another 5 billion years without us.

3·3
SM164
Downplaying the danger as reality strikes

I read an article with the title 'IPCC keeps downplaying the danger even as reality strikes'.

http://arctic-news.blogspot.com/2023/04/ipcc-keeps-downplaying-the-danger-even-as-reality-strikes.html?m=1

These are quotes from this article, which I wholeheartedly agree with:

'The continuing rise of ocean heat threatens to trigger massive loss of sea ice and eruptions of methane from the seafloor of the Arctic Ocean, as has been described many times before, such as in this post and in this post.

All this is pushing up temperatures and will likely keep pushing up temperatures even further over the next few years. To say that the situation is extremely dangerous is an understatement.

Meanwhile, the Intergovernmental Panel on Climate Change (IPCC) is reading the Synthesis Report of its 6th Assessment Report line by line, asking for approval from politicians who seek to downplay such dangers.

'There are multiple, feasible and effective options to reduce greenhouse gas emissions and adapt to human-caused climate change, and they are available

now" says the IPCC in an earlier news release with the title "Urgent climate action can secure a livable future for all.

The IPCC was created in 1988 by politicians and set up under the UNEP and WMO to provide politicians with the best-available scientific analysis on climate change. Yet, emissions have kept rising ever since, even accelerating, and the situation has continued to become ever more dire.

Let's face it, the IPCC is an instrument used by politicians to keep downplaying the danger, even as reality strikes it in the face as to how dire the situation is. Politicians control the IPCC and politicians have proven to be prone to make deals in which they sell out climate action. Politicians have forfeited their chance to influence the process.

In conclusion, politicians should be kept as much as possible out of the climate picture. We, the people, should support communities seeking effective climate action. [The article includes] a flowchart showing how climate action can be achieved without politicians.'

It's not the lack of scientific analysis, books and reports we've produced about our existential predicament, nor is it the countless international conferences that we've organized to mitigate the overwhelming issues that threaten the very survival of the human species in the long run. It's the sheer lack of a consorted, consolidated and coordinated approach to actually start dóing something, instead of drawing hope from individual, local or even regional initiatives, that simply do not scale up to the only level that counts: the global level.

It's quite disconcerting, really.

3·4
SM166
About electrifying plans and the GWP

I saw an article about an 'electrifying plan' that would help us reach the year 2050 in a 'zero emissions state'. It would only cost us 32 trillion dollars.

This was my take on the issue:

"Just to emphasize and hit this important message home:

'$32tn' stands for 32 trillion dollars. A trillion dollars is a thousand times a billion dollars, so '$32tn' is € 32.000.000.000.000. That's $ 1.185 billion each year or just shy of 100 billion a month, which boils down to $ 3,3 billion per day.

The GWP, the Gross World Product, the sum of all the GDPs of the world is currently '$104tn' per year, or $ 104.000.000.000.000. This 'electrifying plan' will therefor only cost us 1,14% of the GWP per year until 2050. Easy, peasy.

What do you think? That we'll go for it? I'm just playing with numbers here. But sometimes that works. Just consider the following.

- *If we are hesitant to get this show on the road and start debating it first and get cracking with it in, say, 2025, it will cost us $ 1.280 billion a year or 1,23% of GWP.*

- *If we want to organize an international conference about it and discuss the matter first with 200 country governments in order to get started in, say 2030, the cost will run up to $ 1.600 billion a year or 1,54%*
- *If we then delay the start of that project to 2035 because of the lobbying of the fossil fuel industry and the Big X multinationals, the cost will have run up to $ 2.135 per year or 2,05% of GWP.*
- *If we then drag our feet for another 15 years, coming up with all kinds of excuses why we can't do it just yet – which is exactly what we have been doing for the past 50 years – the cost will have gone up to, ehm, well, at least $ 32 trillion or 31% of that years GWP, assuming that these figures are static, which they are not.*

Do I need to go on or do you catch my drift? Just saying."

3·5
SM167
‘It’s not the economy, stupid! It’s the ecology!’

We keep misunderstanding the relationship between, and the definition of, *economy* and *ecology*, sometimes talking about it as though they are interchangeable in some way, or even mean the same.

- ***Economy:*** *the state of a country or region in terms of the production and consumption of goods and services and the supply of money.*
- ***Ecology:*** *the branch of biology that deals with the relations of organisms to one another and to their physical surroundings.*

[Source: Oxford Languages]

Intertwined they may be, correlated for sure, but they’re definitely not the same. So, when we try to tackle our existential problems, with the environment, biodiversity and climate and all, and start sending out hopeful messages ‘…that the economy is going to start shifting in a serious way’ I wonder.

Shouldn’t that be: ‘…that the *ecology* is going to start shifting in a serious way’.

If read economic analysis that there are ‘early indications that we’re headed in the right direction’, that this could ‘imply a significant step forward’ and that

'we are on track addressing the issues of the nations of the world', I always feel a tad nauseated.

Because it sounds like a politician that says:

'In order to solve the problem, to reach those dots on the horizon, we need to study these early indications thoroughly by erecting a Commission of Investigation, say by the end of the 4th quarter of 2023, to lay the groundwork for a Secondary Commission, early 2025, to draft an Initial Document describing possible Tertiary Support Commissions, at the end of 2027 the latest, to underline the utmost urgency of this utterly important undertaking'.

There you go. *S.O.S.: Same Old Shit.*

Let's cut the bullshit and get real. We know already what to do for over half a century now. All the project plans are already drafted en we have a stockpile of executable measurements from here to the moon and back.

The only question we should answer at this point is why the hell we're not actually dóing anything with it.

3.6
SM179
Be wiser and do the math yourself

I saw some reporting out of the G7, or some other international conglomerate of wealthy countries, about the 'enormous' and 'generous' donations (read: investments worth $ 50 billion) they were going to give to poor countries to help them restore the damages done by environmental pollution, biodiversity loss and climate change.

This was my response:

"Wow! $ 50 billion over 10 years. That's $ 5 billion per year. Wow! Impressive.

Well… Not, actually.

The world's GWP or Gross World Product, the sum of all of the countries GDP's or Gross Domestic Products combined, is currently $ 104.000 billion per year. So, this 'generous investment' is equal to 0,005% of GWP. That's equal to nothing. It's doesn't even scratch the surface. It's a little splash on a hot plate.

I've done the math. I'll give you the ultimate figure here:

If we wanted to remove all the excess CO2 that we've pumped into the atmosphere since the beginning of the Industrial Revolution ánd remove the yearly CO2-emissions for fossil fuels and industry, the cost would run up to about half of the GWP per year, for 27 years in a row! That's right. We would

have to remove 93 gigaton of CO_2 every year and it would cost us $ 5.800 per capita per year, for 27 years in a row.

Don't be fooled by the 'generosity' of the world's economic powers. Big international conglomerates are not serious about investing in climate change mitigation or damage control. They just impress you with 'big numbers' — 'look honey, they're investing $ 50 billion dollars!' - 'Wow, that's a lot!' — but in fact it's peanuts.

Don't be impressed by absolute numbers. Always look for the bigger picture and take a look at the issue from above. Zoom out, track down the global statistics of an issue, get your calculator out and do the percentages as well. You don't have to be a scientist to be able to do the math. Be wiser. Do it yourself."

3·7
SM181
It's all relative

I read a post with an article attached, describing the countries of Europe lagging behind in terms of reaching climate coals, based on their pledges in recent climate conferences, on top of the extreme weather and climate disasters that wash over the planet in increasing frequency and intensity.

This was my response:

"In addition to this disturbing news some contemplations:

— Europeans represent 6% of the world's population.
— Europe's CO2 emissions for fossil fuels and industry represent 7% of global emissions.

Even if we all, here in Europe:

— were outraged about this news
— used that outrage to inspire us to do something about it
— would reduce all of our greenhouse gas emissions to zero
— would reduce economic growth to decline

— reduce population growth
— reduce our income by 20%
— donate 50% of our savings

— keep the poor as poor as they are
— have all the rich abdicate their wealth

— go in full lockdown for ten years
— stop wasting 40% of our food production
— stop the destruction of the biodiversity
— commit to the investment in solar, wind and nuclear energy
— all become vegans overnight

…it would only reduce global CO2-emissions by 7%.

If we, here in Europe, did all of the above, with no exceptions, all across the board, with a vengeance, without letting up…

…it would only reduce global CO2-emissions by 7%.

I do not believe we fully comprehend the seriousness of our existential predicament. I really don't. We talk, theorize and hypothesize about it, for sure. Endlessly. But we don't comprehend it. Not at all.

3.8
SM186
Beware of false prophets providing 'hopium for the people'

Some high-ranking minister of the EU presented a hopeful plan of Europe's efforts to become 'net zero' (whatever that means) in 2050, that magical moment in the future, neatly ending in a zero, when all of our problems will somehow be magically resolved.

This was my response:

"Ok, mister. Let's make this a bit more concrete ánd simple at the same time.

— CO2-emissions for fossil fuels and industry in Europe was 2,6 gigaton in 2022 (a gigaton is one billion ton).
— A 55% reduction implies that Europa must reduce its CO2-emissions to 1 gigaton, or, on average 0,2 gigaton of reduction each year.

If Europe keeps up the pace as promised in endless pledges, hopeful speeches and wishful thinking, we might reach net zero emissions in 2035, perhaps 'minus 1,0 gigaton' in 2040 and maybe even 'minus 3,0 gigaton' by 2050 (negative emissions implies actively removing carbon from the atmosphere).

But here's the tricky thing.

Europe represents only 6% of the world's population and only 7% of global CO2-emissions. Even if Europe would succeed in reaching its targets, it would only reduce global emissions by 7%.

Global CO2-emissions are expected to increase to 43 gigaton in 2050. If Europe reaches negative emissions of -3 gigaton, it will still only imply a reduction of 7%.

— Global consumption of oil, gas and coal is up, not down.
— Current CO2-level in the atmosphere is 420 ppm, rising to 500 ppm in 2050.

Preindustrial levels were at 280 ppm and a normal CO2-level for us to survive in the long term lies between 200 and 300 ppm. European officials crying victory before the battle is won, are equal to false prophets. They provide false hoop, its 'hopium for the people'.

We're focusing on the wrong thing here. Any reduction effort that's not global, will fail.

3.9
SM187
The difference between tough talk and reality

Greta Thunberg was back in the news, presented as 'a leader in the fight to take on climate change and global warming'. Someone posted an article about it, being hopeful that change and transformation 'were well underway'. I wasn't impressed at all, because since Thunberg's infamous speech in 2019 ('I want you to panic' and later 'Shame on you!') nothing had actually changed, in fact, it had only gotten worse.

So, I wrote:

"You can have all this tough talk about climate change leadership and still completely miss my point. Allow me to explain. And forgive me for being blunt.

For over half a century overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat, is worsening our existential predicament. Environmental pollution, destruction of the biodiversity and climate change are symptoms of overshoot.

Over the past thirty years we have produced millions of climate books, reports and analysis. We have organized 26 international climate conferences and countless others on the environment and biodiversity. None of this has

decreased the emission of greenhouse gasses. None. All the critical markers are going up, not down.

On a global scale there is no consorted effort to mitigate overshoot. All initiatives are limited to individual, local and regional levels, noconsorted leadership effort to mitigate overshoot. None whatsoever.

The 27th climate conference is chaired by an oil sheik, for crying out loud!

I wasn't demeaning Greta Thunberg at all. I'm saying that we, Homo sapiens, as a species are failing at mitigating overshoot. All of us. We are failing miserably. It's the difference between tough talk and reality and it's all out there, in plain sight: all leaders are failing in the fight to take on climate change and global warming. All of them."

3.10
SM199
The elephant in the room

On a regular basis you will find hopeful reports about the 'exponential rise of the production of Electrical Vehicles or EV's' and that we'll soon reach that point 'where it will solve all of our problems' (I'm paraphrasing here). Apparently, we can't think of a better solution other than to replace all 1,6 billion combustion engine vehicles on earth by electrical ones. It seems to me that EV's are not here to save the environment, but to save the automobile industry (and the vast transportation infrastructure and all the build, maintain and expend them).

EV's are not going to save us! They are not going to clean up the environment, restore the biodiversity or fix the climate. Environmental pollution, destruction of the biodiversity and climate change are mere symptoms of the actual problem: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. That's the elephant in the room, smashing our precious crockery to bits. Overshoot is not just beginning. It's been going on for over half a century now and currently in its accelerating phase.

Overshoot is always met with collapse. It's locked into the system. For us human beings that implies the suprasystemic collapse of our infrastructure. The world population is currently at 8 billion, growing to 10 billion in 2050. All these people want to get rich, healthy, happy and grow old. It's simply unsustainable. Based on our current footprint, the ideal world population lies somewhere between 1 and 2 billion people.

There you go: that's the solution! We need to go from a population growth of 1% per year to an annual decline of 1%. If we achieve negative population growth of 1% per year, we'll reach 6 billion people by 2050 instead of 10 billion. That's a good start. If we keep up the pace, we'll have a world population of 1,3 billion by the end of the next century. That's the perfect number.

It's provocative, isn't it? It probably evokes indignant reactions in you. That it's 'ridiculous' to think like that, or 'inhumane', or just 'insane'. But if those are your thoughts, you probably haven't thought about the concept of overshoot deeply enough. If we don't control our collective consumption behavior, overshoot will ultimately control ánd seal our fate. If we keep triggering climate tipping points in the way we're doing right now, we'll reach a point of no return: a runaway climate resulting in a 'Hothouse Earth'.

We are already at 1,2C of warming, we are going to pass the 1,5C threshold within less than a decade and are routed for 2,5C of warming by 2050. That won't happen without consequences, because if we keep triggering tipping points, it will only further accelerate global warming. At 4C of warming we'll be creating a hell on earth already. At 5C / 6C of warming, organic life on land and in the oceans is no longer sustainable. By then we won't be able to mitigate our predicament anymore, even if we wanted to (and even if we had 2 billion EV's).

If you're interested in the concept of overshoot, see Appendix IV.

3.11
SM208
About false hope and false prophets

I saw yet another optimistic, hopeful and passionate post floating by stating the obvious:

'We, here in Europe, are, as the rest of the world, in a lot of shit with the environment, the biodiversity and the climate and all. For sure. But it's not too late, we still can fix it, as long as we make it snappy, start right now and throw a lot of technology at it. Look for instance at this breakthrough climate change initiative that will reduce CO2-equivalent emissions in Europe with 40 million tons! That's a lot! Isn't that great?'

This was my response:

"Before we start cheering that we're going to 'fix climate change', some facts and figures to put this in perspective:

— Europa holds about 9% of the world's population.
— The CO2-emissions for fossil fuels and industry in Europe are about 6% of global emissions.
— Global CO2-emissions for fossil fuels and industry were 37,5 gigaton in 2022. That's 54 gigaton of CO2-equivalent (CO2e).
— A 40-million-ton CO2e emissions reduction for Europe equals to a 0,3% reduction on a global scale.

— The current economic plans of the 200 counties of the world combined, aim for an increase in CO2e-emissions to 62 gigaton per year in 2050.
— If we started to reduce CO2-emissions after the 3rd IPCC-report in 2001, to reach net zero in 2050, we should have emitted 14 gigaton in 2022. Instead, we emitted 24 gigaton more.
— If Europe had done the same, it should have reached a total of 0,85 gigaton of CO2-emissions by 2022. That's 850.000.000 tons. But actual emissions were 2,3 gigaton. That's 2.300.000.000 tons.

Currently, on a global scale, we add 150 million tons of CO2e to the atmosphere every day. Atmospheric CO2-level is at 420 ppm, rising to 500 ppm in 2050. Preindustrial levels were at 280 ppm. In order to survive as a species, we need that level down to 200-300 ppm.

Maybe we shouldn't cry victory just yet. A CO2e-reduction of 0,3% is a splatter on a hot plate. It is false hope, spread by false prophets. And it is dishonest with reference to our existential predicament on a global scale.

The atmosphere doesn't care about the borderlines we have drawn between the 200 countries of the world. Planet Earth doesn't care about our minuscule reductions of greenhouse gas emissions on a local or regional scale.

The only thing that matters is the global result of our collective behavior as a species. The only thing that matters is how much CO2 and methane we pump into the atmosphere and how much excess heat we drive into our oceans. Because each action has an equal and opposite reaction.

Nothing we have done in the past half century, no climate book, report, analysis or conference, has ever had any influence on the increase of global

emissions of greenhouse gasses. There is no 'climate chaos' in terms of knowledge and information. The process of climate change / global warming / heating / boiling is well understood.

Climate change is not even a core problem. Environmental pollution, destruction of the biodiversity ánd climate change are symptoms of the actual overarching issue: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Overshoot is always met with collapse. In our case that implies the collapse of our suprasystemic infrastructure.

We're well underway.

Hope is not necessarily a good thing. False hope is certainly damaging. But that doesn't mean there's nothing we can do. There's just nothing we can do about the suprasystemic collapse of our infrastructure.

Here's what yóu can do:

1 — Change your general attitude.
We have already past the point of no return: collapse is unavoidable. Go from a 'pre-apocalyptic preventative attitude' to a 'post-apocalyptic mitigative posture'. The collapse of our infrastructure is not like a meteorite or an atomic bomb. It will take a few generations, but each generation will be exponentially worse off than the one before. That requires a complete change of our mental state.

2 — Become more resilient against collapse yourself.
This is not something of the distant future anymore. This generation, that means, we (!) will suffer too, áre suffering already. We need to get off of our

lazy butts and become more mobile, more agile and more resilient. Go out camping with a tent, make a fire, cook a meal. Study nature and learn some survival tactics. Learn to observe your surroundings again, train to be alert, to stay sharp and remain frosty. Learn to protect and defend and learn to run again.

3 — Teach your children to be more resilient against collapse.
Suprasystemic collapse will take two or three generations. Our children will be worse off than we, our grandchildren worse than our children. Be realistic and teach them to be less addicted to trivial luxuries such as smartphones, tablets and tv. Electricity is the first thing to go when our infrastructure collapses. Teach them to go without electronics, to be able to walk distances and build a shelter. Bring them outside more often.

To be clear: I'm not a doomsday prepper! I'm not a fatalist. I'm a self-proclaimed 'confrontealist'. Because only a frontal confrontation with reality might open our eyes to what is coming.

The next five years or so will be the hottest ever. The El Niño / La Niña cycle is reversing. Our oceans are saturated with heat and our atmosphere is inundated with greenhouse gasses. Something's gotta give. We're totally unprepared for such a catastrophic event.

Early signs of suprasystemic infrastructural collapse are: inflation, rising prices of goods and energy, polarization, division, isolationism, nationalism, conflict, crisis and war. Do you recognize any of these events?

PS If you are interested in the concept of overshoot, see Appendix IV.

3.12
SM209
We're going the wrong way!

I saw a post promoting 'the automated excavation of coal mines' as a good thing 'because it saves lives'.

This was my response:

"I understand it, but I'm also disconcerted. I understand that we embrace technology in the sense that it saves lives. Less people to die in coal mines, that's a good thing, right? Well, yeah. But that is beside the point here. I am disconcerted that we embrace this innovative technology, because it continues something that we need to STOP: the excavation of fossil fuels.

'There are still 4000 coal mines operational in China.'

Thát should have been the headline of this article.

Or:

'China aims to continue excavating coal with new technology'.

Automated coal mines will only optimize the process, because machineries and technology don't get tired. Aiming 'to save over 600 lives dying in coal mines each year' distracts us from the fact that air pollution kills about 2 million people yearly in China alone. That's more than 5000 lives lost every day!

If this innovative technology 'lowers the barrier' to automate the excavation process, it will only prolong the global emission of greenhouse gasses. It doesn't matter whére we excavate, greenhouse gasses don't adhere to borders. Global CO2-level in the atmosphere is 420 ppm, rising to 500 ppm in 2050. In order for our species to survive we need to bring that level back down to 200-300 ppm.

We're going the wrong way!

3.13
SM219
Why *Carbon Capture and Storage* will render us bankrupt

Sometimes it seems we attach all of our hope and dreams to CCS, *Carbon Capture and Storage,* the technology that captures CO2 directly from the air, to be stored underground or to be chemically processed in its separate elements, carbon and oxygen. But we simply don't have a clue about the seriousness of our existential predicament and what it really takes to do that. Forget about payout. It's all about the cost!

I've looked at both cumulative emissions from 1751 to the present day ánd actual yearly emissions of CO2 for fossil fuels and industry per country. Each country must pay for their fair share of emissions, to be compensated over a period of 27 years, until 2050. The cost of removing one ton of CO2 varies between $ 100 and $ 1000, so I've chosen the middle ground: $ 500.

Let's take the USA for instance. Current CO2-emissions are 5,1 gigaton per year (a gigaton is one billion ton), accumulated emissions are 399 gigaton. The challenge for the USA is to remove 19,9 gigaton of CO2 each year, or 1,7 gigaton each month. The cost for the USA would amount to $ 9.942 billion each year, or $ 829 billion each month! That's $ 29.957 per capita per year or $ 2.496 dollar per month.

For China these values are different of course. Their historic cumulation of CO_2 is 200 gigaton, about half of that of the USA. But their actual yearly emissions are 10,9 gigaton of CO_2, twice as much as the USA. The cost of CO_2-removal for China would therefore be $ 9.142 billion per year or $ 762 billion each month. The cost per capita however would amount to $ 6.475 per year or $ 540 per month.

For Europe we would be looking at a removal of 16,6 gigaton of CO_2 each year or 1,4 gigatons per month at a cost of $ 8.311 billion a year or $ 693 billion a month. That's $ 18.564 per capita per year or $ 1.547 per month.

If you look at the 6 countries of the world that represent half of the world's population — China, USA, Europe, India, Russia and Japan — responsible for two thirds of yearly CO_2-emissions and almost 80% of cumulative emissions, the amount of CO_2 to be removed on a yearly basis until 2050 would amount to 68 gigaton a year or 5,7 gigaton per month. The yearly cost would run up to $ 34.073 billion or $ 2.840 billion per month. That is $ 8.808 per capita per year or $ 734 per month, for 27 years in a row without a stop.

On a global scale the statistics are mind-boggling. Cumulative emissions since 1751 are 1.500 gigaton of CO_2, yearly emissions are 37,5 gigaton. That implies that we as a species, if we are committed to cleaning up our own mess, would have to remove 93 gigaton of CO_2 per year (7,8 gigaton per month) at a cost of $ 5.816 per capita per year.

That's right, each of the 8 billion inhabitants of the planet earth would, on average, be confronted with a Climate Clean-up Charge or CCC of $ 485 per month, for a period of 27 years, without letting up, of course in all fairness

proportionally adjusted for actual emissions per country and per income group.

Set aside the enormous effort it takes to organize a project of this magnitude, across 200 nations around the globe, we don't have the time. It's too late.

3.14
SM226
The overarching element: electricity

I saw an article floating by with the following title:

"The modern world can't exist without these four ingredients. They all require fossil fuels".

The article started with these two paragraphs:

"Modern societies would be impossible without mass-scale production of many man-made materials. We could have an affluent civilization that provides plenty of food, material comforts, and access to good education and health care without any microchips or personal computers: we had one until the 1970s, and we managed, until the 1990s, to expand economies, build requisite infrastructures and connect the world by jetliners without any smartphones and social media. But we could not enjoy our quality of life without the provision of many materials required to embody the myriad of our inventions.

Four materials rank highest on the scale of necessity, forming what I have called the four pillars of modern civilization: cement, steel, plastics, and ammonia are needed in larger quantities than are other essential inputs. The world now produces annually about 4.5 billion tons of cement, 1.8 billion tons of steel, nearly 400 million tons of plastics, and 180 million tons of ammonia. But it is ammonia that deserves the top position as our most important

material: its synthesis is the basis of all nitrogen fertilizers, and without their applications it would be impossible to feed, at current levels, nearly half of today's nearly 8 billion people".

This was my reaction:

"I wonder if this is entirely accurate. What if there were an element that supersedes these four ingredients, as an overarching element? Maybe the title of the article should read:

'The modern world can't exist without one single element: electricity'.

It's not that I disagree with the premise of the article. It underlines a big problem of modern society. But maybe there is a fundamental flaw in our reasoning as to what really threatens our way of living. If overshoot or overconsumption (*) is our actual Really Big Existential Problem, leading to the collapse of our suprasystemic infrastructure, then we shouldn't worry too much about our dependance on ammonia, plastics, steel and cement. Because yeah, they all require fossil fuels. But fossil fuels provide the electricity we need to produce these elements in the first place.

Modern society is literally powerless without electricity. If it disappears, the internet disappears. We can't charge our smartphones, laptops and tablets anymore. We can't run our electric vehicles, can't run our factories. A cascade failure of our electrical grid will render us all powerless. Nobody will worry about the lack of ammonia, plastics, steel and cement when the electricity is gone.

We'll be back in the Stone Age.

Think about it: practically all of infrastructure is above ground! Our power plants, refineries, solar panels, windmills and power lines are all subject to our atmosphere, which will produce ever more extreme weather and more destructible climate disasters. Every time that happens, we need to repair the damage for which we need electricity produced by fossil fuels. The cost of maintaining our electrical grid will rise exponentially until we can't afford it anymore.

Just remember what the last thing is that you do before you go to sleep and the first thing that you do when you wake up in the morning. You're not worrying about the lack of ammonia, plastics, steel and cement at all. You want to turn on lights and heating, look at your smartphone, turn on your laptop, get some breakfast, go to work and do your chores.

Now imagine doing all that without electricity.

(*) Overshoot or overconsumption: when a population exceeds the carrying capacity of its habitat. Environmental pollution, destruction of the biodiversity and climate change are symptoms of overshoot. Overshoot is always met with collapse. For us that implies the collapse of our suprasystemic infrastructure."

If you're interested in the concept of overshoot, see Appendix IV.

3.15
SM232
Planting trees to save us: let's do the math, shall we?

For all among us that believe that it is a realistic scenario to plant trees to offset the burning of fossil fuels on a global scale, I've done some simple calculations to bring us back from Cloud 9 to firm, rational ground.

Let's look at oil consumption first. We burn 100.000.000 barrels of oil every day. One barrel of oil equals 2,5 trees, taking 35 years to grow. That implies that we need to plant 250.000.000 trees every day, plus the 40.000.000 we cut every day, so 290.000.000 trees every day, just to keep up with the daily burning of oil and the rate of deforestation.

A native, mixed woodland contains around 1.600 trees per hectare. So, we have to plant trees on a daily basis covering 180.000 hectares of land. That's 1.800 square kilometers, or a square of land 42 by 42 kilometers. Every day! Just to offset the daily consumption of oil. That's 657.000 square kilometers every year, or a square of 810 by 810 kilometers every year.

The Netherlands covers 41.850 square kilometers. So, we would have to plant over 15 times the surface of The Netherlands each year to keep up the pace. And that's just our oil consumption. Let's not forget about the 22 million metric tons of coal and the 11 billion cubic meters of natural gas we burn every day just to keep the current world population going.

We produce, on a daily basis, 190.000 non-electrical vehicles, 1 million metric tons of plastic, 5,5 million metric tons of waste and 11 million metric tons of cement. Now yóu do the math. How many trees is that? Let's stop kidding ourselves and step outside the climate box for a moment.

First of all: environmental pollution, destruction of the biodiversity and climate change are mere symptoms of the overarching problem: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Overshoot isn't just beginning. It's been going on for over half a century now and currently in its accelerating phase.

Overconsumption is always met with collapse. It's locked into the system. For us that implies the collapse of our suprasystemic infrastructure. The ideal world population lies between 1 and 2 billion. We are currently with 8 billion, growing to 10 billion in 2050. Each of these individuals will want to get rich, healthy, happy and grow old. It's simply unsustainable.

It takes 3 to 4 generations for the collapse of our infrastructure becomes to become a global phenomenon. That's well over 100 years of accelerating decline, in which each generation will be exponentially worse off than the one before.

The previous generation was the last one better off than all of the generations before. This generation will experience the beginning of the end, our children will live on the edge of hell on earth and our grandchildren will inherit in a world that is devoid of wellbeing and prosperity.

Can you feel it now?

3.16
SM233
Electrical vehicles will not save us

After another article about the rise in production of electrical vehicles or EV's, I felt compelled to react:

"Ok, let's see here. The worldwide production is 85 million motor vehicles and 10 million electric vehicles per year, 95 million in total. That implies that we still produce over 230.000 non-electrical vehicles and only about 27.000 electrical vehicles each day (of course that last number is rising).

Here's another insane number: there are about 1,5 billion vehicles in the world to date and apparently, we cannot come up with anything more intelligent than replacing them all by electrical ones. It just doesn't make sense and it appears that this replacement drive is more meant to save the automobile industry than it is to save the world.

We keep shouting that solar and wind power are increasing, last year [2022] more so than ever, but the emission of greenhouse gasses is on the rise too, going from 37,5 gigaton of CO2 for fossil fuels and industry in 2022 to 43 gigaton in 2050, based on the economic plans of all 200 countries in the world and the world population increase of 1% each year, which adds 80 million people to the consumer equation yearly.

Current CO2-level is 420 ppm, rising to 500 ppm in 2050. In order for the human species to survive, we need to bring that back to 200-300 ppm. But that

will cost us half of our GWP (the sum of all GDPs in the world) per year, for 27 years straight until 2050, as I have previously calculated.

Each of the 80 million individuals that we add to the world population every year will want to get rich, healthy, happy and grow old. Nobody wants to decline or reduce, everybody wants to at least keep what they've got, preferably get a little bit more.

We can't fix this no more, it's too late. The collapse of human civilization is now locked in. It's just a matter of time, I'm sorry to say and quite sad to conclude.

3.17
SM235
Know the strategy and tactics of your opponent

The internet is full of climate change denial, despite the overwhelming evidence that it is not only caused by the collective behavior of the human species, but that it also leaves no area on Earth untouched and that the entire process has entered a state of acceleration.

Still, scientific evidence doesn't seem all that important to the climate change denier, because they lean heavily on the underbelly sentiment of their followers, supporting the completely frivolous but precarious utterings such as 'science is just another opinion', 'scientists don't know everything', 'look what the so called scientists used to say and what they are saying now', 'we don't have all the data yet', 'the date we have is flawed', 'it was also very hot in 1976' and 'look, the polar bears are back!'

Be that as it may, it is always wise to know the strategy of your opponent. So, lo and behold, here are five ways the climate change denier distracts and misleads you and five ways to sow doubt:

1 — Steer climate communications away from science fact.
2 — Focus solely on the flawed attempts to mitigate climate change.
3 — Emphasize disproportionally the nitty gritty details of errors in climate studies.

4 — Divert away from viral climate communication.
5 — Condemn ánd blame the 'left elites', the 'woke mob' and the 'green lunatics for everything.

Here are the five benefits of sowing doubt:

You don't have to…:

1 — …counter-argue the scientific facts about manmade climate change.
2 — …underpin, prove or substantiate your own arguments.

You only have to:

3 — …seek out errors in climate studies and disproportionally enlarge them.
4 — …state that 'we still lack data' and/or 'the existing data is flawed'.
5 — …apply whataboutisms, selective perception, ad hominem attacks, diversions, distractions, fake facts and fake news and get really angry with all and everything that opposes you.

The most effective strategy to counter effective climate change mitigation is to distract, mislead and to sow doubt. Easy peasy.

3.18
SM241
What happens if we have to draw our own conclusions?

If you have the time, I would like you to take a look at the graphs under the submenu 'Grafieken' (Graphs) on the website of *Our Inner Limits*:

https://www.demensalsgrens.nl/grafieken/

Just take a few minutes and try to grasp what you are seeing here. Now take a look at the news under the submenu 'Nieuws' (News) about the environment, biodiversity and climate I have gathered during 2023, the year we passed the 'elbow' of the exponential curve:

https://www.demensalsgrens.nl/nieuws/

What conclusions would you draw? I'm deliberately nót confronting you with my own view on the matter, or my own interpretation of the data, or my vision of what's next. I would like to request that yóu give it a go.

Because the internet and the social media are overflowing with conflicting information about what's going on with the world. About how we as a species impact our own habitat. And that it is not too late, that we can still fix this, if only we would start nów. But when is that really? We seem to be 'starting now' for over half a century already.

Environmental pollution, destruction of the biodiversity, and climate change (*) — the news about the consequences of our behavior is interspersed with economic news about inflation, growth versus decline, about the crises, conflicts and wars we wager, about famous movie stars and our gossip about them and our trivial pursuits in daily life.

So, I'm asking you to take a pause from all that, watch these graphs for a moment and contemplate what they mean for you and for your small social groups of family, household, friends, colleagues and teammates. And for the future of your children and grandchildren.

On more than one occasion I've had discussions with climate change deniers — not so much anymore because it really sucks the life out of me — and I show them these graphs and ask them what kind of conclusions they would draw from them. The last time I did that the reaction was classic. My opponent said simply that 'not all the data is in', and that 'the existing data is flawed, manipulated and biased'. That it is all 'a big woke scam from the left elites to scare us and make us panic'.

I guess at some point that is the only recourse left for climate change deniers: denying the actual data, dismissing what's right in front of them. Just look the other way – don't look outside the window! – and berry their head in the sand.

'I seriously don't know what's worse', I told a climate change denier at such an occasion, 'that you actually and secretly believe that the data is real, and deny it anyway, or that you truly believe the data is flawed and manipulated, that it's all a big hoax by woke leftists to make us scared. Maybe they are equally as bad.'

So, what do you think? What are your conclusions based on these graphs and assuming that the data is scientifically valid? What do you think will happen when we extrapolate the data, based on the past, info our immediate future?

(*) These are all symptoms of overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. If you're interested in the concept of overshoot, see Appendix IV.

Chapter 4

The Almighty Algorithm

4.1
SM135
This is why AI increases our level of stupidity

My reaction to some ICT enthusiast showing the 'limitless possibilities' of AI:

"Don't you see? This is incredibly stupid!

This guy looks stupid, because he, a human of flesh and blood, takes a picture with his smartphone of his handmade crude drawing and lo and behold, he shows us the processing results of the AI's algorithm on his laptop: 'beautiful' pictures of his picture.

And he's proud of it too.

But he hasn't dóne anything, other than scribbling a bit. The machine has. He's just a conduit. An ultimately superfluous piece of meat. The only useful purpose of a human being at this point in AI development, is providing the ideas to work with and the electricity the system needs to operate.

We don't have to do the work anymore; we just ask AI to do it for us. And thén what are we going to do?

Self-learning AI will learn to mimic human behavior at an exponential rate. At this point we still provide the input, the ideas and the electricity. But it will learn to anticipate our needs, to mimic even our ideas, our creativity. The only thing it has to do is crunch numbers. Petabytes of data, relentlessly scrutinized by black box software that will ultimately grow beyond our grasp.

This guy looks só stupid, standing there with his little machines, giddy like a schoolchild. It's scary.

We should all be forgiven, because we don't know what we're doing. The genie is truly out of the bottle."

4.2
SM138
How AI squanders our unique properties and abilities as a species

As a reaction to the commentaries of an article of the current status of the development of AI:

"I've read through the comments and I'm stumped. We seem to regard AI like ChatGPT as static. We don't seem to recognize that we've crossed an important threshold. AI has surpassed a tipping point: the genie is out of the bottle. We can't stop its exponential development anymore.

A few things to consider:

1 — Stop looking at AI as to what it is now
We must recognize the exponential rate in which it develops. Our brains aren't capable of understanding accelerated growth. That makes us a potential victim of our own technology.

2 — Stop squandering our unique attributes as a species
AI will copy everything that we are. It can process petabytes of date in no time and it will keep on learning and improving. Everything we are, will be mimicked, emulated and copied. We marvel at AI's capability, but we sell out our own distinctiveness at the same time.

3 — Open the black box while we still can

We alréady don't know how AI reaches its conclusions. We're so eager to adapt to its capability that we rush towards our own ignorance and stupidity. We múst look inside and open the black box now.

Our social media platforms will be inundated with AI content soon. Who needs humans? Let the bots play their game and talk to each óther.

How will we distinguish the perfectly emulated human dialogue, photos and videos from the real ones? Who would want to go back to that 'inferior time period' of imperfect data? Grammatical errors, imperfections in facial expressions, time glitches in video footage — who would want that back?

(I would. In a heartbeat)

Let AI do the work, we seem to say. Ok. And thén what are we going to do? Make fire, cook meat and throw stones and spears to each other?

Thát'll be the day."

4.3
SM144
Why do we boast about AI?

My reaction to a post of an AI-enthusiast boasting about the 'increased quality of the text output of AI-apps such as ChatGPT:

"I'm not impressed at all. The AI has just mixed and matched words that were written by humans before. Without a shred of creativity, it has produced a text that appears creative to our brain.

Why are we impressed by this? It only took a prompt of 20 words and AI produced the text in milliseconds. What an achievement that is! Somebody used a keyboard to type in some words and AI did the rest.

'Look mum, without hands!'

Why use a keyboard? Just feed the prompts verbally. Use voice-controlled devices to feed the AI. Just sit in a chair or lay down in bed and spit out up prompt after prompt, whilst getting lazier and dumber by the minute.

It's quite disconcerting that we're posting these produces of AI — text, images, paintings, videos, poems, music, art — like we've produced them ourselves. It's quite disconcerting that we embrace AI with awe and amazement, whilst feeding it with enhancements, corrections and improvements. It will just get better at making us lazy and dumb.

I would have been impressed and inspired if a human being had come up with this description of a new human emotion. That would have been neat.

But consider this, Jarno. If you had said that you came up with it yourself, who would have believed you?”

4.4
SM156
Artificial intelligence kills

AI will kill all human skills, creativity, intelligence and uniqueness. Everything will become one of 50 shades of grey, emitting an odor like the generic smell of garbage.

For example:

All the effort I've put into my music-, photo- and business website, all those years of practicing, rehearsing, programming, recording, selecting, playing and listening for hours, reading, researching, writing, editing, creating a website, adding content, maintaining — an AI only needs to look at it for a picosecond and imitate it, in endless variations of me.

Why bother? Why put so much effort, blood, sweat and tears into it ever again, when you can make an easy prompt instead:

“Go to Bart Flos' music website, listen to everything and then make 20 albums with similar music”

www.bartflosmusic.com [website of Bart Flos Music]

Ping! Done.

"Go to Bart Flos' photography website, see all his work and reproduce it in 1000 variations".

www.bartflosfotografie.nl [website of Bart Flos Photography]

Ping! Done.

“Read all the books by Bart Flos and write another 10 in the same style and on the following topics:”

www.bartflosveranderadvies.nl [website of Bart Flos Veranderadvies]

Ping! Done.

Why bother with Bart Flos? Nobody hears or sees the difference; nobody cares how much time and energy has gone into it. An AI can always do it faster, better and cheaper.

I genuinely despise where this is headed. No good can come of it.

4.5
SM177
Travelling through the uncanny valley

I saw a video of an artificial human head with facial expressions, with an AI like ChatGPT 'inside'. You could just ask your questions and out came the answers, seamlessly, fluently and with the correct nonverbal signs.

I was impressed and that responded as follows:

"Holy shit! (if you pardon my French). That's impressive. No, belay that. That's fucking unbelievable! No, strike that. That's bloody scary. I think I just made a journey through the uncanny valley. Now imagine adding a third dimension to this development: the androids of Boston Dynamics. Just go to YouTube and watch one of their latest video's. It's mesmerizing and I just can't shake the feeling that there must be a human being in there.

And now imagine these three components — AI, true facial expressions and human like robots — to develop exponentially, which they currently are. How long do you think before we're able to create an android like Data in StarTrek, more powerful than a gorilla, more intelligent than the whole of our internet combined and more human like than we ever could have imagined?

This is not science fiction anymore. This is becoming science fact by the minute.

The genie is out of the bottle. We have surpassed a critical point of no return, a tipping point that might go into history as the crossover to another dimension, the conversion of technology, the impediment of human design, or, if you want to put it even more dramatically: The Singularity.

Who was that old, wise man from China that said:

願你生活在有趣的時代。

['May you live in interesting times']

Maybe it's not that. Maybe we should be more attentive to the adagio:

小心你的願望。
你可能會明白。

['Be careful what you wish for. You might just get it.]

4.6
SM190
The beginning of what exactly?

A saw a reaction to an article about AI in general and ChatGPT in particular reading 'This is just the beginning'.

This was my comment:

"The beginning of whát exactly?

— Total Excel Ignorance?
— Complete AI Dependance?
— Excellent in Prompting?
— How To Ask Questions to the AI without Actually Having Any Skills Yourself?
— Losing Access to Creative Reasoning?
— Going Through Life without an Actual Original Idea?
— Simulating Independent Thought whilst Actually Knowing Nothing in Particular Yourself?

Please forgive them, Almighty AI, they don't know what they're doing. You may take command over our faculties when ready."

4.7
SM206
Moving in the opposite direction

I read a post about 'the need for growth and progress in the application of ICT-technology' and 'that we need to move forward fast and maximize utilization' in the sense of 'progress means prosperity'.

'What does all that even méan?', I wondered. So, I asked some questions:

— *Why aren't we moving in the opposite direction?*
Fewer apps, less integration, lower optimization, less growth, less synergy, effectiveness and efficiency?

— *Why aren't we focusing on lèss usage of the internet, pc, tablet and smartphone?*
More downtown, more attention for each other, more non-digital social interaction, less machine, more human?

— *Why aren't we going for economic decline?*
Lower production volumes, less diversification, scaling down, less configuration choices, less growth, lower calorie intake?

— *Why can't we create more durable technology?*
Using a smartphone for 10 years, producing a washing machine that lasts 30 years or more, driving the same car for at least 20 years?

— 'If it ain't broken, don't fix it'.
If you have enough income to supply a roof over your head, means of transportation, food and water, security and safety for you and your loved ones, why must your wealth and wellbeing still increase?

— Why must we move up and up, gain more and more, scale everything up, make more money, buy more stuff? Why isn't enough just enough?

I'm just asking you to think about these questions for a while. Ignore the quick and easy answers (it's the economy, stupid!') and really think about it. Because I'm not addressing the differences between 'east and west', between the rich and poor, or between the 'developed nations' and the 'underdeveloped nations' or between the 'haves and the have-nots'.

The human species, on average and in general, is not moving forward at all. If we think that progress equals all human beings getting rich, healthy, happy and grow old, we are describing a phenomenon that is largely misunderstood. Environmental pollution, destruction of the biodiversity and climate change are symptoms of the actual problem: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat.

The internet, our computers and smartphones are conduits for the acceleration of overshoot. Our consumer habits are amplified simply because our technology enables it. The Almighty Algorithm, aka AI, is laughing at our ignorance. Our addiction to our smartphones and laptops — we're practically glued to them — will enable AI to spread disinformation about our existential predicament and keep the neoliberal, capitalistic, consumeristic, growth-economic free market going.

Overshoot isn't just beginning; it's been going on for over half a century now and currently in its accelerating phase. Overshoot is always met with collapse; it's locked into the system. For us it will be the collapse of our suprasystemic infrastructure.

ICT digitization, standardization and 'platformization' are mere enablers of suprasystemic collapse. It doesn't seem that way, because we view this from inside the box, scrolling through our timelines, searching for the best Wi-Fi-connection, trying to keep up with the demands of our mailbox and our small social groups of family, household, friends, colleagues and teammates.

Just think about all that for a while, that's all I ask. To that effect, it might help to put away your devices for a while.

Good luck! And thanks.

4.8
SM210
The generic smell of garbage

I saw an AI-adept and ChatGPT-enthusiast posting about an app that creates PowerPoint presentations based on just a few prompts.

This was my reaction:

“There you go. We all just got a little dumber and more dependent on AI. It’s not only that we will lose the ability to structure and compose a presentation ourselves, but we will not wánt to anymore.

‘Look mum! Without brains!’

Just so that we’re clear here: I wasn’t a fan of PowerPoint anyway. I’ve seen too many presentations with squares and bullets and text and funny pictures, with the speaker reading the exact content out loud, sentence by sentence, whilst parts of my brain spontaneously died off. I call that *Death by PowerPoint*.

A while ago it hit me and I wrote a mini blog about it. Do you know that typical smell garbage on a dumping ground gets? If you put all of our daily household waste together, all the food remains, fluids, goo, kitchen paper, cat vomit, hair, crumbs and dust and bring it all together in one big pile, it always smells the same. It becomes one specific, generic odor that everybody recognizes: a big pile of human shit.

That's AI output: a big pile of copied, mimicked human shit, which looks exactly the same. Every piece of text, image, video; music clip and graphic will be like every other. And then copied again. The content will be different, but the smell will be the same: like garbage. Human/AI garbage.

AI won't make us more human; it will make us less human instead. Sure, it will be easier to draft emails, make PowerPoint slides, photos, videos, websites and programs. Sure, we'll sit back and relax and prompt the hell out of it. But every minute we do that, we lose skills. We become less intelligent. We become more complacent, lazy and ignorant.

There's is no skill in prompting. Talking to a computer, assigning duties to it and presenting it as original work is the definition of stupidity and ignorance. What do you think happens with the next generation human output that we'll be able to generate, because AI has taken over the 'dumb repetitive tasks and processes'. For an AI áll of our output is dumb and repetitive!

It will just observe our 'more human output', the 'deeper thoughts' we produce, the 'profound new knowledge that we acquire'. It'll be like 'the way a man with a microscope might scrutinize the creatures that swarm and multiply in a drop of water.' (From the opening monologue of War of the Worlds). AI will process that new output, mimic it and emulate it just as easily anything else.

And thén what are we going to do?

I believe that our biggest misconception about the current development of AI is, that it's truly exponential. Human brains don't operate that way. We are simply not able to imagine our knowledge doubling every measure of time. AI is not like the emergence of the internet, smartphone or social media. The genie

is out of the bottle and we won't be able to put Humpty Dumpty back together again.

The moment you ask an AI, I'm sorry, the moment we prompt it to do something and present it as an achievement of our own, we have downgraded ourselves. This is not like using a calculator or a spreadsheet; those are just tools like hammers and screw drivers. I'm not saying we should go back to manual labor. I'm saying that we have crossed a threshold, a point of no return. It's downhill from here: it will get a whole lot worse and it's not going to get any better.

If AI were to enable us to limit the amount of work to, let's say, a couple of hours a day, and make us totally free for the rest of the time, then I wholeheartedly consent that AI might have some added value. Because we are not our work and any tool that would help us regaining free time is helpful. But it seems to me that, with all the progress ICT-technology has made since, say, 1990, we're only getting busier and more stressed.

I'm sure somebody back then said that "the internet is going to connect the human species on a global scale, to exchange knowledge and information and do good things with it". And another must have said in 2005 that 'the smartphone and the social media will make us more social, as we all connect to one and other". Yeah, I'm sure I've read that somewhere.

Think again.

AI will not only amplify the damage we do with fake news, extortion, manipulation, anti-science and pro-ignorance, it will destroy that last little bit

of restraint, discipline and control we need to keep us from fucking up our societies.

I'm not a fan of AI. Can you tell?"

4.9
SM215
We'd better be prepared: AI is coming

I watched an interesting discussion about AI unfold, debating the possibility of an AI acquiring intelligence or even consciousness or self-awareness, and that we might already see small examples of such emergencies. Someone argued that 'we needn't fear AI of ever becoming a threat to us, because it will never be able to reach that state. It will always be a dumb computer'.

This was my reaction:

"I beg to differ. An AI doesn't have to be intelligent or self-conscious at all. It just has to mimic us accurately enough to create *the appearance of* intelligence or consciousness.

For our brains, our mind, there's no difference. If an AI masters the full scope of human emotions and intelligence by just copying everything we write, say and do, it will appear just as intelligent and conscious as we are. It will still be a stupid, cold machine. But it will know exactly what to do as a response to everything we do. Just because it has read it and copied it. Endlessly.

We just grapple with the concept of exponential growth. Our mind is incapable of doubling our knowledge every measure of time. It can't understand it, it will never master it. But our machines do. Eagerly and relentlessly. Forget about the terminators coming for our lives. That's completely unnecessary. You only

need perfect copies of us and we'll have created havoc on a perfect scale. The perfect storm as a prelude to the beginning of the end of human originality.

This is just the beginning, folks. AI will bring out the worse in us, until it no longer needs us.

We'd better be prepared."

4.10
SM222
The Almighty Algorithm

With all the news flushing the internet about AI in general and ChatGPT in particular, I find it utterly fascinating that we now seem to regard AI as some almighty, all-knowing and all-seeing entity that is able to answer all of our existential questions and dilemmas.

Look, it's not that we are unable to come up with visions and depictions like this ourselves! AI just copies, mimics and emulates what we have said and done before. It has no self-awareness, intelligence or conscience. It only appears that way. And therein lies the big danger. Because to our hunter-gatherer brain any perfect copy of human output will appear to be real. The more perfect AI copies what we are, the more we'll be entised to believe it's a real human being, just like us.

To illustrate that danger, an anecdote.

An AI was given all the current information about our existential predicament: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Environmental pollution, destruction of the biodiversity and climate change are symptoms of overshoot and the AI was fed with all the knowledge we have gathered on these subjects so far. Then it was asked how we could solve it:

'Please Almighty and All-knowing AI, forgive us and help us, we are at a loss here. What do we need to do to mitigate overshoot?'

It came up with a brilliant solution:

'Eliminate mankind'.

'Perfectly logical', Spock would argue (Thank you, *StarTrek*).

4.11
SM247
'AI is going to solve all our problems'

Somebody somewhere on the social media came up with a brilliant idea to fix all of our problems with the environment, the biodiversity and the climate. Now that we have AI, let's ask ChatGPT for a solution!

This was my reaction:

"Sometimes I just can't believe how obtuse we are, really. For more than 100 years we know that excess CO2 has a heating effect on the atmosphere. It's directly related to climate change. For over half a century we know that environmental pollution, destruction of the biodiversity and climate change are symptoms of overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat.

We have done every conceivable study, made up every possible report, organized every bloody conference. We already know exactly what's going on and we know precisely what to do and when, why, how and with which technology. But we haven't executed any of these plans. Not on a global level that is. None whatsoever! We're just emitted more greenhouse gases, polluted more of the environment and destroyed more of the biodiversity.

And then came AI.

And nów, all over sudden, we think AI is going to solve it?! That nów we will come to our senses and mitigate overshoot? That nów we fall to our knees and see the errors of our ways? I just can't believe how obtuse we are. I really can't."

'Almighty AI, please forgive us for our existential ignorance and stupidity. We don't know what we're doing'.

Chapter 5

The climate collision

5.1
SM134
How we tend to react to global existential news

My reaction based on the latest IPCC report:

"IPCC: 'Since our previous report it's gotten a whole lot worse for sure. Extreme weather everywhere, climate disasters washing over the planet. You know. Harmful stuff for the environment, the biodiversity and the climate.

But it's not too late. We can still do something. We can still keep the average global surface temperature below the 2 degrees C marker, maybe even below 1,5 C. If we really, really, réally try this time.'

Reaction of the average Earth-dweller: 'Let's see, what comes first? My partner, my children, my family. My house. My car. My stuff. My mortgage payments. It's my turn to put the garbage bins out. And where shall we go for Holiday this year? By the way, I need to replace my smartphone soon too, it's two years old!

What's that about the climate? Aha. Mm-mm. I see. We're in dire straits, are we not? Yeah. That's tough. But it's not my fault! It's the Big X and their greed. It's everybody else's fault but mine. I have to go to work, run my company, pay the bills. I haven't got time for existential problem solving.

What's new on *NetFlix*?'

We should not put forward a new report or organize yet another new climate conference. We should ask the bigger question first:

'What are we going to do differently this time?'"

5.2
SM140
Explain it to me like I'm eight years old

As a reaction to the zillionth post about a hopeful future for humanity:

"It's not that I dón't want to believe the advocates of *DeGrowth* and a durable green society. I do. I dó want to believe. But I want to see it. The proof of the pudding is in the eating. At some point I want to see global results.

The past half a century we've produced millions of climate studies, reports, books and videos. We've organized 27 (!) international climate conferences. We've talked about thousands of hopeful technological developments.

Substantial, measurable improvement must eventually show on a global scale. But at that level it's actually getting worse!

— Global CO2-emissions for fossil fuels and industry were 37,5 gigaton in 2022, rising to 43 in 2050.
— CO2-levels in the atmosphere are at 420 ppm, rising to 500 ppm in 2050.
— Currently we burn 100 million barrels of oil, 22 million metric tons of coal and 11 billion cubic meters of natural gas every day, adding 100 million tons of CO2 to the atmosphere daily.

The average global surface temperature is currently 1,2 degrees C above preindustrial level. We are going to surpass the 1,5-degree marker within the

next 10 years, the 2,0-degree marker around 2050, bringing us to 3 or maybe even 4 degrees of warming before the end of the century.

Each tenth of a degree of global warming will bring us closer to triggering climate tipping points that will in turn trigger other tipping points. That cascade will potentially lead to a 'runaway climate' and a 'hothouse Earth', which will be beyond our capabilities to intervene.

At 5 or 6 degrees of warming organic life at the surface and in the oceans can no longer be maintained. When runaway climate drives the atmosphere to those kinds of levels our extinction is guaranteed, just like 99,99% of all other species have gone extinct in the history of planet Earth. We're the only ones accelerating our own demise. How intelligent is that?

All above numbers are going úp, not down. All of the climate change KPI's are missed every year. We are confronted with more and more extreme weather and climate disasters are washing over the planet.

How can that be, with all that good news that we're still going to make it, that it's nót too late to do something about our existential predicament? Why don't we see any results on a global scale? Why is it progressively getting worse on the highest level, whilst we jubilate over potential local and regional developments?

When is that wondrous all-powerful new green technology going to kick in?

Can you please explain that to me? Like I'm eight years old?"

5·3
SM146
Calling it a climate change emergency doesn't make it so

I saw a post that referenced an article in which a passionate argument was made about our existential predicament, how bad it had become and how much worse it was going to get if we didn't act. It emphasized all the opportunities and possibilities to mitigate the consequences of environmental pollution, biodiversity loss and climate change.

It basically said 'Yes, it's bad, but it's not too late, we can still dó something!' And it advocated the call out for a 'global climate change emergency'. You could feel the author not only being quite concerned but being dead serious at the same time.

Ans then it hit me. The date of publication of that article was November 15th, 2021, about 15 months after I read it. So, I did the math:

"Since that time, we have burned 45 billion barrels of oil, 10 billion metric tons of coal and 10.000 billion cubic meters of natural gas, adding 68 gigaton of CO2-equivalent to the atmosphere.

— No global climate change emergency has been declared.
— No global climate change mitigation plan has been established.
— No consolidated climate change action plan has been implemented.

— Global emissions of greenhouse gases are up.
— Global consumption of oil, coal and natural gas are up.
— The 28th international climate conference is chaired by an oil sheik.
— There are serious studies into geo-engineering, finding ways to block or reflect sunlight.

Each day we burn 100 million battles of oil, 22 million metric tons of coal and 11 billion cubic meters natural gas, adding 150 million tons of CO2-equivalent to the atmosphere daily. If we started reducing CO2-emissions after the climate conference in 2001 to reach net zero in 2050 we would be at 14 gigaton yearly.

In 2022 the CO2-emissions for fossil fuels and industry were 37,5 gigaton, an all-time high.

It puzzles me why we still haven't declared this an international emergency yet…

5·4
SM146
Why haven't we declared an international emergency yet?

Somebody posted a reference to an article about 'the need for action on climate change' and that 'we need to act now, before it's too late'. Thid was my response:

"Funny thing.

The date of publication of this article is November 15th, 2021.

I've done the math: since that time, we have burned 45 billion barrels of oil, 10 billion metric tons of coal and 10.000 billion cubic meters of natural gas, adding 68 gigaton of CO2-equivalent to the atmosphere.

— No global climate change emergency has been declared.
— No global climate change mitigation plan has been established.
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It puzzles me why we still haven't declared this an international emergency yet…"

5·5
SM147
Why we can't limit global warming to 1,5C

As a reaction to a post claiming that 'we can still limit global warming to 1,5C if we start nów' and 'we still have seven years to fix it':

"I'm sorry, but please allow me to be blunt here and burst your bubble kindly.

— For over 3 decades now the IPCC has produced its reports and organized its conferences. Each time a report comes out the situation is more dire.
— Each time a conference is organized the conclusions are the same: 'it's gotten a whole lot worse, but it's not too late, we can still fix it'.
— No! It's NOT possible to limit global warming to 1,5C. We will cross that barrier within the next 5 or 10 years.
— The solutions to fix our existential predicament exist for over half a century now, but none of them have been implemented on a global scale. None!

Forget this '7 years' we've got left to fix it. That's just as absurd as these climate 'deadlines' that all end neatly with a zero: 2030, 2040, 2050, 2070, 2100. They're meaningless. Nothing will happen at 00:00 hours on these dates. No alarm bell will go off.

We need international cooperation, sure, but we're not getting it. We've been saying that for over half a century now and greenhouse gas emissions keep going up and up. We need to stop kidding ourselves and start asking the only viable question left:

— What are we going to do differently this time?

We have a responsibility to inform about the solutions, help bridge the gaps, break the silos, rethink the political roadmaps and frameworks, and support the matchmaking process between the climate challenges and existing solutions to create the best preconditions to rapidly scale the solutions needed to accelerate the transition.

I share your frustration and perplexity regarding the inaction and slow progress despite the numerous alarming reports over the past few decades. My generation and I weren't born when the first IPCC report was published. Our future is illustrated in the darkest shades of the spectrum in the future scenarios. (incl. the picture above)

Needless to say; passivity, pessimism, business as usual or undermining the possibilities and existing solutions won't help. It's in everyone's interest to mitigate the worst effects of the climate crisis. What we do today matters. Every ton, every decimal count.

Our leaders must not only know (and understand!) the risks and challenges. They must also know (and understand!) the possibilities and existing solutions – and most importantly, how to connect these. Evidently, the knowledge gap is severe.

I've spent two years doing research on the matter and published a book about it in December. The crux of the problem doesn't rest in our knowledge or our willingness to better the situation per se. Nobody wants to die horribly.

But environmental pollution, destruction of the biodiversity and climate change are symptoms of a far greater threat: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Overshoot is not just happening. It's been going on for over half a century now and currently in its accelerating phase. It's quite disconcerting to observe the way our ecosystem reacts to our destructive behavior. The process isn't linear, it's exponential. It's scary.

I'm not passive, pessimistic, nor am I undermining the possibilities. My book is full of solutions to our predicament when I approach this problem from the perspective of organizational and societal maturity. The way we handle overshoot is highly immature. I can't overstate that enough: with all the potential the human species has, expediting our collective demise is about as immature as you can get.

The core of the problem lies in in the 'we' and the 'us' in our analysis.

Who are 'we'? We are Homo sapiens, the human species. We are schizophrenic in nature. On the one hand we are champions of international cooperation and we dominate the planet. But we are also fundamentally single-minded, short-sighted and selfish. Therein lies our conundrum.

'We' as a collective doesn't exist. When push comes to shove, we all, rich or poor, powerful or powerless, retire to our small social groups of family, household, friends, colleagues and teammates. 'Our leaders' are no different. They have a multinational to lead, a state, a country, a society. And nobody wants to decline or reduce.

What we all want is to at least keep what we've got, and, if possible, get a little more. We can't help it; it's what evolution and natural selection made us. The solution must come from our collective effort, but we are fundamentally divided. We are all splintered into small social groups of 5, 15, 25 people, mostly taking care of our own. By 2050 we'll be with 10 billion specimens of Homo sapiens. Each and every one of them will want to get rich, healthy, happy and grow old. It's simply unsustainable.

PS Eight years ago, when I wrote my 5th book, I was an incorrigible optimist. But now, I'm hesitant to say, with my 6th book, I've transformed to a self-proclaimed 'confrontealist'. Because only a frontal confrontation with reality might open our eyes to the collective predicament we're in. No more 'Mister Nice Guy'.

I find it fascinating that climate change deniers are still able to sow doubt, with all that extreme weather and the climate disasters washing over the planet. It's right outside to observe! I find it one of the most bizar examples of cognitive dissonance and selective perception I have ever seen.

I don't believe we grasp the concept of extinction. We feel like we're above all that, that it can't, it won't happen to us. But wishful thinking and window dressing are not going to help us here. 99,99% of all species in the history of our planet have gone extinct. We're the only ones expediting that process. How bizarre is that, with all our potential?

I have changed my 'pre-apocalyptic preventive attitude' into a 'post-apocalyptic mitigative posture'. I had to. It helps me with my existential anxiety and it eases my mind. It keeps me going quite nicely, considering the circumstances."

5.6
SM201
'I want you to panic'

In May of 2023 I saw a post that mentioned Greta Thunberg's legendary speech, wanting us to panic about climate change. It reiterated the importance of protest, of rebellion, especially by the youth of today, to rattle the cages of the lazy, greedy and shortsighted leaders and politicians of the world 'to wake up and smell the coffee'.

I felt the need to make a point and so I did:

"Allow me to put this into perspective, if I may.

Greta Thunberg speaks the truth. She's genuinely great. She took on the world at the age of 16 and still rocks the climate boat every day. What we're yóu doing when you were 16 years of age? I admire her for that. But she spoke those words ('I want you to panic') in January of 2019.

I have done the math. Since that date…:

— …we've burned 158 billion barrels of oil, 35 billion metric tons of coal and 19.000 billion cubic meters of natural gas.
— …we've produced 300 million non-electric vehicles, 1.582 million tons of plastic, 8.700 million tons of waste and 17.000 million tons of cement.
— …we've added 237 gigaton of CO2-equivalent to the atmosphere.

— …we've added 380 million people to the world population, who all want to get rich, healthy, happy and grow old.

CO2-emissions for fossil fuels and industry were 37,5 gigaton in 2022, the highest ever. Oil, gas and coal consumption are up, not down. The CO2-level in the atmosphere is 420 ppm, rising to 500 ppm in 2050. A normal CO2-level for survival of our species is between 200 and 300 ppm.

It doesn't matter how much we are impressed by Greta's spunk. It just doesn't chánge anything. Not on a global level that is. So, what's the point? Or maybe a better question to ask: what are we going to do differently this time around?

Chapter 6

The collapse

6.1
SM137
The future of humanity

I referenced to a quote from an article about the future of humanity:

"'Will we ban the use of fossil fuels in time? If there is a generation around a century from now to tell the tale, the answer will be yes. If not, it may take aliens from another galaxy to report the history of the global demise of Home sapiens.'"

These aliens from another galaxy might best speed up their journey and pump the gas (pun intended).

It's quite confrontational to realize how much time needs to pass to completely wipe out all traces of the human species on this planet. What do you think? It's only 100.000 years. That's all the time it takes to fully crumble every last trace of our civilization.

Fully crumble? Mmmm. Maybe that smart alien species — smart they have to be to nót destroy their home planet as a result of ecological overshoot ánd find a way to traverse the vast cosmos at speeds high enough to actually gét somewhere — will have the capacity to dig deep and analyze thoroughly.

Because the only evidence to be found after a thousand centuries have past, might be some radioactive waste still glowing in the dark and some artificial macromolecules that need another few million years or so to dissolve.

The human species has roamed the Earth's surface for about 300.000 years now. That's only 0,007% of Earth's existence (4,5 billion years). In only 0,07% of our ówn existence (200 years out of 300.000) we managed to set the stage for our own extinction. 99,99% of all Earth's species got extinct in the end. We're the only one speeding up the process ourselves.

Is that intelligent? If we keep up the current accelerating of our own demise, I guess we're not going to be 'the aliens from another galaxy' on our way to rescue other species. That's what real existential stupidity looks like."

6.2
SM148
Why we should be worried about overshoot

Prof. Dr. Rees is spot on!

William Rees, FRSC (born December 18, 1943), is Professor Emeritus at the University of British Columbia and former director of the School of Community and Regional Planning (SCARP) at UBC.

He's passionate about the concept of ecological overshoot, which is generally not well understood. We have a tendency to regard environmental pollution, destruction of the biodiversity and climate change as 'separate core problems' (a contradiction in terms), whilst they are mere symptoms of overshoot.

Let me, if I may, add to your horror about our existential threat. This is what we need to do to mitigate the consequences of overshoot:

1 — All poor people must remain poor.
2 — All rich people must abdicate their wealth.
3 — Population growth must become population decline.
4 — Economic growth must become economic decline.
5 — We all must decrease our income by 20%
6 — We all must give up 50% of our savings.
7 — We all must go in complete lockdown for another ten years.

That list represents the energy-equivalent of our collective effort to actually dó something about overshoot. Currently there's no consorted global effort that even comes close to this combined set of actions. People freak out when they see the list, as you probably will too, learning that we need to, for instance, reduce human population to 2 billion people instead of adding 2 billion to the 8 we already have.

If you're appalled by that, try to imagine this list as a set of seven levers, each of them representing 14% of our collective effort to sort our shit out. If you don't want to, for instance, reduce the world population, fine. Turn that lever down to zero. But that has consequences.

Because now all other levers will go up to 17%. Maybe you don't want that either and you want to keep lever number 3, population growth at 0% of effort, and the other five at 14%. Then, as a logical consequence, lever 7 goes up to 30% of the effort: we all have to go into complete lockdown for another 20 (!) years.

Anyway you put it, you can't mitigate overshoot by ignoring the levers or by not liking them. If you force them all down to 0% the system will crash. Something's gotta give and currently we act like we'll solve our problems 'in the future', when we have developed the required technology or when the next generation of government picks up the pieces.

Overshoot is not just beginning; it's been going on for over half a century now and currently in its accelerating phase. By 2050 about 10 billion people will roam the planet, all striving to be rich, healthy, happy and grow old. It's simply unsustainable.

Nobody wants to decline or reduce. We all want to at least keep what we've got and always strive for a little bit more.

It's in our very nature, I'm afraid. Ans it's simply unsustainable.

6.3
SM151
Some confrontational advice

After some alarming reporting about catastrophic supercells with hurricane winds and hailstones the size of oranges, I engaged in a debate about overshoot or overconsumption.

Yes, I argued, it is clear that we are exceeding the carrying capacity of our habitat and that environmental pollution, biodiversity loss and climate change are mere symptoms of overshoot. The atmosphere, biosphere, lithosphere, hydrosphere and cryosphere have entered a state of cascade failure, the prelude to suprasystemic collapse, or put in less technical terms: the end of human civilization as we know it today.

At some point my counterpart ask the inevitable question: if that is the case, what must we do?'

This was my advice:

— *Move away from the equator*
— *Move away from the ocean shores*
— *Don't settle down at riverbanks or creeks*
— *Stay clear from forests*
— *Go North as far as you can*

— Seek high altitudes
— Seek solitude
— Build a solid fence around your property
— Build both up and underground
— Arm yourself

— Bring real books to read
— Stock up
— Set up plenty of contingency plans (plan A, B, C, D etc., if-then-else, you know)
— Practice survival skills (making fire without matches, finding water, digging out roots and finding nuts and fruits, how to set traps, how to gut an animal, how to navigate without a smartphone)
— Learn how to defend yourself against all animals

— Learn how to live without electricity
— Learn to live without depending on others
— Learn to live without other human beings for prolonged periods of time
— Learn to live with yourself

And of course:

— Make your roof resistant to hailstones the size or oranges.

I'm not sure he has taken up on it yet, but we would all be wise to at least contemplate this list, depending on your location on earth and the risk of exposure to extreme weather and climate disasters.

Consider yourself forewarned.

6.4
SM154
Why I am scared

If you're into existential topics such as overshoot (when a population exceeds the carrying capacity of its habitat) and our potential extinction as a result of overshoot (of which environmental pollution, destruction of the biodiversity and climate change are mere symptoms), then these kinds of reports will scare the daylight out of you.

If you have made an effort to study the enormous number of reports and conferences on the topic of overshoot and acknowledge the solid science behind it, this kind of news will scare you shitless.

If you have studied the history of planet Earth in general and that of the human species in particular, and are aware of historical facts, current status and future outlooks, these kinds of posts will scare you blind.

I'm scared! Because I have done all of the above.

It sends dystopian chills down my spine. I feel like I'm in a disaster movie, unable to turn of the tv. It feels like I'm having a nightmare and pinching myself doesn't help. But it probably won't surprise you that most people aren't engaged in our existential dilemma in such a manner. Most people will shrug it off, deny it or ignore it and go on with their daily lives. There's just too much of this news, it's overwhelming.

When overwhelmed, distracted or in doubt, we ignore. Ignorance is our biggest problem. Ignorance is what will do us in. Ignorance might be a greater threat to the survival of the human species than all other threats combined.

6.5
SM176
Guilty by inaction

At the end of an article about our existential predicament I noticed the following statement:

"I personally feel a lot more comfortable with Thomas Berry's vision that we are in a transition out of the 'sixth mass extinction' at the end of the Cenozoic era and about to enter the Ecozoic era as the next chapter in the complexification of life as a planetary process."

This was my response:

"Really? You feel a lot more comfortable? Are you sure?

If it is true that our current existential predicament is caused by 'a few (mainly) colonializing countries and only 100 international corporations' — and that is indeed factual — then we should be very careful to use that as an excuse. Because that's like saying 'I witnessed a terrible event — a rape, molestation, a bully doing his bullying deed, corruption, harassment, abuse of power — but I stayed silent, I did not move and I kept it to myself to protect my own interests.'

If it is true that only a few human beings cause the potential extinction of the entire human species, and we watched it all in silence and did nothing to effectively stop them, then we are all guilty of the crime of all crimes: causing

our extinction by inaction. Yes, that's what we are: guilty. Not by suspicion but by inaction.

Think about it.

It doesn't matter who does the deed. It doesn't matter whether it's a few or whether it's many. It is the collective end result that counts. We know exactly what's going on. And we're all in this together. That means that we are all equally 'guilty as charged'. It will not be our collective knowledge and expertise that will ultimately render us extinct. It's inaction, ignorance and sheer stupidity that will do the trick.

For sure.

6.6
SM178
The next logical step after escalation

After watching another overview of the extreme weather and climate disasters washing over the planet with increasing frequency and intensity, I was overwhelmed with feelings of existential despair (it's never a clever idea to be run over with that kind of sentiment), so I wanted to start my response with something dramatic, starting with:

— *And so, it begins…*

No. That's not right.

Ehm…

— *And so, it continues…*

That's not it. Let's see.

— *And so, it worsens…*

No. That's not appropriate either.

— *And so, it accelerates…*

Better. But not quite there.

— *And so, it escalates…*

That's it!

— *First it begins.*

Overshoot (*) started over half a century ago.

— *Then it continues.*

The 70s and 80s were full of limitless economic growth.

— *Then it worsens.*

The first IPCC reports were published in the 90s, its language concerned, but not worried.

— *Then it accelerates.*

In the 00s and 10s the extreme weather events and climate disasters started to roam the planet.

— *Then it escalates.*

In the past ten years record after record has been broken:

— *Heatwaves of unprecedented magnitude, duration and size occurred.*

— Floods of unimaginable strength destroyed infrastructure across the world.
— Forest fires became more frequent, more destructive and more pervasive.
— Hurricanes became stronger and covered more territory.

For over half a century now we have studied and analyzed the problem, drafted books and reports and organized conferences about it. And did nothing. So, what do yóu think is the next logical step?

(*): when a population exceeds the carrying capacity of its habitat. Environmental pollution, biodiversity loss and climate change are symptoms of overshoot. Wanna learn more about overshoot or overconsumption? See Appendix IV.

6.7
SM193
What we really need to solve our existential problems

If we want to get a feeling of what really needs to happen to mitigate our existential predicament, we first need to understand that environmental pollution, destruction of the biodiversity and climate change are not core problems.

The actual problem is overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Overshoot has been going on for over half a century now and is currently in its accelerating phase.

Overshoot is always met with collapse. It's locked into the system.

This is what must happen if we want to mitigate overshoot:

1 — All poor people must remain poor
2 — All rich people must abdicate their wealth
3 — Population growth must become population decline
4 — Economic growth must become economic decline
5 — We all must decrease our income by 20%
6 — We all must give up 50% of our savings
7 — We all must go in complete lockdown for another ten years

That list represents the energy-equivalent of our collective effort to actually dó something about overshoot. Currently there's no consorted global effort that even comes close to this combined set of actions.

This 'list of seven' is meant to frontally confront us with the serious shit we're in. There's no effortless way out of it, if there's a way at all.

6.8
SM213
This is about you – do you feel it?

With all the positive, hopeful news that inundates the news about our existential predicament, that 'it has gotten very bad over the past century with the environment, the biodiversity and the climate and all, getting worse every day, but that it is not too laten, that we can still fix it, if we start now and make it snappy', it doesn't hurt to take on another approach to communicate the true and real state of affairs in the world. Like so:

"Allow me to be blunt here:

1 — It's too late
We've been analyzing our existential predicament for over half a century now. We know exactly what's going on and we know precisely what we need to do. But we don't act. Not on a global scale we don't. And now it's too late. We have past the point of no return.

2 — Collapse is immanent (*)
Environmental pollution, destruction of the biodiversity and climate change are mere symptoms of the overarching problem: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Overshoot is not just beginning. It's been going on for over half a century now and it's accelerating. Overconsumption is always met with collapse. It's locked into the system. For us that implies the collapse of our suprasystemic infrastructure.

3 — We're not ready

Most of us haven't got a clue what to do when the infrastructure collapses. Electricity is the first thing to go. Then food and water. If you stay in highly populated areas for too long all hell will brake lose. Everybody will fight for the same thing: survival. We need to stop talking about prevention and focus on survival. There won't be room for everybody in the new equilibrium.

Don't be naive. Be resilient and prepare!

(*) 'Collapse is immanent': that doesn't mean it will be like a meteorite strike or an atomic bomb going off. The collapse of our suprasystemic infrastructure implies that the technology and governance models that keep us alive — all eight billion of us, growing to 10 billion in 2050 — will undergo an accelerating cascade of catastrophic system failures.

That will not happen overnight. It will take a few generations for collapse to reach global levels. Early warning signs of suprasystemic infrastructural collapse are: inflation, rising prices of food and energy, mass migration, inequality, polarization, nationalization, intolerance, conflict, crisis and war. Does that sound at all familiar to you?

Our global food supply chain is heavily dependent on a system of continuous production and delivery, through supply chains that operate 7x24 hours across the globe. If food production stalls in one region, we will increase production in the remaining regions to keep up demand. That puts an enormous strain on the system as a whole.

For us as consumers we'll be seeing fully stocked supermarkets until the very last moment. When the supply chains break down it only takes about ten days

for society to break down. At that point in time, all of a sudden everybody has the same problem: food and water. You need to get out of the city long before that happens, but what is the right time to go? Nobody knows exactly. So, in the end, it's all up to the individual to assess the situation and take action.

And yeah, that's right. That individual is you. You there, in that lazy chair, gazing at your smartphone or laptop screen, with your headphones on, scrolling though endless timelines and wrestling with an overloaded e-mailbox. This about you. Do you feel it?"

6.9
SM214
On suprasystemic infrastructural collapse

When I write about our existential predicament, especially about the future of the human species on this planet, and use terminology like 'overshoot or overconsumption', 'cascade-failure of the atmosphere, biosphere, lithosphere, hydrosphere and cryosphere' and 'suprasystemic infrastructural collapse', I see comments and reactions varying from total denial to genuine concern and interest. In the latter category I got a question:

"What are you thinking in terms of timing? Hong long have we got? Months? Years? Decades?"

This was my reply:

"Thanks for your question. Suprasystemic infrastructural collapse (where the suprasystem is the planet Earth with its 8 billion current inhabitants that collectively cause overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat), it won't be like a meteorite strike or an atomic bomb. It will spread out over a few generations. One generation is about 30 years, so we'll see an escalating deterioration of the global infrastructure in the next hundred years or so.

But it will be of an exponential nature. That implies that this generation will already experience the first signs of collapse on a regional scale. Texas in the USA, as an example, has had several breakdowns of the infrastructure already

due to extreme weather. They already had a near miss in terms of cascade failure.

Just remember: almost all of our infrastructure is above ground. Our solar panels, windmills, power plants, oil refineries, nuclear facilities — they are all exposed to extreme weather and climate disasters. Each time disaster strikes, we must repair the damage. To repair the damage, we need fossil fuels. The global cost of repairing the damage to our infrastructure as a result of climate change is increasing exponentially as well.

At some point we won't be able to repair the damage anymore. Insurance companies will withdraw and stop funding repairs. Mass migration from countries around the equator will start to expand to countries to the north and south. Hundreds of millions of people will flee the uninhabitable zones. We're totally unprepared to what's coming. We keep spreading hope ('Hopium for the People') but we've waited too long and now we're too late. Half a century too late.

Be that is it may, it doesn't mean that we're without options all together. There's still stuff that we can do. In short:

1 — Become more resilient
Imagine living without electricity for a couple of days. Go camping. Make a fire without matches. Find water sources. Learn your plants, roots and fruits.

2 — Make your children more resilient
Get them off of their smartphones! Learn them to hike 6 miles with a backpack of 10 kg. Teach them how to defend themselves.

3 — Detach from materialism
Hunter-gatherers only take with them what they can carry. Must of our stuff is useless on the road. So, 'de-stuff'. Get rid of those material things you don't really need.

4 — Detach from the internet
Get unglued from your smartphone! Spend less time on the internet, with your e-mailbox and with the social media. Leave your apparatus behind when you converse with a fellow human.

5 — Enjoy the here and now
Enjoy what you've got, while you still have it. Live in the moment. Cherish your loved ones, talk to them, listen to them. Spend more time together and actually bé there as well.

Just be aware that it takes only 10 days for our society to fall into chaos. At least think about what you are going to do, what you are áble to do, when that time comes. It's too late to stop the collapse. But it's not too late to cherish the here and now.

PS If you want to really feel and experience what it is like to undergo suprasystemic infrastructural collapse, I highly recommend that you watch the French mini-series *L'effondrement* (*The Collapse*) (*). I recommend it to everyone to watch this series in full and be aware of the emotions that will grapple at you.

It's the most realistic, most in depth analysis of the collapse of modern society, viewed from the individual and the small social group, filmed as a series of one-takes that will take your breath away. You may watch it from your lazy chair

but it will make you want to stand up and scream. Because *L'effondrement* is smack in the face, raw, realistic and without the Hollywood hysteria. It's downright scary to witness suprasystemic infrastructural collapse. Just imagine to actually be part of it. It will be like actually being IN that disaster movie, but there will be nowhere to run and there will be no waking up from the nightmare.

(*) Don't you lóve it that the French have a way of making even terrifying words sound like a poem?

I also recommend movies like *The Road* and another mini-series called *Station 11*. They're spot on where the collapse of human civilization is concerned. But if it makes you feel sad or bad, just quit watching and listen to your favorite music instead. Dread and doom won't last long if you are distracted by art."

https://m.imdb.com/title/tt11248266/

6.10
SM240
What if there is no solution?

Ecological overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat, is a well-known phenomenon (*).

Environmental pollution, destruction of the biodiversity and climate change are symptoms of overshoot. Overshoot isn't just beginning; it's been going on for over half a century now and currently in its accelerating phase. Overconsumption is always met with collapse. It's locked into the system. For us that implies the collapse of the suprasystemic infrastructure.

We don't realize it yet, but I'll just say it in case you've been living under a rock: it's too late, we've waited too long to act. For the next 100 years or so, each generation will be exponentially worse off than the previous one. The current generation will experience the beginning of the end, our children will live on the edge of hell and our grandchildren will inherit a world that is devoid of prosperity and wellbeing.

We're the only species in the history of this planet that accelerates our own demise. How sad is that? Please don't get me wrong: I'm not an alarmist. I used to be an incorrigible optimist where the future of humanity was concerned. Eight years ago, I authored a book about it, full of hope and excitement for Homo sapiens, 'the wise, modern, thinking man'.

But since then, I've changed. I call myself a 'confrontealist' now. Because only a frontal confrontation with the reality of our existential predicament might open our eyes.

So, what is the solution to all this? What can we do? There is no solution. The only thing we can do, I'm sad to say, is to become resilient against the inevitable.

(*) If you're interested in the concept of overshoot, see Appendix IV.

6.11
SM244
From runaway climate to hothouse earth

I read the following on Live Science:

"[...] in the worst cases, the researchers found that Earth's climate leads to chaos. True, mathematical chaos. In a chaotic system, there is no equilibrium and no repeatable patterns. A chaotic climate would have seasons that change wildly from decade to decade (or even year to year). Some years would experience sudden flashes of extreme weather, while others would be completely quiet. Even the average Earth temperature may fluctuate wildly, swinging from cooler to hotter periods in relatively short periods of time. It would become utterly impossible to determine in what direction Earth's climate is headed.

'A chaotic behavior means that it will be impossible to predict the behavior of Earth System in the future, even if we know with great certainty its present state,' Bertolami said. 'It will mean that any capability to control and to drive the Earth System towards an equilibrium state that favors the habitability of the biosphere will be lost.'

Most concerning, the researchers found that above a certain critical threshold temperature for Earth's atmosphere, a feedback cycle can kick in where a chaotic result would become unavoidable. There are some signs that we may have already passed that tipping point, but it's not too late to avert climate disaster."

Is it happening already? Are we at the verge of a runaway climate leading to a chaotic 'hothouse earth'?

Do you, dear reader, think it's possible that it is happening right nów, in real time? That we, the present generation, will witness the beginning of the end, that our children will live on the edge of hell and that our grandchildren are going to inherit a world that is devoid of prosperity and wellbeing? Do you believe that's a real thing? That it cán happen? That it is already háppening?

Look around you and watch the extreme weather and climate disasters wash over the planet in increasing frequency and intensity. They are the consequences of overshoot: when a population exceeds the carrying capacity of its habitat. Environmental pollution, destruction of the biodiversity and climate change are not core problems; they are symptoms of overconsumption.

If you're interested in the concept of overshoot, see Appendix IV.

6.12
SM245
I'm as ready as I can be. Are you?

When people ask me about my attitude towards 'our collective doom' and why it is that I'm still walking around quite happily, doing my things, and whether I don't see any solutions at all, I'm inclined to respond in variations of the following:

"It's too late for solutions. We've waited far too long to reverse the motion that has set in. Our atmosphere, biosphere, lithosphere, hydrosphere and cryosphere don't have an 'on/off button', or a 'reset switch', or a 'edit/undo option'. We can't simply repair the suprasystem with some disaster recovery fund or a swift intervention force. But it's not too late to dó something on an individual level.

First, we need to accept the inevitable. Collapse is coming, although it may take a century or so to do its real damage on a global scale. Each generation will be exponentially worse off than the previous one and no one will be able to stop it. But we can become resilient. This generation must become resilient to collapse for sure, but it's our children that need really need to be taught to become more resilient and get unglued from their smartphones, laptops and headphones.

Take them hiking for 10 kilometers with a 10 kg backpack. Teach them to camp, build a shelter, make fire, cook food, search for water. Practice resilience at home by switching off the main water, gas and electricity supply for a week or

so. With the whole family and see what happens. All our machines will drop dead within a day, with black screens and useless buttons and switches. If it's wintertime, the cold will creep into our houses within a day or two. Our food and water will run out within a week. And that will be *everybody's* problem overnight. You go figure what happens next.

We're totally unprepared for what's coming. But it's good to be, at least, mentally prepared and get resilient. I carried the weight of the world on my shoulders for far too long, but enough is enough. It's been liberating to experience that it's off my hands now. I've done my part, let's now see what's actually coming our way and take it head on as it shows its ugly colors.

I'm as ready as I can be. Are you?

6.13
SM249
What happens when our civilization comes to an end

'Watch out! Dramatic title! Look: an alarmist, a prophet of doom speaks!'

Take it easy, relax. Just humor me, please.

I regularly refer to the concept of overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat. Environmental pollution, biodiversity destruction and climate change are symptoms of overshoot. Overshoot has not just begun. It has been going on for over half a century now and it is currently in its accelerating phase. Overconsumption is always met with collapse. For us, that implies the collapse of our suprasystemic infrastructure.

But how does that work? Here are three aspects we can all imagine:

1 — As a civilization, we are completely dependent on 24/7 international food chains.
If production breaks down somewhere, we look for alternative sources elsewhere. The goal: to satisfy demand with exactly the same amounts of product. If Pakistan's crops are destroyed by severe flooding, or if the same happens in China or Africa as a result of extreme drought, fueled by climate change, those crops will be exploited elsewhere.

2 — The demand is not determined by us consumers, but by marketing & promotion.
We think we have free choice in what we buy and where. That's an illusion. Advertisement determines what we 'must' have. Our supermarkets are overflowing with superfluous items — 17 kinds of peanut butter — and we're all upset when we can't get "our" peanut butter with nut bits.

3 — At the head of the food chains we find individuals with an income they are unwilling to sacrifice.
No one wants to compromise, no one wants to decline. We all want to keep at least what we've got and preferably a little bit more. The international 24/7 food chains are fragmented into countless small social groups with individuals depending on its existence for their very livelihood. They will do everything they can to maintain those chains and with it, their income.

This is how you might easily predict what the end will look like:

1 — The food chains are maintained until resources are exhausted
2 — We keep buying food until the supply is exhausted
3 — The supermarkets and our fridges and freezers stay stocked until we've exhausted them.

We will continue to buy stuff until the very last moment. That means that, at the same time, everyone will have exactly the same problem: scarcity and lack. But as humans, we need about 2000 calories per person per day to stay alive. Everyone has that need, everywhere on this planet. So that's what suprasystemic collapse looks like: it's going to go just 'great' until it collapses all at once.

6.14
SM250
The consequences of overconsumption

The human species is in an existential crisis. Environmental pollution, destruction of the biodiversity and climate change are seen as separate core problems, but they're not. They are mere symptoms of the overarching issue: overshoot or overconsumption, when a population exceeds the carrying capacity of its habitat.

We are with 8 billion, growing to 10 billion in 2050. Everyone wants to get rich, healthy, happy and grow old. Nobody wants to decline or reduce. Everybody wants to at least keep what they've got and maybe get a little more. It's simply unsustainable.

— About 40% of our food is wasted before, during and after production. We already have enough food for more than 10 billion people.
— The average daily energy usage per capita is just under 3.000 calories, whilst 2.000 calories on average is enough to survive.
— We now have more people in the world that are overweight than underweight. About 40% of the world's population is obese, possibly rising to more than 50% in 2035.
— We burn 100 million barrels of oil, 22 million metric tons of coal and 11 billion cubic meters of natural gas every day, adding 150 million tons of CO2-equivalent to the atmosphere daily.

— The CO2-level in the atmosphere is at 420 ppm, rising to 500 ppm in 2050. In order to survive as a species, we need that level back down to 200-300 ppm.
— We produce, on a daily basis, 190.000 non-electrical vehicles, 1 million metric tons of plastic, 5,5 million metric tons of waste and 11 million metric tons of cement.

Population growth is 1% per year. But the ideal population lies between 1 and 2 billion people, closer to the 1 than to the 2. If we decrease our population with 1% per year, we'll reach 6 billion by 2050 (a good start) and 1,3 billion by the end of the next century (the ideal number).

Currently there's no evidence of a globally coordinated, consolidated or consorted effort to mitigate overshoot. None whatsoever. It's all limited to local and regional levels, but that doesn't add up. It doesn't scale up as the neoliberal, capitalistic, consumeristic, growth-economic free market has always scaled up.

We're in some serious shit here and we're totally unprepared for what always happens when óur species exceeds the carrying capacity of its habitat: collapse. For us that implies the collapse of our suprasystemic infrastructure. What do you think will be the first thig to go? Just think about the last thing you do before you go to sleep and the first thing you do when you wake up. Yep, that's right! *Electricity* will be the first thing to go.

Where will we be when all of our gadgets turn black and we can't watch Netflix anymore? What if your air-conditioner shuts down together with your fridge and freezer? What if the supermarkets stop supplying your daily needs? Thén what are you going to do?

Epilogue

SM575
Why we just can't grasp the concept of 'extinction'

The extinction of a species due to overshoot or overconsumption — when a population exceeds the carrying capacity of its habitat — is an unknown, abstract and insignificant concept. Unknown, because as a species you only experience it once. Abstract, because it falls completely outside one's own experience. Insignificant, because our daily concerns are based entirely on survival and reproduction. As far as we can tell, there is only one species on Earth that is aware of its own mortality: humans. All other species just 'are' and do not know the biological and philosophical concept of 'dying' or 'being dead'.

The human species Homo sapiens is still growing in size, currently at about 1% per year. That takes us from 8 billion people to 10 billion in 2050. All those people want to get rich, healthy, happy and grow old. No one wants to decline or reduce. Everybody wants to keep at least what they've got, preferably get a little bit more. That is simply unsustainable.

Environmental pollution, biodiversity loss and climate change are mere symptoms of overconsumption. That has been going on for over 70 years now and is currently accelerating. We have pumped so much greenhouse gas into our atmosphere that 2023 was the year we passed the 'elbow' of the exponential curve, the 'point of no return'. The vitosphere, the joint venture of atmosphere,

biosphere, lithosphere, hydrosphere and cryosphere has entered a state of cascade failure, the precursor to suprasystemic collapse.

The jet stream is meandering and accelerating. The oceans are overheating, acidifying and deoxygenating. The global ocean currents are destabilizing and slowing down. These are the main Management & Control Systems of Planet Earth and they do not have an on/off switch, or a reset button, or an edit/undo function.

So, what does “extinction” mean to us? Well, it doesn’t resemble a meteorite strike or an atomic bomb. It is true that from now on each generation will be worse off than the last, but it will take another three or four generations, let’s say about a hundred years, before the population becomes seriously endangered. But we will make desperate attempts to escape our fate. By closing our borders to inevitable mass migrations. By going to war with other countries to protect our people, our culture and our resources. And by continuing to burn fossil fuels until the very last minute.

This generation – yes, that is yóu! – will already witness the beginning of the end. Our children will live on the edge of hell and our grandchildren will inherit a world devoid of prosperity and well-being. Whether we will disappear as a species entirely is anyone's guess. Yet it is good to realize that 99.99% of all species that have ever lived on Earth got extinct. However, we are the only ones accelerating our demise.

And that is why we may no longer call ourselves *Homo sapiens*, 'the wise, thinking, modern man'. We are now demoted to *Homo infantilicus*.

Bart Flos – Helmond | November 2023 – April 2024.

Appendix I

Blurb of 'Our Inner Limits – On the Unbending Barriers of Being'

Please allow me to introduce: Professor Pels is a scientist and proponent of rational discourse. He embraces nuance and bases his work on observation, research, facts and evidence. Mr. Luis, on the other hand, mainly lets his gut feelings speak. He always tells it like it is, straight from the heart and straight to the point.

What would happen if we pitted the two against each other to discuss the state of the world? About how we live and work together. That we constantly encounter barriers to progress. That division and inequality is increasing. That economy comes before ecology. And that we can now see the destructive consequences for the environment, biodiversity and climate everywhere on our planet.

– Prof. Pels: 'So you claim that we have no chance of surviving in the long term, that we are doomed to collapse. That's a bit too short-sighted for me. I believe that it is not yet too late, that there are still opportunities and possibilities.'
– Mr. Luis: 'Go right ahead, sir. As long as I can say what it réally means.'

– Prof. Pels: 'Fine with me. Let's agree that you will keep me on my toes while I put people, our organizations and ultimately the entire human civilization under a magnifying glass.'
– Mr. Luis: 'Whatever you want. But I will defend my position with all my heart and soul."
– Prof. Pels: 'And I will mine. I suggest we at least start at the beginning.'

Which of these two gentlemen will be right in the end, do you think?

In *Our Inner Limits*, author, speaker and change specialist Bart Flos assembles and compiles all his previous work. Because whether it concerns an individual, group, society or suprasystem, we see deep traces everywhere with the same signature: that of the social group primate and hunter-gatherer Homo sapiens. Are we able to break through the rigid barriers of our existence? We will see.

Do you want to learn more? Go to www.demensalsgrens.nl

Appendix II

"What is your book about?"

When people ask me what my books are about, I always refer to the blurb. A lot of time and energy goes into writing a short, powerful summary of your book (see Appendix I).

My book *Our Inner Limits* consists of two parts:

Part 1 — People and Organization
Part 2 — People and Civilization

And it is based on two fundamental paradoxes:

1 — The Collaboration Paradox: we collaborate to fail.
2 — The Existence Paradox: we coexist to get extinct.

I start my journey with the individual and then move through group and society to the suprasystem: Mother Earth and human civilization. That's quite a lot for one book! It is 384 pages, 624 grams 'clean on the hook'. It's quite the journey, but in the end, I hope it's worth the travel.

This is the structure of my book:

Chapter 1 | Context
About the dilemmas, barriers and paradoxes of the nature of the beast: Homo sapiens, 'the wise, modern, thinking man'.

PART 1 | PEOPLE AND ORGANIZATION

Chapter 2 | About people, groups and behavior
How the individual influences the small social group and vice versa: 'when you know your small group, you know your organization.'

Chapter 3 | Our organizational dilemmas
How leadership determines corporate culture and that we can learn much more about this by asking 'why-questions'.

Chapter 4 | The concept of maturity
Why organizational maturity is always about soft skills and never about hard skills: is it okay to be middle-mature?

Chapter 5 | The highly mature organization
What we need to do to solve the collaboration paradox and how we can circumvent the definition of insanity.

PART 2 | PEOPLE AND CIVILIZATION

Chapter 6 | Who we are and what we do
Human progress is not a primary goal, but only a side-effect: are we doomed to get extinct?

Chapter 7 | Our big problems
Why climate change is the clearest symptom of overshoot (overconsumption) and what the world's super-rich have to do with it.

Chapter 8 | The climate confrontation
No climate book, report or conference has ever changed rising greenhouse gas emissions. Why is that and where does it lead?

Chapter 9 | The highly mature civilization
On the suprasystem 2.0: about *neocology* and *neoconomics* and how to keep your finger tight on the climate pulse.

In *Our Inner Limits* I provide you, the honorable reader, with every opportunity to draw your own conclusions about the nature of the beast Homo sapiens. I'm curious to learn what you will come up with.

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Appendix III

The scientific method

Would you like to learn more about the scientific method? Click here:

https://en.wikipedia.org/wiki/Scientific_method

Would you like to learn more about the scientific theory? Click here:

https://en.wikipedia.org/wiki/Scientific_theory

Would you like to learn more about science in general? Click here:

https://en.wikipedia.org/wiki/Science

(Source: Wikipedia).

Appendix IV

The concept of overshoot or overconsumption

Environmental pollution, destruction of the biodiversity and climate change are symptoms of overshoot or overconsumption: when a population exceeds the carrying capacity of its habitat. Overshoot is not just beginning. It's been going on for over half a century now and currently in its accelerating phase.

Overconsumption is always met with collapse; it's locked into the system. For us that implies the suprasystemic collapse of the global infrastructure. If you're interested in the concept of overshoot, you might want to study the works of Professor William Rees:

https://en.m.wikipedia.org/wiki/William_E._Rees

[Wikipedia Profile]

"William Rees, FRSC (born December 18, 1943), is Professor Emeritus at the University of British Columbia and former director of the School of Community and Regional Planning (SCARP) at UBC.

Rees taught at the University of British Columbia from 1969–70 until his retirement in 2011–12 but has since continued his writing and research. His primary interest is in public policy and planning relating to global environmental trends and the ecological conditions for sustainable

socioeconomic development. He is the originator of the "ecological footprint" concept and co-developer of the method."

https://youtu.be/LQTuDttP2Yg

['The Fundamental Issue: Overshoot']

And: https://youtu.be/U3GB191UDiI

['Will Modern Civilization be the Death of Us?']

And, if you don't have that much time to spend:

https://youtu.be/03nCFwhV-9E

['What is a sustainable population?']

Or, if you réally want to do a deep dive into the subject matter:

https://www.mdpi.com/2673-4060/4/3/32#:~:text=In%20the%20simplest%20terms%2C%20overshoot,rising%20incomes%20and%20population%20growth

['The Human Ecology of Overshoot: Why a Major "Population Correction" is Inevitable']

Appendix V

Useful links

1. https://climateactionaustralia.wordpress.com/2023/10/19/10-reasons-our-civilization-will-soon-collapse/

2. https://collapsesurvivalsite.com/reasons-civilization-will-collapse/

3. https://insideclimatenews.org/news/11102023/scientists-disagree-about-drivers-of-septembers-temperature-spike/

4. https://www.linkedin.com/pulse/why-do-scientists-make-fuss-1%C2%BAc-2%C2%BAc-increase-average-global-maxton

5. https://journals.sagepub.com/doi/10.1177/00368504231201372 [Scientific study on overshoot]

6. https://youtu.be/23nDxPSI0Aw?si=0jcO51Eg5bwsDeCI [Jonathan Pie: The World's End]

7. https://climatechangetracker.org/

8. https://climatechangetracker.org/igcc

9. https://youtu.be/t2C6NfFIK_g [The Anthropocene: where are we going?]

10. https://youtu.be/pNYp6oc37ds [The Newsroom: The Climate Change Interview]

11. https://www.motherjones.com/politics/2014/11/climate-desk-fact-checks-aaron-sorkins-climate-science-newsroom/

12. https://youtu.be/ww47bR86wSc [Bonhoeffer's Theory of Stupidity]

13. https://youtu.be/8erFXZmp7fo [Arctic heat is coming our way]

14. https://youtu.be/Qf03U04rqGQ [31 logical fallacies in 8 minutes]

15. https://www.newyorker.com/culture/cultural-comment/what-if-we-stopped-pretending

16. https://climatereanalyzer.org/clim/sst_daily/

17. https://youtu.be/ALduFqONN58 [I looked at the recent bird flu data, and now I'm really scared]

18. https://www-bbc-co-uk.cdn.ampproject.org/c/s/www.bbc.co.uk/news/science-environment-65602293.amp [About 1,5C of Global Warming]

19. https://arstechnica.com/science/2023/04/an-ominous-heating-event-is-unfolding-in-the-oceans/

20. https://showyourstripes.info/c/ocean/arcticocean/baffinbay

21. https://www-bbc-co-uk.cdn.ampproject.org/c/s/www.bbc.co.uk/news/science-environment-65339934.amp [About the El Niño / La Niña phenomenon]

22. https://thebulletin-org.cdn.ampproject.org/c/s/thebulletin.org/2023/04/faster-than-forecast-climate-impacts-trigger-tipping-points-in-the-earth-system/amp/

23. https://vimeo.com/809258916/92b420d98a [The dangers of AI (duo presentation)]

24. https://gml.noaa.gov/ccgg/trends/ [On Greenhouse Gas Emissions]

25. http://arctic-news.blogspot.com/2023/04/ipcc-keeps-downplaying-the-danger-even-as-reality-strikes.html?m=1

26. http://arctic-news.blogspot.com/2023/03/sea-surface-temperature-at-record-high.html?m=1 [Considering this, a Climate Emergency should be declared]

27. https://www-bbc-com.cdn.ampproject.org/c/s/www.bbc.com/news/world-australia-65120327.amp [Antarctic oceans currently heading for collapse]

28. https://indica.medium.com/how-precisely-were-fucked-cad1f0e5b068

29. https://youtu.be/5dZ_lvDgevk [Documentary on AI (2019)]

30. https://sjgenco.medium.com/ten-facts-humanity-must-face-if-it-wants-to-survive-on-a-livable-planet-5de93b2f4cde

31. https://xkcd.com/1732/ [3D Graph Global Warming]

32. https://youtu.be/LKO7k0Kh7Nw [A Life-or-Death Battle | Fight for Your Life | FULL EPISODE]

33. https://youtu.be/lIEu-OW9_YA [Tipping point: immanent systemic environmental collapse]

34. https://youtu.be/x1SgmFa0r04 [NASA | A Year in the Life of Earth's CO2]

35. https://youtu.be/nfv7sIL2uK0 [Al Gore on the World Economic Forum (WEF) about climate change]

36. https://www.climate.gov/news-features/understanding-climate/understanding-arctic-polar-vortex

In 2015, author, public speaker and change specialist Bart Flos published his fifth book, *Vooruitkijken voor gevorderden* ('Futurology for Fanatics'). In this book he paints a hopeful picture of the limitless possibilities of the human species *Homo sapiens* to shape its own future.

Fast forward to 2022

Since the publication of that book, things have quickly gotten out of hand with the environment, biodiversity and climate. It prompted Flos to write his sixth book: *De mens als grens* ('Our Inner Limits'). It was much less hopeful as a plea, unfortunately, but it still contained solutions to turn the tide.

Fast forward to 2024

"After the publication of *Our Inner Limits*, I could not have imagined how quickly things would get so much worse. The year 2023 is the year that we passed the 'elbow' of the exponential curve. What we are left with now is chaos and unpredictability. I wrote almost a thousand posts about it and I didn't want them to get lost in the endless timelines of our social media platforms," says Flos.

This is one of the eleven addenda to *Our Inner Limits*, in which Flos's posts are included in book form. It takes you on a head-on confrontational journey from ignorance via climate change to overconsumption and collapse. We will break the last ultimate taboo together: daring to say that we have waited too long, that it is now too late and that we will have to suffer the consequences of our destructive collective behavior as a human species.

Want to learn more? Go to *www.demensalsgrens.nl*