

# Radical Ocean Futures

Three Decades Ahead – how to get to grips with uncertain ocean futures

Plan4Blue Workshop, Tallinn, Estonia  
Blue Economy Scenarios for MSP  
24<sup>th</sup> January 2018

Andrew Merrie PhD  
Stockholm Resilience Centre

**Stockholm Resilience Centre**  
Sustainability Science for Biosphere Stewardship



**Stockholm University**



**KUNGL. VETENSKAPS-AKADEMIEN**  
THE ROYAL SWEDISH ACADEMY OF SCIENCES

FUNDED BY

**MISTRA**  
The Swedish Foundation for Strategic Environmental Research





# Exponential change and the future



Image: 20th Century Fox

# Navigation

The background of the slide is a blue-tinted photograph of a sailboat on the ocean. The mast and rigging are visible, and a person in a red jacket is seen on the deck in the lower right corner. The overall aesthetic is clean and modern.

- The Origin - Imagining our future
- The Method - Science Fiction Prototyping
- The Scenarios - 'Radical Ocean Futures'
- #ArtScience





Why imagine?

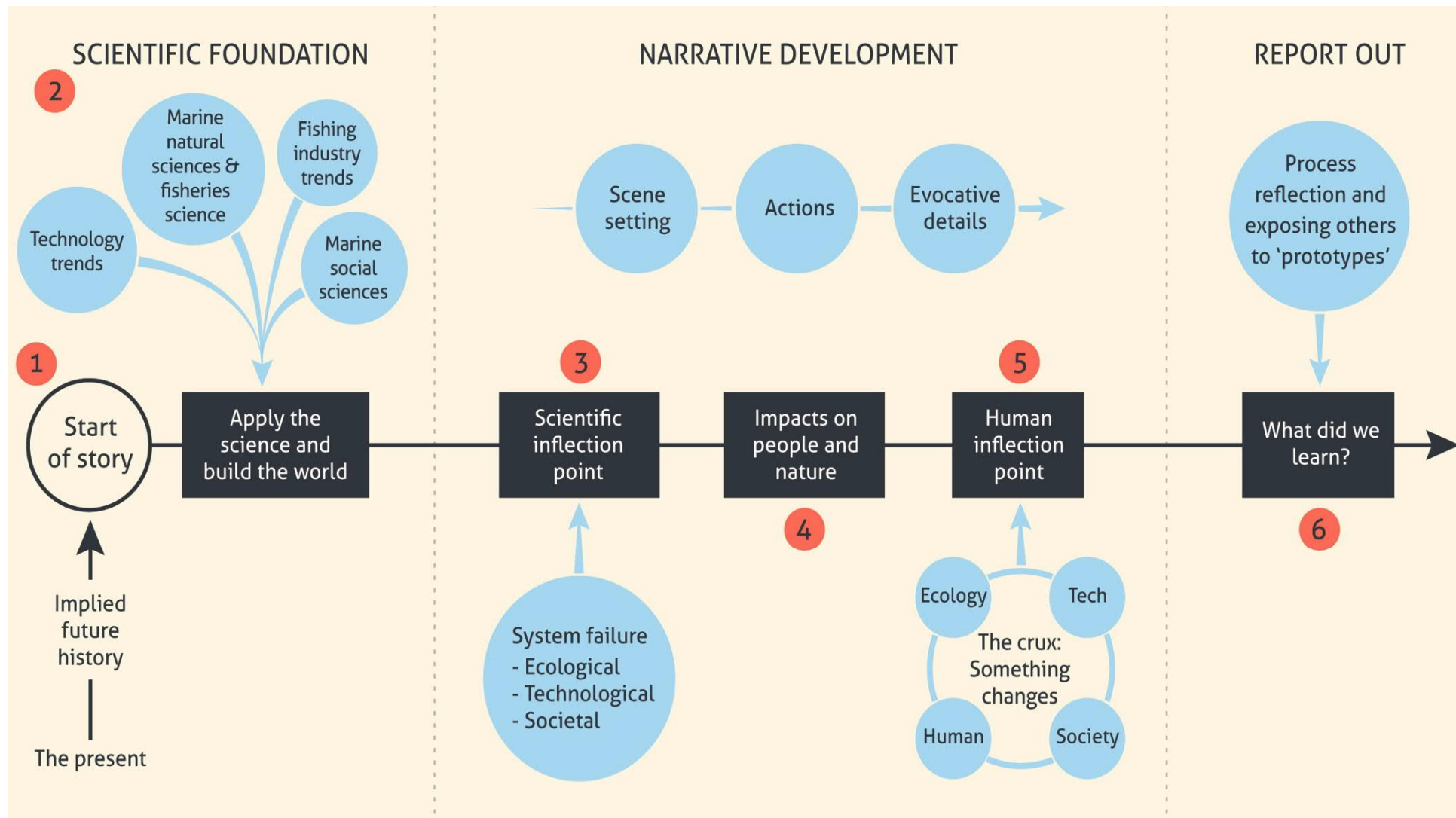
A woman in a red coat stands on a pier at night, looking at a device. The background shows a city skyline with illuminated buildings and a dark sky. The scene is captured in a cinematic style with a blue color palette.

# Project **Origins**



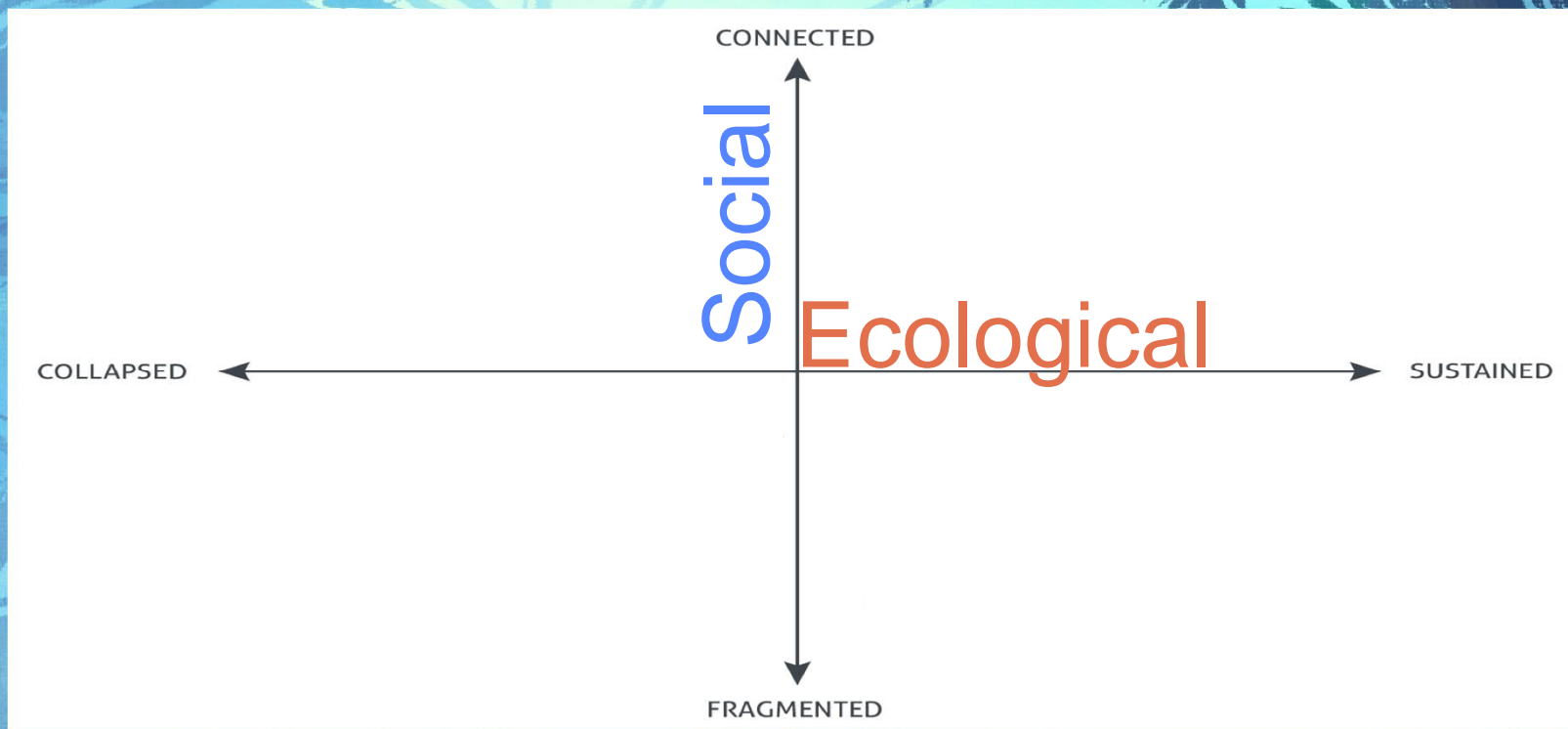


Why science fiction narratives?





# How do we construct the scenarios?



# What are our scenarios?

Back from the Brink

FISH Inc

Rime of the Last Fisherman

Rising Tide



# What are our scenarios?

Back from the Brink

TED Talk

FISH Inc

Obituary

Rime of the Last Fisherman

Ship's log

Rising Tide

Magazine article

# What are our scenarios?

Back from the Brink

TED Talk

Professor

FISH Inc

Obituary

Environmentalist

Rime of the Last Fisherman

Ship's log

Fisherman

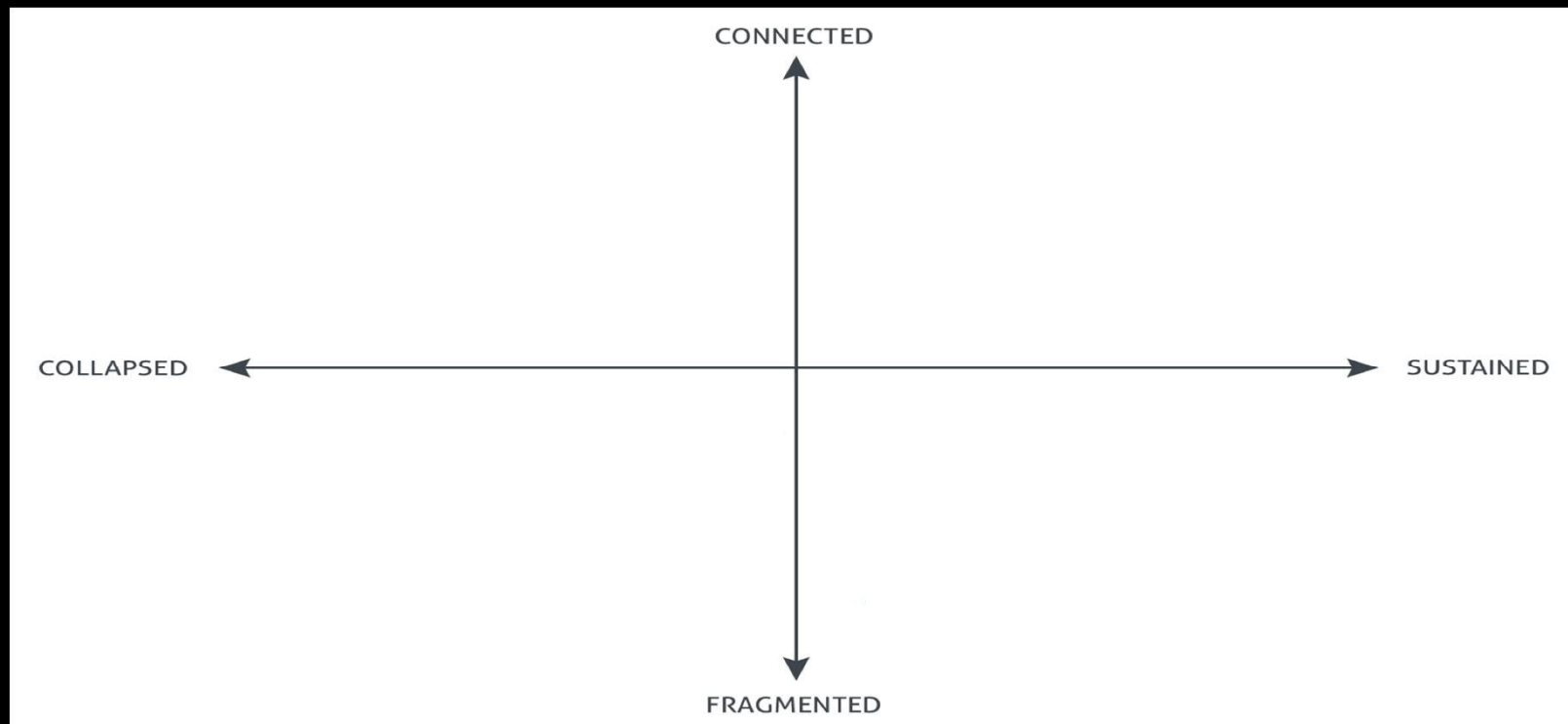
Rising Tide

Magazine article

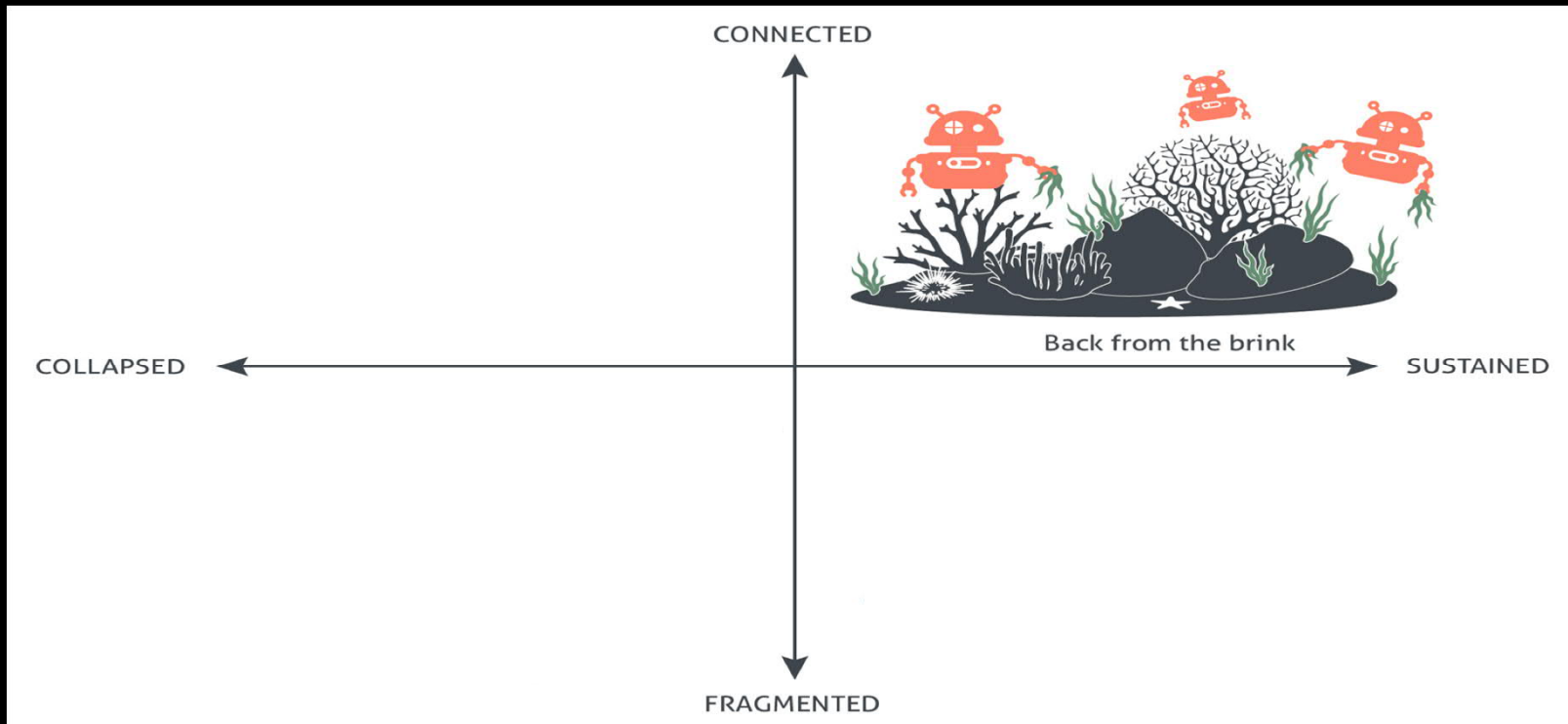
Journalist



# What are our scenarios?

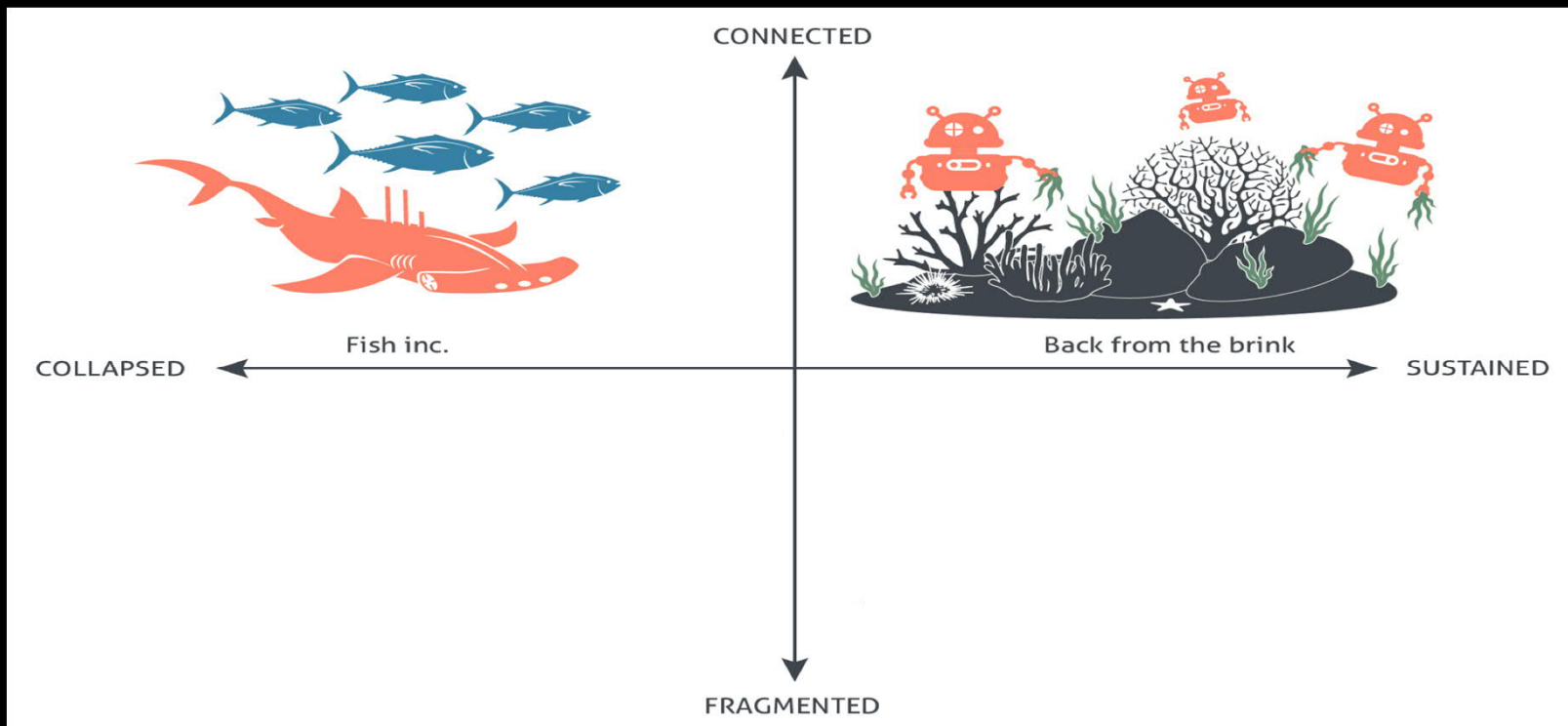


# What are our scenarios?

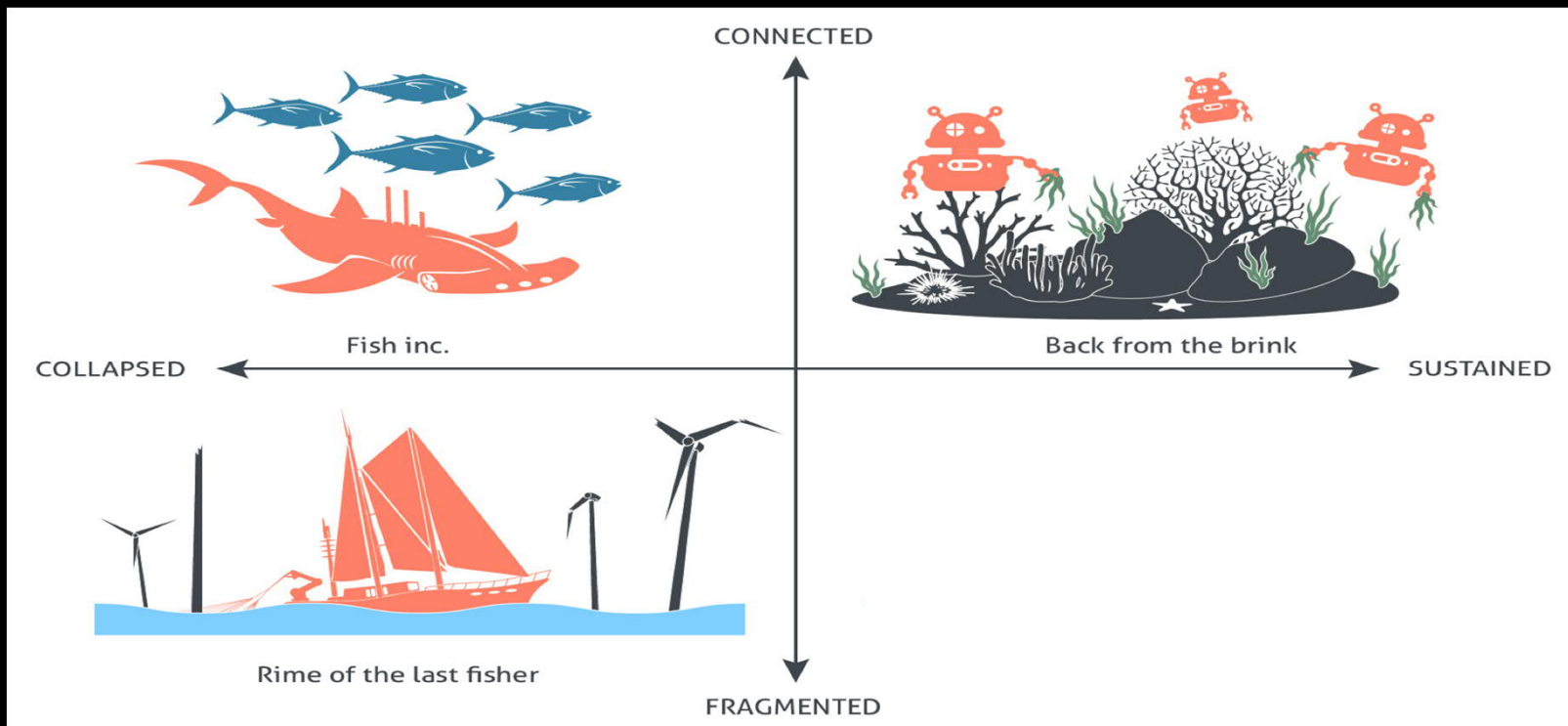




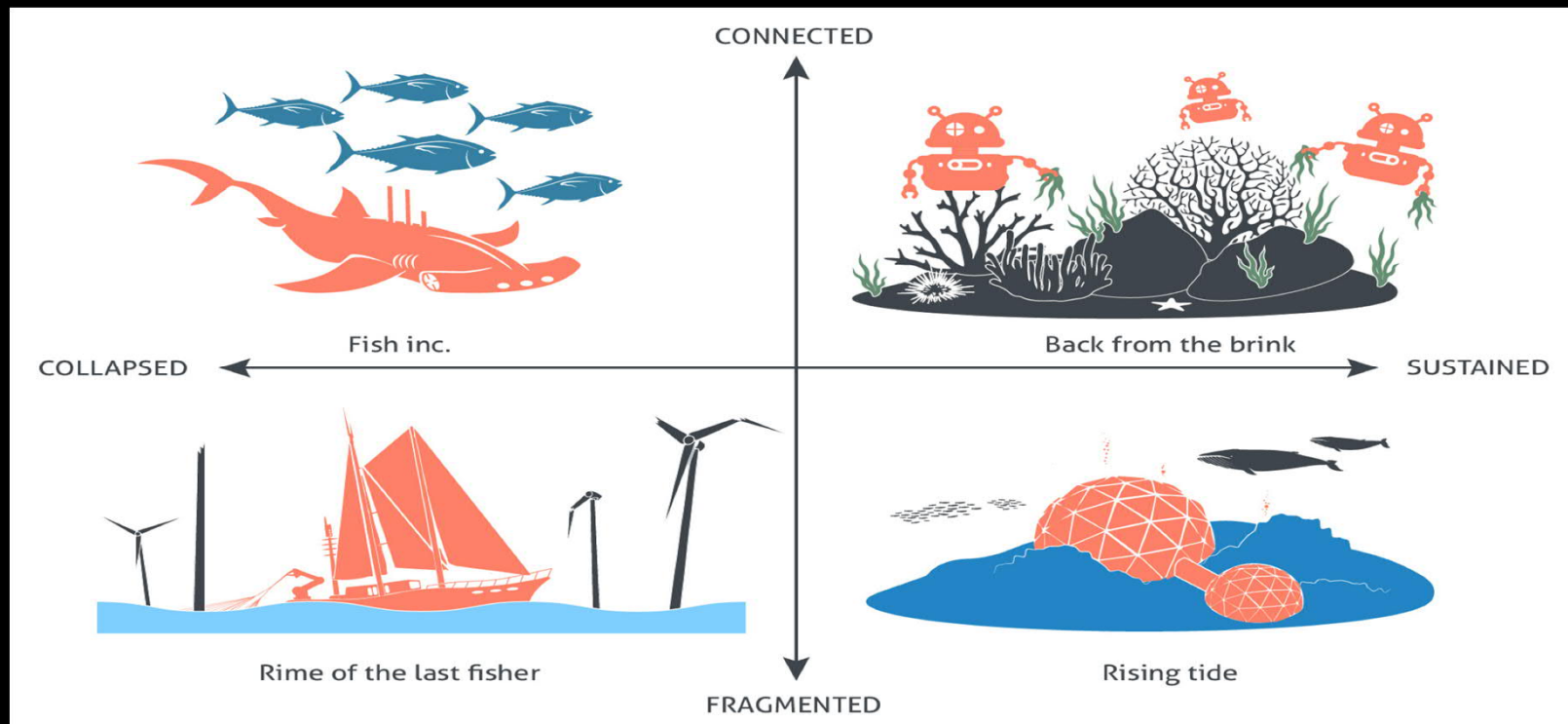
# What are our scenarios?



# What are our scenarios?



# What are our scenarios?





## Back from the Brink – social connectivity & ecological sustainability

'Coral Bots!' - These swarm robots work autonomously and in concert with one another, using a set of algorithms similar to the group behaviours that govern schools of fish and murmurations of starlings. They have continued to advance and they now can suck up micro plastics, treat sewage and filter out dangerous chemicals. Better yet, using cutting edge chemical engineering, they can also mimic the behaviour of algae, and sequester carbon out of the atmosphere as calcium carbonate. This helps to combat ocean acidification, and renew the creation of coral communities."

## Fish Inc. Obituary: Astrid Amundsen, CEO – social connectivity & ecological collapse

“ FISH Inc. aggressively purchased lease-rights from industry to operate within strategic pockets of the Arctic, as the firm was able to take advantage of the anarchy that followed the acrimonious collapse of multilateral attempts to govern the region. This was why I despised Astrid’s efforts, and why others held her to be possessed of a unique brilliance. By virtue of her ability to manipulate the situation, FISH Inc. began to experiment with fully integrated production chains, at an unprecedented scale. FISH Inc.’s history of large-scale experimentation started in semi-enclosed systems, including the Black, Baltic, and Bohai Seas, as well as Chesapeake Bay, where they had been able to pilot many of the technologies that would soon have a global and surprising impact.”

# Rime of the Last Fisherman. Dispatches from a dying ocean – social fragmentation and ecological collapse

Log Entry: The North Sea Wind Energy Concession.  
February 14, 2062

Whiles all the night, through fog-smoke white,

Glimmered the white Moon-shine.

"I know it is there, stretching to the horizon, I can see it on my instruments, a fool's failed dream. I look out, strain my eyes and looming out of the dense fog is a pylon, brown and gold with rust, the sound of creaking tortured metal. Just one of thousands of turbines, a few even still generate power, power that goes nowhere, generated for no one, it is too late."



## Rising Tide. Visiting the World's Oldest Seacology – social fragmentation and ecological sustainability

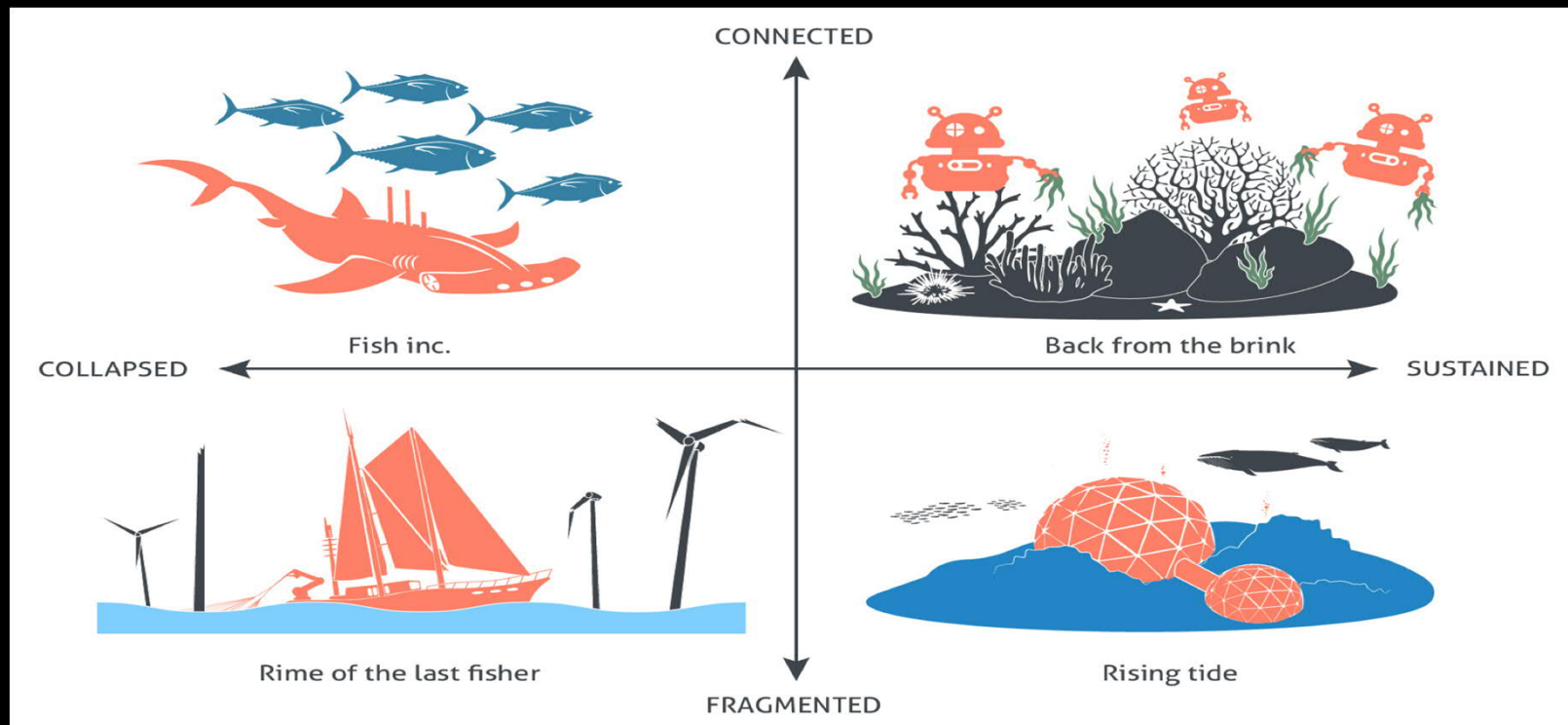
"The Surface to Seabed Territorial Sovereignty Treaty, signed in 2021, aimed to deal with the existential threat posed to low-lying island nations, granting them a claim to their historic boundaries that would persist even after they sank beneath the waters. At the time, this was seen as a symbolic, though empty, gesture on the part of the International community. But to the future Oceania Confederation, it would be the legal shield they would eventually need. In the midst of the Jībiàn, the official (and unofficial) fishing fleets of hungry nations were forcefully deterred from entering the waters of the Oceania Confederation. A fully automated, armed fleet of aerial, surface, and sub-surface drones, continuously monitored the boundaries of the nations that make up the members of the Confederation."

#ArtScience



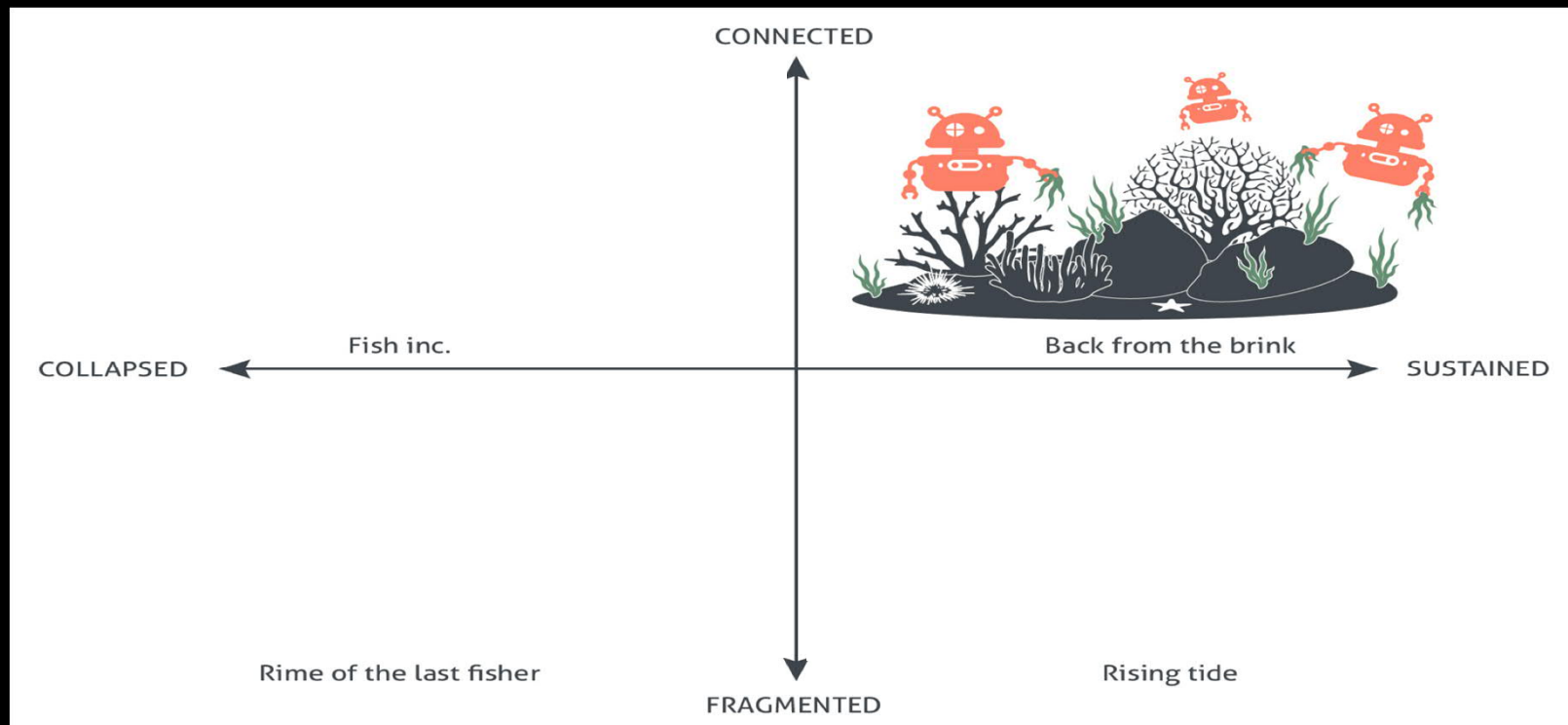
© Simon Stålenhag

# #ArtScience

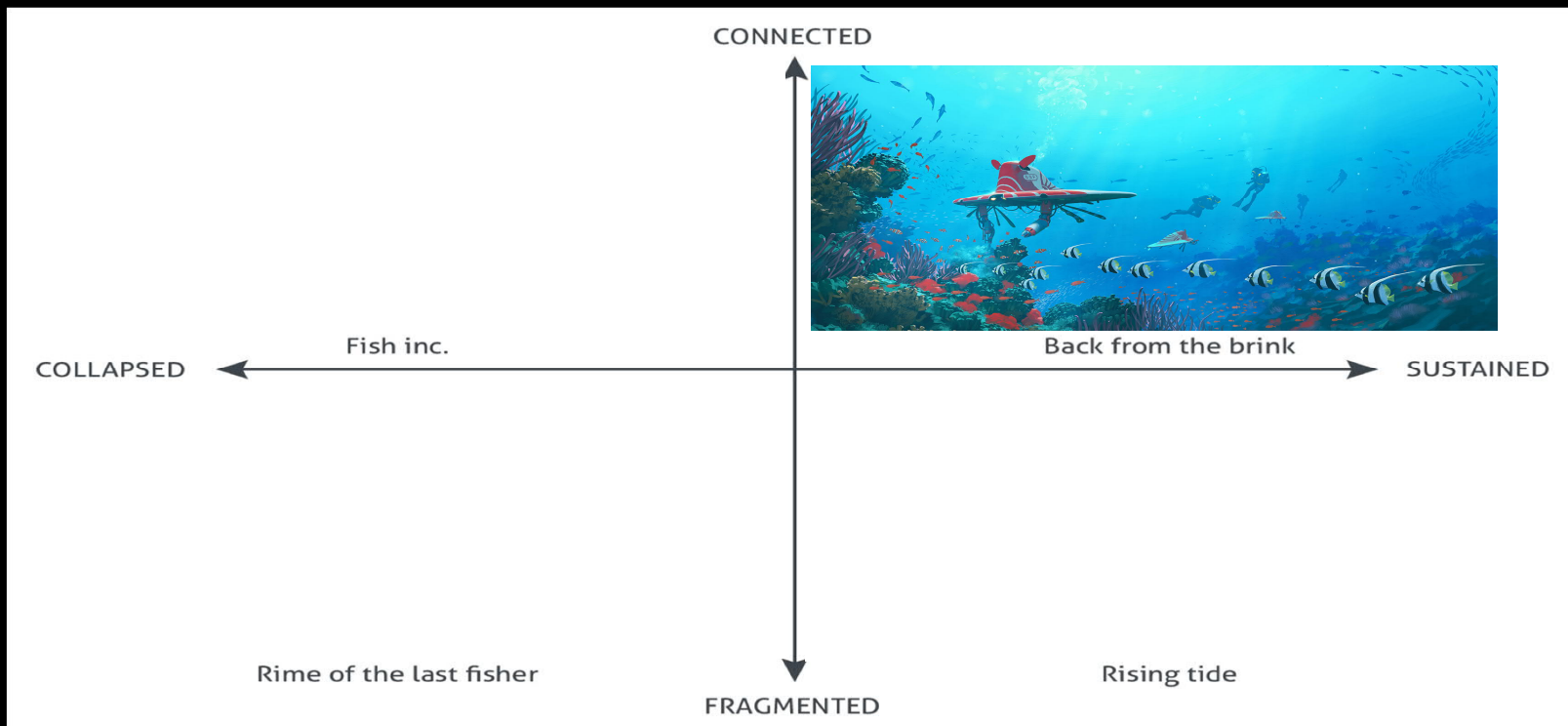




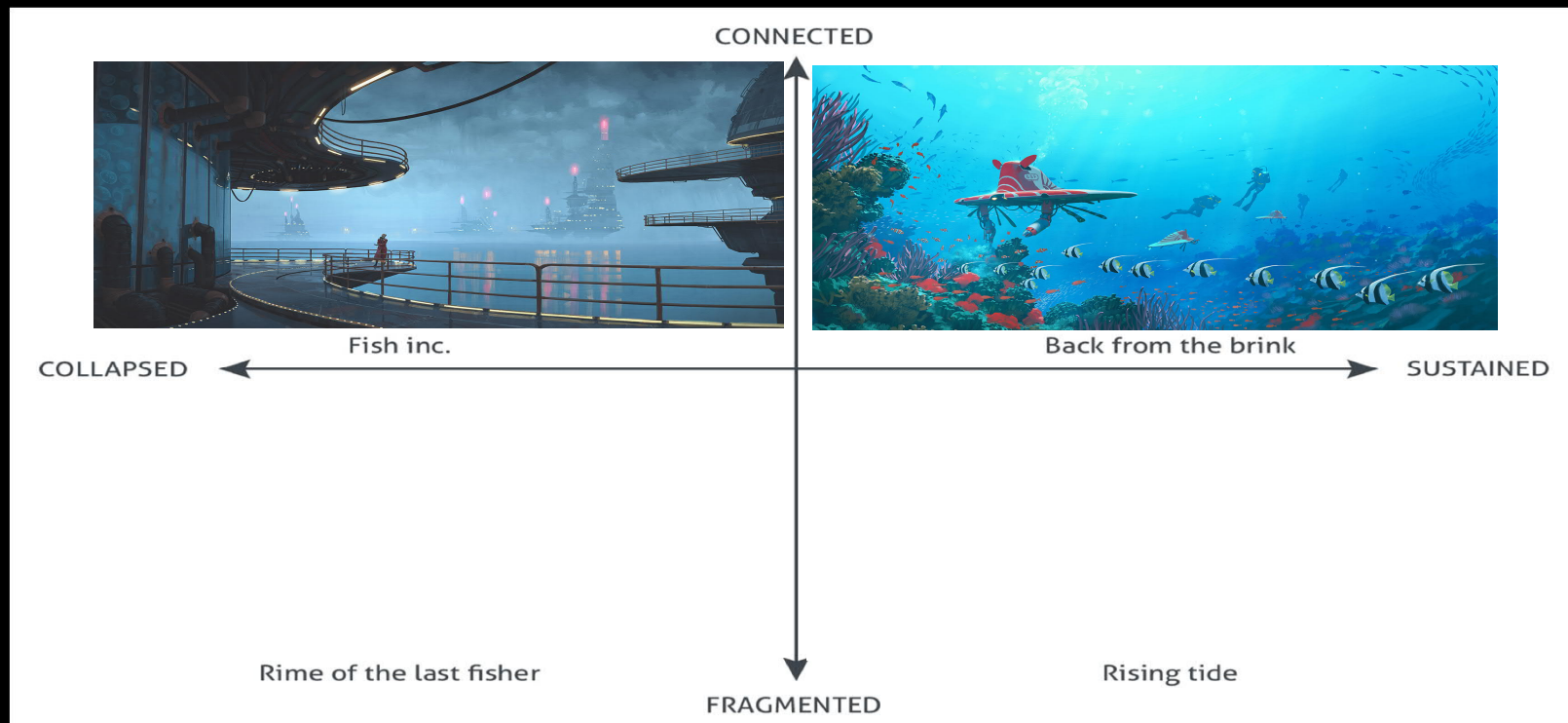
# #ArtScience



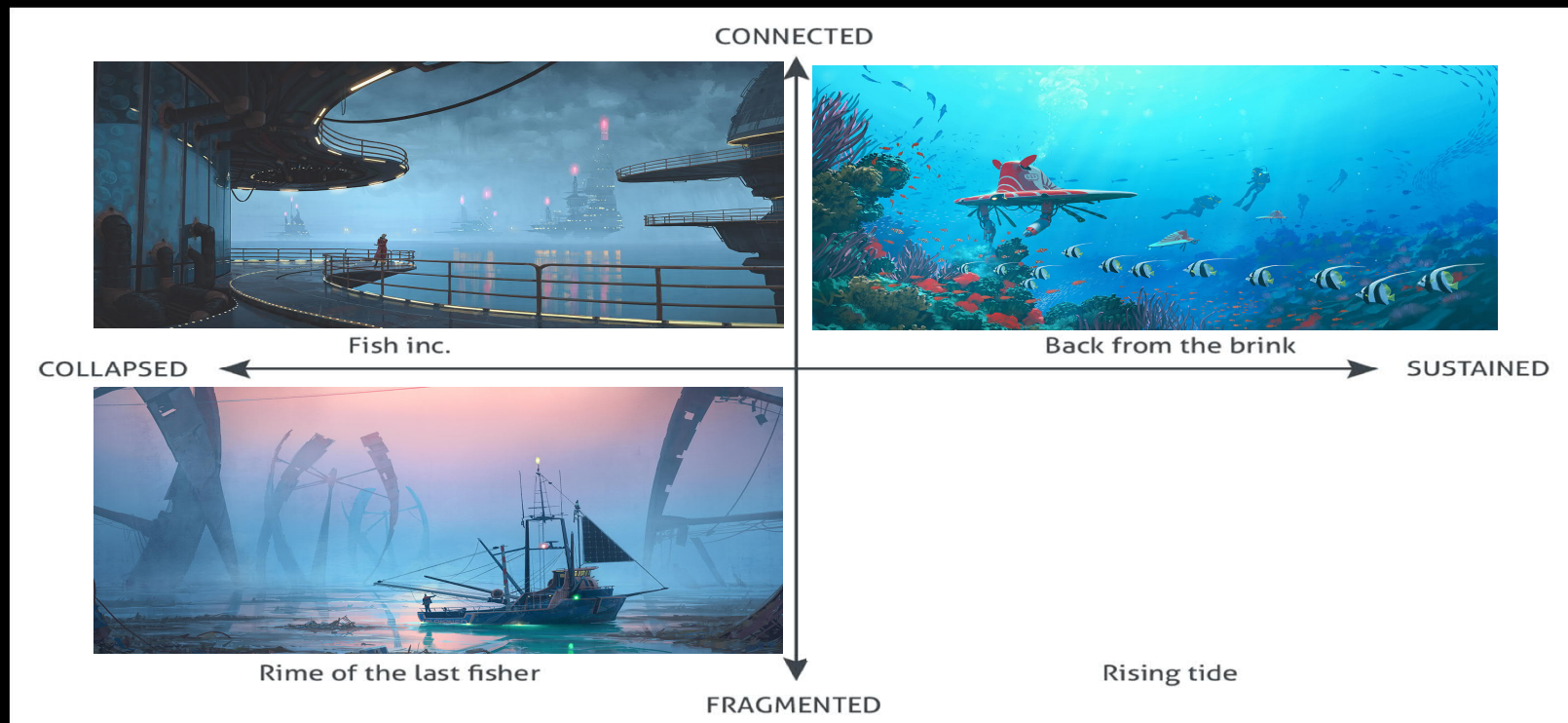
# #ArtScience



# #ArtScience

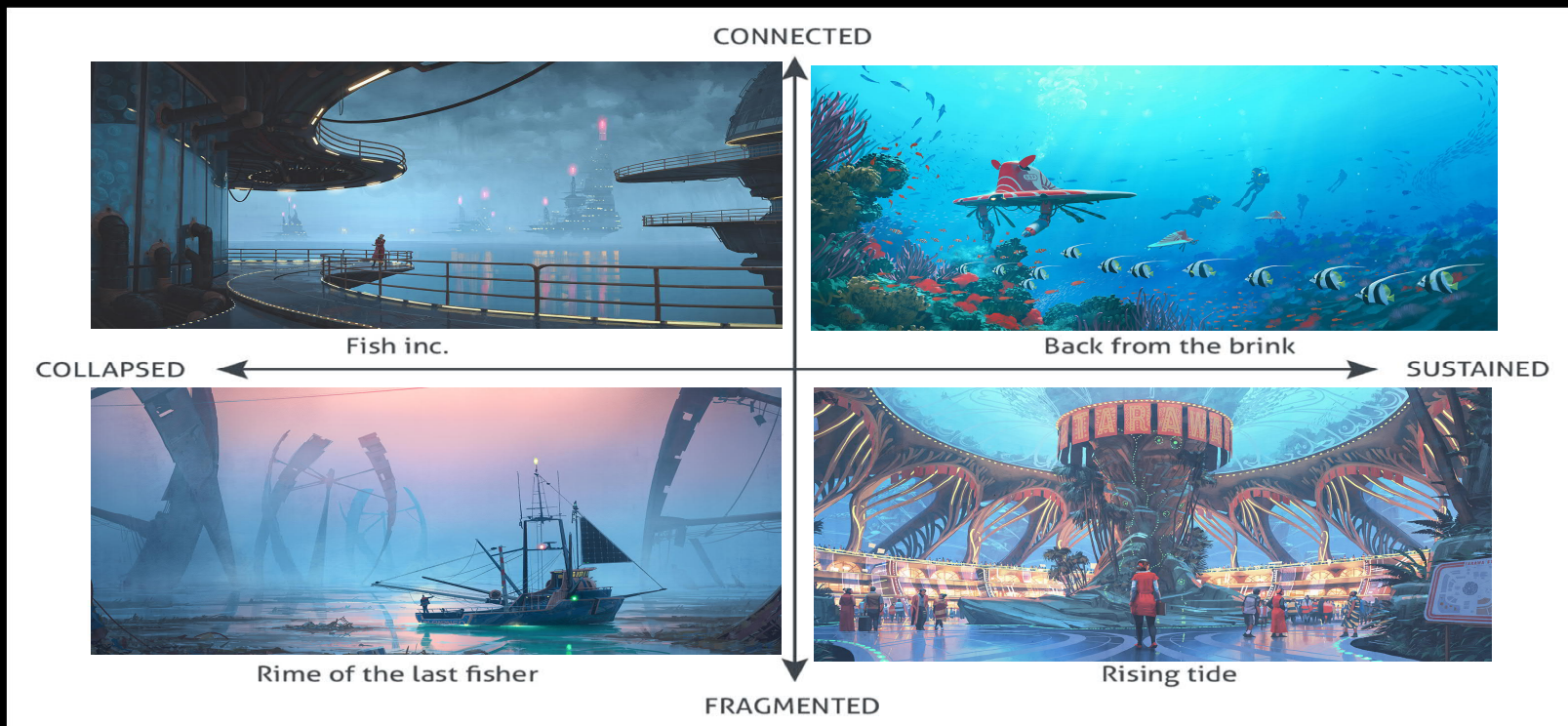


# #ArtScience





# #ArtScience



# Back from the Brink



# Fish Inc.





# Rime of the last fisherman





# Rising Tide



© Simon Stålenhag

# Key takeaways

- The value of imaginative “fictional” approaches is not in the false promise of “predicting the future” – which is pretty much impossible, even for the best scientific model – but rather to engage with a set of plausible and complex futures. When certain trends in social and economic systems express themselves, individuals and institutions can read the signs, interpret them, and act.
- In cases where anticipation of non-linear change is impossible, our approach can contribute through the creation of an alternate possibility space, which can be used as a type of ‘narrative simulation’, a way to experiment with and learn from the many potential surprising situations and shifts that might occur in the future.
- Imagining diverse futures can reveal unseen pathways, and can inspire human ingenuity, while also highlighting the limitations of human agency in a complex world.
- Science Fiction is a useful source of insight and ideas for developing scenarios of the future. Science fiction can help us point out biases, absurdities and highlight things that we take for granted in contemporary society
- Collaborations with artists can generate greater insight, public interest, and policy action





Thank you - **Kia Ora** – Tack  
[www.radicaloceanfutures.earth](http://www.radicaloceanfutures.earth)

**Stockholm Resilience Centre**  
Sustainability Science for Biosphere Stewardship



**Stockholm University**



**KUNGL. VETENSKAPS-  
AKADEMIEN**  
THE ROYAL SWEDISH ACADEMY OF SCIENCES

FUNDED BY

**MISTRA**  
The Swedish Foundation for  
Strategic Environmental Research