

1biosphere - the idea

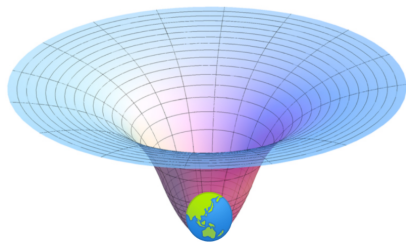
<p>CRISIS</p> <p>?</p> <p>HOPE</p> <p><i>needs</i></p> <p>ACTION</p> <p><i>needs</i></p> <p>STORIES</p> <p><i>need</i></p> <p>STORYTELLERS</p> <p>NOW !</p> <p>Story → Action 1bio → EH</p> <p><i>[The math-like symbols that follow are for fun only Ignore them if you wish]</i></p>	<p>BASICS:</p> <p>ENVIRONMENTAL CRISIS</p> <ul style="list-style-type: none">• We know what it is• We know the causes and effects• We know how to fix it <p>Will we fix it?</p> <p>HOPE</p> <ul style="list-style-type: none">• Young people want hope for their future• Hope needs sustained action <p>ACTION</p> <ul style="list-style-type: none">• Action needs motivation• Motivation requires belief• Belief is molded by stories <p>STORIES (in the widest sense of the word)</p> <ul style="list-style-type: none">• Words• Symbols• Images• We need an entity, an organization, to create Approachable, Consistent, Fact Based stories <p>A “NETWORK” of storytellers;</p> <ul style="list-style-type: none">• “1biosphere.net” (1bio) - a Corporation for Environmental Healing - Stories backed by Numbers <p>TIME</p> <ul style="list-style-type: none">• We have so little time to create these stories.• The next US election is on 8 November 2022.• Yes, that is just the US election. But if it goes wrong, it will affect the world <p>Storytellers drive Actions 1bio stories drive Environmental Healing</p>
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1 biosphere

$\exists ! \textcircled{\text{B}}$

$\exists \mathbb{R}$

$\textcircled{\text{U}} \in \mathbb{R}$



$v_e = 11.2 \text{ km/s (25054 mph)}$



$\textcircled{\text{B}}$

$\textcircled{\text{B}} \in \mathbb{R}$

THE STORY:

There exists exactly one biosphere

There exists a reality¹ (\mathbb{R}) that we vaguely understand. It contains matter and runs on the laws of physics - as far as we can tell

\mathbb{R} contains a universe ($\textcircled{\text{U}}$), maybe multiverses beyond that

There is a star we call SUN

- a fusion reactor radiating energy into space

There is a planet we call EARTH, which:

- revolves around the sun
- Has done so for 4.6 billion years and will presumably continue for a while yet
- lies at the bottom of its gravitational well

There is a satellite we call MOON. It revolves around the earth

We can *ignore the universe* in this discussion

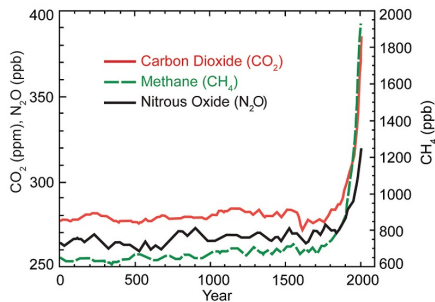
Provided we have the sun and moon life will go on.

Poorer, but still life.

BIOSPHERE is a film on the surface of the earth:

- Thin as a breath on cold glass ("*hauchdünn*")
- Contains all living things, through "all" time
- It is "real"

¹"Reality is that, which when you stop believing, doesn't go away" - Philip K. Dick



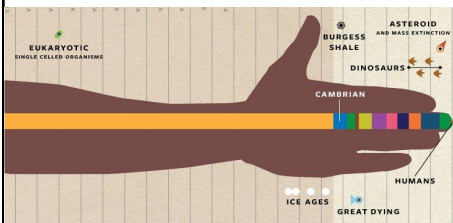
$T = -3.4 \times 10^9$ - first life

$T = -2 \times 10^6$ - hominids

$T = -10^4$ - agriculture

$T = -260$ yrs - industrial revolution

$T = -100$ yrs - birth of "old" person



TIME

Time is critical to any discussion of the Environmental Crisis

Personal time

- Our personal time span is less than 100 years (with limited exceptions).
- Our perception→action span ranges from minutes to decades
 - See cookie → Eat cookie:<1 minute
 - Plant → Harvest:<1 year
 - Set out to be neurosurgeon→ Study, Specialize, Practice: 20+ years
- Our physical connection to the past, and future, does not go much further than two generations.
- We are poor at understanding slow moving and/or exponential phenomena (e.g. Covid19)²
- Our beliefs are rooted in personal time

Biosphere time

- Plants, animals and humans evolved on biosphere (~evolutionary) time
- If we take the entire existence of the earth as the span of an arm from shoulder to fingertip, then human existence from early hominids to now is about 1/3 millimeter
- If we pared away that 1/3 mm the universe, including the biosphere, would not care

In 1/10,000th³ of that 1/3 mm we humans have managed to change the balance of the biosphere.

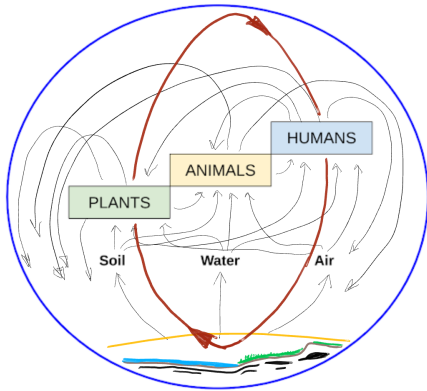
And we have even less time to halt the damage.

We can't use the "things will adapt through evolution" excuse.

Given our personal time frame can we even imagine evolutionary time?

² "Covid 19" - [on the story page](#)

³ 200 years since industrial revolution / 2 million years since first hominid



The BIOSPHERE⁴ is an essentially “closed” system

- with only *trivial* exceptions:
 - Meteorites fall into the gravity well and gases “boil” out
 - In very recent times a few humans and human artefacts have escaped the well. In some future thousands of us may climb out of the well. For most of us ***there is no “Planet B”***

Everything that ever lived or will ever live on earth is contained in the biosphere

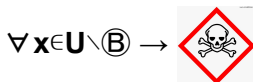
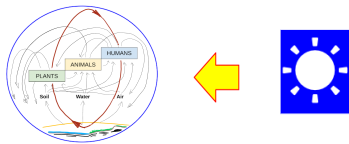
We’re all of us stuck down here⁵.

That’s OK - it’s still a nice place to be.

There are continual cycles of growth and decay, ebb and flow, precipitation and drainage

These cycles are powered by energy from just four sources

- **Sun** - the overwhelming source of energy; directly and in all its derivatives:
 - Wind, waves, hydro, plants, animals, fats, oils, peat, wood, fossil fuels etc.
- **Earth-Moon** rotation: Tides, Currents
- **Geothermal**: from our core
- **Nuclear**

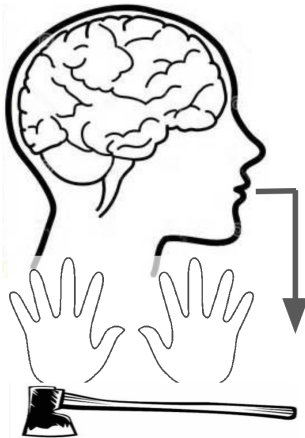


Everything in the universe, except the biosphere, will kill you.

⁴ I include fossil fuels and mineable minerals in this definition of biosphere

⁵ “Beyond a critical point, within finite space, freedom diminishes as numbers increase. This is as true of humans in the finite space of a planetary ecosystem as it is of gas molecules in a sealed flask. The human question is not how many can possibly survive within the system, but what kind of existence is possible for those who do survive”

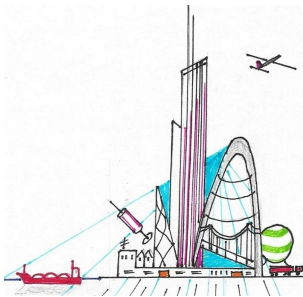
The ecology of Dune - Frank Herbert: Dune



HUMANS are animals, but different enough to merit a separate category of life

We we have developed tools and language

$R_H =$

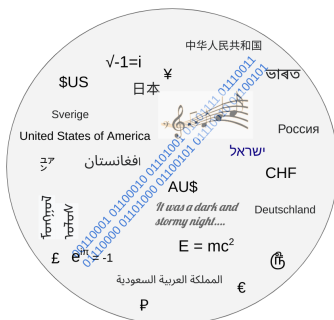


TOOLS to create “real”, physical artefacts

Tools to alter the environment

(Human made reality, R_H)

$\mathbb{C} =$



LANGUAGES to create “imaginary” universes, networks, or bubbles (\mathbb{C})

- Nation States
- Companies
- Religions
- Economies - (Money, “*The Economy*”)
- Art
- Culture
- Law
- Mathematics, Science
- etc.

This man made, imaginary, universe (\mathbb{C}) is also in constant turmoil. Old ideas fade, new ideas emerge. Money changes hands. Inflation happens. Empires rise, empires collapse.

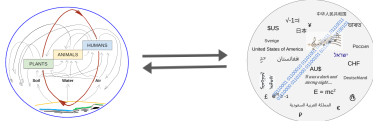
What “energy” drives these changes?

- **Human Traits:** Curiosity, Ideas, Power, Fame, Lust, Fear (See *novelists, philosophers, historians, economists, politicians, songwriters etc. for more detail*)
- “Superhuman” ($H+$) entities: Nations, Corporations, Religions, Sects, Syndicates...
- “The Economy” (**TE\$**): Money, Assets, Growth, Profit

H
 $H+$
TE\$



In contrast to the biosphere \mathbb{B} , \mathbb{C} is not a closed system. Being “imaginary” it can grow without limit.



$$\textcircled{B} \leftrightarrow H \leftrightarrow \textcircled{C}$$

$$H_m = \textcircled{B} \cap \textcircled{C}$$

\therefore

$$\textcircled{B} \quad H \quad \textcircled{C}$$

$$\textcircled{B} \leftrightarrow H \quad \textcircled{C}$$

$$\textcircled{B} \quad H \quad \textcircled{C}$$

$$\Delta_{\textcircled{B}} \leftrightarrow \Delta_H \leftrightarrow \Delta_{\textcircled{C}}$$

$$\textcircled{B} \leftrightarrow H \leftrightarrow \textcircled{C}$$

\textcircled{B} and \textcircled{C} interact.

But how is that even possible?

\textcircled{B} is a closed, physical system, subject only to the realities of physics, chemistry and biology.

While \textcircled{C} is a human construct - imaginary.

[My reliance on logic and fake mathematical symbols gets stretched here...]

Does it help if we place humans in the picture?

We can do it because humans are the link between the biosphere (\textcircled{B}) and all the man made constructs; physical (\mathbb{R}_H) and purely imaginary (\textcircled{C}).

Note: There is no direct link between \textcircled{B} and \textcircled{C} . It needs human minds, hands and tools to make the connection.

Without digressing into neuroscience:

- the human mind is part biosphere \textcircled{B} - the brain; biological, squishy, subject to direct biosphere inputs (e.g. no oxygen \rightarrow no mind)
- AND
- part of \textcircled{C} as well - language, ideas and **beliefs**

If we take away the biosphere then no life exists - we have a rocky earth circling in the universe.

If we take away the human construct \textcircled{C} we go back to something resembling the earliest hominids - human-like animals interacting instinctively with the biosphere.

If we take humans (H) out of the picture, then \textcircled{C} collapses

- Electricity flows - for a while
- AI algorithms buy and sell on electronic exchanges.
- Books sit in libraries and national flags fly at borders.
- All the lifeless things we have constructed litter the land.
- Radio telescopes beam prime numbers into U .

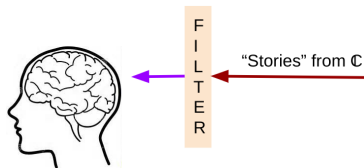
\textcircled{C} is gone

\textcircled{B} remains (and does not "care")

As a corollary - if \textcircled{B} changes then H and \textcircled{C} also change.

I.e. As the biosphere changes, so we humans change and our society, our economy and all our imaginary constructs will also change - (and vice versa !)

The simple "biosphere to human to superhuman entities" diagram is not enough however;



- Windy today
- This place used to swarm with butterflies
- Don't remember it being this hot in May

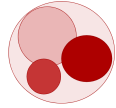
Therefore most of our input about the status of the biosphere comes to us from ③.

- I fear the dark
- I fear nature⁶
- I fear death
- I heard, I read, I saw, I felt
- I believe in ...
- I have a right to ...
- I would die rather than ...

$\forall h \in H, h \in$

Bubbles employ their own languages, which generate stories, which affect belief, which guides actions, which feed back into the bubble - etc. etc.

⁶ “There are things in here worse than wolves and witches, primal fears that no amount of civilizing will ever tame.” [Richard Powers](#), “*The Overstory*”



It's the economy, stupid

ⓑ ⚡ H ⚡ Ⓒ



"Self-pardon statement"



The most powerful bubble is arguably the international network of economic entities consisting of corporations, governments, financial institutions, media conglomerates etc. This network (TE\$) has shaped world-wide belief, summed up by:
"It's the economy, stupid".

To penetrate a bubble with stories contrary to the belief system of that bubble is extremely difficult. Facts and heartfelt tales are not enough.

- We can think of examples just by mentioning Covid19 and political processes around the world (Brexit, Myanmar, Navalny, USA...).

Although Ⓒ is a human construct, it by no means has human welfare as a driving principle.

Some of the messages coming from Ⓒ induce massive harm to humans (war, genocide, slavery, racism...)

The human actions generated by many of these messages in turn affect the biosphere. Not that the biosphere cares, but we need to care because those changes affect us in return.

We can try to explain these harmful messages by:

- Historic means; powerful individuals and/or tribe/mob mentality
- A systems explanation; these networks, particularly TE\$, have evolved beyond human control

Whichever, we need to counteract the messages if we want to retain/reclaim a positive relation between nature and humans.

There exists a bubble of **E**nvironmental **O**rganizations and environmentally active **I**ndividuals (**EOI**).

[Anyone likely to read this particular story will be a member of EOI. We have similar beliefs. Although we think we have the truth, it is a version of reality perceived through our own filters.]

The statements that follow do not intend to slight any organization or individual within EOI. You have all done much against huge odds and deserve nothing but respect. What follows is my opinion, given in the hope of some Environmental Healing.

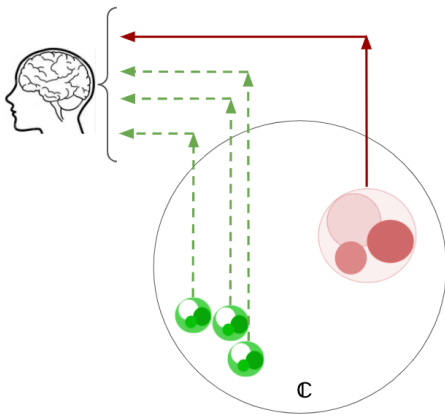
Neither am I painting TE\$ all negative. The incredible abilities we have gained, the billions lifted from poverty, hunger and disease, the access to arts and learning that used to be the purview of royalty. All of that and much more was achieved by TE\$.]

The stories regarding the Environmental Crisis flowing from TE\$ overpower those from the EOI by orders of magnitude.

- TE\$ has money and power. With money it buys physical rewards. With money it hires the best storytellers (super bowl ads...), and they in turn generate money by having audiences pay for the stories (movies, streaming, books, embedded ads...)
- TE\$ is integrated, has a consistent message and repeats the same basic stories (money, growth, profit and all the good things that flow) through every medium.
- TE\$ tells simple, short term stories (quarterly earnings and bonuses, no money down, treat yourself, buy 3 get 1 free...)

In comparison EOI stories, despite the effort and conviction lavished on them, have issues:

- Complicated, longer term stories
- Comparatively very little money⁷
- Economic and political stories gain much more prominence in mainstream media. (Because media are part of TE\$)
- Messages are often fragmented, reflecting the nature of the environmental movement
- Messages can offer contradicting signals - e.g. portraying beautiful and prolific nature while conveying a message of destruction
- Many messages are couched in academic and bureaucratic language - mostly by the very nature of the subject, but often because the intended audience is within the bubble



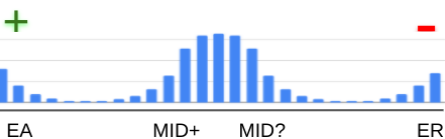
If we shift our focus from the message to the **audience**; what does the audience think about the Environmental Crisis now?

The answers will form a distribution - which might look something like the graph on the left. It will vary by the wording of the question, by country and so forth, but let's use it for now..

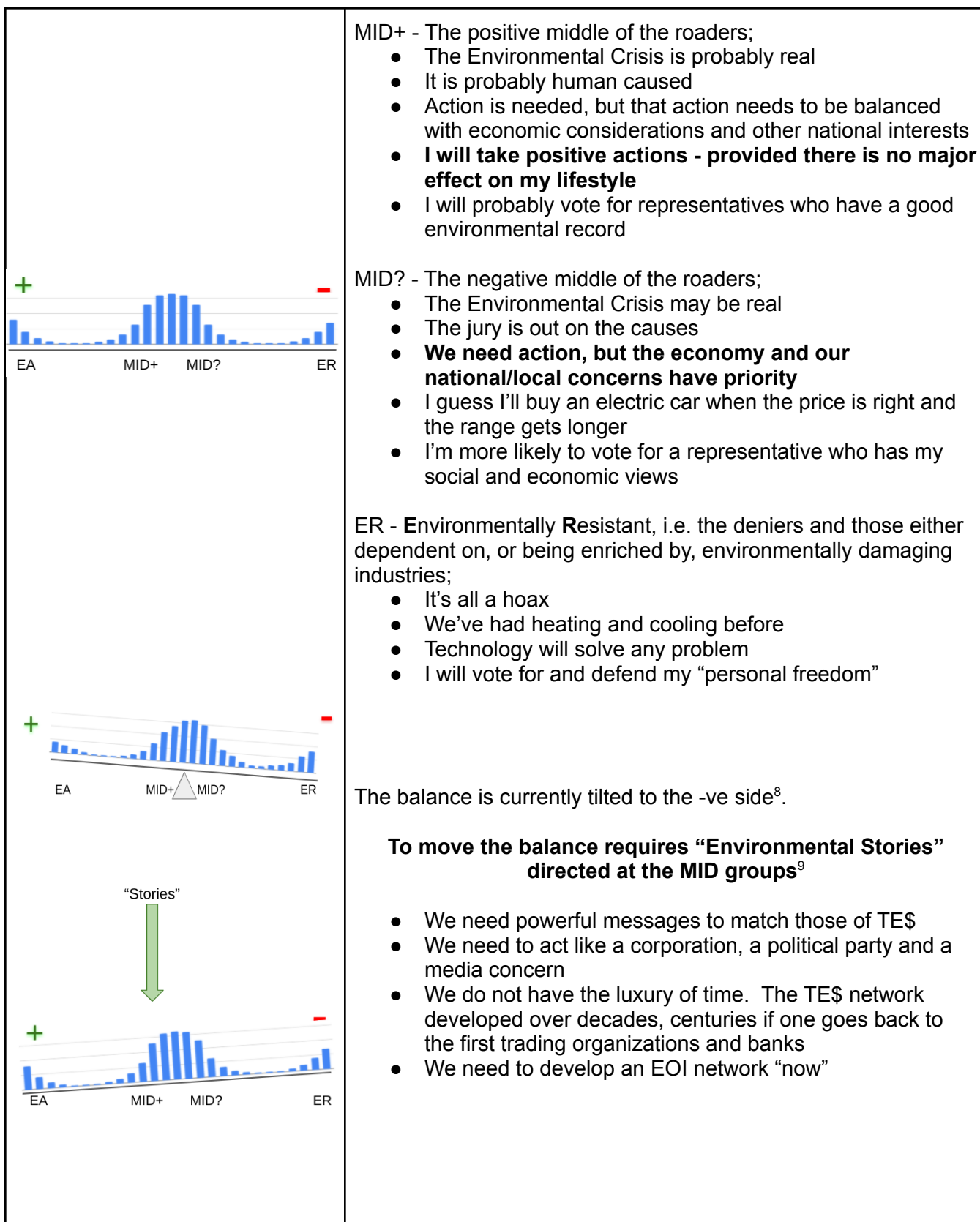
From left (+ side) to right (- side), the answers will fall into categories, possibly like this:

EA - The committed **E**nvironmental **A**ctivists or individuals earning money from environmental work;

- The Environmental Crisis is real
- It is human caused
- We need to take action
- We will lead by example
- We vote for representatives sharing our convictions



⁷ "Money" - [on the story page](#)



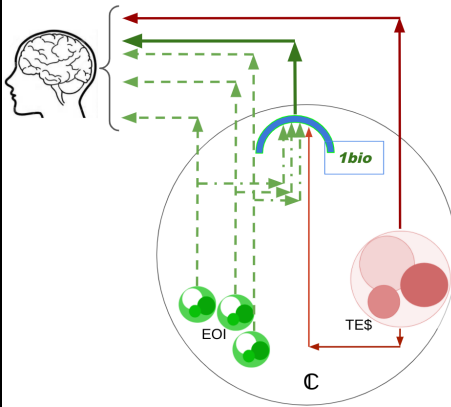
⁸ "Underestimating the Challenges of Avoiding a Ghastly Future"
Frontiers in Conservation Science, 13 January 2021

[Underestimating the Challenges of Avoiding a Ghastly Future](#)

⁹ See "Why don't people pay attention?" - [on the story page](#)

$$\Delta_B \leftrightarrow \Delta_H \leftrightarrow \Delta_C$$

?



Just to repeat: Society and humans change each other and also change the biosphere.

Do we really want to change? Do we want to reduce emissions, retain biological diversity etc. etc.? Some countries and societies may not want to¹⁰.

For our purposes I assume the answer is YES.

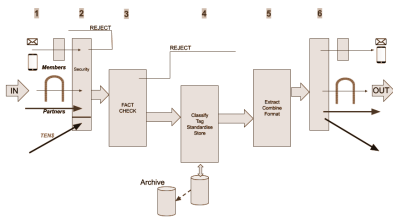
The proposal then is very simple:

We insert a new entity into © - let's call it "1biosphere.net", or "**1bio**" for short. The exact organization is open for discussion.¹¹

1bio has to do 2 things; **publish numbers** and **create stories for Environmental Healing**.

1. **Publish a set of "numbers"** related to the current Environmental Crisis AND provide access to the necessary raw data, assumptions, analysis and recommendations to support those numbers

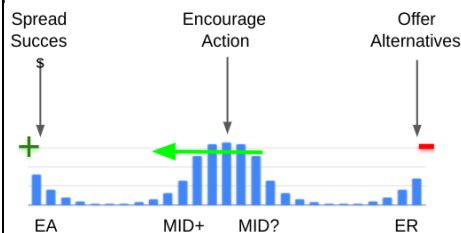
- I like the deceptively simple approach of the late David JC MacKay¹²:
 - Here are the numbers (neatly illustrated and explained)
 - Here is where the numbers came from
 - Here is what adds up, and here is what doesn't
- The raw data resides within the existing Environmental Organizations. The step of making this overwhelming, and at times contradictory, information accessible is a major data management exercise.
- To ensure the integrity and prevent censorship of this data it is to be stored in multiple countries and all changes and comments made available in a fully transparent manner (somewhat akin to a blockchain?)



¹⁰ "Alternatives to Change" - [on the story page](#)

¹¹ "1bio Organization" - [on the story page](#)

¹² David JC MacKay, "[Sustainable Energy - without the hot air](#)", 2009



2. **Create “stories”** aimed at moving the beliefs of sufficient humans around the world to ensure adequate action is taken to halt, and possibly reverse, the effects of the Environmental Crisis

What sort of stories?

- Most environmental stories are already tailored for us - inside the environmental “bubble”. We can always do with more education, sharing of success and best practices.
- **We need stories to move less committed people to vote for political action on the environmental crisis, and to build public acceptance for the next steps.**
- We do need to rebut the outright deniers and profiteers, and outline realistic alternatives.
- Using every possible medium and disseminated as widely as possible.

Stories that are:

- Consistent
 - A standard set of messages
 - Similar units, language and presentation
 - Consistent messages across geographies (subject to relevance below)
 - e.g. How many extinctions are there? We can’t say “150 per day”, and then “maybe, 800 in 400 years”. It needs a consistent statement¹³.
- Accessible
 - Presented in a medium available to very wide audience; we have to get China, India, Brazil, Russia... on board on this endeavour
 - “Written for the reader”
 - In multiple levels to allow access from cursory overview to deeper study
 - e.g. not hundreds of pages of report, nor technological arguments
- Relevant
 - Tailored to the audience beyond obvious regional interests; e.g desertification vs. coastal flooding
 - Use a finer focus; it does no good telling coal miners there will be lots of well-paying solar jobs if those jobs are on the other side of the country, or in another country.

¹³ [Global Extinction Rates: Why Do Estimates Vary So Wildly?](#)

NOW !

T= +(8Nov2022 - now) days

T= +25 years

NOW WHAT?

- Reality Based
 - Solidly based on the underlying data
 - Analysis, conclusions and disagreements transparently accessible
 - Using the “numbers” created in 1bio task #1 above

We need those stories now:

- Every day counts - especially if we have 150 extinctions/day.
- But seriously, in the short term;
 - The next US election is on 8 November 2022.
 - Yes, that is just the US election. But if it goes wrong, it will affect the world
- In the slightly longer term, maybe 25 years, we will see:
 - Runaway feedback events that make a major catastrophe highly likely
 - Risky and expensive geoengineering projects in response
 - Major conflicts and refugee migrations

Having used pages of obtuse argument and faux mathematics to arrive at an obvious conclusion there remain some real questions:

- Aren't we doing all this already?
- Why dream up a new entity, when there are thousands of Environmental Organizations and millions of Individuals already active around the globe?
- How can an entity like 1bio be set up? What are the first steps?
- Will 1bio make any difference?

Answers based on personal belief:

- No, we're not doing “all” of this
 - Otherwise every politician would have the Environmental Crisis at the lead of their platform
 - We would not imprison activists or roll back environmental protections
 - We would not place the export of coal ahead of protecting the greatest reef in the world
 - and depressingly many other examples...
- The EOs do great work
 - There is no intent here to duplicate what they do, or to interfere in their way of communicating
 - 1bio is intended to integrate their work, to reinforce their findings and broaden their influence
 - They deserve a voice that will unify their message, bring them more members and give them more political clout



- 1bio setup:
 - It could be done by one, or a combination of, existing EOs who simply decide they will take on the roles described
 - It could be done as a new structure working in close collaboration with the EOs
 - I envisage¹⁴ an entity much like a multinational corporation but with a limited staff to provide a structure, with most of the expertise to be drawn from the EOs
- 1st steps:
 - To see if the concept has any validity start with a web presence and solicit input and support However given the time pressure outlined before we can't spend too many months in this phase. It needs to scale to be effective at all
 - "Sell" the concept to the EOs. Without them it's not possible
 - Then pick some key staff and get to work
- Will 1bio make a difference?
 - Yes

Axel Dougan, March 2021

¹⁴ "1bio Organization" - [on the story page](#)