

# SCIENCE FICTION ECONOMICS LAB

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# MESSINA ADVANCED SOCIAL CLUSTER

## SCIENCE FICTION ECONOMICS LAB PAPER

Economics, as we know it currently, has pivoted from being a place where you could imagine new and better worlds to a discipline which re-enforces and improves itself in a single model. “Blue sky” innovation of economic systems is now done in strange places.

Science fiction is one of them.

Another one is local communities who attempt to reboot their economies in more humane and long-term resilient ways. Among these, the advanced social district in Messina stands out for depth of vision and effectiveness of implementation. Their economy is so strange – and yet so logical – that it would not be out of place in a science fiction novel!

# CONTENTS

Acknowledgements	4
Introduction, by Alberto Cottica	6
A TOOL: THE COMMUNITY FOUNDATION	8
Fondazione di Comunità di Messina	11
The Founders	12
The History	13
The Strategy	14
PREMISES	19
A CONVERSATION	27
THE WEBINAR	37
BIBLIOGRAPHY	47
Biographies	48

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# INTRODUCTION

ALBERTO COTTICA

Edgeryders encountered **Fondazione di Comunità di Messina** for the first time in February 2019, during a seminar on technology policies to improve social justice and reduce inequalities. The seminar took place in Messina, on the northeast tip of Sicily: mainland Italy was just three kilometers away, looming across the strait depicted in Homer's *Odyssey*. It was interesting in and of itself, and it tied back nicely into Edgeryders' work on the **Next Generation Internet**, which was just starting.

But the most interesting thing was the place that hosted the event, **Fondazione Horcynus Orca**. The place felt... utopian. Built around the ruins of a 1st century BCE Roman watchtower, maintained by ex-inmates of the local mental asylum, it was a meeting place of people in several businesses, from a local energy company to a beer manufacturer. Something was going on. So I asked.

Messina hosts an “advanced social district” (*distretto sociale avanzato*). In Italian, “district” is associated with industry and carries the idea of production. Indeed, this is a tightly integrated network of independent companies, competing on some arenas, cooperating in others (**industrial district**), of which Horcynus Orca is only a piece, specialised in the arts. As I spoke to Gaetano Giunta, a physicist and a member of the small group of friends who quit their jobs to start it all in the late 1990s, I heard him mention values similar to Edgeryders' own: freedom, happiness, beauty. Business and commerce as the weapon of choice, the main path that lead to being able to uphold them in a sustainable way.

# A CLOSER LOOK

## A TOOL: THE COMMUNITY FOUNDATION

Building a new economy while being viable in an old one is hard. In Messina, however, the advanced social district found its own tool: a **community foundation**, Fondazione di Comunità di Messina. It was established in 2010 by the organisations in the district itself and in 2013 the Statute of the foundation was registered to define its actual activities.

In 2010, activity in Messina had already reached critical mass. Gaetano and his group were able to attract a larger investment that went into the startup capital of a social economy vehicle called a community foundation (fondazione di comunità).

The practical problem arose of how to invest the money in a way that the capital would produce a revenue stream which the new foundation could use to carry its projects.

They did not want to invest in financial assets, as they thought this would betray their mission of developing the local social economy. What could they do?

Studying the problem, they realised that Italy had launched a plan of incentives to build up capacity in renewable energy generation. This was, in fact, the Italian implementation of a EU program called feed-in tariffs. It promised a long-term (20 years) subsidy to anyone installing solar panels or wind turbines.

The team reached out to the community and offered to partner up with anyone who asked: schools, hospitals, companies, small cooperatives or households. Each partner would receive and steward a cluster of solar panels. The Foundation paid for the solar panels and their installation letting the partners keep the energy generated this way, to use or sell back to the grid. The Foundation itself would receive and manage the subsidy.

They ended up installing 2 MW of certified photovoltaic energy production capacity.

To manage this front, they spun off a new organisation, called ESCO (Energy Social Company) naming it Solidarity and Energy. The ESCO proceeded to use proactively the foothold gained in renewables to further green the local economy. One of the major successes was the push to increase the energy efficiency of the housing stocks, which led them to invent solar panels based on organic materials, like discarded oranges [sic]. Their efficiency is very low, but extremely cheap, and they come in colours (orange pulp is bright red in Sicily!), which made a game for all the designers involved.

Now, this was a very elegant move. In one go:

- they greened the economy;
- created a new local player who would further green it long-term;
- provided a tangible benefit for the local community;
- bought themselves a lot of goodwill;
- and
- turned a lump of “dead” money into a 20-years guaranteed revenue stream.

1. [https://en.wikipedia.org/wiki/Community\\_foundation](https://en.wikipedia.org/wiki/Community_foundation)

2. Community Foundation Programs & Services. Council on Foundations, 2015.

3. Cleveland Foundation 100 - Decades. The Cleveland Foundation Centennial.

4. <http://www.tamworthfoundation.org/who-we-are/what-is-a-community-foundation/>

Community foundations definition on Wikipedia<sup>1</sup> is “instruments of civil society designed to pool donations into a coordinated investment and grant making facility dedicated primarily to the social improvement of a given place”. In 2015 there were more than 1700 CFs around the world<sup>2</sup>. They may be private, often endowed by an individual or a family but there are also other types of ownerships, such as Messina’s community foundation for example.

According to the same source, the first community foundation was set up in Cleveland in 1914 by Frederick Goff and operates now as The Cleveland Foundation<sup>3</sup> and some of the largest foundations operate with budgets of several hundreds of million dollars.

They are independent registered institutions, with philanthropic purposes which serve a defined territory. The Tamworth Foundation<sup>4</sup> defines them by six points:

*“they serve a geographically-defined community, have a broadly-defined mission, serve as a grant*

*making organisation, are supported by a broad range of private and public donors and seek charitable contributions primarily from inside the community, are governed by a diverse local board reflecting the community, build capital endowments, which are an important element of sustainability”.*

”

Now, all of these elements are at the same time present in the structure of Fondazione di Comunità di Messina, yet all of them have a different declination, sometimes even radically different, than what goes as mainstream today, as we are going to see.

## FONDAZIONE DI COMUNITÀ DI MESSINA

Fondazione di Comunità di Messina (FdCM), the Messina Community Foundation, in its Statute from 28 March 2013 signed by Ferdinando Centorrino and Gaetano Giunta is defined as an ONLUS – the Italian acronym for a socially useful non-profit organisation.

Established in 2010, as a vehicle for social, cultural and economic engagement of the Messina Advanced Social District, Fondazione’s focus was set on expanding the local communities’ and citizen liberties starting from the socially fragile situations.

Fondazione also aimed to preserve, promote and enrich local ambient, culture, arts and historically and artistically relevant monuments.

## THE FOUNDERS

Fondazione di Comunità di Messina arose from a partnership between local social, educational, institutional and scientific networks and in cooperation with national and international social actors.

Together with the organisational committee, the founders and eventually members of the Messina Advanced Social District (Distretto sociale evoluto) promoted by FdCM are:

Fondazione Horcynus Orca<sup>5</sup>  
 Fondazione Padre Pino Puglisi<sup>6</sup>  
 Consorzio Sol.E.<sup>7</sup>  
 Ecos-Med

The other promoters are Confindustria Messina<sup>8</sup>, ASP<sup>9</sup>, Banca Popolare Etica<sup>10</sup>, Parsec<sup>11</sup> – Roman cluster of CNCA, Associazione Culturale Pediatri<sup>12</sup>.

Fondazione was born under the high patronage of the Italian Council of Ministers<sup>13</sup> under the presidency of Romano Prodi, with the grant provided by the Ministry of Justice and Foundation Con il Sud<sup>14</sup>. FcDM is in a structured partnership with Caritas Italiana<sup>15</sup> and REVES<sup>16</sup>

- European network of Cities and Regions for the social economy.

The Foundation starts with an initial capital of 5.000.000 Euro. Approximately half of the amount was provided by the members and the other half by Fondazione Con il Sud. Part of the sum provided by the Foundation Committee comes from a special project: Luce è Libertà (Light is Freedom) financed by the Italian Ministry of Justice and Messina's health authority. Its goal is to progressively render autonomous and socially included the 56 patients of the judiciary psychiatric hospital in Barcellona Pozzo di Gotto.

## THE HISTORY

The story begins in 1998 with a group of local enthusiasts and activists led by a physicist who created a research centre called EcosMed. It took on the mantle of championing a specific vision for local development, and over time managed to get several other enterprises up and running and working together as a cluster. In 2010, they leveraged a European policy (green certificates for producing renewable energy) and a national/regional one (a large foundation called Fondazione con il Sud was doubling capital to any Fondazione di Comunità being constituted in Italy's Mezzogiorno) to create FdCM as a superstructure.

Gaetano Giunta, the physicist in question, remembers the beginnings like this:

5. <http://www.horcynusorca.it/>

6. <http://www.fondazioneantiusura.it/>

7. <http://www.fdcmessina.org/index.php/pag-sezione/consorzio-sol-e/>

8. <https://www.sicindustria.eu/sicindustria-messina.htm>

9. <https://www.asp.messina.it/>

10. <https://www.bancaetica.it/>

11. <https://www.cooperativaparsec.it/web/index.php>

12. <https://acp.it/it/>

13. <http://www.governo.it/>

14. <https://www.fondazioneconilsud.it/>

15. <https://www.caritas.it/>

16. <http://www.revesnetwork.eu/wp/>

*“In the early 90’s, after the mafia murders of the most important Italian anti-mafia judges and a long period of killing, in Sicily we thought we could change the world only with the enthusiasm of our activism. We tried, but we didn’t completely succeed. We understood that to have a real change we also had to change the economy.”*

”

Today, the Advanced Social District has grown to be a cluster of companies (many of which co-operatives), non-profit, research and art organisations, coordinated by Fondazione di Comunità di Messina. The cluster consists of 120 local enterprises, spanning from breweries to construction, from social cooperatives to research centers, from energy production to a contemporary art museum. They were all created or consolidated in the last 20 years in or near the city of Messina and employ more than 400 people. About 100 of them went to disadvantaged people. It supports, directly or indirectly, cultural production, tech innovation (examples: immersive environments for learning and therapy, energy production from marine currents).

## THE STRATEGY

From an economic point of view, the cluster made three moves which contain the seeds of long-termism. It based its philosophy on **relational goods**, adopted the concept of **stocks**

**over flows** and created a system instead of a network.

From the conceptual point, we can say that along the way, in Messina they have come up with a unique approach to economic and social development. So unique, in fact, that it looks almost alien.

But at the same time, the foundation has been recognised by OCSE, UNOPS and World Health Organisation as “one of the most interesting cases in the world on experimentation of welfare models and local development”.

**RELATIONAL GOODS: Some goods store value because they encode relationships.**

### The gallery of contemporary art

Several world-famous artists in the Mediterranean area donated pieces to Fondazione Horcynus Orca, the cluster’s main art organisation. In fact, FHO runs a contemporary art museum that has never bought any piece because everything was donated or produced in-house via artist residencies. This collection is worth several millions, but of course Fondazione Horcynus Orca could not really sell it except in very dire circumstances. Instead, they use it as leverage to attract private donors.

## **The brewery**

Messina's local brewery, Birrificio di Messina was purchased by Heineken, that ended up closing the plant and relocating production, keeping the brand. FdCM persuaded the laid-off workers to start a cooperative to make a new brewery, and attracted a 6M EUR investment. In three years from a newco to 5 million liters a year. The new company was already turning profit in the first year.

This action has had a strong impact in the local community, a collapsing enterprise was rescued and regained success, by the effort of the community itself.

Five thousand people attended the brewery's grand opening, because "the beer tastes very good, but it also carries the values of dignity, community resurrection and human development to purchasers". FdCM successfully re-branded the beer to reflect its ideals.

## **The social housing**

In Messina, 2500 people are still living in the slums created after the earthquake in 1908. FdCM, contacted by the local administration, worked on the solution of this problem. It proposed three alternatives to the inhabitants: a home bought up by the city; or buy any home on the market, with FCM providing them with 75% of the purchase value and legal assistance; move into a newly built ecological experimental condo.

At the same time the program adopts advanced solutions. Several uncommon technologies are in use, including domotics, lots of wood, pressed hay etc. Boston MIT is involved in projecting the prototypes.

In Gaetano's words:

*"if you think of markets as of relational goods, you can sometimes be more efficient".*

”

## **STOCKS OVER FLOWS**

The creation of FdCM marked a shift from producing income (a flow) to fund Messina's social and civic transformation to securing the capital (various stocks) that generate that income. The difference is in the capacity of resilience: if you are sitting on your own stocks, you are not at the mercy of short-term changes in marked conditions (or, worse, funding landscapes), and you have the breathing space to plan counter-moves when difficulties strike.

## **A SYSTEM, NOT A NETWORK**

### **Gaetano:**

*"We are not a network: we are a system. The difference is that, in a system, participants are willing to re-orient their work, so as to better work with the other participants. If you are a construction com-*

*pany, you must not be lazy, and be open to using new technologies. If you are a social cooperative, you should avoid providing standardised services, customising them instead to give higher value to the capabilities of the people they are assisting. And so on.”*

”

# PREMISES

## WHAT CAN WE LEARN FROM THE MESSINA ADVANCED SOCIAL CLUSTER ABOUT ECONOMIC REGENERATION AND RESILIENCE IN THE WAKE OF COVID-19?

**NADIA EL-IMAM**

What does it mean to be safe if we look from the perspective of resilient livelihoods? We used to do economic development policy by adopting a unique idea of what a good society looks like and everyone is supposed to conform to that. Since we are now losing faith in this model, we should encourage peripheral regions to experiment different economic systems. In the case of Messina, this seems to have come about by pioneering an approach resting on the above described elements adding a Dyson's sphere model (the Dyson sphere is an imaginary artefact built all around a star to capture its energy. The idea is to create prosperity for every member of the system: when a client comes around want-

ing, say, a consultant to organize a workshop, they are immediately asked if they also need a venue, a translation service, a travel agency and so on... all parts of the system).

Over the years and in part based on the culture of the founders, they were able to come up with practices that are *self-evident to them, but counterintuitive to us*.

One example: they have *assembled an art collection without buying any of the pieces*. They acquired them all through donations or artist residencies. The collection is worth several millions now, and Guggenheim has tried to acquire it, but the foundation can never sell it without destroying the goodwill that made it possible to acquire it in the first place.

The fact that the collection cannot be sold does not mean it is worthless. It has value in two senses: as the embodiment of the relationship of mutual trust between the Foundation and artists, and as a collateral to roll out revenue-generating projects. The collection is valued not for its resale value, but for its potential to grow and catalyse more activities. You do not realize this value this value by cashing out on the asset, but by stewarding and growing it. This is an unusual value theory from the point of view of the one dominant today. It is an example of the kind of thinking that can emerge from mutual aid communities.

17. Nora Bateson, *Small Arcs of Larger Circles: Framing through other patterns*, 2016 Triarchy Press

While seemingly simple and fairly easy to adopt these principles in other places, it is also easy to underestimate the complexity of local differences and embeddedness, as well as of local and regional inequalities.

One of the risks that emerge is that people are left behind in transformations, because we are not listening to communities and creating strong cultural bonds. The situation is complex, there is not the same clarity for everyone.

So how can we implement the lessons learned? What does it mean for those who wish to support economic regeneration in the wake of Covid 19 or The European Green Deal?

I am wondering whether we could create access through the mutual support groups of sharing and caring communities? How do you expand on the Messina case? How to add on top of that trans-contextual literacy in these already stand alone communities - through more flexible policy making (not waiting for the EU)? Climb the ladder bottom up and expand on it. The axes of sharing and caring communities could be the way to start. What would be the motto to use to find that intersection?

Nora Bateson says that when the systems are stuck they don't get unstuck if someone says it, but only if the systems learn together<sup>17</sup>. Experience of creating trans-contextuality - experiences with different identities, empathy, get the glimpse of the context of others, go beyond the

polarisations and the idea of the democratic process. Lack of trust in society - part of the core things not working. Automatization of who we are. The idea of subsidiarity - top down, not bottom up and it is completely missing as well the dynamic ways of doing policies. We need a dynamic way of testing and designing policies and interventions. Locally driven and context dependent. Forget about the scalability.

A key aspect is that we are going to need to experiment new processes and models for working with movement building to get something to happen, and then protect its integrity for long enough that the desired results become visible. A process which embeds the means to strengthen the political/ideological movements that have supported and protected it.

An interesting example of what happens when you don't manage to do this is the Finnish Basic Income experiment. A well thought through proposal originally came from progressive activism and was co-opted by the political platform of the liberals. They ignored fundamental elements and executed it badly. Some of these fundamental elements were giving basic income to a randomly selected sample of at least 30,000 individuals. Neither condition was met. Also, it ran for less than half of the time estimated for the experiment to succeed in meeting its main target. The result was that it did not bring significant employment effects<sup>18</sup>.

18. Demos Helsinki has published the full report here: <https://www.demoshelsinki.fi/2020/05/08/letter-results-of-finlands-basic-income-experiment-will-help-us-build-the-post-pandemic-society/>

Compare this to the history of Folkhögskola (Folk high schools), a Nordic model for adult education and lifelong learning that has been around since 1844. The concept originally came from the Danish writer, poet, philosopher, and pastor N. F. S. Grundtvig. The folk high school movement was an act against a conservative ideal of both education and culture. At its core was an idea to give the peasantry and other people from the lower echelons of society a higher educational level through personal inner development. It was born out of a reaction against the Enlightenment's view of our mind as a fixed, rational machine as opposed to being embodied in the totality of our bodies and embedded in our culture. After the 1848 revolutions in Germany these ideas travelled to the Nordic countries where they were then adopted in the educational model pioneered by Grundtvig and contemporaries. Tomasz Maliszewski at the Polish Naval Academy gives a detailed account of the rich history of this institution in Sweden<sup>19</sup>.

19. Tomasz Maliszewski - On the History of Folk High Schools in Sweden, <https://www.researchgate.net/>

One conclusion we draw is that we need to embed the idea of Citizen Engagement as community action on experimenting local development economic models, rather than as citizen-to-institution consultation.

New arenas for citizen engagement

Because the citizen-engagement-as-consultation mindset does not look at the issue of power. Consulting citizens is one of those ideas that sound easy, but are very difficult to get the in-

centives aligned right for. The idea of policy experiments sounds great, but an experiment of revoking the copyright directive for Latvia, for example will hardly get an audience in the European forums. The alternative is to override them and to establish an alternative policy anyway or to invest time on the regional level because of its natural dimensions and attitude to experiment. At the periphery of Europe's major economic players, it might be easier to try courageous solutions (and get away with things). Indeed, more than one mutant economy is showing up in unexpected places in Europe like Messina or Cooperativa Integral Catalana in Catalonia.

In practice we need to find new arenas where we can broker specific deals between communities and their local institutional and political actors around getting specific things off the ground. And create conditions for them to have staying power.

Science Fiction Economics Lab explores how to spark and nurture similar dynamics between regional administrations, political activists and groups running existing initiatives which embody different economic models. We explore how we can give enablers of a transition to a thriving future access to political power so they create the change needed? Can we shift the whole political landscape through tactical interventions and ecosystem building?

How can we help swarms develop around sticky, relevant social questions - creating conversa-

tions, relationships, and ultimately projects?

Can we learn from startup incubation and acceleration and create a structured approach to supporting civil society groups in becoming more effective in creating political change?

How can a new generation of political actors turn political campaigns towards community building principles - and can we open-source this?

# A CONVERSATION

## A COMMUNITY FOUNDATION TO CHANGE THE WORLD

**Gaetano Giunta,**  
 one of the  
 founders and  
 general secretary  
 of Messina  
 Foundation  
 Community

Messina is a small city in Sicily, overlooking the eponymous strait that serves as the island's gateway to mainland Italy and Europe. Sicily's economy and society have long been crippled by high unemployment, inefficient public services, corruption and organized crime. Yet, over the past ten years or so, a small cohort of about 120 enterprises in Messina, working closely together, have managed to build a solid, long-termist, fair, human-centric economy – and achieve stability and prosperity in the process. They call themselves “the Messina advanced cluster”.

**Alberto Cottica,**  
 one of the  
 founders of  
 Edgeryders and  
 head of Science  
 Fiction Economics  
 Lab

Innovation of economic systems can get through local communities who attempt to reboot their economies in more humane and long-term resilient ways. Among these, the advanced social district in Messina stands out for depth of vision and effectiveness of implementation. The protagonists of Messina's development story dreamed of a different, better economy, but they knew they had to be viable in the present economy, or their dream would not survive. Their economy is so strange – and yet so logical – that it would not be out of place in a science fiction novel!

**Nadia El-Imam,**  
 one of the  
 founders of  
 Edgeryders

### Gaetano:

“The Messina experience is a local one, but it has the ambition to expand to other territories.

We believe that there is a correlation between the environmental crisis and inequality. This sounded weird 20 years ago, when we expressed the idea. Today we see exactly that, irreversible steps in the environmental crisis and so much inequality that it is even stifling traditional economic development.

We are trying to bring about a metamorphosis in humankind. This is not a 1800-style revolution. A metamorphosis is a structural transformation of relevant blocks of human life. Some of the systems humanity lives in are imbalanced.

Here are some examples.

- Starting from 1970, the speed of technological advancement reached such a level that communities cannot build around them an appropriate culture and ethics. This creates collective stress, particularly in the local communities which simply have no say on it because technology governance happens on global scale.
- As far as we know, our civilization is not sustainable with this kind of exploitation of resources.
- The financial power is more and more global, democratic systems have stayed local and are displaced.

This creates literal dislocation. Five to eight hundred million migrants will get on the move due to climate change in the coming years. Most will move into cities, though I am convinced there will be a rebound. This will pose new problems to the governance of cities.

Given this context, our foundation is experimenting on new paradigms for governance, the economy etc. Our key concept is that of limit. Our key resource is what we call human development. This happens by interlinking closely the productive, cultural and welfare system. To do that, we bring to bear the territory capabilities. Part of this is talent attraction.

More specifically, we are experimenting with models that constrain the logic of profit maximization.

The constraints:

1. Expand freedom, especially that of the weakest
2. Build social capital
3. Protect ecosystems
4. Supply beauty,

Operationally, we decided to stop thinking in terms of “atomic” productive units. Capitalism is based on the Hobbesian idea of competition for resources, with markets acting as a mechanism that balances the egoisms of different individuals (or companies). We move from a more complex theory of how humans operate, of

which we will not speak today. What is important here to say is that we refute the logic of the atomic productive unit, and we think of units as parts of territorial clusters.

Our foundation provides economic resources to this territory, But it never funds projects: it funds permanent policies. Its pillars:

1. Promote cooperative social and economic systems, which are very biodiverse. They have culture, finance, scientific research etc. These systems need to be able to promote alternatives in the areas of working, housing, socializing and learning.

2. Reinterpret welfare towards personalized paths actively supporting each beneficiary in recognizing the alternatives generated by the system, and thus increase its freedom.

Fondazione Horcynus Orca is at the center of a local cluster of firms (diving center, restaurant). One level up, several clusters comprise a social district. Fondazione di Comunità di Messina is the main architectural infrastructure of the district. FdCM is a fondazione a partecipazione, a legal structure in the Italian legal system.

**Nadia:**

“What was the historical process?”

**Gaetano:**

“Our story begins in 1998. We were living a proper “Sicilian spring” - the island was experi-

encing a popular fervor rarely seen before of the non violent fight against the mafia. Progressive coalitions have used this push to win the administration in almost all of the Sicilian cities. A couple of years later, the experience faded out almost completely.

Why? Our hypothesis is that happened because our economic structure was left untouched. Capitalistic economy, from an anthropological point of view, is similar to a criminal economy. It is based on individualism and on the maximum effort to obtain the individual self-interest. We understood that to have a real change we also had to change the economy.

We needed to study the phenomenon and the situation and we created a research centre: an action-research project to explore the different models which could make a different economy work. In 1998 we created a research center called ECOSMED. This was the first cluster and several more followed. First of all we had to solve the problem of financial sustainability and with the first problems regarding the territorial policies: the productivity gap of the most fragile, the research and development needed, the democratic practices, and so on.

The logic behind ECOSMED was to move from an economy based on a balance of egoisms to an economy of the local clusters. Immediately (in the year 2000), three were born. The research one is Fondazione Horcynus Orca as a tool for cultural and scientific production. The second was cooperative (based on the Basaglia

law) and the third one was financial, a secure fund born to fight the loan sharks which has evolved in the support block for the startups.”

#### **Alberto:**

“So, in 2010, the solution came together as FdCM. It created a fund that was invested in real economy operations, specifically renewable energy production. 100% of the proceedings of this operation were reinvested in these operations. This ended up influencing public policy, because initial successes made FCM an attractor?”

#### **Gaetano:**

“Community foundations in the world are between two extremes. The American model is “neutral”: they collect endowments from philanthropists, and give them to the goals that philanthropists have (in Italy: Fondazione Cariplo). On the other side, you have “teleological” foundations, which have their own visions. We here are closer to this second one.”

#### **Alberto:**

“For 12 years (1998-2010) the clusters pulled through without the FdCM being there. How did you finance the gap you mentioned?”

#### **Gaetano:**

“With great difficulty. We had to look for grants – the market would not fund these things. But it was extremely difficult to get funders to take

part in processes that are strongly innovative. We needed our own grant making instrument.

The social economy is usually focused on flows. Get finance, generate a flow of services, rinse and repeat to keep the flows running. As a consequence, it is chronically undercapitalised. We chose to take stocks seriously. But it took time for us to get to that awareness."

#### **Alberto:**

"To get where you are now, you had to re-invent a lot of economic concepts. The familiar ones like "maximising shareholder value", "correct market failures" etc. were simply not working out for Sicily, and for their goals. So, while re-building your local economy, you developed your own economic thinking, with concepts such as "relational goods", "stocks as autonomy", and "systems, not networks". Even your innovation is unexpected to say the least: solar panels made out of the pulp of waste oranges? A People's Energy Company? You developed a set of strategies that would enable them to thrive in the present, while at the same time bringing about pieces of their intended future. These strategies are remarkably simple to grasp, and they should be possible to imitate. They are:

- Focus on stocks, not flows
- Build systems, not networks
- Build your system like a Dyson sphere
- Encode human relationships in physical goods

Could you describe the concepts behind?"

### **STOCKS NOT FLOWS**

#### **Gaetano:**

"Our policies aim in the first place on the redistribution of wealth. Of course **there are always flows of capital, but if you untie them from the stocks, the risk is to end on the path of assistential welfare, which is an open door to authoritarianism and violence. The autonomy of the people depends on their access to the stocks.**"

### **SYSTEMS, NOT NETWORKS**

#### **Gaetano:**

"Our system is made of **connections and contaminations. A network has communicating nodes and that is not sufficient because the transitions of phase need to exchange their energy with the external environment. A system is a model where the nodes transform each other continually, reach understandings and compromises, direct their own strategic action towards a common strategic action.**

For example, the actual Italian definition of what the community foundations should be doing owes a lot to what FdCM is doing.

When the elements of the whole exchange dynamics of transformation and not only information, then we have a system.”

### SYSTEM LIKE A DYSON SPHERE

“There are **plenty of internal economies**. The success of the policies consolidates the clusters which gave birth to FdCM. It is nevertheless necessary that the systems must remain open, otherwise we have only the business committees. The openness is what makes the difference! [...] If you look at it from a scientific point of view, no transition of phase can be realised without the exchange of energy with the environment surrounding the system. **The advanced social district has an open genetic sequence which contains the slots for actors that rise above the local environment: the scientific committee of the foundation, the REVES network and so on...**

**The architecture is self-similar. Descending in scale, you always find complex systems.”**

### ENCODE HUMAN RELATIONSHIPS IN PHYSICAL GOODS

#### Alberto:

“I particularly like the idea of relational goods – physical goods that encode human relationships. Here is an example: **the district includes a museum of contemporary art of the Mediterranean. Its collection was not put together**

**with market purchases. Every single piece was either donated or produced locally in the context of art residencies. Every piece encodes a relationship, an alliance, a gesture of support, between the museum and the artists. The collection is now worth tens of millions, but of course the museum can not sell it without vaporizing the relational capital it symbolizes. But neither is it worthless, because these relationships are the basis for new revenue-generating projects.** Also, the collection itself is a tourist attractor and a generator of new relationships. The economic value of this collection is not realized by cashing out on it, but by stewarding it and growing it.”

#### Gaetano:

“Amartya Sen used to say that the personal freedom is measured by the alternatives they have in front of them. Today young people from here do not have the freedom as the youth in other European centres because there are less alternatives for their future. To continuously provide opportunities and alternatives in a place which is so distant from cultural and artistic centres and processes of technological innovation is something we are proud of.

And you know, FdCM is a strange foundation. It is a foundation which erogates support but does not work with calls for applications and does not fund microprojects. The grant model for the projects is, in our opinion, a direct result of the casualisation of economy and labour. FdCM fi-



nances policies which are strongly intercorrelated among themselves, and uses its clusters to manage them.

Research and innovation policies are managed by Horcynus Orca, ECOSMED manages social and economic policies, Puglisi centre manages the policies directed to socially fragile situations, etc. This results in a much bigger and a much longer impact.``

# THE WEBINAR

## THE STRANGE ECONOMY OF MESSINA'S SOCIAL DISTRICT

**The transcripts are taken from the webinar on 8 September 2020.**

**Host:  
Nadia El-Imam,  
one of the  
founders of  
Edgeryders**

**Lecturers:  
Giacomo Pinaffo,  
project manager  
FdCM, Alberto  
Cottica, one of  
the founders of  
Edgeryders, head  
of Science Fiction  
Economics Lab**

*Our current economic models need rethinking. This was the general consensus at a recent Edgeryders webinar dedicated to a case study of the Sicily's Messina district "strange" economy.*

Edgeryders co-founder Alberto Cottica explained how despite the economic cycle initiated by the free trade and free movement of capital policies in the 1980s and 1990s, some people on the ground ignored the models and built small scale economies.

"There is a lot we can learn from the Messina example" - he said - "from how it originated, from its projects and funding mechanisms and the capability of remaining independent."

## THE CONTEXT

Giacomo Pinaffo of Fondazione di Comunità di Messina explained how the model worked, starting from the Sicilian context.

*"...to quote data from 2018, the region had the highest unemployment rate in Italy. We're talking about more than 20%."*

*"And 22.5% of families live below the relative poverty line and almost 20% of the economy is black (market) and illegal."*

*"In addition to this, there is the influence of organised crime, the mafia."*

”

## THE BEGINNINGS

*"People got tired of the local situation. Everything started in the beginning of the nineties, let's say, after the murders of the most important and most famous anti-mafia judges,"*

**Giacomo explained.**

”

*"The citizens started to organise themselves autonomously in organisations and movements, trying to change things locally, with their own direct engagement."*

”

## THE FIRST PROJECT

A foundation was established and the group reached out to the Ministry representative, proposing to help in reintegrating patients with criminal records, detained in Messina's psychiatric facility, back into society.

*"We went to the minister and said: this jail costs a lot to the society because you are spending thousands of euros per year per person there. And you're not solving anything,"*

**Giacomo said.**

”

*"We - the foundation - suggest a different possibility. If you provide us with a lump sum amount, which would be the sum of what you spend for one year per person, we assure you that we will be able to get them out of there and reintegrate them into society."*

”

The State agreed to let 56 people from the institute be involved in the project.

*"The money the State would have spent for simply keeping the 56 persons in the facility was invested in building of photovoltaic plants, used by several public institutions and families, above all poor, living in Messina,"*

**Giacomo said.**

”

*"We have proposed free plants and energy to the people who accepted to host the panels with the agreement that the public subsidies for them would be going directly to the Foundation. That created a guaranteed 20 years income flow."*

*"At the same time, the people from the psychiatric institute were inserted in several cooperatives, agricultural, commercial, even the cooperative created to build the solar power plants."*

”

Their employers paid a wage based on the work done while the Foundation, using the income from the subsidies, added the remaining sum needed to reach a fair wage. Meanwhile, to help their reintegration, the Foundation has organised a dedicated support program.

What can we learn from this?

Alberto highlighted:

1. It used the passive public spending on the health care of very serious patients to actively reintegrate some of them into normal life.
2. It managed to reduce the consumption of fossil fuels in town.
3. It spawned several new businesses – landscaping and maintenance cooperatives for example and so forth.

4. It provided long term funding of the Foundation.

5. It introduced the Foundation as a capable policy maker on the local scene.

6. Hundreds of businesses, households, schools and hospitals with solar panels installed by the Messina Foundation have become friends and allies of the Foundation.

*"In English we would call these 'the relational goods'. They are different from traditional ideas of goods in economic theory, because their value lies in relationships"*

**Alberto concluded.**

”

## SECOND MODEL - THE SOCIAL HOUSING

*"Freedom is the main objective of the Foundation. When we say development creates freedoms, we are referring to the Amartya Sen's capabilities approach - which means expanding the opportunity of choice for the people. The weakest obviously above all,"*

**Giacomo said.**

”

*“In Messina, there are slum neighbourhoods. They were first built in 1908 after the earthquake and grew further after the bombings of the Second World War.”*

*“These are very hard places to live in. The research we conducted discovered that the life expectancy of the people living there is seven years lower than the average of the rest of the city. It’s controlled by crime. It’s highly deprived.”*

*“These slums host around 2,500 families and on part of them, about 200 families, 700 persons, entered the project of social housing which we were asked to organise by the local Administration.”*

”

The Foundation proposed three solutions to the people:

1. Follow the main public program and relocate in a low rent house owned by the State.
2. Enter one of the modern, energy efficient eco-buildings built on the sites freed by demolishing part of the slums
3. Buy a house taking a lump sum from the State which covered 80% of the price. The Foundation set up a microcredit institute which loaned the remaining 20% if needed

At the same time, the Foundation provided support and guidance through this process for the financially illiterate inhabitants of the slums.

*“You empowered them by giving them ownership of choice”*

**Alberto explained.**

*“Let’s say (you change) the mind of one person, two, 200 people, 700 people. Then, step by step, the general approach in the local society starts to change.”*

”

Can these models be replicated? Only if the change from system to network takes place

*“We see a lot of networks, a lot of entities that are cooperating among themselves but keeping their identity, their position and their activity. They are independent and autonomous. They focus on specific issues and decide to work with other entities only where they see a gain for themselves,”*

**Giacomo explained.**

*“The creation of a system starts from the entities capable of changing themselves too, by modifying their own structure, adapting to the specific context, getting closer to other entities and working together on a common project and a common dream.”*

”

*“One of the most interesting questions that arise is what makes local territorial systems capable of becoming self-organising entities,” Giacomo said and added: “This is a point we would like to understand better. We would become able to see where and how we can cooperate with other territorial systems of the Mediterranean basin.”*

”

Let’s break down some of the ways the Foundation operates

The foundation buys stocks to maintain its financial independence.

*“If you always need to ask for external investment, both from public or private investors, you also have to comply with their requirements”*

**Giacomo said.**

”

The co-operative structure does not have much appeal for the investors because of the nature of its governance. This limits the growth of many social enterprises. “It is one head one vote. It doesn’t matter how much money you have invested, you have one head, you have one vote.

This has an obvious impact on the capacity to collect equity. Investors are not so happy to invest a lot of money in these situations,” Giacomo highlighted.

Stocks allow the foundation to make ten year strategic plans.

*“Economy actually has directions. It is easy to recognise it in your case: it is producing more freedom for people,” Alberto said, pointing out that the idea to innovate which considered only the economic growth rate and not its direction, is flawed.*

*“In innovation policy... we should have missions. We should have the Apollo program, the decriminalisation of the economy and then we will create in practice more and better growth,” he explained, making reference to economist Mariana Mazzucato.*

”

## CREATING THINGS THAT BENEFIT ALL SOCIETY

The foundation supported a local brewery which all but shut down offering the workers a buyout option.

*“There was the problem of keeping the people’s jobs, but let us not forget that the brewery itself was a part of the local tradition.”*

”

### Other models, discussions and thoughts from our breakout sessions

The open discussion touched on the differences and similarities between Sicily and Sweden, the Netherlands experience, the circular economy, and long term sustainability.

Ideas and examples of positive outcome from cooperative work were mentioned, such as:  
 The Cleveland model and the Evergreen Cooperative Initiative  
 The Stoneybatter Festival in Northwest Dublin  
 Public housing model in Vienna

The event was organised by Edgeryders' Science Fiction Economics Lab with the support of EIT Climate-KIC as part of our work to extend the space of economic models that are conceivable and deployable to build a successful, fair civilization, while preserving the planet's ecological balance.

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# CATALAN INTEGRAL COOPERATIVE

## PUBLICATIONS, 2020

# CATALAN INTEGRAL COOPERATIVE

## SCIENCE FICTION ECONOMICS LAB PAPER

Economics, as we know it currently, has changed from a place to imagine new and better worlds to a discipline which re-enforces and improves itself in a single model. Much “blue sky” economic thinking is now done in strange contexts.

Science fiction is one of them. Another one is local communities who attempt to reboot their economies in more humane and long-term resilient ways. The Science Fiction Economics Lab papers track down and investigate examples of systemic innovation or radical rethinking of the current economic model.

This paper and the activities through which its contents have been developed are funded by EIT Climate-KIC and organised by Edgeryders as a project under the umbrella of the Science Fiction Economics Lab.

# CONTENTS

Acknowledgements	56
Introduction, by Alberto Cottica	58
A CLOSER LOOK	62
HISTORY AND ORGANISATION	66
A CONVERSATION	71
THE WEBINAR	85
Contributors to this publication	96
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# INTRODUCTION

**ALBERTO COTTICA**

1. <https://p2pfoundation.net/wp-content/uploads/2017/10/The-Catalan-Integral-Cooperative.pdf>  
The Catalan Integral Cooperative, an organizational study of a postcapitalist cooperative, George Dafermos, a joint publication between the P2P Foundation and Robin Hood Coop, October 2017

I have recently come across an excellent report<sup>1</sup> by George Dafermos on Cooperativa Integral Catalana (Catalan Integral Cooperative, henceforth CIC). It is not a single organisation, rather a set of interconnected cooperatives, working closely together.

The model the report outlines is so different from run-of-the-mill late-stage capitalism that it might as well be describing some alien planet in a work of science fiction. I just want to note what seem to be the highlights of their economic model:

- **Very militant attitude.** Its one-time charismatic leader, Enric Duran, came to the fore for tricking Spanish banks into lending him half a million euro which he promptly gave away to various anti-globalization activist projects, in a kind of Robin Hood gesture. In 2013 he had to go underground to avoid prison. It does not seem, however, that this money was directly used to capitalise CIC
- **Legal organisation.** CIC has spawned a series of companies that provide infrastructure for people's businesses and projects, act as legal vehicles for about 600 people to issue invoices. This is, to the people in question, cheaper than setting themselves up as independent workers under the Spanish system. They do pay a fee to these companies.
- **CIC itself has no legal status.** Despite this, it is very much real: a set of committees, which meet weekly, run the show. Committee members are paid – they call their monies “basic income”.
- **Decentralized by design.** CIC is constantly spawning new cooperatives that initially rely on CIC's support to get by. The successful ones, like Calafou have become fully autonomous.
- **Two currencies.** CIC operates both in EUR and in ECO, Catalonia's local currency. There

is also a system of mutual credit, which is similar to PayCoupons, though not as sophisticated.

- **Real estate excess capacity.** Many of the central features in CIC's economic landscape have developed around the availability of cheap buildings (AureaSocial, Som Pujarnol) or even entire villages (Calafou). Physical spaces appear to be like bioreactors for innovative social dynamics and business models.
- **Focus on public/common goods.** CIC puts a lot of effort in making things that then can serve as an enabling platform for whatever the people in it might want to do. They have companies as a legal shell for freelance work, two-sided markets for labor and products, a logistic system for food products, a cooperative for mutual and self-financing, a science and technology networks, and some real-estate based projects.
- **Dyson sphere.** The system of small businesses surrounding CIC attempts to "capture" all the revenue that might come from the outside of the system. For example, suppose I had a client asking me to organize a workshop on network science. As I do that, I am going to try to send some business the way of other people in the system. Perhaps my client needs a venue: does anyone in the CIC space have one? What about the catering service? Etc.

2. <http://www.fdcmessina.org/>

The list above is interesting, because we in the Sci-Fi Economics Lab have seen some of its items before. Decentralised design, focus on community needs, Dyson sphere are also part of the model in Messina's social district<sup>2</sup>. Edgeryders itself also works on public and common goods in a fashion limited to software and knowledge so far. We are also exploring the legal frameworks to benefit our community members, though not nearly as successful as CIC.

I hope that, as we continue the exploration of alternative economies, a convergence will emerge. By this I mean a *set of strategies that several initiatives have independently hit upon, and work reasonably well under a variety of circumstances*. These might be some of the building blocks for the new economic systems we are longing for.

# A CLOSER LOOK

The Catalan Integral Cooperative is an inter-locked ecosystem of production, distribution and consumption activities, most of them organised as cooperatives. It operates under heterodox economic theories, and follows practices so alien as to qualify as almost - alien economy on Earth. We could define it almost like an alternative country within a country.

The first questions that came to mind approaching this unique organisation in its own genre, were how do they manage to operate their two currencies and their real estate excess capacity? Is there anything specifically Catalan in this segment and could that be replicable? How does the legal organisation provide infrastructure for people's businesses and projects? How does the self-financing of an organisation with no legal status work? Is there a general strategy like in the Messina case or the CIC serves as a support nexus for members' projects?

Joining us in a conversation that started on the Edgeryders platform, then proceeded with an interview and lead to the Science Fiction Economics Lab webinar dedicated to the Catalan Integral Cooperative, Joel Morist from CIC's Communications Committee introduced the cooperative like this:

*"You could see C.I.C as a reality of applied sciences and as a prospective or futurism applied (foresight applied) in panarchy or polyarchy parallel to the state, which at the same time means an attempt to create an independent horizontal network in Catalonia. [...] A paradise of happiness for everyone to discover and bring to your own reality and country.*

3. <https://fair-coin.org/en/join-freedom-coop>

4. <https://bankofthecommons.coop/ca/>

5. <http://bardina.org/>

*The platforms you can join and participate are Freedom Coop<sup>3</sup> (all EU) and Bank of the Commons<sup>4</sup> (worldwide), while at the Centre of studies Joan Bardina<sup>5</sup> you can see a lot of what inspired us in the first place.*

*We can say that Catalan Integral Cooperative is a place where engineers became farmers, academics distribute food in local networks, scientific scepticism is brought to the government. Based on the idea that the individuals know best what they need and act in the network to achieve it, we make checklists on how to make the world better and then we do it."*

”

In Joel's words, "an "integral cooperative" is a tool to build a counter-power from the base, starting from self-management, self-organisation and direct democracy. It allows the transition from the current state of dependence on the structure of the system towards a scenario of freedom with full awareness, freedom from authority where everyone can start developing

from equal conditions and opportunities. It is a constructive proposal of disobedience and generalised self-management to rebuild society from below (in all areas and in an integral way) and to recover emotions, proximity and trust-based human relationships.”

From the ideological point of view, among the goals and principles that inspire the project, Joel highlighted the will for social transformation into a system which privileges the interest in the common good, self realisation and mutual help, equity and social justice, equality in diversity, compromise and self-criticism, sharing of experience.

In one segment the CIC ideas recall socialist principles, with everyone contributing according to their possibilities and receiving according to his necessities. In other segments, they are combined into a more utopian idea of currency used along with non-monetary forms of exchange, only as a measure of the exchange without the possibility of accumulation or direct economic relations between producers and consumers where the Cooperative acts as a regulator. The Eco (the cooperative’s currency) is not convertible and no type of interest is accepted on its loan.

Politically, echoing the Catalan anarchist legacy, the principles are those of direct, deliberative and participatory democracy based on transparency, self-management and decentralisation. There is no mention of the division of the society in classes, the ecological principles lean towards

permacultures, degrowth and sustainability. While we may say that the theoretical bases may appear sometimes contradictory, the most fascinating aspects of this economical and social cooperative experiment are its incredible vitality, its organisational energy and the capacity to develop and execute practical (and often brilliant) solutions, along with the passion of its members.

Rather than revolutionaries, the members of the Catalan Integral Cooperative are a crowd of smart people who have dedicated themselves into building a better and more appropriate living situation for themselves, which is open to whoever would like to enter and share its principles. They did this producing non conventional, often ingenious solutions based on the flaws and loopholes of the capitalistic economy in which their own framework, while recognising and opposing its non ethical components, is deeply rooted. Certainly, a ten years experience is a short time frame and the resilience of the CIC will have to endure other challenges. That said, what needs to be underlined is the fact that the Catalan Integral Cooperative is today, more than ten years after its foundation, a vital and functioning attempt to “hack capitalism from within” using the loopholes it contains.

# HISTORY AND ORGANISATION

Founded by an assembly of activists in Catalonia in May of 2010, the Catalan Integral Cooperative is a self defined anti-capitalist platform developing cooperative structures in the Catalan economy. Relying on the system where basic needs like food and health care are not considered commodities but social goods available to everyone, CIC is committed to the principles of the Commons, Open Cooperativism and P2P. This makes it almost a prototype of a new generation of co-ops connecting the Commons and cooperative movements.

Politically rooted in the ideas of “integral revolution”, its position is that a radical transformation of all facets of social and economic life is necessary because a truly collaborative economy can only develop if commons-based.

It started in one of many antagonist reactions born in the wake of the 2007 crisis and has seen its peculiar protagonist in Enric Duran, a Catalan hacktivist who tricked Spanish banks to obtain the loans for half a million Euro without the slightest intention of giving them back, invested them into activist projects and went public with his story<sup>6</sup>.

6. On the Lam with Bank Robber Enric Duran, by Nathan Schneider, Vice, April 2015

7. The version in Spanish is available here [17M\\_CAST.indd \(cooperativa.cat\)](#)

8. <http://fair.coop>

After the exploit, with a small group of partners he started working on the “integral cooperativism” project. They published its principles and operating platform in 2009 and distributed it through a newspaper<sup>7</sup> in the whole of Spain. The call resonated with Catalan activists and with the strong Catalan tradition of self-organisation and autonomy and led to the founding of the CIC. Because of his legal problems, Duran left Spain in 2013 and soon after started a similar project named FairCoop<sup>8</sup>.

With the headquarters in its central Barcelona space AureaSocial, Catalan Integral Cooperative continued its life with the system of the committees as its organisational frame, its own tools and IT systems, a social currency Eco, a territorial and economic network of several thousand associates and its Autonomous projects of collective initiative (PAICs) which include a Cooperative of Social and Network Self-financing (CASX), a “post-capitalistic colony” (Calafou), the eco-village of Som Puyarnol and a “collectivised machines” production lab MACus.

The organisation in the committees is perhaps the best representation of the CIC philosophy because it encloses some of its most important principles, such as active participation, open cooperation, solidarity for social transformation, direct relationship between practical action and its theory.

**The Coordination Committee** manages the internal organisation and coordinates the work of its committees and working groups. It has three

main members and two collaborators - a facilitator and a psychologist which speaks volumes of its approach.

**The Reception Committee** provides guidance and advice for the new CIC members.

**The Communication Committee** takes care of CIC's public relations and works on a proactive principle enabling any member of the cooperative to produce promotional material without the necessary direct involvement of the committee's core members.

**The IT Committee** takes care of the IT infrastructure which includes a self developed accounting software. All the developed tools are free/open source.

**The Common Spaces Committee** is in charge of shared physical spaces.

**The Productive Projects Committee** manages the 'self-employment' of the members, the exchange of knowledge and skills and runs CIC's jobs portal Feina Cooperativa<sup>9</sup> and the Mercat Cooperatiu<sup>10</sup>, the online directory of the projects which accept ECOs in exchange for their products and services.

**The Economic Management Committee:** CIC has two main sources of expenses: the "basic income" received by the members of its committees and the funding it provides for affiliated projects. According to Dafermos' report, the

members' fees (minimum of €75 every three months) account for about 50% of CIC's income, while the remaining 50% comes from the tax refunds received by the cooperative for every invoice self-employed members make through CIC mechanisms. An added yet variable income is represented by the donations from sympathizers.

**The Legal Committee** provides legal assistance for the members. One of the basic working methods of the legal committee, composed of a lawyer team based in AureaSocial is empowering its clients and helping them understand the legal process and the technicalities involved in their cases. We have already seen such an approach in the Messina social housing project<sup>11</sup>. The legal fees can be paid by the clients both in Eco and Euro.

**The Catalan Supply Centre or CAC (Central d'Abastiment Catalana)** was formed in 2012 and serves as a logistics network for the transportation and delivery of the products of cooperative's members. Imagined as a public service of vans, it connects various "rebosts", CIC's pantries present in all of Catalonia. Network of Science, Technique and Technology or XCITT (Xarxa de Ciència, Tècnica i Tecnologia), develops tools and machines adapted to the needs of the cooperative network. Its science lab and its workshops are based in Can Fugarolas.

11. <http://www.fdcmessina.org/index.php/2018/06/20/dalle-baraccopoli-ad-una-casa-propria-anche-grazie-al-supporto-di-banca-etica-e-fondazione-di-comunita-di-messina/>

9. <http://feina.cooperativa.cat>

10. <http://mercat.cooperativa.cat>



12. <http://xctit.replicat.net>

13. <https://www.canfugarolas.org>

**Network of Science, Technique and Technology or XCITT<sup>12</sup>** (Xarxa de Ciència, Tècnica i Tecnologia), develops tools and machines adapted to the needs of the cooperative network. Its science lab and its workshops are based in Can Fugarolas<sup>13</sup>.

**Interview with Alberto Cottica and Joel Morist, published on Edgeryders platform<sup>14</sup> on 8 October 2020**

14. <https://edgeryders.eu/t/the-catalan-integral-cooperative-interview-with-joel/14553>

# A CONVERSATION

## THE FUTURE IS OURS TO HACK

The Catalan Integral Cooperative project: Alberto and Joel talked about motivations for their alternative approaches to economy and the potential for a joint event as part of the summit (second after the Messina event). Joel has studied cinematography to become a filmmaker. He topped it up with history and anthropology “to make better movies through understanding what the world needs”. From the year 2000 he explored alternatives to capitalism with his film projects in South America. After the economic crisis in 2007 he joined Enric Duran, activist and author around whom many others gathered, offering support for his team. In 2010 the the Catalan Integral Cooperative was founded.

In his own words CIC: *“encourages and promotes social networking for everyone towards everything capable of satisfying the needs of the local community, politically, economically, culturally.”*

### Gaetano:

*"It functions progressively disconnecting from centralised state and capitalism and gathers engineers who became farmers, academics distributing food in local networks and so on. It is the scientific scepticism that governs through consensus in a system where the individuals know best what they need, they talk to each other and together select the means to improve their lives, surroundings and whatsoever, and then actually apply them in practice."*

### Alberto:

I am really interested in the details and practical hacks. When we look at different utopian principles, the goals are often similar. What makes it or breaks it is the ability to use a piece of the old system in the new. You need to build a system of the future while being compatible with the present.

I am curious about how you do these things. Therefore I will ask some fairly practical questions as I think that is what people are hungry for:

Is the P2P Foundation report<sup>15</sup> on the CIC a good source?

### Yoel:

Yes, it is a good source.

15. <https://p2pfoundation.net/wp-content/uploads/2017/10/The-Catalan-Integral-Cooperative.pdf>  
 The Catalan Integral Cooperative, an organizational study of a postcapitalist cooperative, George Dafermos, a joint publication between the P2P Foundation and Robin Hood Coop, October 2017

### Alberto:

You seem to be exceptionally good enabling people to do "their thing". You have organisations that act as infrastructure for people's businesses and ideas, so that they can for example invoice. How do you make this work? People who barely can afford to run their own project/organisation seem not to have the ability to pay their costs. There are examples of cooperatives doing that, for example in Belgium where people are registered and "employees" of the cooperative. You seem to be able to make that less expensive and more efficient. How do you do that?

To gather people, we offer them a platform for sharing. There is a little fee of around 50-100€ every three months instead of the usual 300€. It is very expensive to be self-employed in Catalonia.

Here, a special cooperatives law, which has been changed in the meantime, created a possibility of the volunteer work in cooperatives. The general idea was that if you were a farmer, an actor, craftsman, etc. in a cooperative, your "voluntary work" would have been remunerated through the gift economy, which is quite difficult in reality. People must be paid in some other way still, they need to be able to buy gas, etc. This argument between us and the State was tremendously hard on us. The State saw us exclusively as a business, which was only a very small part of what we were doing. We were also promoting social eco-networks, local governance and created something that is still standing. We are rich

with nature and culture, but we have to live in a society of scarcity because of the centralised money and interest system.

You wanted a technical example: We had maybe 500 people, but we had thousands of associates. Many of us had expenses but not the income, so the economists of the cooperative balanced the incomes with the expenses and that way we had to report less to the state.

#### **Alberto:**

So this system was based on the specific law in Spain about volunteer workers?

#### **Joel:**

That was only law in Catalonia. I actually think that it was written and left there intentionally for us to discover.

#### **Alberto:**

You say this movement is connected to an older movement of progressives who were involved in writing/inspiring this type of legislature in the 1980's?

#### **Joel:**

Yes, we have contacts to many people in their seventies now, researchers and famous intellectuals, Bardina, Chalaux, revolutionary priests as Xirinacs, that made big findings about banking and money. For example, Leander Bindewald

in his PhD thesis researching across many countries, discovered that there is no definition proving the existence of money in constitutions, laws...

Including David Graeber RIP.

#### **Alberto:**

But Graeber, as influential as he might have been, could not influence writing laws in Catalonia in the 70's.

Joel: Sure, but he has influenced political parties risen following the ideas of some of these people. We have contacts with these lawmakers and parties.

#### **Alberto:**

Is your model more successful because you have some people to talk to in the parliament? (on your side)

#### **Joel:**

Our, really distant, connections in the parliament are now working on a small version of basic income and Covid-19 is one of the main reasons for it. Maybe in 5 years it will get somewhere. For sure, we must move from here, we can not continue in the next centuries as we have.

### Alberto:

You used a quirk / feature of the Catalonian law that you think was put there on purpose, you see a red thread from anarchists and progressives in Catalonian history. This is quite unique. Let's move on: New initiatives are constantly born around CIC and some of them become independent. That is something we have been trying to do in Edgeryders as well. Not yet very successfully and I will tell you more about that if you want, but for now I would like to know: How does it work? Do people come to you and suggest it?

### Joel:

Both ways, sometimes craftsmen come to us and tell us what they do/need and see how they can help and help themselves on the networks. We are promoting all of this through social networks. The motto is: "Stop using the central currency - come to our cooperative and use social currency".

Some people in the political party CUP were promoting similar initiatives and even people in some of our networks connected.

From 2016 we are decentralising our activity. We are now building "cooperative shelters". Once they are strong enough in an area, they disconnect from the central area. Now some of them are totally independent cooperative projects. For example, a baker with 5 people and a few rooms for rent. They might still use the same

cooperative system but they are disconnected from the central one now. We are not sure how all of them are doing now.

Alberto: Let me ask you about this idea of Making the world in your image and creative freedom . We have been able to help some people close to us to start a software development company. Edgeryders would be the first client of that company. The idea is that if we needed something done, it would be done as between friends. If you want to start something, you can take the "Edgeryders hat" to get started and then you can develop on from that. We have not been very successful in doing that yet, but you seem to have been very successful, how did you do that?

### Joel:

In terms of computer stuff, we were really successful because we started with hack labs with some great people. It was interesting to work with them and many have joined and got involved because of that (as some developing retro share). The people were not interested in starting their own companies, but living independent from state and capitalism. We wanted to live. Even so, I worked 10-15 hours a day without recognising it for 5 years. I lived in a sci-fi universe and enjoyed it. We jumped 1000 years from 1999 to 3000, we had lunch with the best organic food in the gift economy without touching a dime. We have films and culture in a sci-fi environment. We occupied the place through juridical practices. Its name is Aurea Social.

### Alberto:

There seem to be buildings “up for grabs”. How does that work?

### Joel:

Low budget rents, squatting, legal squatting, etc. There are also rich supporters who front/donate money to build up eco villages and houses like these. The black sheep of the richest families in the world, you know, who also see that the way humanity lives now is wrong. But we could live like in heaven! I witnessed it 24/7 in these places. The pleasure of explaining it. Paradise can exist. I have seen it for five years. The future, the present and everything, they are ours to hack! No need to sacrifice yourself for that. If you want, you could come and live with us. Maybe like that, we would live after the singularity.

### Alberto:

The CIC starts with the critique of money. Can you explain more?

What thoughts about the nature of money inspired what choices in the development of CIC? It seems that you embraced an existing alternative currency that already existed in Catalonia, What happened there? Did you find it?

### Joel:

We used different types of economy and currency:

- Gift economy (“I don’t want to be your consumer I want to be your friend” principle)
- Barter
- Social currency - Eco
- An ethical cryptocurrency - Faircoin
- A non ethical cryptocurrency - Bitcoin
- Euro

We use the existing platform as a Community Exchange System (CES) and have created others.

Other examples: We had engineers making amazing fuel cells, but we were not able to register the patent as the engineers would not want to run the risk.

We rented a house in a beautiful village for very little in exchange for fixing little bits, they are renting now for 10 people for 600 euro. For Calafou a friend put 200.000€ down to enable that, without hoping to get it back. Aurea Social was squatted through legal manoeuvres. From 2015 they have been saying: “it’s the last few months”, but it is still going on. We made a country inside a country. Now go to the EU, now go to the World Bank. Now it is the time due to Covid-19! Let’s create universal income! We should base it on Switzerland’s experience and after a few months of splendour, people will adopt. Humans are the only ones paying rent on this planet. We are all servants of a stupid centralised system. They say it push-

es people to work, but people want to work! It does not even help the richest, no one is happy. Nobody would like to rob you if everyone was wealthy. How does it work in Switzerland? They won't have a crisis since they still use their own social currency as WIR. The planet could be happy by Christmas. You might work 17 hours a day or none, but you would be happy.

#### **Alberto:**

As we wait for this wise decision to be implemented I would like to ask you a question: How do you work across the ECO and Euro? Which of your transactions work how?

#### **Joel:**

For example, I was paid 450 € and 150 in Social Currency, but I changed to 200 in Social Currency and 400 in €. I had the best apartment in Barcelona near Sagrada Familia, great holiday places to go with my family. But quite often I had preferred to stay in Barcelona and work. Or "labour" rather than work, as work comes from enslavement, labour is what enriches and develops you.

#### **Alberto:**

There is part of that CASX relies on, isn't it?

#### **Joel:**

CASX is a bank, credit without interests, on fiat money and social currency. They did not rise

very high. And by the way, they still have 40 € from me from a while ago, but I do not mind, I see it as a contribution.

In our case, there was a proposal to account for everything, but in the process to do that we were losing ourselves and our motivation. People lost their passion through that. Not all the accounting was unnecessary, but it matters less in gift economies.

#### **Alberto:**

How does a unit of Social Currency rate to a unit of Euro?

#### **Joel:**

It is independent, but can be used as 1 to 1 for pricing products and services. Despite that, we don't change social currency for euros. The weight of the Social Currency in the networks can vary from 100% to a minimum of 10-20%. We wanted to have a 20% Social Currency minimum. I increased it for me to 30%. Some people reduced the amount of Euro to very low amounts because they did not need it.

When it was necessary we squatted houses. Never from people, but from the "evil banks" (those which were part of the crisis). This way we did not have to pay for flats. There is energy, telephone, cooperative Internet ... if you use that, you do not need Euros.

Catalonia attracts computer people because it has an internet cooperative which works as intranet on the scale of a country (Guifi).

#### Alberto:

What is your connection to Guifi?

#### Joel:

Some of us were among its founders. Enric Duran, who founded the CIC and many other initiatives since early 2000's, convinced his father to buy infrastructure in Barcelona to make free Internet for the people and many other projects

#### Alberto:

How would you instruct a poor person in another country how to do this?

#### Joel:

First, make yourself famous. Then, show your commitment.

You have to enter in contact with intellectuals, writers, economists, jurists and lawyers, academics and journalists who sound a little bit on the similar lines and here you go. You already have 5000 people in the Edgeryders network.

#### Alberto:

6000

#### Joel:

6001 with me. It is very interesting to me. Show commitment.

Look for juridical advice in the country you are in, look for the gaps that the big companies use to enrich themselves. Instead of filling our pockets, give it back to the people.

In Sweden, they renew, revamp the hospitals' tech every 2 years for example. The leftovers can be reused to start new collectivised health centres. This is how we did it in education, we started a school and many other projects.

All these things involve people. You provide a place for them. Where, for example, one can come and prepare for school, where homeschool children can meet. People will come and ask: "why is it free, how does it work?" and you will ask them "What do you do?" They say for example: "I am a graphic designer", you will ask: "Do you have a hobby?" - "Baking cookies" - "Bring some!"

Over some time you will have local beer, or self-made toothpaste or things like that in social currency.

Last year it was Greta Thunberg talking about climate change. What I think is why don't we raise a campaign for changing the basic economic system, the world's monetary system? For example, 3 thousand Swiss Francs as basic income worldwide. Not 500 to cover rent etc. - everyone

should be free of sorrow! Human warmth and sociality is possible with that. I could accept to start with 700 € first raising it over the next years so that by 2030 every adult over 18 years gets 3000 €. Not for children, because people might try to get children for money.

**Alberto:**

Thank you very much. I will contact you again after thinking about all of this.

# THE WEBINAR

**Transcript from the webinar on the strange economy of the Catalan Integral Cooperative – 3 November 2020**

**Host: Nadia El-Imam, Edgeryders**

**On the Stage: Joel Morist, member of the Communication Committee of Catalan Integral Cooperative, Alberto Cottica, Science Fiction Economics Lab**

Founded 10 years ago, Catalan Integral Cooperative, in the words of Joel Morist of its Communications Committee, is “a model of panarchy or polyanarchy that enabled thousands of people across the region and the world to live in a different way. Dual currencies, building new networks and the culture of the Catalanian people are some of the reasons why it worked so well.”

## ESCAPING A CENTRALIZED ECONOMIC APPROACH

**Joel posed a question:**

“with panarchy, or poly anarchy, you don’t have to move to join a new system, you can govern yourself in different ways, from where you live. In the past people associated communism with Russia and capitalism with the US, but why not in the same country, could we have different ways that every citizen voluntarily aggregates this kind of government?”

**Alberto:**

“In which direction would you go to adopt this model?”

**Joel:**

“First: Building networks. Second: Putting brains behind the operation and third, using the consensus lead approach.”

## BUILDING NETWORKS

**Practical example:** The cooperative had 3000 associates but the collective was producing things that were distributed to markets and shops and possibly reached tens of thousands of people - some not even fully realising the existence of the network.”

**Alberto:**

“The CIC actually didn’t try to replace the state but acted as a separate structure: studying the CIC, what strikes you first is that it is the opposite of a monolith. Many things, small things there, are connected to each other in a web by way of relationship, trade, economics trade, ownership, financial, ideology etc. Instead of scale it has depth.”

## THE BRAINS BEHIND THE OPERATION

Joel explained that Enric Duran, activist and author, together with Dídac Sanchez-Costa, was the major person behind the project and many people were attracted to his ideas: “It was an experiment and practice. (We said) let’s not waste much time thinking or discussing, but let’s do it once we have a discussion.”

## CONSENSUS LEAD APPROACH

“We have known that everything before has failed...” - Joel said. From the outset he explained that the group decided they wanted decisions to be made upon consensus rather than voting majorities.

**Alberto:**

“What does it look like to live with the Catalan Cooperative?”

**Joel:**

“In villages, towns and the city of Barcelona, for me the feeling was deep happiness, because

you are not isolated as a little community where you always see the same people. Part of the physical spaces of the CIC, where twice a month we had general meetings are in Barcelona, but the meetings of the Cooperative are also held where it is present, in the north, east and west.

That was three days a month and felt like a holiday weekend. We had our concert at night and good food almost for free at very cheap prices with social currency. For example 2 eco for a meal. It could be the equivalent of 2 euro and you would be eating the most wonderful ecological food.

The feeling was that of freedom and we connected much more. Our surroundings came (to feel) like a general family. It felt like a tribe a little. It felt like something else. We were meeting to talk about our reality and friendship but at the same time it felt like there was friendship."

## THE SOCIAL CURRENCY

### Alberto:

"Can you tell me more about the concept of dual currency?"

### Joel: "

1. The dual currency enables freedom.
2. The ownership of goods feels different than when you buy with currency. It chang-

es the way you think about money. So you can say to someone 'I cannot give you something immediately'. It happened in Mesopotamia (where it's believed the world's first civilisation emerged).

Dual currency allows you to withstand economic shock.

In a crisis there is no money flow but everyone has the same needs and the same capabilities of production as the day before- why does that happen? Because we are waiting for the bank, for private banking.

This is cyclical, and I have read many economists who tell you clearly this is artificially manipulated. So if we have a counter cyclical currency, when they remove the money from the market we can use that. We don't need to have one, we can have several because one way of (using) money could be a social currency - we have fantastic tools like this community exchange system (CES) created in South Africa by some. There are other ways of money in economies - it could be gift economies, exchange or cryptocurrencies. We are already decentralising when we moved to Bitcoin."

As Joel explained, within the CIC, other forms of currency are used: gift economy, barter, Eco - the social currency, an ethical (Faircoin) and one non ethical (Bitcoin) cryptocurrency, Euro;

*"They have found it very useful because when you spend echoes you can save euros. ... with echoes it's a 20 - 30% level of acceptance. For me, I found*

*it gave me a lot of freedom. Others felt like they were punished because they felt like they had to use their Eco,” Joel said and continued: “The best is to do everything and use all the economies at the same time, gift barter exchange, Eco, Euro, Fair coins and even Bitcoins.*

*Bitcoin and Euro are very good for community economies, for example, we want to make a new building, we want to buy things from the market, decapitalise them and sell them in Eco inside our core networks”*

”

### Alberto:

“Is it comparable to Sardex, which is used in Sardinia? It is backed by the Euro, so one equals a Euro but even if you use it for business, you can only spend it locally. So what they are trying to do is increase the local dimension and keep the money in the local economy. Tax to the central government prevents businesses from fully adopting Sardex.”

An intervention from the public pointed out that Liberex currency, based on a similar principle as Sardex, is used in another Italy’s region, the Emilia-Romagna.

Where do we go from here?

### Joel:

“We should not try to replicate exactly what the CIC did, because the experience, the economic experience is a live thing, but we should gather and find, what and how people would like to live. It has to be spread to the world and it has to be shared.”

During the discussion and on the platform some of these questions emerged:

Are there elements of indigenous societies that can give inspiration to other panarchy models? How do you incorporate modern healthcare into a society like this, when you approach big problems from a local lens?

What is Joel’s opinion on the concept of universal basic income (UBI)?

Regarding the example of Swedish healthcare that reorganises its hospital equipment periodically and that this equipment should and could be reused in another situation, thom\_stewart on the platform commented that: “the argument seemed to be that modern high capital intensive healthcare was incompatible with these models.

Three points:

- One being that the vast majority of healthcare isn’t acute - it’s community / social care. Equal care coop and Buurtzorg are interesting examples.

- The second point would be that tech advance means what used to require a hospital can now be briefcase-or-backpack. Hackers here could provide details better than I.
- The third would be the negative externality analysis - I can't find the study but it's on the health damage done by various 'high tech' solutions, eg drug production causing cancers elsewhere, that exceed the gains.

Basically I think we've a psychological and economic focus on acute tech medical, but it's grossly inefficient at a population level - at best, induced demand - less charitably."

**johncoate** answered:

*"I think I agree with this analysis. I do support emphasis on prevention, community health/wellbeing, social care, diet, environment, and not overdoing what medical help is given if it is not really needed. From my perspective, this should save resources for when the high-end medical help is really needed. I say this as someone who has hardly ever needed medical attention in my life, but I would not be here today had it not been for a very high tech cure in 2016 for a tumor that certainly would have killed me."*

”

In a precedent occasion Joel commented on a question how does CIC experience a universal basic income and would social currency still exist with a sufficient UBI:

*"I am not an economist to be able to answer this 100% sure. But for resilience, I would always recommend economic and money diversification. Not only fiat and social currency, but also exchange and gift economies, individual and collective. For a world transition, I guess, first we would need a change in the world's monetary system. And then provide the UBI worldwide. At the level of the country that gives the highest, i.e. Switzerland, about 3000€ per adult. Same time: Promote networked societies, for resilience and ecology.*

*Vegetable garden at home, production and exchange points, once a week at very local level. There could be good, as banks of time, to use money without interests. At higher levels and collectively we could use ethical cryptos as Faircoin. And even in higher levels, as cities, large districts, big communities, Bitcoin and fiat. For big entrepreneurs as urban building, land buying... But at a large scale of time, some could substitute the others.*

*If we get the UBI, perhaps the fiat currency (changed in it's morphology or not) perhaps will prevail. With time. And with or without some other changes in fiat money and or in social currencies, could bring the extinction of money. Towards unmonetized societies. Also the UBI could be based in "social currency". Or that change in morphology of the world's monetary system, could imply getting close to what social currency is.*

*All options are plausible lines, and optionally they  
could meet and live together one with the other.  
[...]"*

”

The event was organised by Edgeryders' Science Fiction Economics Lab with the support of EIT Climate-KIC as part of our work to extend the space of economic models that are conceivable and deployable to build a successful, fair civilization, while preserving the planet's ecological balance.

# CONTRIBUTORS TO THIS PUBLICATION

## FEATURED PARTICIPANTS



### Joel Morist

a filmmaker who studied sociology and anthropology and who tried for twenty years to find alternatives to capitalism. Moving from Spain to South America and coming back in 2007 when the crisis was almost at its peak, he contacted the author of a book that interested him and they decided to fix up an old house to provide a place to work together. They took part in the foundation of Catalan Integral Cooperative, an organisation which acts as infrastructure for people's businesses and ideas. A community where, in his own words: "everything is possible".



### Alberto Cottica

Head of Science Fiction Economics Lab. Economist and network scientist, expert on online collaboration, collective intelligence, and participatory, networked organization. Worked with governments and IGOs in various capacities; now entrepreneuring at Edgeryders; civic hacking with Wikitalia and Spaghetti Open Data. In the past a reasonably successful rock musician (Wikipedia), but he is trying to quit.



### Nadia El-Imam

One of the founders and directors of Edgeryders. Leads the strategic development for Edgeryders Environment and the Climate unit and was born in Sweden to African parents, raised in Europe and Asia. She is an engineer and designer and specialises in building platforms for citizen engagement and distributed collaboration.



# THE WORLDBUILDING ACADEMY

**PUBLICATIONS, 2020**

# THE WORLDBUILDING ACADEMY

## SCIENCE FICTION ECONOMICS LAB PAPER

Economics, as we know it currently, has changed from a place to imagine new and better worlds to a discipline which re-enforces and improves itself in a single model. Much “blue sky” economic thinking is now done in strange contexts.

Science fiction is one of them. Another one is local communities who attempt to reboot their economies in more humane and long-term resilient ways. The Science Fiction Economics Lab papers track down and investigate examples of systemic innovation or radical rethinking of the current economic model.

# CONTENTS

<b>Acknowledgements</b> _____	104	<b>THE DISCUSSION</b> _____	130
<b>Introduction</b> , by Alberto Cottica _____	108	Technology, climate, relationships _____	130
<b>THE WEBINAR</b> _____	112	What alternative currencies/currency-rules do you think should be experimented? _____	142
What, who, why, when, where? _____	112	<b>A CONCEPT NOTE</b> _____	150
The floating city _____	114	Overview, by Yudhanjaya Wijeratne _____	150
Ideas and histories of a fictional society _____	116	The Five Distrikts Major _____	153
The cultural iceberg _____	118	The Distrikts Minor _____	157
What does all of this look like in detail? _____	120	The Fullists, the Futilists _____	157
Questions and Discussions _____	121	The Migrant Train _____	159
On boundaries and constraints _____	121	Worldbuilding academy 2020. A graphic novel _____	179
Science fiction needs robust economic thinking _____	122	<b>Contributors to this publication</b> _____	190
How do you plan the building of a fictional world? _____	123		
Science fiction as a vector for ideas _____	125		
The future of economics? _____	126		

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# INTRODUCTION

ALBERTO COTTICA

A while back, we at the Sci-Fi Economics Lab had a new idea: instead of writing academic papers, we could channel out-of-the box economic thinking around building a fictional world, to serve as the backdrop for works of science fiction or fantasy. In retrospect, it seems obvious: after all, this space exists because a small patrol of economically inclined sci-fi authors invested a lot of time and brainpower into dreaming up exotic economic systems. But we added a couple of extra ideas to that original insight.

First, we decided to build the world in a participatory way. We want anyone to be free to contribute ideas, analysis, references, visuals, and so on.

Would technologies of great power (like Star Trek's replicators) be compatible with a market economy as we know, based on scarcity? How would slower-than-light interstellar trade work?

1. Paul Krugman, *The Theory of the Interstellar Trade*, 1978, <https://www.princeton.edu/~pkrugman/interstellar.pdf>

2. <https://www.poll-maker.com/poll1009893x-a10948B5-42>

3. For an explanation of the Hives in *Terra Ignota*, see: Ada Palmer, *Writing a Future in Which You Choose Your Own Nation*, Tor.com 2017

<https://www.tor.com/2017/03/13/writing-a-future-in-which-you-choose-your-own-nation/>

(Nobel laureate Paul Krugman actually worked that one out!) How can Harry Potter's Wizarding world use precious metal as a currency, given that wizards can simply magick out more of it and cause hyperinflation? No matter how smart, an individual author can not keep track of all the possible variables and their permutations. So, we are going to do that as a community. It just makes sense.

There are already over 150 people posting on the Science Fiction Economics Lab forum, many of us professional economists. We are licensing the world with an open source license: you can use it for your novel, film or game, and no lawyer will ever come calling if you make it big.

Second, we decided we want a world that contains several economic systems, not just one. Again, this is an old trick in sci-fi: Anarres and Urras in Ursula K. Le Guin *The Dispossessed*, the Hives in Ada Palmer's *Terra Ignota*, the Acquis and the Dispensation in Bruce Sterling's *The Caryatids*, and so on. This plurality creates a nice narrative tension, as characters can move across places and experience different economies. Also, readers tend to start thinking which economic system they would choose, if they were free to do so. For example, this poll<sup>2</sup> about "which *Terra Ignota* Hive would you choose" is popular on the Internet<sup>3</sup>.

But participatory projects work best if someone makes an initial investment in them. Participating in filling an empty space can be intimidating, or simply not that much fun. So, third, we decided to offer a writers' residency to

4. Edgeryders' Writers Residency <https://edgeryders.eu/t/writers-residency-come-lead-the-worldbuilding-academy/14502>
5. <https://edgeryders.eu/t/an-innovative-social-investment-model-in-messina-sicily/9451>
6. <https://yudhanjaya.com/>
7. <https://edgeryders.eu/t/econ-sf-a-selection-of-works-and-authors/8582>

**Messina**, where the writers residency is planned is a place where many cultures meet to create unexpected new combinations. Such is the phenomenon of *fata-morgana* that takes its name from the tale of *Fata Morgana*, or *Fée Morgane* - *Morgan Le Fay*, from the Arthurian cycle brought here by Normans. According to the legend, *Morgana*, whose

someone to lead the charge. The residency<sup>4</sup> is generously funded by *Fondazione di Comunità di Messina*, the people with one of the weirdest, most fascinating real-life economic models<sup>5</sup> we have found so far. Among the applications who flowed in, many stood out; but in the end, the strongest one came from *Yudhanjaya Wijeratne*<sup>6</sup>, a *Nebula*-nominated author from *Sri Lanka* and a member of our community. His novel *Numbercaste* has been on our wiki of economic sci-fi<sup>7</sup> since the beginning.



*Yudhanjaya* pointed out that, in order to bring the world to a level of maturity where contributing to it is fun and interesting, a small team is better than one person. So, fourth, we decided to create one. The other team members are *Joriam Ramos*<sup>8</sup>, a *Brazilian* author and designer affiliated to *Enspiral*<sup>9</sup>; *Michela De Domenico*<sup>10</sup> and *Marco Lo Curzio*<sup>11</sup>, *Italian* architects and illustrators; and yours truly, as

castle was on the banks of the straight, arose from the waters to create a vision and help *Norman* count *Ruggero* claim the island.

8. <https://joriamramoscv.webflow.io/>
9. <https://www.enspiral.com/>
10. <https://unime.academia.edu/MichelaDomenico>
- 11 <http://www.accademiadicatania.com/docenti/MarcoLoCurzio>.
12. The call, upon the participants consent, was recorded for research purposes.

the resident economist. If you want to volunteer for the core group, just let me know with a comment or a DM.

This group has the task to prepare, and pre-populate an online space where we all can contribute to build an open source. We organised a webinar which held *Monday, 7 December*<sup>12</sup>, where we presented our concept and initial thoughts, and sought feedback from the community.

# THE WEBINAR

Transcripts from  
the webinar of  
The Worldbuilding  
Academy – 7  
December 2020

Hosts: Nadia  
El-Imam, Maria  
Euler Kling,  
Edgeryders

Presentations:  
Yudhanjaya  
Wijeratne,  
science fiction  
author; Joriam  
Ramos, Enspiral  
catalyst; Alberto  
Cottica, Science  
Fiction Economics  
Lab

## WHAT, WHO, WHY, WHEN, WHERE?

**Nadia:**

“The Worldbuilding Academy is a process of imagining alternative worlds and building the economics that make them possible. There is the storytelling part, the technical part and there is a platform where the storytellers, the economists and the scientists look if what was built is feasible.

We are doing this because we are stuck in a transition to a different future, in a place between what is no more and what is not yet. With the impending climate crisis, who are we going to be in this future? What is it going to look like? How will it work? How will it be plausible? How will we get there from where we are? Shall we be able to step out of our own limitations as individuals into a collective thinking about where we could be and what we could do?

The organisers are **Edgeryders**, an online community which interacts through an open online platform. It’s also a not-for-profit company that

runs the research Institute and does on-location experiments based on online conversations and insights. The partners are **Fondazione di Comunità di Messina**, a fascinating case study of an alien economy that already exists and **Blivande**, a creative space in Stockholm.

The project is funded by **EIT Climate-KIC** and **Nordisk Kulturfund** will join us in 2021.

The core team consists of Yudhanjaya Wijeratne, the writer, Joriam Ramos, the network specialist and Alberto Cottica, our resident economist. They have been laying the grounds for the basic infrastructure for this project.”

**Yudhanjaya:**

“As Nadia said, I am a science fiction writer. I live in Colombo, Sri Lanka.

Being a writer means making up lies, putting them down on paper and getting paid for it, a fantastic thing. But when I’m not in the business of professionally lying to people, I work in policy as a data scientist, sort of massaging things towards a future. And I tend to write new fiction, 2030s-2040s kind of stuff.

I would like to introduce you to the project.

## THE FLOATING CITY

The process started with a conversation on the Science Fiction Economics Lab forum about the possibility to build an honor society where probability theory and risk mitigation are built into the religion itself and what sort of world might that generate. But let us go step by step.

First there was a concept note of a project called Extremistan, with the idea of a floating city that could potentially support multiple districts and where each district had its own unique social contract.

At their core are the systems we have seen before, for which the economic theories are well established. We know, for example, what a hyper capitalistic, very chaotic, unregulated world might look like. We have seen the examples of religion based societies and their economies. Around this will come the experiments. We will release the structure of the world and people will be allowed to build up the cities and bring in new ideas, see what clashes would happen with these existing models of thought and truly radical changes happening at the agent.

There would be the process of bringing these ideas to the center.

A funny thing happened. The concept note immediately started morphing. In a couple of rounds through the forum, it mutated into a wiki that contains the history of this fictional

island. It developed further, hints of architecture appeared. The hints of a history. In a short time span, books started to be written, entirely fictional, and became the meta narrative of this history itself.

It starts out now as an experiment in P.M. Scanlon's contractualism. That then goes wrong. And then the set floor begins to partition itself into future societies.

There are some ground rules. One, for example, that the floating city can exist.

In this construct it is not really important to know whether something this large can float properly, but it is very important to see the system is isolated from the rest of the world, or that the system has all the energy it needs. What kind of society is going to be constructed on top of that?

The collaborative nature of this is now on the backend, but people come in with all sorts of incredible ideas. One example is a beautiful solarpunk option that has now been woven into history.

## IDEAS AND HISTORIES OF A FICTIONAL SOCIETY

There are conversations about how economics work in areas where nobody is going to enforce contracts. How have they historically worked? How has trade worked? How have, how would people function in a reputation driven society? And there's for example, Joriam coming in and saying, well, can we rearrange the structure of this?

Can we have energy generation in the middle? Can we have other cities coming in from our own and connecting potentially, and the way the cities connect would also lead to very interesting conflicts at the boundaries. The influx of new ideas coming in, represented by these new cities, joining the infrastructure and going on shows us we have a system that works. And we can support as many systems of thinking as we want.

I would say it is going faster than expected. So by **January 31st**, you should be able to access a wiki full of ideas and histories of this fictional society, where you are invited to enter and contribute with your ideas and proposals. But even before that, as the purpose of this call, we'd like you to get involved.

World-building is something that every science fiction and fantasy writer does in his own way.

Some people I know, work on characters first. They complete the characters and then, driven from the characters, comes the world.

There are people like me who prefer to have the world in place. Then we find the characters and the conflicts are just generated by it. Personally, I prefer to work from a historical perspective. Once you finish writing the history of things, people emerge from it. That is a top-down structure.

It is up to you how and what you approach this with. Here is what we are looking for: First, ask yourself, what is the truth of this world. When you think of contributing, when you're thinking about the kind of societies that you want to see here, think about the defining characteristic of your world, about what makes it special and truly stands out.

I'll give you an anecdote.

I live in Sri Lanka. We have free and universal education and healthcare. This is standard here, we would not think of taking away healthcare from people. The first time I went to the US, I realised the cost of healthcare there. It was a massive shock. This was the defining characteristic of that particular country for me, this system where if you are at a particular socioeconomic level or below, you're basically going to get scalped. So think about what the truth of your world is, and that comes from your perspective that comes from your experiences.

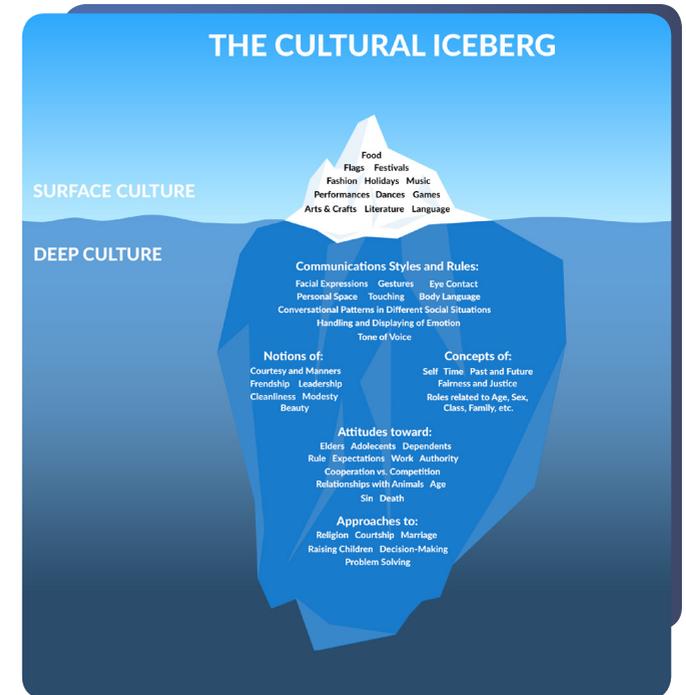
## THE CULTURAL ICEBERG

Then let's break this down a little bit more. Imagine we were building a Star Trek-like society, where resources are not a problem. You can have all the food you want but all of human society now runs around reputation. There is an infinite amount of snacks from the replicator but there is a limited number of captain's chairs. Reputation is a new currency here. Now, once you've established that, think how would this world present itself.

The concept of the cultural iceberg is something that a lot of authors use, particularly those involved in big fantasy, some branches of space opera and science fiction, where one of the defining characteristics is rich and detailed societies where people can really get themselves into. At the top of the iceberg are the things the reader interacts with such as food, flags, festivals, fashion, holidays, literature, language. Underneath that, supporting it, are the rules and the systems on which this world is built on. Concepts of self and past, what justice and fairness mean. Attitudes towards elders and adolescence and towards death, possibly. What does courtesy look like? What do manners look like? How do people handle personal space? Current economics - what does this look like?

With the project Witness we are building the bottom of the iceberg through the lens of the wikis where people can dive into and get in. What we would like you to do, once you have established the truth of your world, is to think

about the bottom of the elsewhere, because these are things that you can communicate, share, write down, spark imagination.



Cultural adjustment,  
University of Alberta

<https://www.ualberta.ca/media-library/ualberta/faculties-and-programs/international/iss/images/cultureicebergfull.png>

This is an open innovation. While we have some stuff in the background cooking, we would love to listen to your ideas on what a floating utopia city can be to you."

## WHAT DOES ALL OF THIS LOOK LIKE IN DETAIL?

### Joriam:

"I am a writer myself, but I also happen to be a network specialist. For me, the critical mass in this room is the most important outcome of this phase. All of you here are here for the same reason. There was an invitation, you got it. And you decided to dedicate your time to be here together. Now I would like you to get to know you rather than talking to this team.

For this reason we have organised the breakout rooms with a main question: What alternative currencies or currency rules do you think should be experimented?

The breakout rooms will not be recorded. Make a short introduction, present yourselves and discuss the origins of currency and today's age of cryptocurrencies and the lively debate around them.

We will continue the discussion here and through the posts on the Edgeryders platform."

## QUESTIONS AND DISCUSSIONS ON BOUNDARIES AND CONSTRAINTS

### Yudhanjaya:

"Let us run through some points again: there is a concept of a floating city with rich history behind it. This history is deliberately structured to start splitting at a certain point where others can plug in. There is the concept of the migrant train and the idea of a single central system that constantly uses behavioral big data to monitor people's changes in social contracts and people's morals and attitudes towards certain topics. Whenever someone doesn't seem to fit there is the migrant train to a district that is more in alignment with what they expect from the world. And in some parts, in some cities that were coming up with this is completely disabled. You go there and after that, you're responsible for walking out.

There is a history of being built off the other districts as well. Beyond that anything can come in

respecting the following general aesthetic constraints: it is human centric, and based on human interaction. Robots, cyborgs, yes. Dragons, giant dragons, aliens, possibly no.

It is meant to be anchored to a future where many of the problems that we have today have been exacerbated. Climate change for example, or the uneven distribution of infrastructures. All these things have impacted the world and these massive mega cities, are really a response to some of these problems.”

#### Joriam:

“We are building one city, something concrete for the people who are not interested in building the base of our iceberg. But nothing stops anybody from building other cities and structures that are not cities in this world. We just want to make sure that there is enough there for all sorts of audiences.

## SCIENCE FICTION NEEDS ROBUST ECONOMIC THINKING

#### Alberto:

“An important constraint here is the logical consistency. We are imagining an open architecture of districts and sub-districts and so on. One is free to imagine of course, but in practice, the districts will be standing next to each other. So

you have to figure out the kind of equilibrium in which they would exist with the other districts. This mirrors closely the problem we have in our world where if you want to build a different economic system, you have to build it in the present economic system.

If the system that you want to build is incompatible with the current one, it will die and it will never happen. So those of us who are into imagining widely different arrangements for our societies and economies will need to solve two problems at once. Not just one. We need to design a system that works and that we like, and it needs to be able to go from here to there.”

## HOW DO YOU PLAN THE BUILDING OF A FICTIONAL WORLD?

#### Yudhanjaya:

“The core team is me, Joriam, Nadia, Hugi, Ivan and Alberto. Pretty much everyone that you see here. Our first goal was to set up this call. We had a few districts in mind. We brainstormed them over, took some features out, added some features in, then decided that seemed interesting enough that we could plunk it down there. The structure is made in a way that you can have anything, any other city coming in if you can imagine it. You can have it plugging into the fictional infrastructure already there. For example, one of the most recent contributors to this

project, proposed the parallel city of Avantgrid. A beautiful solarpunk moment which will hopefully plug into this infrastructure and become a historical event. We have actually already added that to the history. The city exists now and potentially it can start having interactions with other cities. But, maybe they don't like each other. Maybe they have massive problems with them or the migrant train coming in."

#### Alberto:

"The declared goal is to have the wiki which, I imagine, will never be finished, like the Marvel wiki or the star Trek wiki, or the Star Wars wiki. One can always add another edit or some more nuance and imagine a cool building to build in the middle of the district.

**The real goal, however, is to expand our ability to think about different economic systems and to put some of this ability into the hands of the people who are running the green transition.** The green transition is a thing. I think we as a civilization are underestimating the amount of mess that it will cause, starting in Europe immediately. A lot of public money is flowing down pipelines that were not built for that much money. These pipelines risk rupture and a lot of mess could happen. Mostly bad, but we also think of some opportunities in which new seeds could grow.

So if we could place some interesting ideas in the field of vision of the people that are trying to make the green transition happen, we could

have some surprises. The important thing is that although this has the print of an art project, its consistency has the ambition to feed into a participatory policy project."

## SCIENCE FICTION AS A VECTOR FOR IDEAS

#### Yudhanjaya:

"This is a vector for ideas. Take a look at the concepts that we today take for granted. A lot of them originated in science fiction. Science fiction has often not been a very good predictive tool but it has been an inspiration for people who operated in reality. For example, the Apple engineer behind iTunes is quite often being quoted saying he took the idea from Star Trek. Edward Bellamy in the 1820s wrote about this future where people use little strips of metal for their payments, prefiguring credit cards and supermarkets. They would just swipe them in the large stores that contained everything.

The smartphones, the watches in the seventies, were not necessarily predictive works of fiction, but product engineers at some point have looked at these ideas and chosen to take them. So think of it as a vector for injecting ideas. It may work.

## THE FUTURE OF ECONOMICS?

### Maria:

“A couple of questions from the audience: Would it be correct to say that ideas should in some way be based in a plausible economic theory? Does it rule out some systems?”

### Alberto:

“No, absolutely not. Today we tend to think of economics only as neoclassical economics, the standard model we see applied. We do not need to imagine a world based on that. I mean, we are looking at it and there’s nothing much to be gained.

However, economics has a long history. The Wealth of Nations is from 1780. Before that, the physiocrats were already active in the 17th century. There is plenty of inspiration, models and schemes that you can deploy and you can absolutely build more.

First, consistency is important. We want ideas with reasonable intellectual integrity, not just attempts to pull things out of the air, because they look cool. I mean, we do that too, but then we shoot it down and we kind of trim it to a point where it feels alive.

How the narrative looks is powerful. If the word feels cartoonish as much of the utopian liter-

ature in the fifties or sixties, it will be just bad literature. It is very difficult to imagine a captivating story in a world that feels fake, let alone the economic principles.

Our work should feel real. That is what the iceberg is about. On the other hand, economics is now also moving into many different directions, physicists, network scientists moved in. Today economics orthodoxy is cornered and in my opinion it will go extinct within 30, 40 years. It will be completely blown away. There is Taleb<sup>13</sup>, Ole Peters<sup>14</sup>, the cultural evolution theory guys. There is so much interesting science in economics, because it is about allocation of resources in human societies. It doesn’t come from university departments of economics, but we don’t care about that.”

### Yudhanjaya:

“As an author I continuously follow the new publications. Often the new things are something we have seen in the sixties, the seventies, the eighties, Because generally people agree on what a nice world would look like.

I worked on an experiment by looking for the word utopia on Twitter, downloading 70,000 tweets that mentioned it and classifying them by the kind of world it represented. One of the things we found out was that everybody agrees people should have equal starting points, access to good things. The writing done without a consistent thought behind it tends to inevitably converge on the same.

13. <https://nassimtaleb.org/>

14. <http://tuvalu.santafe.edu/~ole/>

As Alberto said, at the edges of sciences the boundaries are being broken. Even coming from literature, it's absolutely fantastic to see linguistic analysis go up, observe all these strange and interesting new ideas that you can take and grab and actually construct a world around."

#### Zoe:

"I don't think worldbuilding should be limited by existing theories. I say this as an economist, but it should be limited by things like incentive compatibility and our understanding of human behavior."

#### Yudhanjaya:

"Precisely to the point. There is the issue of how much something needs to be grounded in political realities. In an expanding narrative, getting from A to Z becomes ever more complex."

#### Joriam:

"For the world of the 18th century, today's economy would look extremely science fiction. Just the existence of the internet as a technology would look like some crazy talk. How much human behavior changed, how different the exploitation of the resources on this planet is, is there a possibility to grasp the tendencies which today are shaping our tomorrow and give them a systematic overview? This is more or less the sort of flavor we're trying to capture here."

#### Hugi:

"In conclusion, a lot of the questions are about the same thing. How much is open-ended and how much is already going to be structured. In my opinion the clever thing about the setup is that we are imagining one city, which is a single city with a few districts that we really flesh out. When the wiki comes out in January the mechanisms will be in place for you to come in and form your own district. Through them it will be explained how this world works. Very open ended, but with clear boundaries around it."

# THE DISCUSSION

## AN ETHNOGRAPHY OF UTOPIA

15. <https://edgeryders.eu/how-to-build-a-world-a-webinar-with-the-worldbuilding-academy-core-team/14773/135>

In preparation of the webinar a discussion was open on Science Fiction Economics Lab forum<sup>15</sup> with a simple question: “What is your idea for building the world?” During the webinar, another question was added: “What alternative currencies/currency-rules you think should be experimented?”

These are the excerpts taken from a rich selection of contributions.

## TECHNOLOGY, CLIMATE, RELATIONSHIPS

### Idiazuin:

“[...] open to ideas that merge technology and fantasy, since any technology advanced enough looks like magic in Clarke’s view. [...] Semiotics, visual arts, philosophy, anthropology, and sociology can inspire the adapting of theoretical concepts into the construction of scenarios [...]. Branched narratives with a gamified approach

[...] customized paths rather than just sticking to linear storie

### EricLKlein:

“Some of the questions to answer: how do common people live / work? How do the policies affect economic life? What is the climate / seasons? How do they affect daily life (holidays, planting seasons, etc.)?”

### atelli:

“I think and hope that this would be a never ending process, a work-in-progress that offers a platform for imaginative action. I would also like to see connection to other worlds worlding (as in writings of E.E.Cummings and the incredible Le Guin) as well as a transitional cosmos that is inviting for diverse communities. The common values and the raison d’être (grounding manifesto) would also be significant assets. All need discussion, sketching, visualization, action and in instances unlearning to learn by practice.”  
 MaxCunin: “Refining social constructs. Most of the current challenges are practically/technically solvable. The question is the stories that govern behaviours are flawed (economy, law, politics, etc)

### FrankDieters:

“It would be nice to have embedded conflicts between the different systems as no system can exist without its (seemingly) opposite”

### maiki:

"I would like to tackle the issue of communication. How do you resolve conflicts, ensure contracts are observed, enforce the rule of law (and who's law) when communications takes months or years (no FTL) OR if FTL is possible - and how could communication work in such a scenario (tunneling of a dimension, quantum entanglement, you name it)"

### LeonardoWild:

"Money is a tool, and just as there are different shapes, forms, functions for tools depending on the task to be performed, monetary systems can be designed to perform better in specific situations or economic context [...] Rather than saying which monetary system is best, the idea is to create a Monetary Taxonomy."

### Wythe:

"Include in your world-building plans for gardens, recipes, and events for sharing meals. Food provides a powerful lens for reinforcing or changing beliefs about society and culture"  
 Verena: "Focus on events/trends that enabled radical change of individual and social behaviour [...] What is planned, what is emergent in this change? Are drivers internal (desire) or external (pressure, crisis,...) to the societies in change? How did different societal groups react (oppose, support, challenge, steer,...) to change? [...]"

### Konrad:

"Build strong communities based on authentic relating and co-creation, build a business where the central idea is a work day with working working hours 8 to 13"

### Olivia-Khan-Do-It:

"What about a world with some aspects of the one from Brave New World. Hedonism, pleasure and indulgence is a central part of life. But the yin to this yan is self control and minimalism with restraint and focus. Allowing people to explore economies at both ends of the extreme and allowing them to compare the lifestyles. In my utopia people can find their middle ground this way. Nip in and out of each. Being allowed to enjoy themselves and the world and simultaneously work and create. I think having the balance that suits each individual is freeing and productive"

### johncoate:

"Minimize nationalism. Pandemics and the climate know no borders. Prevent winner-take-all outcomes."

### aamhar:

"I'm most interested in the models and cultures of R+D in this world. What's going on with new or alternate processes of knowledge production? What's the relationship with fundamental research and these new economies"

### **John-Paul:**

“think backwards from a Future Space, upon the conditions I am now in. To speculate Utopia and think backwards from that, to conceptualize what I can activate in the present to make that happen”

### **Joer:**

“Test ideas from the philosophical literature on economic democracy. E.g., all affected by a decision should have a say in it”

### **Alessandro:**

“More than the present, I have thought a lot more about the history of a potential future-world I've been personally working on. That aspect is very important to me to build a credible setting”

### **DavidShelton:**

“Transform government by creating an authentic relationship with citizens”

### **BertillaV:**

“Embracing a Solarpunk mindset in every aspect of our lives, changing the world step by step, from the bottom up”

### **Philip:**

“[...] an economy in which everyone partakes

of the value of their labor, and so has incentive to produce, but in which everyone has an income simply because they are members of that society. [...] Social Credit Theory, initiated by C.H.Douglas in the 1920s, used by Robert Heinlein in his first, never published until 2003, 1939 novel “For Us, The Living”. [...] Henry George’s 1879 idea in “Progress and Poverty” worked into science fiction in 1895 by S. Byron Welcome: “From Earth’s Center: A Polar Gateway Message.” The land with the patrimony of the nation, not of individuals, who can only extract value from it by virtue of their labor [...] Pierre-Joseph Proudhon’s 1840 book “What is Property?": labor-based theory of value where property cannot be “owned” permanently

### **nathanmiller:**

“I’d like to see a cultural timeline from near our world to the possible world we’ll be creating.”

### **fjanns:**

“A central concept is to make money obsolete by dissolving it in information (as complete as possible). A complementary concept is to use special types of contracts to be compatible with any monetary system.”

### **AlexAlmeida:**

“[...] an economic system based on long term consequences instead of short term transactions. It’d need to take into account achievements and contributions, reputation and some

hindsight redrawing. In such a society, they'd probably focus more on big projects, like a focused international effort in space exploration, and/or an effort for sustainable exploration of resources, possibly even with a societal effort to normalize units, currency and law, as to reduce costs of transaction."

#### **brooks:**

"[...] I want to get behind the idea that any sufficiently advanced economic system is indistinguishable from ecology, and any sufficiently advanced agent in that system is a subject with its own experiences and viewpoints."

jackpark: "Look for ways to engage in structured ways along the lines of e.g. WoW (quests, guilds) but with quests as issue maps (tree-structured conversations); Consider AI/NLP augmentation at the backside level."

#### **FINOkoye:**

"Abolish the state and enable highly networked localised distributist enclaves"

#### **gceh22:**

"[...] economic information systems that might supplement or replace price systems for coordination and allocation, as well as open strategic indicative planning. Models in the real world are OGAS and Cybersyn"

#### **Bill:**

"Provide a foundational infrastructure for all and reward those who go above and beyond in any efforts that benefit humanity"

#### **jakejackson451:**

"self-sustaining technology for habitable ecosystems, the methods of which can be used on other exoplanets in planetary regions with stars similar to our own. Also keen to develop this in co-operation with the entire human race, as one people sharing and renewing resources, ideas and knowledge"

#### **AlastairBall:**

"different domains based on different political/philosophical ideas and you have the freedom to live in the domain that suits your personal outlook. This is different from our world, where you must live under the political/philosophical views of your government and you have little choice in this"

#### **Ollxor:**

"Add some elements of sociopathy, see what plays out, and how it can be dealt with or not"  
 bengansky: "one of the 'tricks' to successful worldbuilding is to determine what about 'the old world' sticks around—as ruins, legacies, stock-piles. In what ways does the 'old stuff' (both material and ideological) get repurposed, and how does incumbent resistance to change shape the possibilities for novel action"

### J12t:

“the traditional Kibbutz model. I have no first-hand experience, and most kibbutzim seem to have moved off that model in recent years, but it seems to have been stable and quite functional for many decades. Something to be learned here IMHO”

### matthias:

“Solarpunk “Robinson economics” won’t be self-sufficient on the household level [...] if we want modern comforts; at the household level, the best we could get would be the very simple tools you could find in a farm in the hinterlands of Nepal. So in my proposed system, [...] there are these levels, each with more autarky but less mobility than the previous, and each made of multiple instances of the previous level of equipment and organization, and then some more on top: L1 (infrastructure), L2 (individual), L3 (household), L4 (village or commune), L5 (shipstead), L6 (floating city)”

### steph:

“In a solarpunk future, we can imagine that economy and trade could happen primarily at a localised scale, instead of being heavily reliant globalised supply chains. However, despite its history of exploitation, global trade was also responsible for the mixing of cultures and exchange of ideas—enabling the (eventual) acceptance of diversity”

### Rainer:

“combine/link this great project of collective writing of science fiction stories with researching 10 to 15 real stories like the one of Messina where people in real life are experiencing new paradigms and alternative ways of organizing. It could also cross fertilize the collective inspiration”

### zplakias:

“I am interested to explore possible future food systems that depart from the ultra low-tech/ ultra high-tech binary that seem to characterize many existing future food system visions”  
 Rootstock: “full and constant awareness of the interdependence and interpenetration of all things and all beings. Likewise, design the ‘direction of awareness’ for the participants to maintain a dynamic balance between the ‘Arc of Possibilities and Potential’ that is always represented by the horizon, as well as the ‘Wheels’ of existence (cycles, hierarchies, mechanics, materiality, knowledge, biological requirements, rule sets etc)”

### Beatriz:

“social and economic organization that contemplates its gradual reduction and the problems that it implies. During a period of time, the population piramide will have a narrow base and a large top, and that will change little by little. We have to think of infrastructures that will serve to

respond to the needs of people and guarantee their rights during this transition. Ideally, these infrastructures will be easily transformed once they have accomplished their function”

#### **flaviagoma:**

“Global collective intelligence + gift economy”  
 Sal: “modelling of future consequences of growth-based capitalism, versus new (i.e. previously impossible or otherwise unattempted) forms of socialist economic systems aided by current technologies”

#### **Graceleopoli:**

“Considering the grounded process of becoming, and cultural production of knowledge rooted in decolonial, queer and posthuman convergence”

#### **hubert\_brychzchynsky:**

“a world where personal identification systems are not viable anymore, and the effects it would have on the economy”

#### **filipnystrom:**

“a world where conflict can become a positive force instead of something to avoid, and where difference is not rhetorically and politically circumvented. A political and economical system that creates potentialities for subjectivities to meet in their actual strangeness, and see what would bloom from the friction in between”

#### **sheila:**

“S.C. Mullooly’s World-building Strategy: Translanguaging, or operating between/across languages, as a form of freedom from monolingual restraint as well as a means of resisting monolingual bias”

#### **GiulioNRC:**

“Informal settlements around a major city have been attracting displaced and disenfranchised communities for decades. Used to a dynamic and constantly shifting economic reality, they have become increasingly reliant on digital tools and gig economy roles on the internet, as smartphones became more universally accessible.

Following several pandemics started with the Covid-19 and become more frequent and brutal due to climate change, tourism, leisure and commerce industries have almost disappeared, city centres are now emptying out due to unemployment and office buildings are almost deserted. Suddenly, work from home is the new normal, and the previously marginalised communities become the engine of a new economic system”

#### **Mehdi:**

“A new monetary policy not based on debt but on local issues (environment, social, ...). New technologies widely shared and free will support what will be future infrastructure. Ending the current form of modern working contract”

### JasonCole:

“the technology to create an advanced civilization is radically networked and distributed. If we can make solar power generators and storage simply and cheaply anywhere in the world, can ferment a huge range of chemicals and foods, and 3D print advanced designs”

## WHAT ALTERNATIVE CURRENCIES/CURRENCY OR RULES DO YOU THINK SHOULD BE EXPERIMENTED?

### lidiazuin:

“a society with universal basic services granted to people, so people would have their basic needs covered and actually have more agency to choose what they want. This idea is based on Aaron Bastani’s concept of Fully Automated Luxury Communism”

### EricLKlein:

“[...] The scope will change based on how large a group interaction that is desired. Also, past economies started as barter and then were moved to a “rare” material used to exchange for items that had previously been bartered. This is not possible when rare on one world is not rare on another”

### J12t:

“That depends on the choice of social and economic organization you are assuming. For example, inside a Kibbutz, I don’t need a currency. At least not an interchangeable one. Nor do I inside a family. And if one possible future is that long-distance transportation becomes rare (one possible consequence of limited fossil fuels) then “global” or widely used currency are sort of mostly pointless”

### zplakias:

“Our group discussed the possibilities of things like gift economies and the challenges of scaling up these kinds of systems. In addition, we discussed the importance of social contracts. However, social contracts are not necessarily shared across cultures or worlds (in a multi-world setting). We discussed the challenges of distributing power. I think some kind of cooperative management of currencies would help to maintain a more equitable distribution of power. But I think path dependency also matters. Changing from current systems is different from starting with a clean slate. It would be interesting to explore both. Cooperative management would be easier for a society with no memory than moving from current system”

### hubert\_brychzchynsky:

“a technocratic, academic-driven society that would convert academic citation index into cur-

rency. The higher citation index someone would have, the more currency. However, if one spent some of this currency, more could be generated only by increasing one's index. So you could have a very high index and still remain poor, if you were a big spender. Plagiarism would be tantamount to forgery. There would be a black market of people who would write academic papers for those who would not be able to do it on their own"

#### YukiNoSaru:

"A couple of themes that came up in our break-out chat:

- Privacy and the importance of freedom - a feeling of being trapped by our e.g. credit card footprint etc. On the flipside, traceability important for transparency of financing and in the other direction, where things have come from.
- What happened to trust? If you don't trust you have to control. Formal currency is a way of formalising trust on one hand (albeit centrally controlled), but on the other transactions led to transactional behaviour - I do this, so you own me that.
- Physical cash benefits from accessibility - this is very key.

Some other loose thoughts

- Could imagine a 2-tier world where block-

chain becomes standardised - but ta black market in physical currency evolves as a backlash"

#### stepht:

"barter-trade systems that used skills as a currency, and the idea of creating localised commons for resources, there the "currency" or the transaction would be somewhat similar to a library loan"

#### FrankDieters:

"The amount of autonomy you turn over gives you credits, you can use to purchase goods and services. In other words, the more you let yourself being "controlled" and hand-over data/privacy/ etc. the more you are allowed to benefit "free services and goods" and you have credits to purchase "add-ons""

#### iouxo:

"challenger banks!"

#### Philip:

"My room-mate and I talked about what money is. There is fiat money and there is commodity money. Gold & silver are the common examples of commodity money, but they are terrible examples. The vast majority of people throughout history never saw a gold coin in their lives - most never saw silver either. They mostly traded among friends and family as described in the

Sociologist Marcel Mauss' 1925 book "Essai sur le don" about the Gift economy [...] with people you know and interact with daily, gifts determine the balance of exchange between you and others. But if you are trading with someone you don't know, you would use barter (my knife and bow for your woman), or domestic animals (chickens, sheep & goats, cows, camels) or grains. Both animals and grains are what should be called "commodity money".

You can make combinations based on [...] "Dunbar's number", which has been proposed as the approximate number of people in early bands of hunter-gatherers in the Paleolithic society, and seems to be the number of people one can know and get along with well, from studies of interactions on Facebook, then you could use a "gift economy" inside the group, organize it as a separate governing entity with every set of about 150 people being self-organizing and more or less anarchistic, but interacting with others on an occasional basis, then maybe a couple of people in the group could act as "traders" who use a kind of universal trading currency (call it "credits") and a central overarching bank that keeps track (corruption at the bank would be a problem to be solved).

Another might be to use data. [...] blockchain technology would keep track of transactions – this would enable a non-governmentally controlled currency.

[...] what "the Machines do, in the Isaac Asimov short story "The Inevitable Conflict". [...] posi-

tronic brains developed to such a state of perfection that they run the global economy, telling companies what to produce, where to sell it, and on and on, for the optimization of the well-being of humankind.[...] a complex barter economy where all is perfectly"

### Yudhanjaya:

"In the Warhammer fantasy world, among a lot of creatures, there are Orcs, traditionally considered as an evil tribe. They use their teeth as currency. The teeth of course decay in time so you cannot stockpile the currency in that system. But Orcs have incredible regeneration, their teeth grow back within weeks from removing them. So you can never have a poor orc because naturally it'll regenerate whatever you spent, but there's also a cap on the spending and there's an ultimate cap on the amount of money that you can accumulate and thus the amount of power that you can accumulate within that system."

### Nadia:

"How about exploring the concept of Spam economics<sup>16</sup>? I am curious about how this is like this never ending resource. It is like this bottomless pit of words."

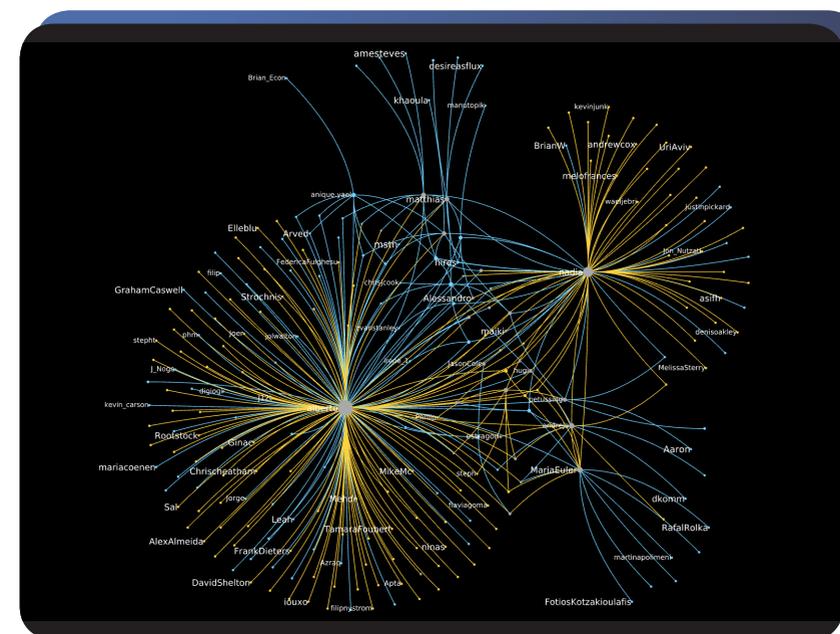
### Yudhanjaya:

"You have just brought up an interesting point about the economics of language. Could words be turned into a form of currency? Imagine if some words had sales power, if you could only

16. <https://www.aeaweb.org/>

use said word if you paid X, and if you use some other word, you would get currency out of that. And you can form like a society of social contracts that if you promise something or if you want something to be true, you pay for the truth of that with language”

## SEMANTIC SOCIAL NETWORK VISUALISATION OF THE CONVERSATIONS ON SCIENCE FICTION ECONOMICS LAB FORUM



153 Contributors took part in the initial process of the Worldbuilding Academy. They created 295 contributions on 11 topics for 27 thousand words. 244 contributors took part in the work of Science Fiction Economics Lab with 388 interactions and 1,355 posts containing 190 thousand words.

# WITNESS: A CONCEPT NOTE

## OVERVIEW

**YUDHANJAYA WIJERATNE**

17. <https://undark.org/2019/10/07/floating-lab-future-climate-change/>

Witness is a floating city based on the UN float-lab design<sup>17</sup>. The name is a riff off Taleb. World hardness is between a 3 and 4 on Mohs scale of science fiction hardness<sup>18</sup>. This looseness serves to:

18. <https://tvtropes.org/pmwiki/pmwiki.php/Main/>

- Make it easier for multiple authors to postulate ideal conditions under which a theoretical economic system or society may flourish, without having to run into conflicts over materials sciences and fundamental engineering problems.
- Allow a more extensible universe that ages less (truly hard science fiction stories age extremely rapidly and, unless Clarke-level expertise is brought to bear, are generally bad at predicting social patterns).
- Allow the UN's float-lab design to actually work, in the same way that some handwavium is required to make generation ships realistic.

Extremistan is one of a set of cities floating on the sea, occasionally coming into contact with landmasses (reason: isolation; experimental society). Its energy source is assumed to be enough to run its infrastructure without major interruptions, but it appears to be partially ravaged by climate change. At the very center is a Tower of Babel that broadcasts white noise outside its borders so as to prevent communications from coming into or out of the city.



SciFi economics lab Climate-KIC

19. <https://slate.com/technology/2020/09/state-machine-yudhanjaya-wijeratne.html>

A State Machine similar to the one depicted in this story<sup>19</sup>- which uses behavioral big data to infer the morals and attitudes of a society towards its body of laws, and thus continuously updates the Constitution, thus creating a near perfect responsive democracy has, by consent, turned

20. <https://plato.stanford.edu/entries/contractualism/>

Extremistan into a ground-up experiment in T.M. Scanlon's Contractualism<sup>20</sup>: a morality, and thus a social structure, where rational autonomous agents agree to make binding agreements from a point of view that respects each other's moral importance.

Unfortunately, this has completely failed, and the reason that the State Machine gives is that humans are not rational agents. As a result of this failure (called Breakpoint or the Zero-Day Fracture in the city's history), the State Machine has partitioned the city into Distrikts, with each Distrikt implementing a social contract that fits a large echo chamber. Running through each Distrikt is the Migrant Train. People whose morals and attitudes do not align with that of the majority in their Distrikt are asked to leave and are recommended a Distrikt that will fit their lives better.

21. Note from the editor: The name Extremistan has been abandoned early in the project

Extremistan<sup>21</sup> has Five Distrikts Major and numerous Distrikts Minor.

## THE FIVE DISTRIKTS MAJOR



MICHELLE DE DOMENICO  
 SciFi Economics Lab Climate-KIC

1. **Libria**: ultra-libertarian state, closer to the French libertine. Individuals have great power, and society is an analogue of Renaissance Italy+France taken forward. A well-paid Government and Aristocrat class is in constant flux, elected among those the public recognizes as being of extraordinary merit. The assizes (travelling courts) are relied on for upholding law and making judgement in situations where Coasian bargaining has failed; it is impossible to hide the effects of gross power imbalances between people.



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**2. Terminus:** Classical Roman-Greek-style republic where the hero is voted on every four years from a public social media poll. Sees themselves as the superior civilization among all those “less enlightened”. Believers of choice, one man, one vote, like to think of itself as a pure meritocracy, and an extremely capitalist society; the Market and the Common Vote are basically their god. Despite being pretty hard-hit by climate change, almost everything is matter of short-term commercial interest and long-term political power plays.

**3. The Covenant:** Abrahamic religious fusion where there are clear different sects but some consensus on God and a Pope-like leader who appoints a Champion blessed and anointed by God. Usually a female who confirms her vows with a line lifted from Joan d’ Arc: “Asked if she knew she was in God’s grace, she answered, ‘If I am not, may God put me there; and if I am, may God so keep me.’” Strict low-

grade xenophobia and insistence on purity, but in a hypocritical way; they will often fraternize with others as if to maintain a charade of token acceptance. Also a kind of razorback Southern American politeness, good Samaritanism towards their own kind, and a certain if-god-wills attitude to life. Education is almost completely controlled by churches, as was in missionary societies.

**4. The Assembly:** an implementation of communism, with a specific role for a tamed Trotskyite “permanent revolution”. Personal property exists; private property does not. A version of the State Machine allocates work and essentials according to the requirements of everyone, with a class of Administrators (who cannot vote) Workers (who can vote on decisions and) and Revolutionaries (who are charged with constantly being on the lookout for power imbalances and the emergence of a bourgeois. Citizens are rotated between the three classes; every citizen must, in their time, perform all three functions.



SciFi economics lab Climate-KIC

**5. Medium:** cosmopolitan, collectivist core that maintains the State Machine, with programmers putting up 'policy' and being voted in by the public. Welfare State where people are largely apathetic and there's a long running sense of weariness with the world, and they go about the drudge work that keeps everyone fed. Outliers are punished or removed from public view, both on low and high ends; the ideal life is the average life, and outliers threaten satisfaction with the average. A wrapper AI called Kautilya, written around the State Machine, churns out a half-nonsensical mythology calculated to make citizens feel as if they have 'purpose' – lifted from Sri Lankan myth. Citizens are given "precepts" to follow that are some neo-buddhist kumbaya combined with some socially-reinforced hierarchies that sound innocuous. People are expected to stick to 'optimality'. The nail that sticks out gets hammered. Often slandered as "Mediocristan" by the others.

Nevertheless, Medium forms the melting pot city connecting these different Distrikts Major and Minor. A strong but minority political effort is the Contractualists, who are trying to incorporate all the other utopias to merge society back into the 'functional democracy' that existed before the famous Zero-Day Fracture and rioting that made the State Machine split society apart.

## THE DISTRIKTS MINOR

The Distrikts Minor are the real testbeds. Smaller than the Districts Major, but with a train connection to Medium, they are a constant series of A/B tests being conducted by a State Machine desperately searching for a new form of social contract. As such, Distrikts Minor are constantly being created, reshuffled and deleted, providing both a trickle of new ideas into the mainstream (a play on the general nature and acceptance of new economic theories) as well as ripe space for new stories and ideas on the edge.

## THE FULLISTS, THE FUTILISTS

Every society has its fair share of Fullists and Futilists, who generally embody the following two extreme attitudes towards change:

In 2020, Marc Andreessen, who should need no introduction, weighed in with characteristic optimism:

We virtually never resist technology change that provides us with better products and services even when it costs jobs. Nor should we. This is how we build a better world, improve our quality of life, better provide for our kids, and solve fundamental problems ... It is hard to believe that the result will not be a widespread global

unleashing of creativity, productivity, and human potential ... In arguing this with an economist friend, his response was, "But most people are like horses; they have only their manual labor to offer..." I don't believe that, and I don't want to live in a world in which that's the case. I think people everywhere have far more potential.

Many others are far more pessimistic. One one flank, I give you this misanthropic Hacker News comment<sup>22</sup> on Andreessen's long-term utopian vision:

22. <https://techcrunch.com/2014/06/21/welcome-to-extremistan/?guccounter=1>

*Look at the future this guy has concocted in his head: The main fields of human endeavor will be culture, arts, sciences, creativity, philosophy, experimentation, exploration, and adventure. ...it's like he's never met anyone who didn't attend a top tier university. Here's reality: The main fields of human endeavor will be copulating, hustling, consuming low-brow entertainment, eating, and the occasional lunatic running amok.*

”

(The Futilists actually started out calling themselves the Factualists, and think of themselves as being real about stuff).

## THE MIGRANT TRAIN

The Migrant Train is an extraordinary tough construct, a self-sustaining Snowpiercer-like that travels through these Distrikts, occasionally recalibrating its route to account for new or missing Minor Distrikts. The State Machine typically draws recruits for new social experiments from among the migrants. There is a class of citizens who have either changed their minds so often that they prefer the train, or have become stuck through paralysis by analysis: they're called the Eternal Migrants, and the more physical of them become Praetors under the supervision of the State Machine, protecting passengers and their charges. The State Machine exerts a "first principle monopoly on violence" in every society they come across - not every society is happy with the State Machine's power, and the train bears scars where weapons have struck it in the past.



From the worldbuilding thread of the Science Fiction Economics Lab forum:

### Yudhanjaya:

*"Working on the history, @alberto. I've nuked the name of Extremistan and settled on 'Witness' for now; I was thinking along the lines of Ken Levine writing Rapture - the city of Bioshock - which was a critique of Ayn Rand objectivism, and after mucking around with syllables Witness needed to be one of the few names not taken that still felt like it resonated with the project itself: come see what we've got here. Hooked the history right into your Covenant and its first Mayor and left a few things vague (exact starting date, for example - hard dates). Let me know if I've given you enough to go on! @nadia, does the State Machine and Council give rise to the kind of substructure you were thinking of for ethnography? Congrats on your book, The Voiceless, by the way, I hear it's taught very widely in schools now. @Joriam, feel free to start thinking about arts and cultural expression in the modern-day Witness! @hugi, Avantgrid's arrival should, I feel, be a historic point here.*

*PS: J.C. Denton is a Deus Ex (2000) reference. As a Deus Ex stan I want it in :stuck\_out\_tongue: It's one of the greatest games of all time, and -cough- takes place in "an unspecified near future, where there is a massive division between the rich and the poor, not only socially, but in some cities physically. A lethal pandemic known as the "Gray Death", ravages the world's population, especially within the United*

*States; a synthetic vaccine, "Ambrosia", manufactured by the company VersaLife, nullifies the effects of the virus but is in critically short supply..."*

”

# WITNESS #2

## THE SHAPING OF THE STORY YUDHANJAYA WIJERATNE

Witness is the most populous seasteading megacity on record. Initially developed under Project Viking (which gave birth to other noted cities such as Byzantium and Vivarium), Witness grew far beyond its original physical and legal bounds, and today is considered the cultural, financial and media capital of the post-Sundering world.

Whereas most other Project Viking cities operate as a single territory overseen by a single government and State Machine, Witness operates as a collection of interdependent Distrikts that function de facto as city-states in their own right. Each city-state is an implementation of a particular set of economic, philosophical and moral social contracts, although some aethnographers have pointed out the phenomenon of boundary bleed (which is almost unseen in other cities)<sup>23</sup>. Between the Distrikts runs the Migrant Train, a zero-cost solution for citizens who wish to live under a different social contract. While the State Machine of Witness is de jure overseer of all territories, in reality it manages only portions of infrastructure, guides multi-distrikt disaster response, and policing in instances where inter-Distrikts conflict seems imminent.

23. The theory that portions of the populace along the boundaries of adjacent states approach either temporary compatibility or conflict, and often oscillates between them depending on the relative sizes of the populations involved. See also: coasian bargaining

## THE FOUNDING

*“As with all great cities, much of the founding of Witness is lost. What remains are skeleton logs preserved in machine memory, wrapped in a cocoon of half-myths, apocrypha, and clashes between rival historians. Move three districts and the stories change. On such a tenuous sea we are now adrift, and it is up to us to make sense of it.”*

**Andromache Kosovitch, Aethnography: *The New Histories of Our Times*, the Library of St. Benedict.**

”

The general consensus is that Witness began as an experimental habitat conceptualized during the Post-Plague Years by one Jonathan C. Denton, an official of some import at an Old-World entity known as the United Nations. Denton, by his own admission, was involved in a collaboration between a group of private technology corporations and a sub-branch known as UN-Habitat; the goals of this collaboration were to launch twelve floating cities that could weather climate change, support a substantial population, and serve as highly mobile support stations for areas ravaged by rising sea levels and erratic weather.

Often referred to in recovered public news archives as Project Viking, the collaboration led to

24. Partial public data trails of Project Viking, recovered primarily from the Exodus of New York, indicate the successful launch of Byzantium, Vivarium and at least three other cities

25. What We Owe to Each Other, T.M. Scanlon, archive unindexed

26. Given how drastically different names are put forth in different sources, some suggest the Missing Ten are apocryphal. Other scholars point to the more realistic construct of a power struggle and history being written from a particular narrative standpoint

27. Scholars such as Kosovitch have advanced the claim

both advances in design and the development of a number of modern technologies, including what we know as the State Machine and the Ramos Harvester<sup>24</sup>. Initially criticized as “techno-futurist doomsday bunkers”, Viking became a key point in the affairs of the Post-Plague Years.

Denton, however, became increasingly disenchanted with the utilitarian design of governance for these cities. His earliest writings explored the alternate theories of one T.M. Scalon, a philosopher who proposed a way of living based on mutual recognition of *wrongness*<sup>25</sup>. Along with the architect Minette de Silva, the economist Rohan Kapoor and ten others<sup>26</sup>, Denton marshalled resources and participants for a thirteenth city, designed in a far more modular fashion: the city of Witness<sup>27</sup>.

*Perhaps in an effort to signal its departure from the finely tuned modernist designs of other seasteading cities, Denton and de Silva peppered Witness with eclectic buildings riffing off a wide variety of architectural styles. Early concept art for some of these designs survived in Denton's Manifesto, providing a fascinating glimpse at his personal aesthetics. Buildings as "Newton's Folly" (pictured above in original sketch form) eventually became bizarre and unusual meeting chambers for the governing bodies of Witness.*

”

that Denton chose the name out of spite, pointing to the famous undated 2nd Entry in the Old Manifesto: “There’s a way forward and they’re too blind to see it. Will need to show them.” and the etymological link between “see”, “show”, “witness” and the 42nd Entry: “From Google: have knowledge of (a development) from observation or experience. be the place, period, or setting in which (an event or development) takes place. be a sign or proof of (something); serve as evidence.” The entity ‘Google’ is unspecific: it seems to have been both a noun, a verb and some kind of all-knowing entity: some technological scholars theorize would have been accessible at the highest levels of the

## THE EARLY YEARS AND THE STATE MACHINE

Historians rarely agree as to the exact year when Witness came to be, but the general consensus is that it launched around the time of the Sundering. As a result, Witness was launched with an eclectic mix of volunteers, the workers themselves, and personnel rescued from the regions around the launch point. This mix Denton would decry as “suboptimal” and spend the rest of his years managing, but much ethnographic evidence has been put forward supporting the idea that the influx of skilled workers actually helped Witness survive the Sundering and make it more independent than the rest of Project Viking.

Denton would spend his days rescuing climate change refugees from the nearby coastlands and compiling his *Manifesto*, using Witness as an argument for contractualism as the way forward. Minette de Silva oversaw constant overhauls to infrastructure, architecture and propulsion, and as a consequence may have contributed more to the ultimate functioning of Witness than Denton did. She is referred to as the first Mayor of Witness in the *Manifesto*, but only in passing; few other records remain of these years. Of other figures listed as founders of Witness - including Rohan Kapoor - very few verifiable records remain, but apocrypha is rife on the topic.



United Nations, while ethnographers frequently connect it to the similar construct of the Oracle in mythohistorical records from much earlier in history, suggesting that at recurring periods our ancestors have worshipped the same knowledge-giving entity, or different entities with extremely similar functions

28. <https://slate.com/technology/2020/09/state-machine-yudhanjaya-wijeratne.html>, will fictionalize this ref later

One of the components of all Project Viking cities was the State Machine - a next-generation governance system designed to use behavioral big data to dynamically impute the needs of a populace and adjust laws and policies to suit. Most known State Machines, such as those of Byzantium and Vivarium, rely on a form of utilitarianism<sup>28</sup>. Denton's records indicate that the Witness State Machine was modified (by Rohan Kapoor and a team of software engineers known as the CIVICSMOD group) to support Denton's interpretation of contractualism.

While initially successful, dissent and this non-standard State Machine would lead to the events of Breakpoint and the present structure of Witness. CIVICSMOD, which took up support functions throughout this period, retained those functions over many resignations and generations of political upheaval, and is presently the dominant technical voice on the Distrikt Council.

## THE ZERO-DAY FRACTURE

*"If anything, Witness is the death of a singular vision and the celebration of multiplicity: the greatest living example of the hive mind triumphing over the auteur."*

**Andromache Kosovitch, Aethnography: The New Histories of Our Times, the Library of St. Benedict**



29. Chronicled in *The Voiceless*, Catia E. Andrejas, the Library of St. Benedict. A heavily abbreviated version is available in the Standardized Syllabus taught in most Distrikts

The span of events collectively known as *Zero-day / 0D* (0 0D - 70D) is what gave Witness two its most unique characteristics: the Distrikt system and the Migrant Train. It began with community leaders Megan Rilke and Karunasalam Balraj vocalizing migrant workers' dissatisfaction with Denton's policies, which they saw as overwhelming favoring his preferential populations and disenfranchising the rest of Witness. Their work elicited both outcry from many of the original United Nations personnel and public support of notable figures such as Minette de Silva and Ebunoluwa Akinyemi, then a rising conservative activist with strong ties to the major churches that eventually formed the Covenant. A slew of speeches and petitions were subsequently ignored by Denton and his core team, leading to the First March of the Voiceless in -3 0D<sup>29</sup>. The marches were met with outcry and, in some boroughs, with violence.

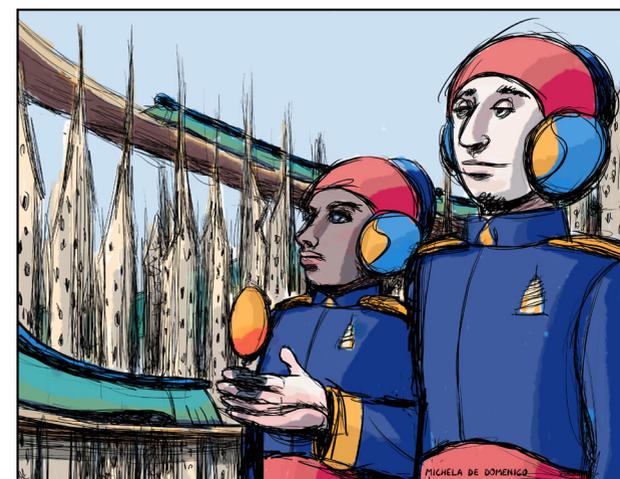
Subsequent to the Marches, the State Machine apparently reached a calculation failure in its attempts to impose a framework that would allow everyone to operate under one government. Thus it sanctioned a divorce, or a fracture in populations. In 0.5 0D, vacant infrastructure (set aside for later growth) was partitioned into Distrikt 2. By the new year, a 12-person D2 Steering Committee had been appointed, with community leaders given seats and Karunasalam Balraj voted in as the Chairperson. The newly formed Distrikt 2 set itself up as a pure democracy, and attracted both anti-Denton dissenters and those who felt uncomfortable under the State Machine. D2 would eventually become the Distrikt we know as Libria.

The Zero-Day Fracture was of such significance that the Witness calendar was reset around this inciting event. The name comes from public accusations by Denton that Kapoor and the CIVICSMOD team sabotaged the State Machine by introducing logical vulnerabilities that they should have known of. The Fracture marked a significant downturn in Denton's power over Witness. Because practical communication with the State Machine was still required, the CIVICSMOD team, various other special interests and Distrikt 2's nominees formed the Distrikt Council, which eventually would grow into the intra-Distrikt legislative body.

For another, it was seen as a failure of contractualism's ability to incorporate multiple worldviews, and thus set the seeds of the State Machine's lack of power in certain Distrikts. It also led to the multi-Distrikt structure of Witness today: because of its original failure, the State Machine continues to rapidly sanction and invest in economic and political experiments, in desperate search for a perfect society. Shortly afterward, in 4 0D, Ebuloluwa Akinyemi would be the first to take advantage of this experimental tendency and spearhead the launch Distrikt 3, which would eventually become the Covenant. By 7 0D Witness would be not one, but three floating cities in one space, tentatively rebuilding after a seven-year period of intense political tension.

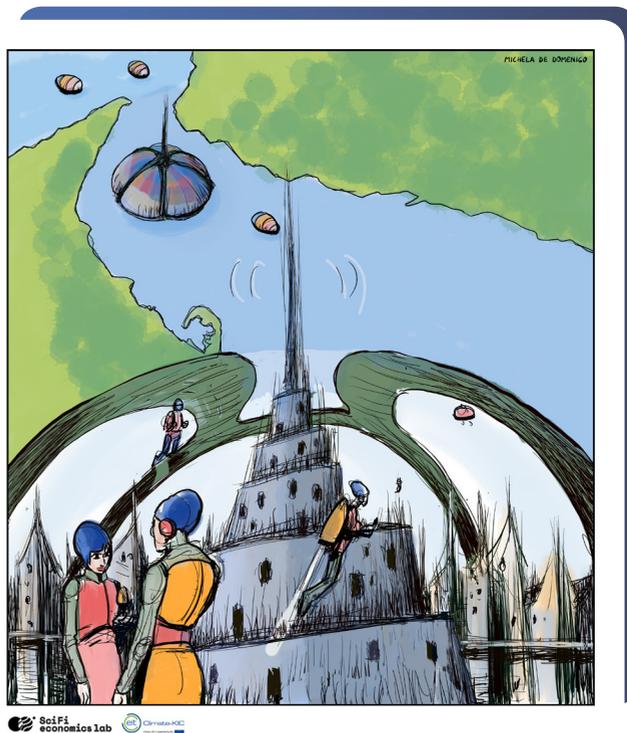
## THE HARVEST DIVISION

Subsequent to these events, many at times felt that critical infrastructure - especially energy generation - was not evenly distributed among the different Distrikts. A anarcho-collectivist movement known as the Microgrid Collective carried out an extremely popular campaign for decentralized, open-source, community-maintained energy generation structures to be set up throughout Witness.



Due to resource constraints, their goal was not met, though the Distrikt currently known as the Assembly both uses this design for their energy grid and directly credits the Microgrid Collective for it. At the time, the general unrest created by

the Microgrid Collective led to fears of sabotage, which would have spelled the end of Witness. Thus limited resources at the time, and the now-distributed engineering skills, were channeled by the Distrikt Council into creating a single central power station, built on neutral ground, politically agnostic and bound to supply each Distrikt with an minimum (and equal) amount of energy. In return, each Distrikt would contribute to the upkeep and maintenance of said division, and accord its workers maximum protection under their laws. Any energy requirements beyond the yearly calculated minimum would be the responsibility of each Distrikt.



This unit was called the Harvest Division. Gregory Ramos, Joriam Vidal and S. A. Helani Saranasekara - engineers representing each Distrikt - were brought on to lead the newly-created unit. The Harvest Division is both a politically and geographically important structure in Witness, as it sits at the physical center of mass of Witness and extends connections to practically every Distrikt, new or old. Seaside and Harvest-side are often street slang for road directions. As Witness grew, the Harvest Corps began to lend engineering support and technical oversight to other projects, turning into an infrastructure-related political power in its own right, albeit one with a reputation for impartiality. Such is the power of the Harvest Division that the traditional three-way leadership at the top is informally known as the Troika. Harvesters - distinctive in their blue uniforms - are often welcome, or at least left alone, throughout Witness.

# WITNESS #3

## ECONOMY OF THE COVENANT

### ALBERTO COTTICA

The distinct features of modern-day The Covenant began to appear under the leadership of Distrikt Mayor **Ebunoluwa Akinyemi**, who gained the very first mayoral elections of what was then still called Distrikt 3. Herself a **Roman Catholic**, she ran on a platform that mixed a certain social conservatism (described as paternalism by the opposition of the time) to a strong emphasis on religious freedom. Akinyemi's policies emphasized the autonomy of religious institutions from the Distrikt's government. As a result, many of the **City's Churches and Monastic Orders** chose Distrikt 3 as their main home. The more devout of the migrants to early-days Extremistan followed suit.

This move cemented Akinyemi's vision into a solid reality. With a large population of believers, and a strong presence of religious institutions in all main areas of public life, Distrikt 3 consolidated as the religious center of the City. In the course of Akinyemi's third term, the Distrikt

Council voted to adopt **Resolution 430**, which reformed the Distrikt's governance to take the new reality into account. Among other decisions, Resolution 430 gave permanent council seats to the representative of religious institutions, assembled in the **Episcopal Conference of Extremistan**, and changed Distrikt 3's official denomination into The Covenant, a nickname originally used in a derogatory sense by progressive media.



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Religious leaders welcomed a stable environment that would respect the spiritual quests of their flock, and supported Resolution 430 discreetly, but unambiguously. Once it was approved, however, they adopted the view that it was inappropriate for members of the clergy and monastic orders to get directly involved in Distrikt leadership and administration. To this day, all elected officials and civil servants in The Covenant are lay people. The voice of religious institutions in the Distrikt's politics is heard through the permanent Council seats. More-

over, city officials often request that priests, nuns or monks serve as their expert advisors, under special dispensation from their religious superiors.

(Source: [https://en.wikipedia.org/wiki/The\\_Covenant#Economy](https://en.wikipedia.org/wiki/The_Covenant#Economy))

The Covenant's economy is robust and diverse, with an unusually high presence of manufacturing. The service sector is also strong, notably in higher education, health care, and finance. The Covenant hosts the headquarters of several large utilities, that serve not only the Distrikt itself, but also run some critical infrastructures of other Distrikts. A unique feature of The Covenant's economy is the strong role played by monasteries and other religious institutions.

While by no mean numerically prevalent, these institutions tend to be over-represented among the most advanced, most successful operations. This observation led economist **Malivalaya Nut** to describe The Covenant as a dual economy, where two sets of economic agents with completely different objective functions co-exist. In a series of empirical investigation of The Covenant's economy, Nut discovered a pattern: the economic activity of religious institutions tends to be amplified by businesses that are legally part of the saecular economy, but have evolved for taking advantage of the turbulence created by the existence of the religious institutions themselves – for example lifting innovations invented in the monasteries and re-engineering them for saecular markets.

The number of jobs in The Covenant is estimated at over 4 million, though estimates are highly sensitive to whether the numerous monks who participate in economic activities are classified as “workers”.

## MANUFACTURING

The Covenant has a strong manufacturing base, with the highest **economic complexity index** of all Distrikts Major. In part, this is an effect of the strong presence of the **Benedictine Order**, whose motto “ora et labora” makes them extremely good at the manufacturing of high-quality products since the early Middle Ages. Since they view labor as a devotional activity, the monks refuse to build anything that is not top-quality, and build to last potentially forever. For the same reason, however, they are unwilling to expand production in response to demand. They are also unwilling to raise their sales prices, because the **Rule of Saint Benedict** explicitly forbids it, on grounds of greed being a sin. This creates a rationing problem for the high-quality, fair-priced goods produced in the Monasteries.

The problem has been solved by the rise of clusters of startups, which huddle around the monasteries implementing the business model known among venture capitalists as “Grow and Multiply”: reverse engineering products of the monasteries, and adapting them for large-scale industrial production. They have an aggressive

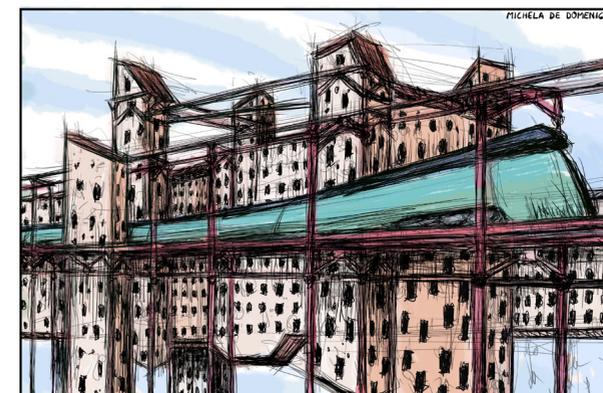
hiring policy targeting lay Brothers and Sisters, or individuals that, after an apprenticeship in a monastery, decide to remain in the saecular world. This symbiosis of religious and lay manufacturing activity is an example of dual economy. Much of these activities takes place in the Kyrie District Minor, home to most of The Covenant's Benedictine monasteries. **Kyrie** has become the City's workshop, playing a role equivalent to Shenzhen in the 21st century.

## EDUCATION AND FINANCE

The **Jesuit Order** runs several higher education institutions, called *Collegia*, in The Covenant. Though each only admits a small number of students per year, they enjoy a high prestige. It is common for graduates from the Collegia to be quickly hired into senior research and teaching positions by larger universities, both in The Covenant and in other Distrikts, which in turn educate and advise the élites of Extremistan. Collegia alumni maintain strong networks with each other and their former Almae matres, so that the influence of the latter on the city's academic community is much larger than their size.

The **Institute for the Works of Religion** relocated to The Covenant in the years following the approval of Resolution 430. The Distrikt Council's and Mayor's Office's hands-off approach to religious institution has encouraged the IWR to engage in substantial financial innovation, though, for the same reason, much of it remains

relatively little known. A swarm of brokers, almost all of them AIs, has formed around the IWR's activities.



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## SPECIAL PROJECTS

The Distrikt Minor of **Viriditas**, located in a narrow peninsula at the extreme periphery of The Covenant, is home to a large congregation of **Teilhardine monks**. This is a reclusive order inspired by the works of the biologists-saints **Hildegard of Bingen, Pierre Teilhard de Chardin and Stuart Kauffman**. The Teilhardines farm both the land and the sea, using minimally invasive techniques that make large use of **genetically engineered organisms**, but in Viriditas they live only at sea. They have built a large monastery, dedicated to Saint Hildegard, out of connecting a large number of boats and raft.

This technique gives Saint Hildegard its peculiar appearance, and has earned it the nickname of Floatsam. They have announced that their mission is to build and launch the **Saint Christopher**, a slower-than-light starship for interstellar colonization, conceived as a deep space monastery. The project has an estimated duration of 400 years, with the first 300 dedicated to developing blueprints and the ancillary technologies.

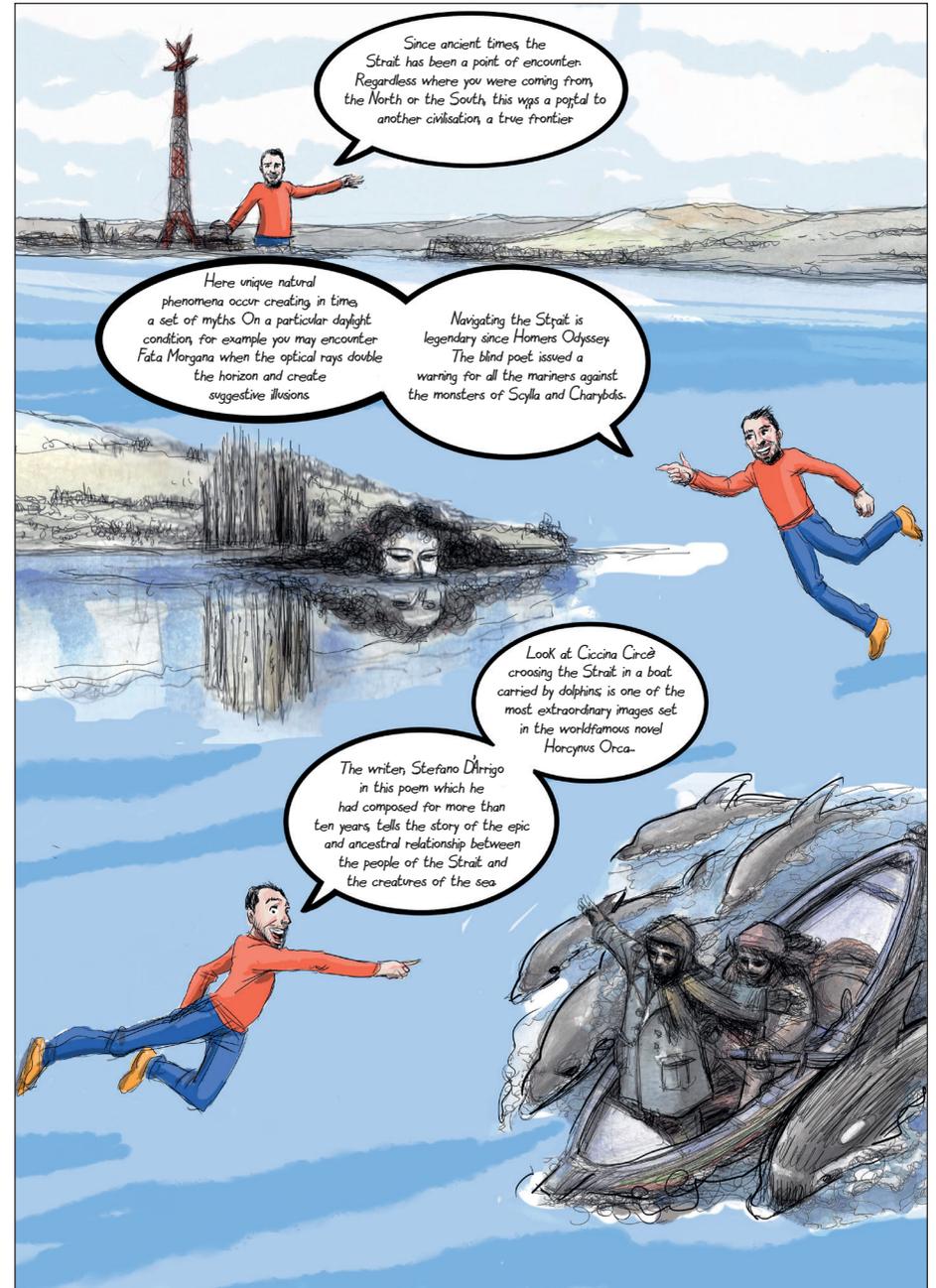
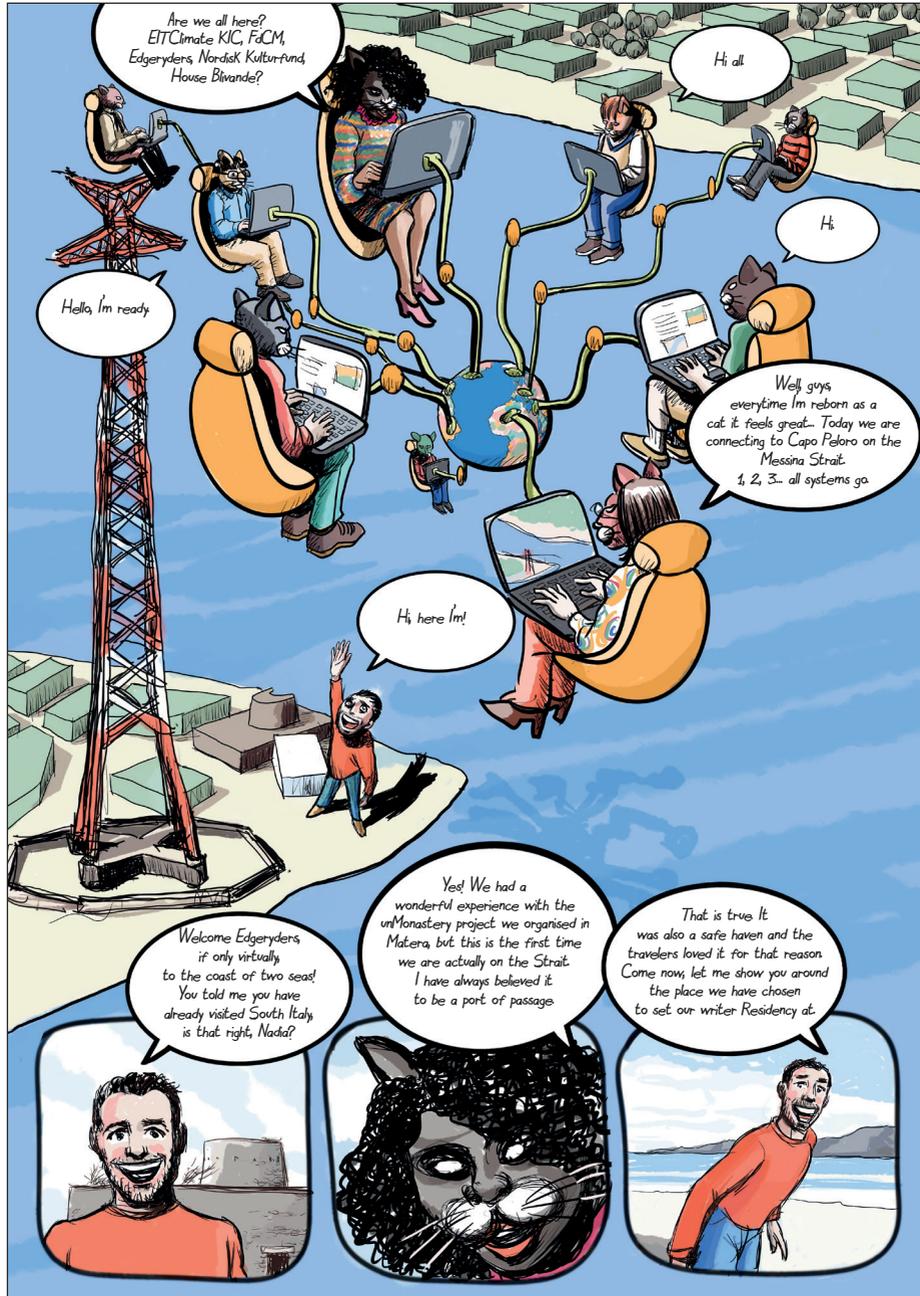
# WORLDBUILDING ACADEMY

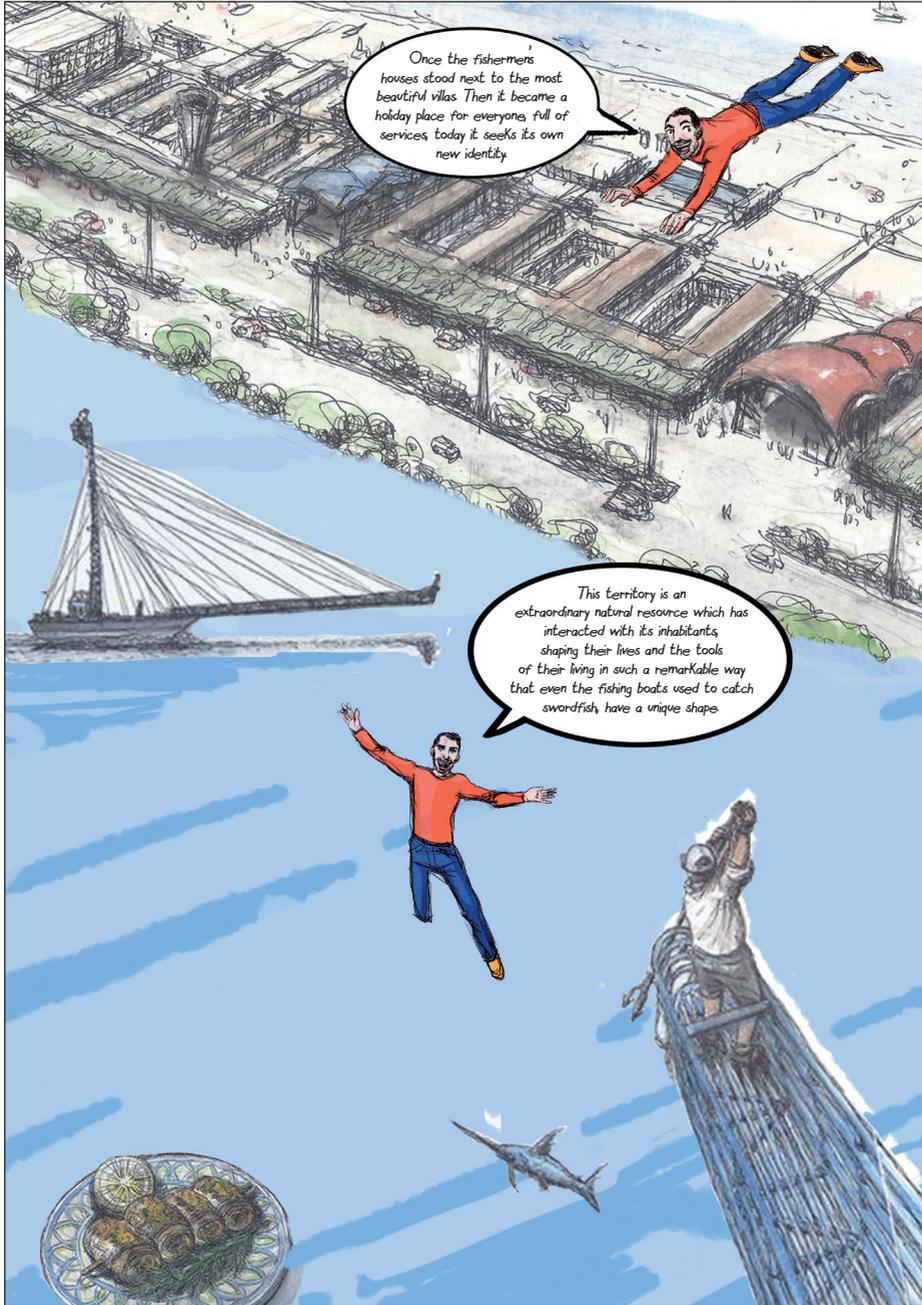
**GRAPHIC NOVEL DESIGN AND  
DRAWINGS BY MICHELA DE  
DOMENICO AND MARCO LO CURZIO**

Economics, as we know it currently, has changed from a place to imagine new and better worlds to a discipline which re-enforces and improves itself in a single model. Much “blue sky” economic thinking is now done in strange contexts.

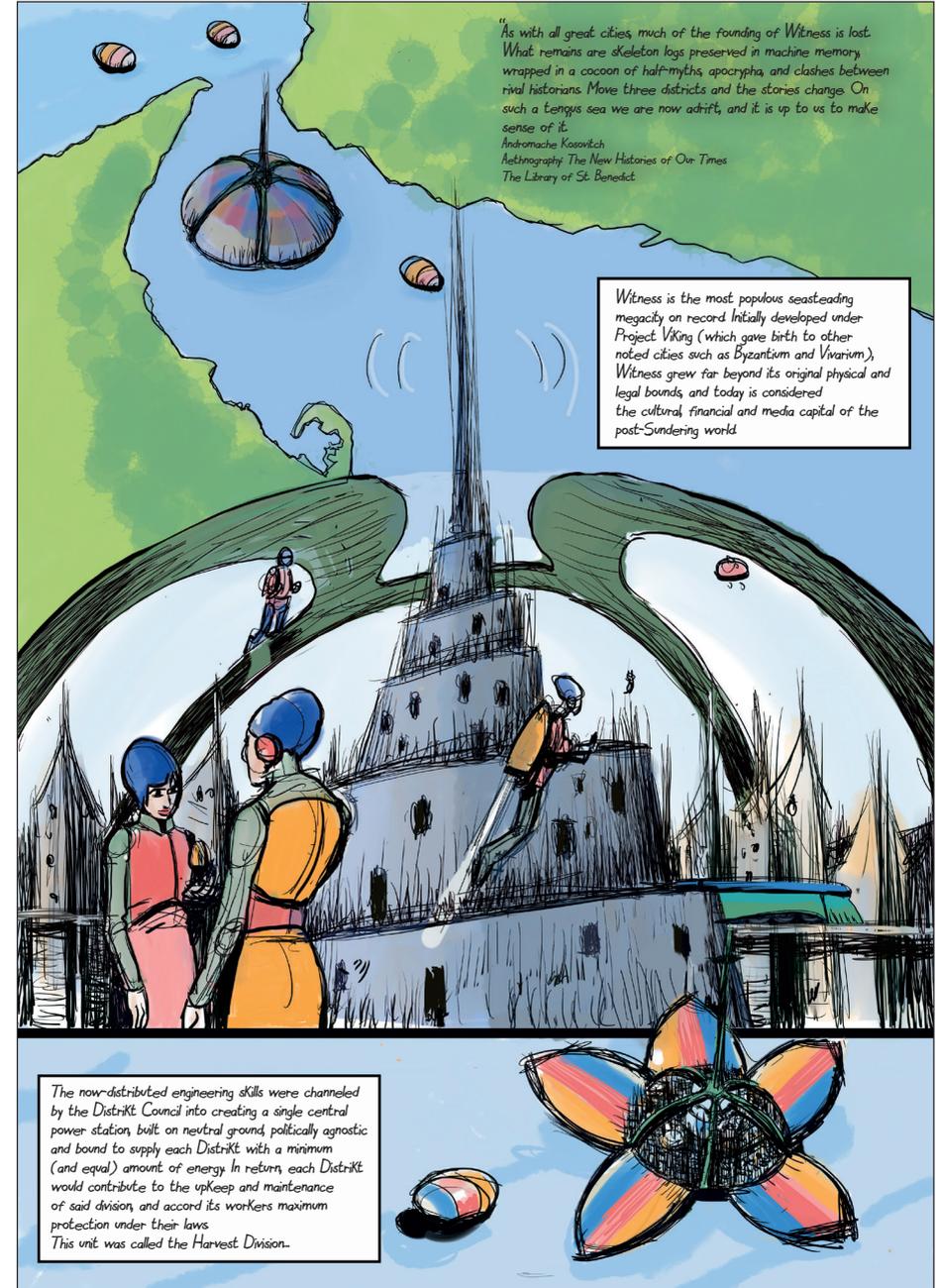
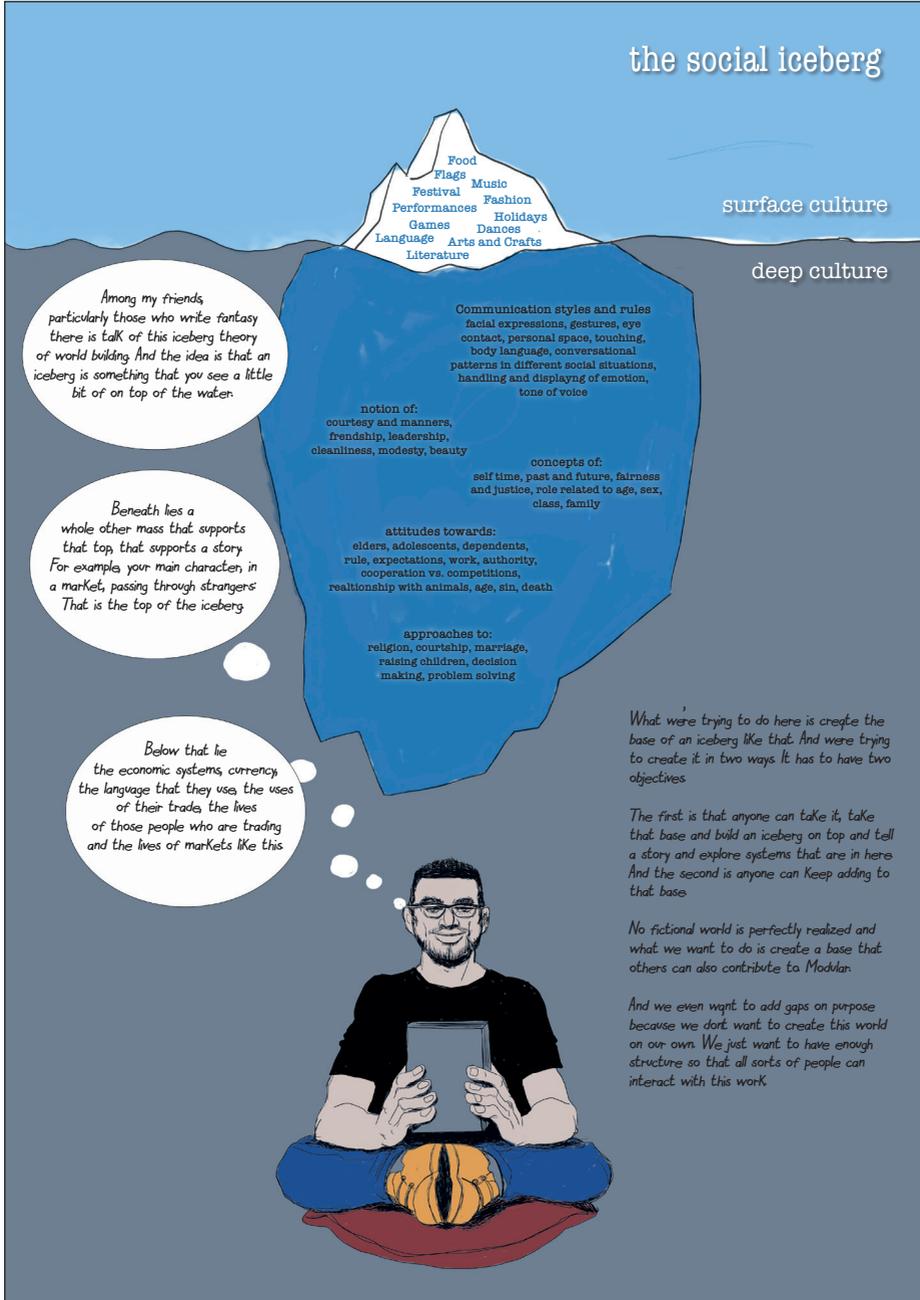
Science fiction is one of them. Another one is local communities who attempt to reboot their economies in more humane and long-term resilient ways.

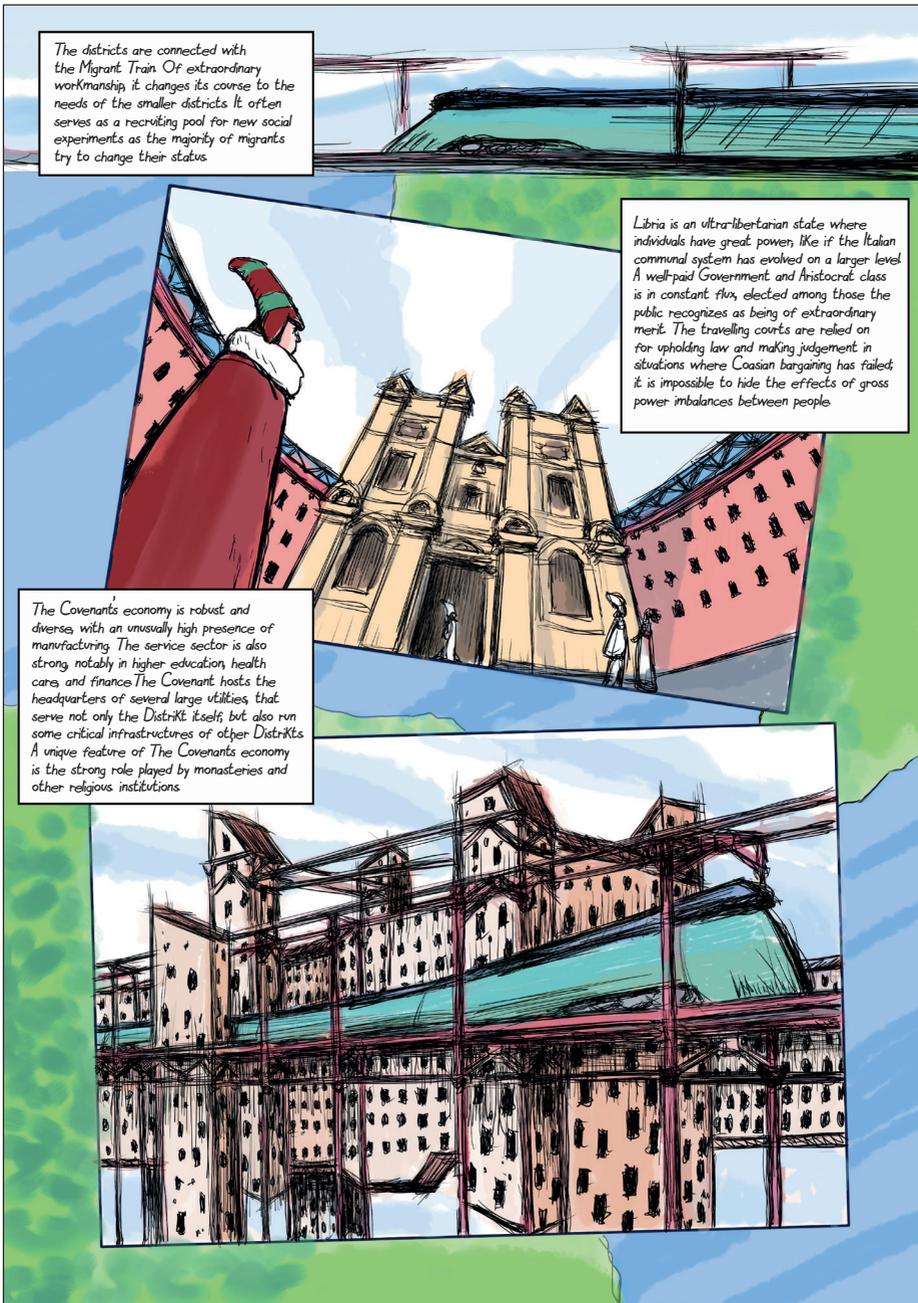
The Science Fiction Economics Lab papers track down and investigate examples of systemic innovation or radical rethinking of the current economic model.





# the social iceberg

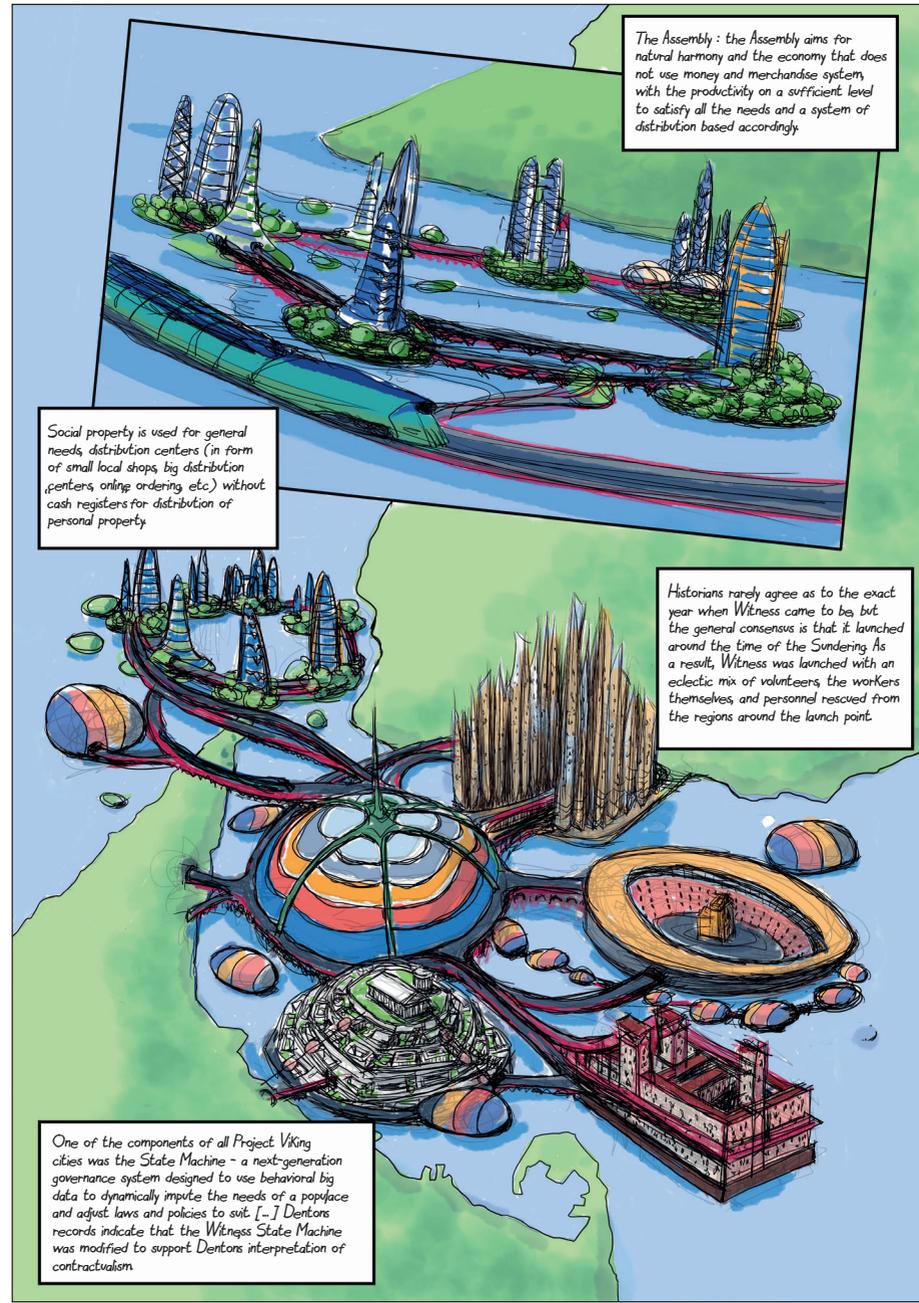




The districts are connected with the Migrant Train. Of extraordinary workmanship it changes its course to the needs of the smaller districts. It often serves as a recruiting pool for new social experiments as the majority of migrants try to change their status.

Libria is an ultra-libertarian state where individuals have great power. Like if the Italian communal system has evolved on a larger level. A well-paid Government and Aristocrat class is in constant flux, elected among those the public recognizes as being of extraordinary merit. The traveling courts are relied on for upholding law and making judgement in situations where Coasian bargaining has failed. It is impossible to hide the effects of gross power imbalances between people.

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The Assembly: the Assembly aims for natural harmony and the economy that does not use money and merchandise system, with the productivity on a sufficient level to satisfy all the needs and a system of distribution based accordingly.

Social property is used for general needs, distribution centers (in form of small local shops, big distribution centers, online ordering, etc.) without cash registers for distribution of personal property.

Historians rarely agree as to the exact year when Witness came to be, but the general consensus is that it launched around the time of the Sundering. As a result, Witness was launched with an eclectic mix of volunteers, the workers themselves, and personnel rescued from the regions around the launch point.

One of the components of all Project Viking cities was the State Machine - a next-generation governance system designed to use behavioral big data to dynamically impute the needs of a populace and adjust laws and policies to suit. [...] Dentons records indicate that the Witness State Machine was modified to support Dentons' interpretation of contractualism.



Fondazione di Comunità di Messina



|||| worldbuilding graphic novel

concept and layout | Marco Lo Curzio and Michela De Domenico  
drawings | Michela De Domenico

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