

Welcome to the latest views & perspectives of the future of food

## INSIDE

### The Survival Instinct

Groundbreaking innovations have always emerged in times of crisis.

### Meet the team

Get to know the people and their story why they engage in the future of food.



## The Survival Instinct

-By Daniel M. Böhi and Raanan Shenhav

**Imagine the year 2500 AC. Historians will be looking back to our times, and they will notice two very significant, revolutionary moments in human evolution: The agricultural- and the space revolution. At first it might be strange to high-lighten these two events as so important and why the agricultural revolution some 11'000 years ago and human migrating into space might have anything in common, but when one understands the driving forces behind the two events, it becomes obvious, and it was not simple curiosity.**

Beyond its nutritional role, food is an important source of life and vitality, a catalyst for technological innovation, influencing social, commercial, governmental and organizational structures as well as collaboration.

The driving force were created by the struggle for survival. The need to explore is mostly driven by the instinct to survive, historically it is triggered by a crisis and the

requires people to adapt to new realities. Groundbreaking innovations have always emerged in times of crisis.

The agricultural revolution was triggered and enabled by many events that came together some 12'000 years ago, an epoch called "Holocene". A warmer climate after the last major ice age creating a belt around the globe that was ideal for agriculture. Better weather, a growing population, not able to be sustained by hunting and gathering capabilities, societies and social interactions were on the edge of crises.

It might have been neurological changes due to sudden access to steady nutrition sources, maybe the notion of property in growing communities, or any other reason to created sufficient pressure and the fertile ground in the minds of men and women for the adaptation of something totally new: agriculture.

But to get there, humans had to invent so many new tools and processes, such as the domestication of farm animals, learning where and how to grow crops and plants, how to process them and making them durable.

They need to multi-disciplined themselves, learning about the Sun-Moon impact, watering systems, domestication, yield, processing technologies like fermentation, drying, storing, transporting.

It was all sprung out of our need to survive, and for the first time, it was about not having sufficient resources for feeding a growing population and how to get organized around this key topic of food, a new need to define and learn different and specialize labor skills.

The more skilled and capable humans became in this, the more they could migrate into less hospitable areas, and replicate the sedentary lifestyle, adjusting to local circumstances. One could say that the neolithic revolution actually excelled the migration and expansion of humans over the last thousands of years into almost any corner of the world, turning the most challenging spaces to more or less habitable. In the last 500 years alone, humans migrated more massively to all continents, even to Antarctica, taking considerable risks, for much more extensive travel times.

This basic non-nomadic lifestyle and novel approach to feeding an even more growing population, has since then not change fundamentally.

The addition of "fossil fuel" and thus mechanization, fertilizers, pesticides, medication, etc. had improved the yield significantly, but not changed essentially the way food is grown, processed, stored, consumed. It is only now that we start to perceive the down-side effects of this system, as it is becoming more and more "unproductive", very much similar to the times where "gathering and hunting" became more and more unproductive and could not feed all the growing numbers of hungry mouths.

Flash forward to the 20<sup>th</sup> century, in 1961 Gagarin was the first man in space, and 1969 the first Apollo astronauts stepped foot on the moon, a new, yet not widely

recognized, revolution started: humans started to migrate into space, setting foot on the 8<sup>th</sup> continent, the moon.

This did not happen just out of curiosity. The driving force behind migrating man to the moon, and lately to Mars or any other planet in the solar system was about much more than just curiosity, it was because of a necessity, the need to survive.

What is driving this transition to be living on another planet? What is driving it is an existential crisis we are facing that is not that different from what humans faced some 11'000 years ago, at the dawning of the agriculture revolution.

Today, as it was back then, environmental changes, population growth, unproductive food systems, competing for resources, changes in society and social interactions, increase scientific and technical capabilities, all of this is creating a "crisis", a pressure to migrate, to expand.

However, there are some differences. Most scientists agree that the current epoch is very different from the Holocene (the epoch that started 12'000 years ago and recently ended), and gave it the name "Anthropocene", to describe the most recent period in Earth's history when human activity started to have a significant, almost irreversible impact on the planet's climate and ecosystems. It was named after a Canadian lake that has been chosen to mark the dawn of the new epoch in which humanity dominates planet, starting in the 1950s.

Given the parallels conditions at the basis between Holocene and Anthropocene in terms of how dramatically it did and impact the way humans will feed themselves, will expanding into space/new continents and will creating new "habitable" places, is certainly one very real possibility, and it will require an entire new set of skills, technologies, approaches, rules, interactions, societies, and they will most likely change and impact life on Earth.

Similar to how agriculture started to emerge at similar times in middle east, China and other "habitable" places, and from there expanded, the way how a habitable space is created for the 8<sup>th</sup> continent, it might change the way how things are done on earth.

The change and innovation cascade triggered by the challenge to expand into space, defining new habitable places and definition in how we will feed future populations, is the equivalent to the transition from "hunter/gatherer" to "agriculture".

Again, groundbreaking innovations will emerge in these times of crisis, simply because there is so much "skin in the game"...it is about survival.

When thinking on properly feeding our growing population, when thinking of creating a habitable space, might it be the Moon, Mars, Antarctica a desert or a water covered island, it is evident that our current agriculture and food system will not work.

There is always a lack. Lack of arable land, of water, of sun, of gravity, any lack of one or a mix of these important components of what we need to enable life; Which

means, we need new ways to survive must be invented. While the neolithic revolution took several thousands of years to spread around the globe, in the nowadays globalized world this might and should take far less time, yet, being able to produce food at scale for the current 9 Bio people living here, will be no easy task; How then could we stand in the need to feed 10 Bio people in a sustainable, healthy, affordable and accessible manner, on Earth and Beyond... in space?



## Meet the team

**Please meet Emil Virag. There is not a factory he could not build, not a technology he could not scale.**

His passion for technology and business strategy stems from his conviction that there is no problem in the world we could not fix, hence his dedication to contribute and solve the burning challenge of how to scale disruptive technologies.

## Get in touch!

To sign up for the “Loophole Letters” or if you would like to discuss a specific topic in greater depth, please get in touch: [info@alphornventures.com](mailto:info@alphornventures.com)